

8.7 Individual(s) Comments and Responses

- 8.7.1 Michael Baer
- 8.7.2 David Beech
 - David Beech – Letter 1
 - David Beech – Letter 2
 - David Beech – Letter 3
 - David Beech – Letter 4
 - David Beech – Letter 5
 - David Beech – Letter 6
- 8.7.3 Kathy Biala
 - Kathy Biala – Letter 1
 - Kathy Biala – Letter 2
 - Kathy Biala – Letter 3
- 8.7.4 William Bourcier
- 8.7.5 David Brown
- 8.7.6 Charles Cech
- 8.7.7 Bob Coble
- 8.7.8 Margaret-Anne Coppernoll
- 8.7.9 Herbert Cortez
- 8.7.10 Bruce Delgado
 - Bruce Delgado – Letter 1
 - Bruce Delgado – Letter 2
- 8.7.11 Myrleen Fisher
- 8.7.12 David Gorman
- 8.7.13 Jane Haines
- 8.7.14 Clifton Herrmann
- 8.7.15 Juli Hofmann
- 8.7.16 Thomas Moore
- 8.7.17 Hebard Olsen
- 8.7.18 Larry Parrish
- 8.7.19 Paula Pelot
- 8.7.20 Carol Reeb
- 8.7.21 Dick Rotter
- 8.7.22 Nancy Selfridge
 - Nancy Selfridge – Letter 1
 - Nancy Selfridge – Letter 2
 - Nancy Selfridge – Letter 3
- 8.7.23 Jan Shriner
- 8.7.24 Roy Thomas

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8.7.1 Michael Baer

February 24, 2017

Karen Grimmer
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Monterey, CA 93940

Mary Jo Borak
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Esteemed Regulators,

Enclosed are my comments related to the MPWSP DEIR. They are divided into 3 major sections which are delineated by **Bold Centered Titles**. In my opinion, the problems of this project make it infeasible. The EIR needs to be recirculated to address the gaps and errors highlighted here, and evolving technologies discussed by others elsewhere. (1. ERT to determine “baseline” groundwater conditions in the Coastal Aquifers of the Salinas Valley Groundwater Basin and... 2. Source water ocean intake screening systems that have evolved in the last 5 years since this project first began.)

Baer-1

As the deadline has been extended, I may have more to say by March 29, 2017

Thank you for your time and attention. This is an enormous undertaking for everyone involved.

Regards,

Michael Baer ~Long term resident of Monterey, abutting the jewel known as Monterey Bay

Established Groundwater Rights

The Monterey Peninsula’s long and difficult experiences in attempting to develop new and reliable water sources to create a sustainable supply for now and future generations has been complicated and arduous. CalAm Water has been no friend to the residents in this process, leading us down several ill-conceived dead ends which we are still paying for to the tune of tens of millions of dollars, often referred to as stranded costs.

Baer-2

The current DEIR is another lengthy document which obfuscates many of the real issues and omits or downplays several key areas despite its cumbersome 4,000 pages. It is easy to get lost, overwhelmed and numbed by the minutiae of all the complex details within it. Much of the technical analysis in the supporting Appendices is only discernable to experts, which neither concerned citizens nor CPUC Commissioners are truly capable of interpreting.

Let’s be frank. Cal Am has over-drafted our public resources in their relentless drive for profits. They have been stealing from the Carmel River two to four times the amount that they are legally allocated year after year for decades. They have also taken more than their allocated share from the Seaside Aquifer Basin, and have water debts to repay there too.

Baer-3

These water debts, or thefts depending on your orientation, are now proposed to be repaid through the MPWSP and specifically the desalination plant at the Cemex site, where the source

Baer-4

water is another theft from another river basin’s coastal aquifers. Cal Am has no rights in the Salinas Valley River Basin, yet they propose stealing 25 million gallons per day, which will significantly impact the neighbors who hold the overlaying legal water rights, including AgLand Trust and Marina Coast Water District.

These arguments have been put before you, the CPUC, throughout the process that began in 2012. They have been put before the CCC since 2014. Now they are before the MBNMS as well.

Yet they are ignored. . .

Establishing water rights should be the first order of business in determining the feasibility of capital expenditures in the hundreds of millions of dollars, yet the DEIR freely admits that these issues will be determined after the project is approved.

Question

How can ignoring the fundamental issue of groundwater rights (or lack thereof) be considered responsible oversight by lead agencies with tens of millions of upfront expenditures required to prepare the DEIR?

Can you appreciate the fundamental error of the cart before the horse approach here? It points directly to feasibility and is surely to end in lengthy litigation, likely causing CalAM to miss the CDO deadlines, exposing the Peninsula to severe penalties in rationing, potential fines, and stranded costs of another failed water project.

Once again, we beseech you, The Regulators: Please consider the whole picture behind this ill-conceived project, and put the horse back before the cart as we strive to develop sustainable water supplies in our region.

Issues with the Hydrogeological Working Group (HWG)

(note: Questions for ESA are in **bold**)

The HWG is a group of hydrogeologists who are the scientists in the field, taking data from the test slant well and surrounding monitoring wells to measure and record the intake efficiency of the slant well and its impacts on the surrounding groundwater. The DEIR concludes that the impact to the surrounding groundwater is insignificant. The role that the HWG plays in reaching that conclusion is occluded. The following pages will highlight some of the issues with this group and their role and relevance (or lack thereof) to the DEIR.

1. Inconsistencies relevant to the HWG

DEIR Executive Summary, p.14 ES-14

“The HWG was a result of an August 2013 Settlement Agreement between CalAm and 16 parties whereby CalAm agreed their hydrologist and technical team would work with the Salinas Valley Water Coalition’s and Monterey County Farm Bureau’s assigned hydrogeologists, and other technical experts designated by CalAm. The HWG developed a work plan in order to reach agreement about the studies, well tests, fieldwork, modeling, monitoring, and other data



Baer-4
cont.

Baer-5

Baer-6

analyses that is needed to assess and characterize whether and to what extent the proposed operation of the MPWSP may adversely affect the SVGB and the water supply available to legal water users thereof.”

DEIR Footnote 34, Section 2, p 35

“The HWG is composed of experts representing myriad parties in the CPUC proceeding with diverse interests related to the Basin, including but not limited to the Monterey County Farm Bureau, the Salinas Valley Growers Association (sic - it is in fact the SV Water Coalition) and CalAm” (italics mine)

Baer-6
cont.

Comments

The two quotes above from the DEIR document are inconsistent, and this is no small matter. Thorough examination of the reports listed on the HWG website at <http://www.watersupplyproject.org/test-well> reveals that *only* CalAm, MC Farm Bureau, and SVWC experts comprise the HWG. Three organization representing two interest groups (Salinas Valley farmers and the applicant) can hardly be categorized as “myriad,” “diverse”, or “including but not limited to.” For the record, I made verbal comments on the lack of diversity of the HWG at the September 2014 Marina City Council hearings that suspended the permit request.

Add to that fact, that CalAm’s chief hydrogeologist on the HWG is Dennis Williams, President of GeoSciences, and an international slant well patent holder with obvious incentives for a particular and successful result from the testing. Although omitted in the background discussions of this DEIR, Dr. Williams’ conflicts of interest remain a **primary cause** for the recirculation of the original document, along with the decision to combine the CEQA/NEPA work. An excerpt from that July 9, 2105 ALJ ruling (page 3) for the Application 12-04-019...

Baer-7

“The Commission's Energy Division issued the Draft EIR in April 2015. Comments on the Draft EIR were due on July 13, 2015. Energy Division has now determined that it is appropriate to further extend the comment period on the Draft EIR to September 30, 2015. We may take additional actions as described below. We do these things for three important reasons.

Baer-8

First:

We have learned that one of our sub-contractors, an entity called Geosciences, also has a contractual relationship with Cal-Am, the MPWSP's proponent, and that Geosciences's contract with Cal-Am pertains to the MPWSP; and that the President of Geosciences holds one or more patents related to slant well technology that Cal-Am might or could use in the construction of the MPWSP...”

Although the PUC chose to distance their relationship from GeoSciences, Mr. Williams remains on the HWG with his conflicts of interest unresolved, collecting the weekly data and filing the monthly reports for the CDP with the Executive Director of the CCC. This situation makes the entire test well analysis suspect as a result of the work of two special interests, and one private conflict of interest, who do not have the best interests of entire community at heart.

Baer-9

Questions

Can you provide documented evidence that experts of other parties “representing diverse interests related to the Basin” beyond the 3 mentioned above, were involved in the data collection, analysis, or other work of the HWG?

Baer-10

Why was Dr. Williams allowed to remain on the HWG, once his personal conflicts of interest were revealed? How is this consistent with objective scientific practices?

Baer-11

DEIR 4.4 p 4

“The HWG developed a collaborative plan of investigation to assess the hydrogeologic conditions in the project area. The draft work plan provided a phased approach to progressively investigate the hydrogeology and the potential effects of the project on aquifers from the use of subsurface slant wells for obtaining feedwater supply. The final work plan incorporated comments and recommendations by members of the HWG, and covered the investigative steps needed to evaluate the project impacts (Geoscience, 2013c). The final work plan became the hydrogeology investigation roadmap and resulted in the implementation of the fieldwork and modeling efforts described in the approach to analysis, Section 4.4.3.2.”

Baer-12

Comment

Section 4.4.3.2 does not exist. Section 4.4.3 (“Evaluation Criteria” 4.4 p41) makes no mention of the HWG. Section 4.4.5.2 “Operations Impacts and Mitigation Measures” exists, but likewise makes no reference to HWG.

Question

Where is the evidence of the actual work of the HWG within the DEIR document?

Baer-13

2. Deeper examinations into the work of the HWG

DEIR Section 4.4 p42 “Test Slant Well”

“Special Condition 11 of the Coastal Development Permit, “Protection of Nearby Wells,” requires the MPWSP HWG to establish baseline water and TDS levels prior to commencing the long-term pumping tests (Geoscience 2015b). The long-term pumping test began in mid-April 2015, and results are available at <http://www.watersupplyproject.org/#!/test-well/c1f1l>.”

Neither the background material in the executive summary of the DEIR, nor elsewhere in the document, relays the historical storyline of how the CCC CDP #A-3-MRA-14-0050, Dec 8, 2014, and the subsequent amended version CCC CDP #A-3-MRA-14-0050-A1 came to be. The narrative below is intended to further inform the decision makers.

Baer-14

The story...

The original application for a CDP was submitted to the City of Marina, as the Cemex site is within their city limits. After nearly 10 hours of deliberation over two consecutive days in September of 2014, the Council and Mayor voted 3-2 to suspend the application, ruling that the

prepared negative declaration was insufficient under CEQA law for the requested permit, and that a full EIR would have to be prepared to reconsider the application. CalAM chose instead to appeal the decision before the California Coastal Commission at their November 2014 meeting in Half Moon Bay, CA.

↑
Baer-14
cont.

A crucial part of the appeal was that the test well was experimental, and temporary, and therefore did not require an EIR. The Marina City Council decision was overturned, and the permit was approved with stipulations including special condition 11 mentioned above and attached in its entirety at the end of this section. The permit also included a provision that at the end of the test slant well period, the well would be decommissioned, cut off 40 feet below the surface of the beach, filled with cement and capped, as the slant well being defined as experimental and temporary was a contingency of avoiding the EIR process.

↑
Baer-15

Baer-16

Today, the slant well is planned as a production well. The CCC has yet to raise objection to this violation of its permit terms.

↑

The permit was awarded and signed on Dec 8, 2014 and construction was completed by late March 2015. With less than 2 months of baseline testing at the monitoring wells for groundwater and TDS levels (wholly insufficient to determine seasonal or historical trends) the slant well “long term test” began on April 22, 2015. By June 5 the pumping was voluntarily halted as the water table had dropped near the threshold level proscribed in special condition 11. The Executive Director of the CCC was consulted and convinced that the decline in water table was due to seasonal precipitation or agricultural pumping trends and that the slant well had not impacted the basin.

↑

Baer-17

An amended permit was applied for and approved on Oct. 6, 2015, and the pumping resumed on October 27. The amended permit required monthly reports to the ED of the CCC (instead of “periodic” ones in the original permit). New language was added to special condition 11 to reflect the addition of “seasonal and regional trends”, rather than fixed values as thresholds at the monitoring well. The amended permit language is referenced at the end of this section.

↑

Within that document, I have highlighted in yellow that the HWG is directed by the CCC to **identify** groundwater and TDS regional trends so they may compare that information to the collected data to calculate the impact.

Baer-18

In order to identify regional trends, one would presume that groundwater withdrawal pumping logs would be necessary to identify how much groundwater was pumped from the basin, or nearby sub-basin, by the farmers in the region. This has not been reported by the HWG.

↑

In order to identify seasonal trends, one would presume that rainfall totals would not only be collected, but analyzed to see how they might impact both groundwater and TDS levels at MW4s and MW4-m. This has not been reported by the HWG.

↑
Baer-19

In order to identify historical seawater intrusion, specifically at the Dunes Sand and 180 ft aquifers (which is where the threshold monitoring wells MW4-S and MW4-M identified in the permit collect their data), one would presume that a baseline of well data in the coastal aquifer region prior to well pumping would be necessary to establish the baseline for the historical seawater intrusion trend. This has not been reported by the HWG.

Baer-20

Yet HWG throughout their thousands upon thousands of pages of monthly well data, neither establish nor discuss in detail any method by which they determined or measured regional, seasonal or historical trends.

Baer-21

Each monthly report sent by the HWG to the Executive Director per the terms of the permit have a brief paragraph with little or no change from month to month stating that the test slant well (pumping over 90 million gallons per month if run continuously) has zero impact on groundwater level or quality. Here is an example:

HWG Monthly report 15 to Executive Director of the CCC, 5.3.2, page 11
<http://www.watersupplyproject.org/test-well>

Baer-22

“From April 2015 through January 2017 the TDS concentrations in MW-4M followed a regional slightly increasing trend (see Figure 3-3). However, the slightly increasing trend occurred consistently during both non-pumping and pumping periods, and therefore likely represents seasonal climate changes or regional pumping, and a continuation of historical seawater intrusion.”

Questions

Where are the agricultural pumping records to establish regional pumping trends?

How do you justify using seawater intrusion maps that show the margin of intrusion many miles inland (threshold 500mg Cl/L) as a method to explain historical seawater intrusion trends at the coast where no baseline was ever established?

Baer-23

How do you define a “regional slightly increasing trend”? Isn’t it true that the table 2 of the HWG monthly report #15 (p.44) shows an increase in TDS at MW4-m from 17,500 ppm on 4/2/15 to 22,600 (mean) ppm on 1/11/17 an increase of over 29% in 21 months? How can you characterize that substantial increase as “slightly increasing”?

Baer-24

Looking for clarifying answers in 2016

In the late fall of 2015 and winter of 2016, myself and a couple of other citizen colleagues deeply concerned with the lack of transparency and inability to get answers from CalAm or the HWG about the slant well protocols and data began to ask the permitter of the CDP, the California Coastal Commission, to provide such answers. I submit the following **excerpted email for the record**. Submitted on or about February 15, 2015 from myself to Tom Luster, permit

Baer-25

liason at the California Coastal Commission. **No reply was ever forthcoming**, and after a few attempts I gave up trying ...

Questions for the HydroGeologic Working Group of the MPWSP slant well test project permit #A-3-MRA-1410050-A1

1. Who, *specifically*, reports the data to montereywatersupply.org website, the public website required by permit #A-3-MRA-1410050-A1 ?

2. Why was the laboratory water quality sampling tests suspended between July 29 and December 19, 2015?

3. Who takes the weekly hand samples for conductance and water depth at MW4? Why are those results not posted on montereywatersupply.org?

4. How are “regional trends” determined? Is there data to substantiate “regional trends” as real and quantifiable? Who at the CCC reviews the rationale for determining “regional trends”? Why is this information not available on montereywatersupply.org?

5. Why does the language of permit #A-3-MRA-1410050-A1 indicate “minimal effects at the monitoring well” when Table 2 in the monthly reports indicate that the TDS threshold was exceeded in early May, 2015 after less than three weeks of continuous pumping?

6. Why was the well not suspended on May 6, 2015 as required by the original permit in effect for exceeding 2000ppm of rise in TDS?

7. MPWSP Technical Memorandum “Baseline Water and Total Dissolved Solids (TDS) Levels Test Slant Well Area” submitted to HWG and dated 4/20/15 shows a table 2 with a MW4 baseline reading of March 6 as 17,900, and April 2 and 17,500. This document was submitted to establish the baseline at all the wells in the project, right?

8. Doesn’t the decline in TDS levels from March to April, 2015 indicate that seawater intrusion was in a state of reversal before the slant well began pumping? Why or why not?

9. How can it be verified that the slant well has been running at 2000gpm “24/7” since pumping resumed on or about October 27, 2015. Who measures the volume of water pumped at the well head? How is it determined. Why are those results not posted on the website?

10. Table 2 indicates an Electrical Conductance reading at MW4-M of 27,250 (EC), for April 22, 2015, yet the conductance graph plots that point at very near, apparently slightly above, 30,000 (EC). This has the effect of increasing the baseline by 1,870ppm TDS, and flattening the visual appearance of the curve. How do you (HWG) explain what appears to be a simple point plotting error?

Baer-25
cont.

Appendix to this section

CCC Amended CDP for Test Slant Well, October 6, 2015 Appendix 2 of HWG monthly reports

Coastal Development Permit amendment A-3-MRA-14-0050-A1 , -Page 3

SPECIAL CONDITIONS

This **Special Condition** modifies **Special Condition 11** as initially imposed by the Commission in Coastal Development Permit A-3-MRA-14-0050. Standard Conditions 1-5 and Special Conditions 1-10 and 12-17 of that permit shall remain in full force and effect. **Special Condition 11** now requires:

“Protection of Nearby Wells, PRIOR TO STARTING PROJECT-RELATED PUMPING TESTS, the Permittee shall install monitoring devices at a minimum of four wells on the CEMX site, within 2000 feet of the test well, and one or more offsite wells to record groundwater and salinity levels with the wells and shall provide to the Executive Director the baseline groundwater and Total Dissolved Solids (“TDS”) levels in those wells prior to commencement of pumping from the test well.

The Permittee, in coordination with the Hydrogeological Working Group shall identify groundwater elevation trends and TDS level trends in the groundwater basin resulting from regional influences such as groundwater withdrawals, rainfall events, increases or decreases in streamflow contributions, and other influences. During the project pumping test, the Permittee shall, at least once per day, monitor groundwater and TDS levels with the monitoring wells in person and/or with electronic logging devices. The Permittee shall post data collected from all monitoring wells on a publicly available internet site at least once per week and shall provide all monitoring data to the Executive Director upon request.

The Hydrogeology Working Group shall review data from the monitoring wells and prepare a monthly report that shall be submitted to the Executive Director that documents the groundwater elevation trends and the TDS level trends resulting from regional influences. If during the pumping tests, data collected from Monitoring Well-4S (“MW4-S”) or Monitoring Well-4M (“MW4-M”) during any weekly monitoring period show either a decrease in groundwater levels that exceeds an identified decrease in regional groundwater level trends by 1.5 feet or more or show an increase in TDS levels that exceeds an identified increase in regional TDS level trends by two thousand parts per million or more, the Permittee shall immediately stop the pumping test and inform the Executive Director. The Hydrogeology Working Group shall examine the data from monitoring Well 4 if the pumping test is stopped due to either of these causes.

If, based on the above review of monitoring data, the Executive Director or the Hydrogeology Working Group determines that the pumping test caused, at MW-4S or MW4-M, either a decrease in groundwater level of 1.5 feet or more or caused an increase in TDS levels of two thousand part per million or more in excess of identified regional trends, then the Permittee

shall not re-start the pumping test until receiving an amendment to this permit, otherwise the Executive Director will allow the pumping test to resume.”

Performance and Maintenance of Slant Wells

Performance

As has been repeated by many citizens in many public comment letters and public forums before the CPUC about the MPWSP since 2012, there are no seawater intake production slant wells for desalination plants functionally operating anywhere in the world. That fact raises the question of how reliable this novel system will be in delivering source water to the plant over decades of use. This issue should be a highest priority item; the reliability of source water intake is fundamental to the feasibility of the project. When it comes to a desal plant, if you do not have a reliable intake for source water, you don't have anything.

Baer-26

The public record does contain one previous similar slant well effort, also developed by GeoSciences. However, that project fails to provide any confidence in slant well performance, as the slant well production efficiency declined from 95% in 2006 to 52% in 2012, before being shut down.

(for a review of that project's slant well performance, see [:http://www.mwdoc.com/filesgallery/SL_1_Step_Test_Comp_FINAL_TM_Geoscience_12_09_2012.pdf](http://www.mwdoc.com/filesgallery/SL_1_Step_Test_Comp_FINAL_TM_Geoscience_12_09_2012.pdf)) Sections 2.5 to 3.3 are the pertinent sections on well efficiency in that report.)

That project, at Doheny Beach in Dana Point, California, is currently mothballed as too expensive and unreliable. Concurrently, GeoSciences has moved its ongoing experimental technology to MPWSP at Cemex.

Baer-27

Here is the confounding thing: A search of the MPWSP DEIR under the terms “slant well performance”, “slant well yield” or “slant well efficiency” provides zero hits.

There appears to be no discussion or analysis of the slant wells' long term performance expectations.

Baer-28

Question

How can the DEIR be considered valid and thorough without this crucial piece of the puzzle, slant well performance expectations, even receiving a mention in the DEIR?

There is another aspect to performance (or lack thereof) that shows up in the HWG monthly reports for the project's CDP with the CCC. *There have been numerous interruptions* to the so-called continuous pumping test. A table has been compiled and the data from that table is below:

Baer-29

Data on Pumping Interruptions of the slant well from HWG monthly report #15, p 3

1/19/2016 11:10 AM 1/20/2016 8:51 AM 22 hours PG&E power interruption
 1/22/2016 11:53 PM 1/24/2016 11:01 AM 35 hours PG&E power interruption
 1/30/2016 2:50 AM 1/30/2016 11:08 AM 8 hours PG&E power interruption
 1/31/2016 3:29 PM 2/1/2016 11:20 AM 20 hours PG&E power interruption
 2/12/2016 2:43 AM 2/12/2016 10:51 AM 8 hours PG&E power interruption
 3/1/2016 8:30 AM 3/2/2016 1:40 PM 29 hours Discharge line repairs
 3/4/2016 10:10 AM 5/2/2016 1:22 PM 1,419 hours Discharge line repairs
 5/17/2016 11:59 PM 5/18/2016 2:35 PM 15 hours PG&E power interruption
 5/25/2016 1:28 PM 5/25/2016 5:21 PM 4 hours PG&E power interruption
 6/3/2016 7:45 AM 6/3/2016 9:08 AM 1 hour PG&E power interruption
 7/8/2016 6:12 AM 7/8/2016 7:17 AM 1 hour PG&E power interruption
 7/14/2016 10:21 AM 7/14/2016 11:36 AM 1 hour PG&E power interruption
 8/13/2016 11:32 AM 8/16/2016 7:29 PM 80 hours PG&E power interruption
 10/3/2016 7:55 PM 10/5/2016 6:23 PM 46 hours PG&E power interruption
 12/24/2016 9:18 AM 1/11/2017 9:23 AM 432 hours PG&E power interruption & discharge line repair
 1/20/2017 7:42 PM 1/25/2017 2:43 PM 115 hours PG&E power interruption



Baer-29
cont.

The most striking thing about the table is what is not in it. Recall that the continuous long term pumping test began on April 22, 2015, but the table only includes data from 2016. The longest shut down from the table above, 1419, hours, is roughly 60 days in duration. But in 2015, besides the few short-term delays of a couple days or less, there was a lengthy shut down from June 5, 2015 to October 27, 2015 roughly 144 days or about 3456 hours.

It is but another example of the sloppy science conducted with omissions tending to be clustered around events that are not helpful to a successful outcome of the “experiment.”

Questions

Why does the table of interruptions not include the data from April 22, 2015 through the end of that calendar year?

Why was the pumping interruption information omitted from the DEIR? How does the numerous and sometimes lengthy interruptions to slant well pumping interfere with the experimental integrity? Why is there no discussions of the impacts of interruptions to the test well either within the DEIR or the HWG reporting?

What will be done to strengthen and ensure the safety of the power supply? What happens to our water supply with lengthy outages? How long does it take to restart the desalination process after a lengthy power outage? Given the huge power demand for the desal production plant, is it feasible to have fuel based generators as back up? Where is this scenario discussed in the DEIR?

Baer-30

One final note on this topic. Power outages are inevitable. Just this week (February 17-24, 2017) heavy winter storms knocked out power around the Peninsula for several thousands of PG&E customers, some for more than 3 days. The fact that slant well performance receives no mention, discussion or analysis within the DEIR document is *very disconcerting*.

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Baer-30
cont.

Maintenance

Since slant wells are functioning nowhere in the world, it raises the question of maintenance. The six-year study at Dana Point does not appear to have resolved the questions of protocols for effectively maintaining slant well efficiency. The link referenced above does examine the issues of physical, chemical and biological clogging of the wellscreens, but the report is theoretical. From the document, it doesn't appear they have actually field-tested how to clean and maintain a slant well.

↑

It is with some relief, that a search of the DEIR for MPWSP does provide hits on slant well maintenance. It is reported that slant well maintenance would occur about every 5 years and take up to 18 weeks to complete on all 10 proposed wells. Further ...

Baer-31

DEIR, Chapter 4.3, Page 111 and elsewhere...

“As described in Chapter 3, Description of the Proposed Project, mechanical brushes would be lowered into the slant wells to mechanically clean the well screens. If chemical cleaning products are needed for maintenance, only environmentally inert products would be used. However, the effluent produced during slant well cleaning could carry sediment or other contaminants that, if discharged directly to the beach area, could adversely affect water quality in Monterey Bay.”

↑

Questions

Doesn't the sediment in the effluent originate from the Monterey Bay and Salinas Valley Groundwater Basin? Why would that be a contaminate to the beach?

↑

What other contaminants might be introduced in the maintenance process and where would they originate? What are the environmentally inert products? Have they successfully been used to clean slant well screens?

Baer-32

Is there any evidence or documentation of a seawater intake slant well for desalination ever being successfully maintained?

↑

What happens if scrubbing the screens from *inside* the well and/or applying inert chemical agents fails to clean the “gunk” accumulating on the *outside* of the screen intake system?

Baer-33

These questions must be resolved, and I ask that the DEIR be recirculated.

Respectfully submitted,

Michael Baer
Monterey, California

8.7.2 David Beech
Letter 1

February 22, 2017

To:

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DEIR/DEIS, MONTEREY PENINSULA WATER SUPPLY PROJECT

Public Comment

Thank you for the opportunity to comment on this very large Draft EIR/EIS, which has immense implications for the Monterey Peninsula environment, and for those of us who are Cal-Am ratepayers. I should be grateful to receive your answers to the questions below.

My first submission is on the following topic:

Beech-1: Required Decommissioning of Test Slant Well

The DEIR/DEIS states “The existing test slant well would be converted into a permanent well” (p.3-7 footnote 3, *et al*). However, Cal-Am is not at liberty to do this, since under both the original (#A-3-MRA-14-0050 dated 8-Dec-14) and the revised permits granted by the California Coastal Commission, Cal-Am has signed an undertaking to accept all the conditions, including decommissioning of the test slant well, and posting of a one million dollar bond to ensure that this is carried out. A significant consequence of characterizing the test well as a temporary structure was that it was asserted that it was “adequately mitigated”, so no environmental review was required for the test well, and none was carried out.

Beech1-1

Q1: Would the conversion to a permanent well be a CEQA and/or NEPA violation, and hence require revision of the project proposal to exclude this conversion?

Beech1-2

Q2: Has it not been, and is it not now, erroneous to allow testing to proceed without environmental review, since the impact is not limited to temporary visual and hazardous aspects of the pump, but also includes permanent effects such as:

Beech1-3

(CEQA) potential lowering of water level in the aquifers, and salt water intrusion;
(CEQA and FEMA) extraction from the aquifers, and discharge of that water through the pollution treatment outflow pipe into Monterey Bay;

in the course of up to two years of test pumping of millions of gallons per day?

Q3. Would not an environmental review of the Test Slant Well proposal have revealed, or would it not now reveal, the serious environmental harm likely to ensue in pumping from groundwater aquifers, and call instead for testing of true subocean intake of seawater?

Beech1-4

To bring some science into this, and quantify the effects:

Q3: How many acre-feet will have been pumped in total out of the 180 foot and Dune Sand aquifers, say through March 1, 2017?

Beech1-5

Q4: What have been the true environmental impacts already, say at Monitoring Well 4, on water level relative to an actual baseline, and on salinity as estimated via conductivity and total dissolved solids, with any regional trends based on hard data?

Beech1-6

Even if the test slant well is indeed decommissioned, there is disturbing evidence (identified in the letter below) that there was already an intention, when the permit was signed and an EIR was avoided, to later convert the test well into a backup well in the production system.

Beech1-7

Q5. In order to uphold the integrity of the CEQA and NEPA processes, and avoid setting a bad precedent, doesn't this reinforce the case for insisting that the undertaking to decommission the test well must be honored, with possibly some reprimand to the applicants for manipulation of the processes, and even for any demonstrated harm to the environment during testing?

Beech1-8

To any suggestion that Cal Am would actually be saving ratepayers money by making the conversion to a backup well, there are two major answers – that the amount saved would be trivial compared to the harm done by condoning the gaming of the system; and that if Cal-Am were seriously interested in saving ratepayers money, it would not have withdrawn from the previous Regional Project, and we could by now have already been using cheaper desalinated water, purchased by Cal-Am from a plant owned and operated by Marina Coast Water District, with vast Federal funding.

Beech1-9

Some more details are included in the letter below to Mr. Traylor of the local CCC Enforcement Office. For reasons that they have been unwilling to state, the CCC, having assigned the issue Case # V-3-16-0032, has not been prepared to pursue it. My public records request to CCC produced no documents directly bearing this case number, and the issue appears to have been quietly dropped. Please investigate whether there was some conflict of interest due to CCC staff having assisted in the preparation of this faulty CDP permit (and, indeed, also in the preparation of its revised version after the testing was suspended as soon as it appeared to be failing).

Beech1-10

However, my questions to you are not about why CCC chooses not to enforce conditions in its permits, but about whether CEQA and NEPA requirements have been satisfied, on which subjects you have the expertise and the vested authority and obligation to answer.

Beech1-11

With thanks for your attention,

David Beech
Monterey CA 93940

Cal-Am Residential Ratepayer

Copy of letter to Mr. Traylor follows.

To: Sharif Traylor,
Enforcement Officer
California Coastal Commission
725 Front Street, Suite 300
Santa Cruz, CA 95060

11 March, 2016

From: David Beech

Permit Violation re Decommissioning of Cal-Am Test Slant Well
Coastal Development Permit #A-3-MRA-14-0050

Dear Mr. Traylor,

This letter is to notify you formally of an apparent permit violation concerning the decommissioning of the Cal-Am Test Slant Well, whose Permit \was approved at the CCC November 2014 meeting, and revised in October, 2015, after a halt in testing. The issue only came to my attention by accident in January when I was researching the facts on the slant well project to present at an informational community outreach meeting in Carmel, and looked at the map for the intended production system.

Executive Summary

1. The Test Slant Well Permit requires that the test well be decommissioned on completion of testing.
2. Consequently, as a temporary structure, the test well escaped CEQA requirements, such as an Environmental Impact Report.
3. The Findings in the original permit recommendation already make a contradictory mention of possibly not decommissioning the test well.
4. Cal-Am has subsequently issued an RFP for construction of the production wells, and accepted a bid, including use of the test well as one of two backup wells.
5. CCC investigation and action are requested regarding this permit violation.

1. Decommissioning Required by Permit

In the documentation of permit A-3-MRA-14-0050, the decommissioning of the test well is mentioned in the one-sentence description of the project (p.1),

Details of the mandatory (“shall”) decommissioning are given in Special Condition 6, para. 2 (p.6), and the posting of a \$1,000,000 bond “to guarantee the Permittee’s compliance” is required in Special Condition 17 (p.12). (When was this bond in fact posted?)

2. Escaping CEQA Review

In the FINDINGS AND DECLARATIONS (<http://www.coastal.ca.gov/meetings/mtg-mm14-11.html>, item 15a) section V. CALIFORNIA ENVIRONMENTAL QUALITY ACT (p.63), the summary (without any supporting detail), refers to the “seventeen special conditions necessary to avoid, minimize, or mitigate these [significant adverse environmental] impacts.” Special Conditions 6 and 17, cited above, were thus a factor in the Commission’s finding that “the proposed project, as conditioned, has been adequately mitigated and is determined to be consistent with CEQA.” If SC 6 is not honored, this finding would need to be revisited.

3. Contradictory Findings

Unaccountably, there is discussion in FINDINGS AND DECLARATIONS IV.A. (p.16) regarding the “long-term use of the well, including converting the well to use as a water source for the separately proposed MPWSP.” This directly contradicts the commitment to decommissioning of the test well, which was a factor in the CEQA mitigation. As a discussion of what “these Findings ...do not authorize”, it does not have any force in this document to override the “shall” commitment and the Bond requirement for the decommissioning described above. The full paragraph in FINDINGS is as follows:

“The proposed project evaluated herein is for construction and operation of a test slant well only. These Findings, and any coastal development permit issued pursuant to these Findings, apply only to the proposed test slant well and its associated monitoring wells and do not authorize development that may be associated with long-term use of the well, including converting the well to use as a water source for the separately proposed MPWSP. Any such proposal will require additional review and analysis for conformity to relevant Local Coastal Programs and the Coastal Act and will be conducted independent of any decision arising from these Findings. Further, the Commission’s decision regarding these Findings exerts no influence over, and causes no prejudice to, the outcome of those separate future decisions.”

It is disturbing that someone, at least, was already, at the time of the original permit commitment to decommission the test well, thinking in terms of the Permittee later walking away from the commitment. Can any Commission Staff Member shed light on this? Who introduced this material? Are there working documents in the Commission’s files that can help resolve this issue of good faith in the adoption of the original permit?

4. Map Showing Converted Test Well

Cal-Am has subsequently issued an RFP for construction of the production wells (ahead of approval of the test results), where the test well was explicitly allowed to be “converted into a production well.” A bid from Boart Longyear was accepted, including use of the test well as a backup well in the production system. The map below is taken from the official documentation of the project at <http://www.watersupply.org> under

PROCUREMENT, 1. Source Water Slant Wells RFP, Contract Drawings. The converted test well is seen slanting down from top center, labelled EXISTING TEST SLANT WELL (STAND-BY 1).

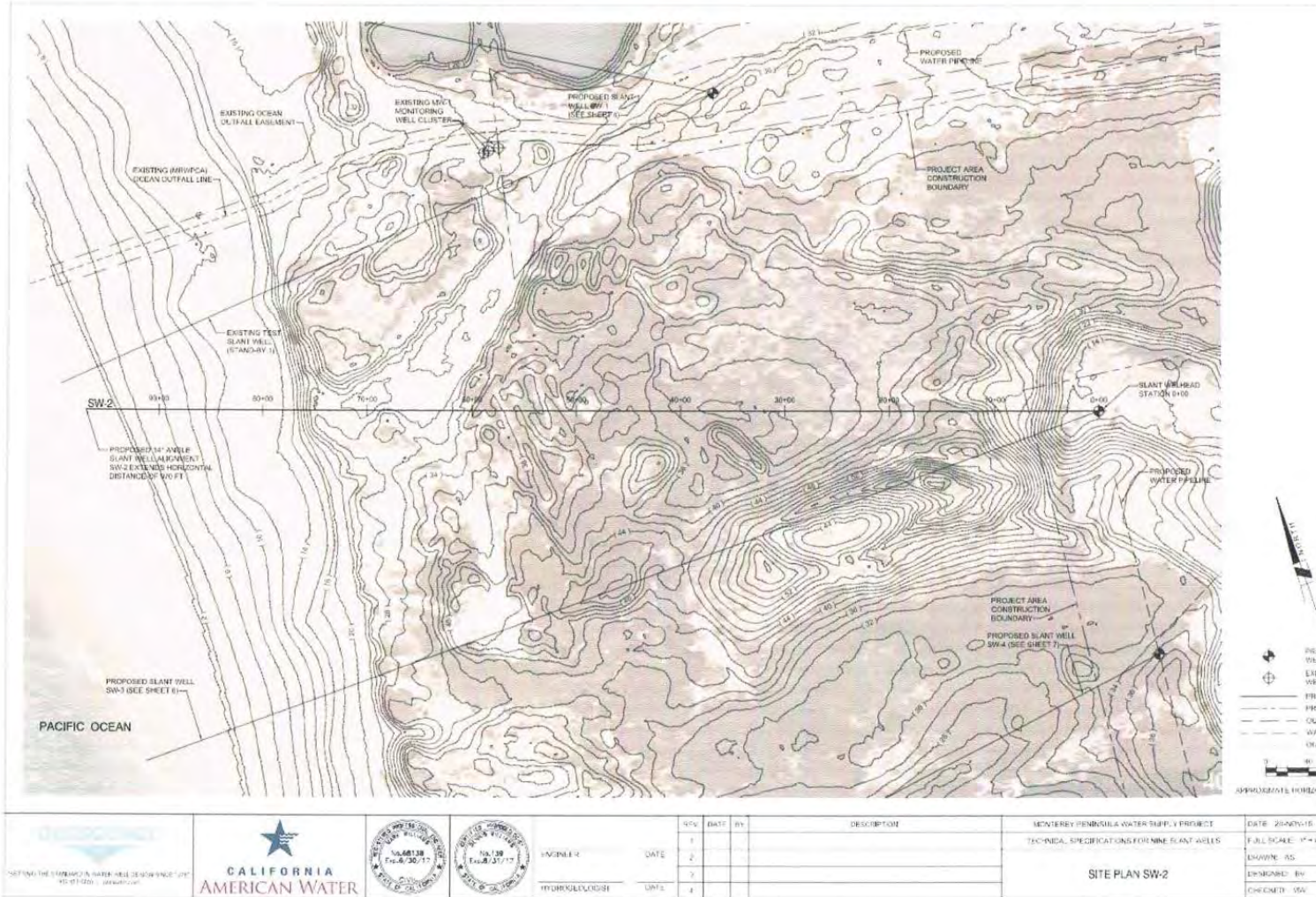
5. CCC Investigation and Action Requested

Investigation and appropriate CCC action are requested in light of the above permit violations. In order to penalize the apparent intent to mislead, and to effect the required decommissioning of the test well, since the existing SC 6 and 17 have failed to "guarantee" this, some stronger action appears to be required, possibly with the Commission's Enforcement Unit recommending to the Executive Director rescission of the permit, in addition to tracking that the decommissioning is actually carried out before the specified deadline date of February 28, 2018.

Respectfully submitted,

A handwritten signature in blue ink that reads "David Beech". The signature is written in a cursive, flowing style.

David Beech,
Monterey



February 20, 2017

To:

Mary Jo Borak, CEQA Lead California Public Utilities Commission c/o Environmental Science Associates 550 Kearny Street, Suite 800 San Francisco, CA 94108	Karen Grimmer, NEPA Lead Monterey Bay National Marine Sanctuary 99 Pacific Avenue Building 455a Monterey, CA 93940
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DEIR/DEIS, MONTEREY PENINSULA WATER SUPPLY PROJECT

PUBLIC COMMENT BEECH-2

Thank you for the opportunity to make a few more concise comments on this very large Draft EIR/EIS, which has enormous implications for the Monterey Peninsula environment, and for those of us who are Cal-Am ratepayers. I should be grateful to receive your answers to my questions on the topics below.

Slanted Description of Slant Wells

Right from the start of the project, there has been considerable ambivalence as to:

- (a) whether, or to what extent, the slant well intake was ocean water; and
- (b) under what surface exactly the slanted screened intakes were “subsurface”.

This Draft EIR/EIS perpetuates misleading terminology, possibly to make the project appear more closely aligned with true subocean intake than in fact it is.

Q1: Under what definition of “Seawater” do you assert that the project has a “seawater intake system” (heading of section 3.1 and content of 3.1.1, page 3-7)?

Although the precise content of Total Dissolved Solids (TDS) in seawater has to take account of factors such as location, depth, and temperature (see National Oceanic and Atmospheric Administration documents online), a first approximation to a scientifically acceptable definition close to the Cemex site would be in some specified TDS range close to 35,000 mg/L.

Q2: Is it not true that the recorded intake TDS during the slant well testing has always been significantly below the acceptable range for seawater?

Beech2-1

Q3: Can you show any evidence that the intake TDS of the production slant wells will fall within the range defined for seawater? ↑ Beech2-1
cont.

Also in 3.1.1, it is stated:

“The seawater intake system would include 10 subsurface slant wells at the coast (eight active and two on standby at any given time) that would draw seawater from beneath the ocean floor for use as source water for the MPWSP Desalination Plant.” | Beech2-2

Q4. What evidence can you present that the intake water is drawn from “beneath the ocean floor?” |

Q5. Given that the pumping is through screens that are potentially partly or largely under dunes inland of the mean high water mark (where the project description does not exclude the possibility that some screening in the Dune Sand Aquifer may even be above sea level), are you claiming that all of the intake water originated under the ocean floor? | Beech2-3

Other aspects of the placement of the slant wells will be discussed shortly.

Again in 3.1.1, it is stated:

“When compared to vertical wells, slant wells allow for a substantially increased screen length in the target water source, resulting in higher production rates.” | Beech2-4

Given that an experimental slant well of appropriate dimensions would cost approximately \$11 million, versus a tried-and-trusted vertical well to the same depth that would cost approximately \$1 million (as planned in the Regional Project from which Cal Am withdrew), this immediately raises a major question:

Q6. Why was a vertical well not also constructed nearby for direct comparison of performance and reliability? |

Since the use of hitherto unsuccessful slant well technology is perhaps the second weakest part of the proposal being evaluated (after the absence of water rights), please also answer these questions:

Q7. What evidence is there that increased screen length would in practice reliably result in higher production rates when compared to vertical wells? | Beech2-5

The output of a well is largely determined by the power of its pump, and nearby (and worldwide) vertical wells have reliably sustained high production rates for many years. |

Moreover:

Q8. Since the planned operation of the production slant wells is at “approximately 2,100 gallons per minute (gpm) per well” (p. 3-15), is it not true that this output, or more, is commonplace, with proven reliability and economy, for vertical wells, and thus any theoretical (but contested) higher production rate for slant wells is not even needed? | Beech2-6

To examine the production slant wells more closely, we move ahead to Table 3-2 (p. 3-16), and pursue the theme of slanted presentation.

Q7. Since you have replaced the Mean Sea Level used in the test well permit description by Mean High Water, could you please also add a column computed using Mean Low Water?

Beech2-7

The zone between MHW and MLW would not normally be described as “offshore”, but rather as being, as in Doc Ricketts’ enduring title, “Between Pacific Tides”. The term “offshore” tends to be defined by dictionaries as “some distance out to sea”, and to use it as beginning at the Mean High Water mark is surely misleading.

Then again, the length of the production wells is to be “approximately 900 to 1,000 feet”, but the calculations assume the maximum length, despite the fact that the test slant well had a permit up to 1000 feet, but was actually built only to 724 feet, so 1000 feet for the production wells is by no means guaranteed.

Beech2-8

Q8. Could you please clarify the assumptions made in the tables and in the text, including explanation of the limited accuracy and relevance of the +env and storm numbers?

Beech2-9

In fact, the figure on p.3-13 probably gives a better impression of the true state of affairs, maybe when the tide is fairly well out.

Q9. Is it intentional that all of the wells on the p.3-13 map stop short of the Marina City Boundary, which thus limits the extent to which the wells would be subocean, or perhaps of concern to the National Marine Sanctuary?

Beech2-10

Also there is considerable freedom in the placement of the screens on the well casing of the production wells, where the actual intake occurs. On p 3-15, it is stated that “Each well would be screened for approximately 400 to 800 linear feet at depths corresponding to both the Dune Sand Aquifer and the underlying 180-Foot-Equivalent Aquifer of the Salinas Valley Groundwater Basin.

Beech2-11

Q10. Could you please confirm that a correct understanding of this is that all intake water would be drawn from the Dune Sand Aquifer and/or the underlying 180-Foot-Equivalent Aquifer of the Salinas Valley Groundwater Basin?

Discrepancies between Test Slant Well and Production Slant Wells

There must be serious concern, in such previously uncharted territory, that the production slant wells differ substantially from the test slant well, to be drilled at an angle of 14 degrees to the horizontal instead of 19 degrees, and being approximately 900 to 1,000 feet in length instead of 724 feet. The concern is heightened by the fact that there appeared to be reliability problems with the test well, with frequently interrupted testing.

Beech2-12

Q11. For how many days out of how many actual calendar days has the test well produced water, and at what rate?

↑ Beech2-12
cont.

Q12. What lessons have been learned from the test that can give confidence that improved design of the production wells will overcome problems experienced with the test well?

↑ Beech2-13

Q13: Why was the slant angle changed to 14 degrees?

↑ Beech2-14

Q14: If this project is approved, would subsequent design changes be allowed without further review, as problems were discovered during construction, i.e. would this unprecedented project be a continuation of an experiment, only on a scale ten times as large, with ratepayer money irretrievably committed?

↑ Beech2-15

Q15: How have you estimated the cumulative effects of 8 closely-situated active production wells as compared to 1 test well, for example on the sustainability of the intake volume from the aquifers, lowering of aquifer levels, seawater intrusion, and relationship of the cones of depression?

↑ Beech2-16

Rationale for Carmel Valley Pump Station

The Carmel Valley Pump Station is described in Section 3.2.3.6, as follows:

“The Valley Greens pressure zone, in Carmel Valley south of the Segunda Reservoir, does not have sufficient hydraulic head to fill the existing Segunda Reservoir, which is located at the southern end of the existing Segunda Pipeline. The proposed Carmel Valley Pump Station, with a pumping capacity of 3 mgd (2,100 gpm), would provide the additional pressure needed to fill Segunda Reservoir.”

↑ Beech2-17

Q16: Why is filling the Segunda Reservoir in Carmel Valley, at the end of a pipeline conveying water over the hill to Seaside, a necessary part of distributing desalinated water that passes through Seaside already?

The Monterey Peninsula Water Management District has an agenda item for their 2/22/17 meeting to approve a modified Addendum to the PWN/GWR EIR, related to the Monterey Pipeline which is also a crucial part of the distribution of desalinated water as covered in this DEIR/EIS. Since the supporting documentation (Exhibit 2-A) <http://www.mpwmd.net/wp-content/uploads/Feb-22-2017-Board-Mtg-Agenda-and-Packet.pdf> describes (bottom p.15) the intent to significantly increase the pumping of Carmel Valley water for ASR purposes, and to distribute it by a different route, the following CEQA question arises:

↑ Beech2-18

Q17. Doesn't the above significant change require a Supplemental EIR?

Harmful Postponement of Resolution of Water Rights Issues

Section 2.6 on Water Rights begins:

↓ Beech2-19

“The topic of water rights is not one typically addressed in an EIR/EIS. It is a legal matter that is rarely relevant to the question of whether a proposed project being evaluated under CEQA or NEPA will generate impacts on the environment. Here, however, the issue of water rights is addressed as one of project feasibility.”

Not being an attorney, I will here, without prejudice, opt out of any legal discussion of the merits of the substance of this section. But I do wish to exhaust my administrative remedies by making a meta-level request, related to the possibility that it is eventually determined that this project is infeasible due to Cal Am’s lack of water rights.

To expend so much time and energy on designing and evaluating a complex system, before determining that an essential precondition could be satisfied, appears to have been to put the cart before the horse. It was a very poor business decision that would not, in my opinion, have been made by a company putting its own money at risk.

If the project is found infeasible, then, together with many other people, I will have been harmed by having to bear the inflated stranded costs of a failed project, and by having spent countless hours (in my case, from late 2014 to the present) in trying to avert this wastage. I have also driven hundreds of miles to Coastal Commission meetings in Half Moon Bay, Morro Bay, and Santa Rosa, in order to alert CCC to these issues, being limited to a few minutes of Public Comment since CCC had ignored requests to make the issues an agenda item for discussion and potential action.

Those stranded costs would be unnecessarily high due to the decision by Cal-Am, supported by others including but not limited to CPUC, MBNMS, ESA and CCC, to not resolve water rights issues before proceeding with detailed design, testing, and EIR preparation and processing.

Q17, Could you please respond with a recommendation that the parties above adopt an appropriate undertaking to indemnify all those harmed as described, in the event that the project is found infeasible due to lack of water rights?

The plight of the suffering ratepayer in dealing with the priesthood of water agencies is well captured in the New Yorker cartoon overleaf.

Respectfully submitted,

David Beech

Cal-Am Residential Ratepayer
Monterey, CA 93940



Beech2-19



"Except for the actual sacrifice, all this is largely symbolic."

When the CCC board members were shown this, they laughed politely, and allowed the sacrifice to continue.

February 20, 2017

To:

Mary Jo Borak, CEQA Lead California Public Utilities Commission c/o Environmental Science Associates 550 Kearny Street, Suite 800 San Francisco, CA 94108	Karen Grimmer, NEPA Lead Monterey Bay National Marine Sanctuary 99 Pacific Avenue Building 455a Monterey, CA 93940
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DEIR/DEIS, MONTEREY PENINSULA WATER SUPPLY PROJECT

PUBLIC COMMENT BEECH-3

Thank you for the opportunity to make a few more concise comments on this very large Draft EIR/EIS, which has enormous implications for the Monterey Peninsula environment, and for all those of us who are Cal-Am ratepayers. I should be grateful to receive your answers to my questions on the topics below.

Selection of Alternatives

A search of the DEIR/EIS reveals no mention of the substantial 2011 report on alternatives prepared for Cal-Am by RBF Consulting.
<https://www.scribd.com/document/68554233/Technical-Memorandum-RBF-Consulting>
This appeared to be an outstanding piece of work in the technical analysis. Even though some of the pros and cons, and cost comparisons, would need to be revisited after the passage of more than 5 years, it appears to be a more diligent study than presented in this DEIR/EIS.

Beech3-1

Q1. Was the above 2011 report studied as part of the selection process? If not, why not?

In particular, alternative 9, to divert winter runoff of surface water from the Salinas River from above the rubber dam via the treatment plant into the Seaside Aquifer, deserves renewed attention, and I shall return to this under Superior Alternative below.

Evaluation of Alternatives

The dismissal of some alternatives appears to be on rather slender grounds, but I will not linger over details here, as I am hurrying towards a constructive alternative proposal.

Beech3-2

I will only ask about diligence in obtaining sufficient information to make evaluations of serious potential alternatives to the proposed project at comparable depth, as required by CEQA and NEPA. For example:

Q2. How much contact was there, in order to improve understanding and seek additional information, between the DEIR/EIS team and the lead agencies and/or proponents of the following:

- (a) The People's Project;
- (b) DeepWater Desal;
- (c) Cal-Am Desal Project?

Beech3-2
cont.

Superior Alternative

The *prima facie* case for including consideration of Salinas River winter surplus diversion as a component of a superior solution is very clear.

It is generally accepted that an average of as much as 250,000 acre-feet of fresh surface water (not groundwater) is lost from the mouth of the Salinas River into Monterey Bay in the winter rainfall season – where diversion of a mere 10,000 acre-feet would be enough to deal with all near-to-medium term problems addressed by this DEIR/EIS.

Beech3-3

Diversion of substantial quantities of this water (including for municipal use) is already allowed by State Permit 11043 approved in 1952, and modified some years later to slightly reduce the permitted maxima as punishment to Monterey County for making no use of the permit. However, the quantity allowed is still ample, although some refinements of the permit would likely be necessary. The prognosis for those refinements should be very good, given that their approval is decided by the State Water Board (under their surface water powers) – the very body that has been pressing this area since 1995 to come up with an environmentally friendly solution to the water supply deficiency.

Beech3-4

There seems to be a local political opinion that the Salinas Valley farmers would never agree to this diversion, but if their position is that no one else can touch Salinas River surface water; even where they have no use for it themselves and it is running out into the ocean, this is a desperately weak position which could hardly survive in front of the various regulatory bodies that oversee the best interests of the whole community.

Beech3-5

This should rather be a time for the whole of Monterey County to work together to solve the County's water problems. An example would be to share the costs of the Interlake Tunnel, if there can be shared benefit. Already the farmers are due to benefit hugely from Pure Water Monterey, since much of their toxic waste water will be cleaned for them, and much of the resulting clean water will be returned to them at a knockdown price. So the least to be expected in return is that they do not obstruct residential use of water at a season and a location where the farmers have no use for it.

Beech3-6

Beech3-7

Returning therefore to the technical and economic feasibility of what we might call Aquifer Storage and Recovery (Salinas River) – ASR(SR) – the next step would be to set engineers to work to develop a detailed proposal. I would just note two other things:

- (1) Although the Advanced Treatment Plant for Pure Water Monterey is nearby, and has been designed to facilitate a modular extension to double its capacity, it may be much cheaper to use simplified treatment instead, if the surface water from the river is dramatically cleaner than the mix of source water currently planned for Pure Water Monterey. But the delivery pipe from the treatment plants to the Seaside Aquifer should in any case be sharable.
- (2) If it turns out (as I, using only common sense, expect) that some of the water sources for Pure Water Monterey prove too toxic to be cleaned in any cost-effective way, or even at all, then some ASR(SR) water could replace that lost input.

Beech3-8

Beech3-9

If the engineering design is successful, the close relationship of ASR(SR) to PWM suggests that an efficient approval process would be to propose ASR(SR) in a Supplemental EIR for PWM.

Beech3-10

The Cal-Am Desal Project appears to be facing possibly insuperable obstacles,

Beech3-11

Q3. Do you agree that it is at least prudent at this point to begin to think outside the box, and minimize delays in the event of failure of the present proposal?

Q4: Do you see merit in the initial sketch of ASR(SR) above?

Beech3-12

Plan C

Since I believe Plan B has already come and gone, this section will propose ASR(SR) in the context of a comprehensive Plan C.

The portfolio approach would be continued, this Superior Alternative Project being comprised of:

- (i) One or more desalination plants as needed
- (ii) Existing Aquifer Storage and Recovery (Carmel River)
- (iii) Pure Water Monterey
- (iv) Aquifer Storage and Recovery (Salinas River)

Beech3-13

Items (i) and (iv) are the only ones that need work, and development of (iv) does not appear problematic, especially if processed as a Supplemental EIR for PWM. (There is a recent precedent for overlapping EIRs, with the Monterey Pipeline being moved from the Desal EIR to the earlier PWM EIR as a shared component.)

Q5: Does Plan C satisfy your criteria for serious consideration as a Superior Alternative?

Resolution of the Desal Alternatives

Only the quandary of the imperfectly synchronized EIRs for the Cal-Am, People’s, and DeepWater desal projects would then remain to be resolved. It appears ridiculous to proceed with independent unsynchronized reviews that could produce contradictory evaluations and recommendations.

Beech3-14

Q6: Do you agree that some thinking outside the box is required here, or do CEQA and NEPA indicate how such a situation should be handled?

For example, given some reasonable deadline for issuance of the other DEIR/EISs, should all desal proposals have a common end date for receipt of public comments, so that at least the public can make a properly informed appraisal of the related (possibly competing) projects? Then some combined analysis of these comments and development of responses and recommendations seems to be called for.

Beech3-15

Although the present DEIR/EIS is the first of the three to appear; it is quite likely to attract by far the most comments, so that the other two projects could catch up after the shared final date for public comment, with the Final EIR/EIS dates converging.

Beech3-16

Q7: How do you propose to resolve the above issues for the desal proposals?

Recirculation of this DEIR/EIS, possibly including Plan C

Q8: Do you agree that in light of the severity of the many well-informed objections you have received – and in light of the low probability of successful minor amendments to answer all these objections – it is necessary to make major amendments and recirculate the DEIR/EIS?

Beech3-17

Q9: Will you kindly give full consideration to recommending Plan C above?

Beech3-18

Q10: Will you also, after consulting Cal-Am, give full consideration to recommending termination of their current Desal Project (with its spiraling potentially stranded costs), in favor of the desal component (i) of Plan C being satisfied by reasonably well-synchronized reviews of the DEIRs for the People’s Project and DeepWater Desal?

Beech3-19

Indeed, Cal-Am’s agreement to termination of their staggering project sooner rather than later would accelerate the ultimate solution, win them friends, and improve their long-term prospects for remaining the water purveyor to the Monterey Peninsula.

Respectfully submitted,

David Beech

Cal-Am Residential Ratepayer
Monterey, CA 93940

February 25, 2017

To:

Mary Jo Borak, CEQA Lead California Public Utilities Commission c/o Environmental Science Associates 550 Kearny Street, Suite 800 San Francisco, CA 94108	Karen Grimmer, NEPA Lead Monterey Bay National Marine Sanctuary 99 Pacific Avenue Building 455a Monterey, CA 93940
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DEIR/DEIS, MONTEREY PENINSULA WATER SUPPLY PROJECT

PUBLIC COMMENT BEECH-4

Thank you for the opportunity to make more comments on this very large Draft EIR/EIS, which has immense implications for the Monterey Peninsula environment, and for all those of us who are Cal-Am ratepayers. I should be grateful to receive your answers to my questions on the topics below.

I apologize for the length and level of detail of this submission. Unfortunately this is necessary in order to adequately address certain major issues raised in the 3700 pages of the DEIR/EIS, which themselves contain much essential detail!

Purpose of Test Slant Well

The following surprising statement of the purpose of the test slant well is found on p. 3-2:

To inform the final design of the subsurface slant wells and the MPWSP Desalination Plant treatment system, and to collect geologic and hydrogeologic data needed for Federal, state, regional, and local permits for the full-scale project, CalAm built a test slant well at the same location as the seawater intake system for the proposed Project. CalAm currently is operating the test slant well as a pilot program to collect data. Construction of the test slant well and operation of the pilot program was covered under separate environmental review.²

Yet the original Project Description for the test slant well was as follows:

Project Purpose

The project would allow Cal-Am to gather technical data related to the potential hydrogeologic and water quality effects that would result from using similar wells at or near this site to provide water for the proposed Monterey Peninsula Water Supply Project. If the data collected from this proposed test well demonstrates that this well design and location would provide the necessary amount of water and not cause unacceptable adverse effects, Cal-Am may choose to apply for additional coastal development permits to convert the test well to a production well and/or construct additional similar wells, subject to certification of an Environmental Impact Report (“EIR”) by the California Public Utilities Commission, which is preparing the document for the above-referenced water supply project.

This was the basis on which the California Coastal Commission granted the test well permit. <https://documents.coastal.ca.gov/reports/2014/11/W14a-s-11-2014.pdf>



Beech4-1

Separating out the conversion of the test well, which was addressed in my earlier comments Beech-1, we focus here on the intended production wells, i.e.

If the data collected from this proposed test well demonstrates that this well design and location would provide the necessary amount of water and not cause unacceptable adverse effects, Cal-Am may choose to apply for additional coastal development permits to ... construct additional similar wells ...

Q1: If you do not have adequate grounds for limiting the purpose as being “to inform the design” and “to collect data”, omitting any mention of evaluation of the “well design and location”, will you please amend the DEIR/EIS to be consistent with the permitted project description?

Q2: Do the planned production wells, at slant angle of 14 degrees instead of 19 degrees, and of length between 900 and 1000 feet instead of 724 feet, qualify as sufficiently “similar” for test results to be confidently extrapolated to justify a project slated to cost hundreds of millions of dollars and to be an indispensable part of the water supply for decades?

As a footnote to a footnote, we return to footnote 2 referenced above at the end of the extract from DEIR/EIS p. 3-2, which reads as follows:

² In October 2014, Monterey Bay National Marine Sanctuary finished its NEPA review of the construction of the test slant well and the operation of the pilot program. In November 2014, the City of Marina and the California Coastal Commission completed their CEQA review.

After considering my comments in Beech-1 on the avoidance of an EIR due to the undertaking to decommission the test slant well, you may agree that some less misleading footnote is required. I have not checked the NEPA and City of Marina materials, but you will know whether they had similar dependencies on the temporary nature of the test well.

Q3: Will you please clarify in footnote 2 the nature of the NEPA and CEQA reviews, and the reason why no EIR/EIS was deemed to be required for the test well, despite the environmental impact of pumping of millions of gallons out of the aquifers and into Monterey Bay during testing?

HWG and Conflict of Interest

The Hydrogeologic Working Group (HWG) was set up by CPUC to play a pivotal role in the data collection, reporting, and evaluation of the slant well test. Yet it appears to be dominated by Dr Dennis Williams (holder of slant well patents) and his company (GeoSciences) on whose letterhead most of the reports have been published.

Dr Williams was previously removed from his position as representing CPUC in the HWG, after it was pointed out that there was a conflict of interest in his evaluating the technology that he was designing and promoting. However, he has still remained as an

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Beech4-1

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Beech4-2

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Beech4-3

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Beech4-4
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active member of HWG, whereas there is little evidence of the other members participating beyond (usually) signing their names on the periodic reports.

↑
Beech4-4
cont.

Q4: Is this not still a conflict of interest that fatally undermines the credibility and value of the HWG reports?

To illustrate the unnerving fragility of evidence derived from the slant well testing, we move to a small sample of the reported data. It is important to understand that this is not a new investigation, but that several concerned residential rate-payers have been raising these issues with Coastal Commission staff, and thus (as requested) indirectly, or occasionally directly, with HWG members, ever since the testing began. Our cries have fallen on deaf ears.

Unscientific Test Well Reporting and Evaluation

Testing under Original Permit

Probably as good a first example as any arose early in the testing, when Cal Am voluntarily suspended pumping as the water level was dropping fast. Fingers were pointed at farmers for having been responsible, yet no data were produced, and no log data from nearby farm wells were even sought – unscientific!

Then examination of the reported levels at Monitoring Well 4 suggested that the level had previously already fallen by more than one inch below the baseline, which should have automatically triggered a condition in the permit to cease pumping, pending CPUC review. This led to claims that the baseline was not actually a number, but was a discussion in a technical report, and hence no numerical calculation was needed or carried out. In my frustration, I sent 12 simple questions to CCC staff, appended below as Exhibit 4-A.

Having received no direct reply at the time, and since these questions are fundamental to an evaluation of the scientific integrity of the testing, I ask the following:

Beech4-5

Q5: Could you please obtain answers to these questions from the HWG, and publish them in your response?

I emphasize that an answer from CCC staff would not suffice, since it is their previous treatment of technical questions that is being challenged. In this whole section, I am counting on the professional reputation of the DEIR/EIS team to guarantee answers that live up to the scientific standards required by CEQA and NEPA.

In an email dated 2/16/2016 to CCC staff, I raised the following question:

=====
Question about Permit Compliance

↓

1. Under what provision of the permit was the permittee allowed to voluntarily suspend pumping?

This is not a trivial question, since in a stress test, the patient is not usually allowed to step off the treadmill when things don't seem to be going too well, take a rest during the most severe part (summer dry season, continued drought), and wait for easier conditions (heavy rainstorms) and an easier setting of the treadmill on resumption (regional trends in Special Condition 11), and finally delay the resumption voluntarily by claiming repairs were needed to the treadmill (well pump).

The purpose of the test is to determine the most accurate prognosis for the patient, not to find a way to "pass".

Beech4-5
cont.

The (correct) reply was that the permit did not preclude voluntary interruption of testing, and, as far as I know, this reply is also correct under the revised permit.

Q6: Has it not been a serious scientific (and engineering) flaw in the test well permits that they have not insisted on almost continuous operation of the test well, in order to provide evidence of reliability (and maintainability, which seems to have been almost totally neglected)?

This sketchy testing would not matter so much in a small project, but we are looking here at a project with a base sticker price of \$320M, which could easily creep up to around the \$1 Billion mark as a total cost to ratepayers after finance charges, corporate taxes and annual 9.9% profits are added in. That would be an average of about \$25,000 for each of the approximately 40,000 Cal Am ratepayer connections in the Monterey Peninsula area.

Beech4-6

Then problems with the unproven technology during construction (hardly unforeseen) could lead to endless cost overruns, when the project had proceeded so far that there was no turning back, and the contractor could call the tune.

Beech4-7

Consider what happened to the repairs to the Bay Bridge after the Loma Prieta earthquake, where the original estimate of \$250 Million was said to have grown to \$6.5 Billion, i.e. by a factor of 26.

<http://www.citylab.com/politics/2015/10/from-250-million-to-65-billion-the-bay-bridge-cost-overrun/410254/>

If that happened to the Cal Am Desal Project, ratepayers would be on the hook for an average of about \$650,000 each over 20 or 30 years.

Beech4-8

Q7: Who could afford that?

To the reply "That could never happen here", a realistic response would be "Well, maybe not quite as badly, but what incentive does Cal Am have to keep the cost down? In fact, there is even an incentive to increase the cost of the newly acquired assets, on which their annual 9.9% profit, guaranteed by CPUC, is calculated."

Q8: Is it time to terminate the apparently failing Cal Am Desal Project due to inadequate testing, rather than continuing to harm the environment and throw good money after bad?

↑ Beech4-8
cont.

Q9: In case you might consider responding to Q8 that it is not within your remit to answer it, I ask: Do CEQA and NEPA require that an EIR/EIS always makes a positive recommendation in support of the project under review, or is it possible to recommend denial of approval on grounds of insufficiently mitigated impact on the environment, and/or (particularly relevant to apparently unscientific testing) insufficient evidence that the production system would have insignificant environmental impact?

↑ Beech4-9

In support of my suggestion in Q8, I append below as Exhibit 4-B a letter I wrote on 17 January, 2016 to respected former Executive Director of CCC, Dr Charles Lester, making a similar request after he told me that he was supporting the Cal Am project because they had told him the intake was “in the surf zone”. Since I walk on the beach at Spanish Bay and observe surfers and the surf zone almost every week, I can assure you that this description by Cal Am was very far from the truth.

↑ Beech4-10

I did not receive any reply from Dr Lester, nor was the issue placed on any CCC agenda.

Weaker Revised Permit

After the voluntary suspension of testing mentioned above, CCC issued a revised permit with testing conditions weakened in at least two ways:

- (1) Observed water levels and TDS levels were to be adjusted by taking account of “regional trends”;
- (2) Each report set a new baseline for comparison of water levels and TDS levels.

Regarding the regional trends, I have been unable to find any use of hard data as to what they are. It seems to have been sufficient to dismiss unfavorable readings as “due to regional trends”, without any numerical computation.

↑ Beech4-11

Q10: Has the way that regional trends have been used in the periodic reports failed to satisfy the scientific standards required by CEQA and NEPA?

The shifting baseline was quite difficult to notice in the way it was introduced in the revised permit. The complete explanation is appended as Exhibit 4-C, but the essence of it is that it provides a loophole so large that “it would be possible to have a 1.4 feet drop in level each week for a year, i.e. a drop of over 70 feet, without raising a threshold event (stop pumping and notify Executive Director). Similarly, the TDS levels could rise 1,900 ppm each week for only 10 weeks from around 22,000 ppm to 41,000 ppm, which is beyond the high end of seawater concentrations, and into brine territory, without raising a threshold event.”

In the email of Exhibit 4-C, I suggested to Mr Luster that it must be an editorial mistake, but he (and, I believe, HWG) continued to use the loophole interpretation, thus making the thresholds (designed to protect neighboring land from harm due to the testing) almost certain never to be reached.

Q11: Is not the loophole interpretation of the shifting baseline scientifically absurd?

Q12: Given the conflicted nature of HWG, have you accepted their reports without question, or have you checked on their scientific credibility?

Q13: What interpretation of the revised baseline definition have you used?



Beech4-11
cont.

Disconnect between Data and Findings

The hundreds of pages of indigestible instrument data in the weekly and monthly test well reports have presumably been used in some way, but I have not found any explanation of how this is done. For example in reducing the data recorded at 5-minute or 15-minute intervals to single points on a summary graph, one might use the mean for the day, the median, an arbitrarily selected value, or none of the above.

Q14: How is the instrument data used to plot the graphs?

Q15: How is the vital salinity graph (apparently hand drawn, and without visible means of data support), computed?



Beech4-12



Beech4-13

Respectfully submitted,

David Beech

Cal-Am Residential Ratepayer
Monterey, CA 93940

EXHIBIT 4-A

Questions for the HydroGeologic Working Group of the MPWSP.

1. Who, specifically, reports the data to montereywatersupply.org website, the public website required by permit #A-3-MRA-1410050-A1 ?
2. Why was the laboratory water quality sampling tests suspended between July 29 and December 19, 2015?
3. Why was the laboratory water quality sampling test taken on or about December 20, 2015 as indicated on conductance graph MW4 not reported in monthly monitoring report #2, released January 13, 2016?
4. Who takes the weekly hand samples for conductance and water depth at MW4? Why are those results not posted on montereywatersupply.org?
5. How are “regional trends” determined? Is there data to substantiate “regional trends” as real and quantifiable? Who at the CCC reviews the rationale for determining “regional trends”? Why is this information not available on montereywatersupply.org?
6. Why does the language of permit #A-3-MRA-1410050-A1 indicate “minimal effects at the monitoring well” when Table 2 in the monthly reports indicate that the threshold was exceeded in early May after only two weeks of continuous pumping?
7. Why was the well not suspended on May 6 as required by the permit for exceeding 2000ppm of rise in tds?
8. MPWSP Technical Memorandum “Baseline Water and Total Dissolved Solids Levels Test Slant Well Area” submitted to HWG and dated 4/20/15 shows a table 2 with a MW4 baseline reading of March 6 as 17,900, and April 2 and 17,500. This document was submitted to establish the baseline at all the wells in the project, right?
9. Doesn't the drop in tds from March to April indicate that seawater intrusion was in a state of reversal before the slant well began pumping? Why or why not?
10. Will Monthly monitoring report # 3, due this week, contain table 2, the data table with the Laboratory results for TDS at MW4M and MW4S, that currently appear in Monthly reports #1 and #2. Will it be updated to reflect the results of the laboratory water quality sampling events on or about Dec 20, 2015 and January 26, 2016?
11. What is the most current TDS reading at MW4M?
12. How can it be verified that the slant well has been running at 2000gpm “24/7” since pumping resumed on or about October 27, 2015. Who determines the volume at the well head? How is it determined? Why are those results not posted on montereywatersupply.org?

Exhibit 4-B

To: Dr. C. Lester
Executive Director,
California Coastal Commission
Via Tom Luster
From: David Beech
dbeech@comcast.net

17 January, 2016

Termination of Cal Am Slant Well Test

Dear Dr Lester,

1 Introduction

I write to notify you of a severe problem with the Cal Am Slant Well Test at the Cemex site in Marina, CA, for which CCC granted a permit at their November 2014 meeting (renewed in October 2015 after a halt in testing).

In fact, I aim to demonstrate that the newly-discovered problem is so severe that CCC should rescind that permit. After various serious problems already reported by others, I submit that a “killer” has now surfaced, as shown in boldface below.

Please confirm that submission of this letter is sufficient notice to become part of the public record, and for the issue to be investigated and acted upon by CCC.

Otherwise, please indicate what other formalities are required to achieve this.

2 Executive Summary

- The slant well concept was introduced to CCC as an ecologically-friendly way to draw ocean water from Monterey Bay for desalination
- The design was altered in a bait-and-switch manner until just before permit approval, such that **the test well no longer has subocean intake, but now draws entirely the brackish water of the already overdrafted 180 foot aquifer beneath the beach and dunes of Marina**
- **The eight intended production wells are similarly located**
- **With the abandonment of subocean intake, there is absolutely no good reason to employ the exceedingly risky and expensive slant well technology to draw water from beneath the beach and dunes**
- CCC should rescind the testing permit before any more ratepayer money is spent on this wasteful and deceptive project

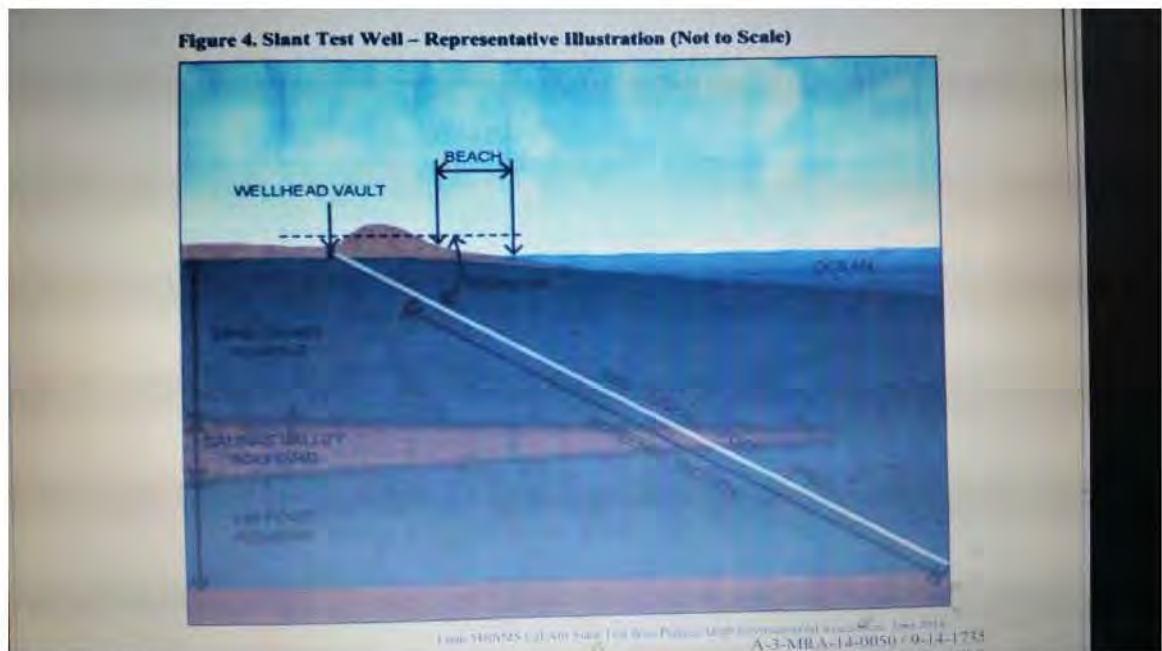
- CCC should encourage the competing People’s Project and DeepWater Desal, both using a genuine seawater intake at Moss Landing, to submit their DEIRs as soon as possible, and request any CCC permits necessary

2. Precise Location of Test Slant Well

At the December 2015 CCC meeting in Monterey, I spoke briefly in initial Public Comment to alert the Commission to the fact that the Cal Am test slant well did not have subocean intake, but was now “subsurface” at the shoreline. In your Director’s Report, Dr. Lester, you were kind enough to refer to this, and said that you had been assured that although the well had been shortened, the intake was “in the surf zone”.

This led me to search the official documentation accessible on line, to discover the more precise facts that I am reporting in this submission.

The first illustration I encountered was Exhibit 3 of the package that Commissioners would have seen in deciding the Appeal and granting the test well permit in November 2014.



This gives an immediate impression that the well extends way under the OCEAN as it says (barely legibly, even in the original – see <http://documents.coastal.ca.gov/reports/2014/11/W14a-s-11-2014.pdf>). This illustration, besides being “Not to Scale”, was not kept up to date with the text of the permit, so it says along the well bore “1000 LINEAL FEET”, and, given the position of the original WELLHEAD VAULT at 450 feet inland from mean sea level, the well length is exaggerated to look as though it is over 2000 feet. This would not matter so much were it not for the fact that most of the Coastal

Commissioners, with their almost impossible reading load, would have formed their main impression from this picture. Probably most CalAm customers still think this is roughly the slant well that is being tested – it was only a few months ago that I personally began to discover that it was not.

In addition to the textual changes of the well length, which resulted in a test well of 724 lineal feet as built, the following change was introduced at the last moment in the Addendum to the staff report

<http://documents.coastal.ca.gov/reports/2014/11/W14a-s-11-2014.pdf>

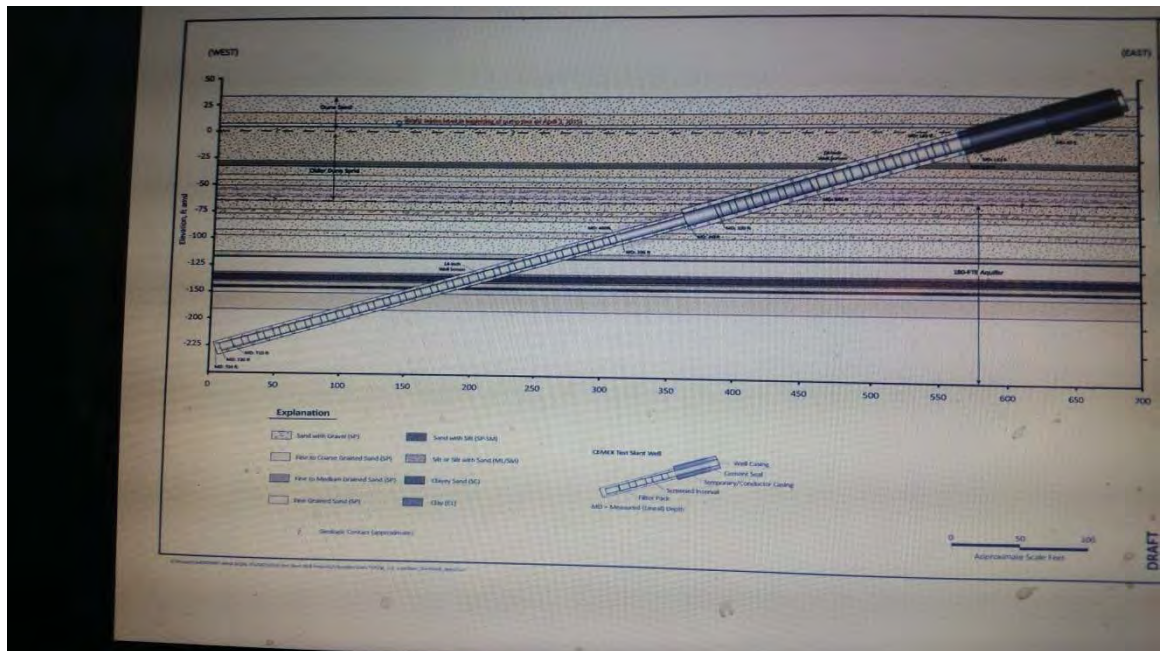
Page 2, Project Description: "The test wellhead would be located approximately 450/650 feet inland of mean sea level at an elevation of about 25 feet."

This apparently trivial change brought the whole well 200 feet further inland.

Seen in cross-section, the actual test well is shown below:

<http://documents.coastal.ca.gov/reports/2015/10/Tu15a-10-2015.pdf>

EXHIBIT 2



Note that the horizontal length of the well is shown as less than 700 feet, consistent with the following calculation:

Test well bore length = 724 feet (reduced from 1000 feet)

Horizontal distance = 724 x cosine 19 degrees = 724 x 0.9455 = 685 feet

Horizontal distance from wellhead to mean sea level = 650 feet (increased from 450 feet)

Therefore, end of well = 685 – 650 = **35 feet beyond mean sea level**

THIS IS NOT UNDER ANY SURF ZONE

From the above cross-sectional schematic, it is clear that **the screened intake extends (in this approximate diagram) from top to bottom of the 180 foot aquifer, beneath the beach and dunes, rather than being subocean.**

I was surprised to discover on www.watersupplyproject.org , under PROCUREMENT, that Cal Am has already completed the RFP process and signed contracts for slant well drilling, desalination, and transport pipelines, long before slant well testing is complete, let alone project approval. But you must be already aware of this, and of the alteration of the slant angles from 19 degrees to 14 degrees, without any apparent testing of the latter,

The following illustration of the 8 production wells confirms that the wells are intended to stop far short of the surf zone.



3. Disappearance of Any Need for Slant Wells

In making these progressive changes to the location of the test slant well, **CalAm appears to have shot itself in the foot**, since the only justification for experimenting with that technology was the hope that it would provide ocean water with less potential impact on marine life than open-ocean intake, Now that the source water is from a simple aquifer under land, there is no reason to enter the realm of the high risk and high cost of slant well experiments, and every

reason to terminate the testing before it becomes even more costly to ratepayers (including the new prospect of the evaluation being double-checked by the use of supercomputers at the Lawrence Berkeley Lab. – at whose expense?)

That is not to say that Cal Am should plan instead to drill vertical wells at the Cemex site, since there is no need for anyone to be making extensive demands on the already-overdrafted 180 foot aquifer, which is apparently protected by a 1975 California Supreme Court decision. Moreover, Cal Am should not be rewarded for yet another failed and potentially ruinous project, by being allowed to start over, and again prioritize profit over successful production of water.

Fortunately, there are better solutions awaiting the encouragement of the California Coastal Commission.

4 Additional Reasons for Termination of Testing

If other reasons for termination are needed, you are probably aware that several submissions have been made to the CCC and/or CPUC on other serious problems with the slant well testing, including conflict of interest, data tampering, scientific incompetence, and delay in producing source data as ordered by ALJ Weatherford. I support all of those complaints, for the reasons that have been given by others, and I need not repeat them.

5 Recommended Way Forward for CCC

The two projects at Moss Landing, the People's Project and DeepWater Desal, are making good progress towards their DEIRs, and both plan seawater intake. One or both of them could become suppliers of desalinated water to Cal Am, with the potential for being publicly owned and more cheaply financed. Both have goals more consistent with those of CCC for the Central Coast than does Cal Am. For example, the People's Project would be cleaning up much of a disused industrial site, and reusing existing infrastructure with existing rights.

After 20 years of failing to meet the CDO, it is time for Cal Am to step aside from attempted production and allow someone else to succeed. It would be timely for the CCC to encourage rapid progress in this direction, and emerge from an unfortunate interlude of seemingly being misled by Cal Am.

Respectfully submitted,

David Beech

Monterey residential ratepayer
dbeech@comcast.net

EXHIBIT 4-C

On 2/16/2016 8:43 AM, David Beech wrote:
Hello Tom,

I saw your reply to Michael Baer that you saw no permit violation on 1/29/16 because it was your reading of the October 2015 revision of Special Condition 11 that it meant the Monitoring Well 4 decreases of water level, or increases of Total Dissolved Solids, were to be compared to the previous week, and not (as previously) to the baseline at the start of testing.

I know you sincerely believe this, but it must be a mistaken reading, for two reasons.

1. It conflicts with the overview of changes given in the October permit, which states:

"Cal-Am's proposed amendment would modify Special Condition 11. The primary modification would keep the same numerical groundwater and salinity thresholds as previously approved, but would provide that they be compared to regional trends rather than be based on a static value at a single location. This modification is in recognition of monitoring data collected from early 2015 until the present that show the pumping test resulted in minimal effects at the monitoring well that were not evident at more distant monitoring sites, and that those minimal effects could readily be distinguished from other regional influences, such as municipal and seasonal agricultural groundwater pumping, that were causing much greater changes. The proposed modification specifically acknowledges these regional influences and direct the HWG and the Executive Director to consider them in their analyses. Other proposed changes to Special Condition 11 would provide additional clarity to the condition language (e.g., referring to "groundwater" rather than "water")."

Note that the "comparison to regional trends" is the only "primary modification" cited, and yet comparisons week-over-week could make a much bigger substantive difference to when a threshold is reached. And the last sentence speaks only of "increase in clarity" and not anything substantive.

So it appears that the SC11 wording is just an editorial mistake - the two major inserts should both end "compared to pre-pump test conditions". The logical alternative, that this major substantive change was slipped in without mention as a primary modification, is unthinkable, raising serious ethical issues.

2. The loophole that your reading of SC11 introduces is so large that it almost completely vitiates the threshold tests, providing virtually no protection to neighboring wells. For example, it would be possible to have a 1.4 feet drop in level each week for a year, i.e. a drop of over 70 feet, without raising a threshold event (stop pumping and notify

Executive Director). Similarly, the TDS levels could rise 1,900 ppm each week for only 10 weeks from around 22,000 ppm to 41,000 ppm, which is beyond the high end of seawater concentrations, and into brine territory, without raising a threshold event. (The Table 2 in the report for Week 40 that I referred to yesterday to get an approximation for the baseline has vanished overnight - what is going on?)

Do you agree that this was an editorial mistake, to be corrected as I suggest?

In view of the urgency due to possible ongoing rapid seawater intrusion, could you please send me TODAY (a) the official baseline figures for MW4 water level and TDS level, and (b) the HWG calculations of water level and TDS, adjusted for regional trends on 1/29/16?

Many thanks,

David

March 2, 2017

To:

Mary Jo Borak, CEQA Lead California Public Utilities Commission c/o Environmental Science Associates 550 Kearny Street, Suite 800 San Francisco, CA 94108	Karen Grimmer, NEPA Lead Monterey Bay National Marine Sanctuary 99 Pacific Avenue Building 455a Monterey, CA 93940
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DEIR/DEIS, MONTEREY PENINSULA WATER SUPPLY PROJECT

PUBLIC COMMENT BEECH-5

Thank you for the opportunity to continue to comment on this very large Draft EIR/EIS, which has immense implications for the Monterey Peninsula environment, and for all those of us who are Cal-Am ratepayers. I should be grateful to receive your answers to my questions below.

I should like to take advantage of the newly extended comment period by submitting my fifth set of comments, which will be mercifully short although requesting decisive action.

Expedited Termination of Cal Am Desal Project

The extension of the comment period will give the Lead Agencies and the DEIR/EIS team a chance to review comments already received. What will likely become clear to many of you is that this is a project that has been on life support for too long already, and that it is time to pull the plug.

Also, to switch to a marine metaphor, when a project has been torpedoed, it can go down very quickly to its subsurface grave. I have seen an even larger project in the computer industry dead in the water within a week, once the fatal flaws of its experimental technology were demonstrated to top management. Any company with its own money at stake knows there are times when it has to cut its losses. Since Cal-Am does not have this pressure, it falls to the Lead Agencies for the EIR and the EIS to make timely decisions to cut the community's losses, in order to avoid being negligent of their duties.

Q1: Will the CPUC and/or the MBNMS expedite whatever action is necessary to terminate the Cal Am Desal Project?

Not only would an early decision put a cap on stranded costs, it would accelerate a solution by necessitating immediate work on a superior alternative.

Beech5-1

Q2: Will the CPUC and/or the MBNMS immediately encourage development of a superior alternative, such as an expanded portfolio that includes the new component Aquifer Storage and Recovery (Salinas River)?

Beech5-2

(Please see summary of “Plan C” in earlier Beech-3 comments, and the start on an engineering specification for alternative 9 in the RBF 2011 Technical Memorandum “Cost Analysis of Water Supply Alternatives”

<https://www.scribd.com/document/68554233/Technical-Memorandum-RBF-Consulting> pp.14-16.)

With positive answers to Q1 and Q2 above, the talents of valued consultants such as ESA would be much more profitably applied to constructive groundwork for a superior alternative than in attempting to defend an indefensible status quo. Indeed, if those positive answers were available by the revised comment deadline, the task of honest and scientific response to comments would be immensely simplified and abbreviated. This may seem a tight schedule, but 4 weeks is four times as long as it took the company I mentioned earlier to finally kill a project and reassign, I believe, about 2,000 people.

Q3: Can positive answers be secured to Q1 and Q2 by March 29, 2017, or shortly thereafter?

Beech5-3

The simplest way to secure positive answers to all the above questions would be if Cal-Am itself made the call, via whatever are the correct and most time-efficient processes. If the present project is seen as doomed to failure sooner or later, the timing of its replacement becomes a calculation of the public relations benefit and the long-term role of the company in the Monterey Peninsula (and potentially Marina and Fort Ord) areas. In the light of DEIR/EIS comments received, “sooner” could now be seen by Cal-Am as the best choice.

“Sooner” termination of the current Cal Am Desal Project could also result in “very much sooner” delivery of water from replacement projects, which would use conventional technology and be less exposed to the glacial delays likely from well-founded litigation against the Cal Am project (if approved).

Q4: Is it correct that under CEQA law (and NEPA law), termination of a project, whether voluntarily by the applicant or due to denial or disapproval by the lead agency, removes any need to continue work on the EIR (and EIS)?

Beech5-4

If the answer to Q4 is positive (confirmed e.g. by *Las Lomas Land Co. v City of Los Angeles 2009*), an early termination could result in even greater savings in the costs of the EIR and EIS themselves. Although this would result in some loss of future revenue to the consultants processing this document, they have already received much more income than expected, thanks to the lengthy revision and recirculation as a Draft EIR/EIS!

From the point of view of the lead agencies, CPUC especially, they may feel that they have been very tolerant of Cal-Am since the end of the Regional Project, paying out more

and more rope as they wait for a project that is legitimate, environmentally acceptable, and technologically proven ready for 24x7 operation, besides – a distant fourth – being as economically beneficial to the ratepayers as it is to Cal-Am. What the lead agencies must be seeing at this moment, if they are honest, is that Cal-Am has let them down, offering a project that fails on all four counts. Instead of paying out more rope, now is the time for the lead agencies to haul Cal-Am out of this foray into the water supply business, and look, first, to the People’s Project and DeepWater Desal for desalinated water, and, second, to Monterey County agencies like the Monterey Regional Water Pollution Control Agency (already well advanced with design and permitting as the lead agency for Pure Water Monterey) for diverted surface water and more recycled water.

The above discussion should establish that I am seeking an accelerated viable solution, and not further delay, which would be intolerable for a community thirsting for a solution after a series of failed Cal-Am projects (and after the company’s withdrawal from a viable solution, the Regional Project, which could have actually been delivering desalinated water by now).

There is a feeling in the community that the lead agencies wish to approve the Cal Am project because they consider it the only game in town likely to succeed, despite Cal Am’s none-for-plenty record, and evidence presented to you in Public Comments, that suggest the contrary -- that it might be the least likely to succeed.

Q5: Do you regard the Cal Am Desal Project as the only game in town that is likely to succeed?

Beech5-5

Q6: Having studied Public Comments received to this Draft EIR/EIS, do you now see evidence therein that causes you to lower your ranking of the Cal Am Desal Project, and to rate more highly the People’s Project and DeepWater Desal, and to give encouraging consideration to an additional ASR(Salinas River) Project?

Beech5-6

Finale: Long-term Needs

Finally, it may not have been obvious why I limited the benefit of ASR(Salinas River) in Beech-3 to the “short-to-medium term”, when the runoff from the Salinas River could easily satisfy long-term needs. The reason is that expansion of the facility would eventually be gated by the estimated 53,000 acre-foot storage capacity of the Seaside Aquifer. Long-term needs beyond this could be satisfied by increased use of desalinated water, and/or a new reservoir, depending on community wishes and economic factors, to be decided many years in the future.

Respectfully submitted,

David Beech (Cal-Am Residential Ratepayer, Monterey)

David Beech
Letter 6

Dear DEIR/EIS Team,

Please insert the following after the Q6 paragraph in my earlier submission Beech-5:

Thought of the Moment (seen on the internet today)

No matter how far you have gone on the wrong road, turn back. -Turkish proverb

Q7: Do you agree, having reviewed many critical public comments, that this wisdom may be applicable to the Cal-Am Desal Project?

|
Beech6-1
|

Respectfully submitted,

David Beech (Cal-Am Residential Ratepayer, Monterey)

8.7.3 Kathy Biala Letter 1

1

MPWSP DEIR Public Commentary

Commentary on Monterey Peninsula Water Supply Project (MPWSP) DEIR by Kathy Biala, resident of Marina, Citizens for Just Water (“Just Water”) - 02.23.17

Respectfully Submitted to:

California Public Utilities Commission c/o Environmental Science Associates 550 Kearny Street, Suite 800 San Francisco, CA 94108	Karen Grimmer, NEPA Lead Monterey Bay National Marine Sanctuary 99 Pacific Avenue, Building 455a Monterey, CA 93940
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Pg/Section	Cited text	Comments/Questions
2.6.2 Project Water Rights pg. 2-35	<p>#1. Topic: Water rights as justification of “No Harm”.</p> <p>Pg. 2-35 As noted above, CalAm extraction of seawater does not require water rights. The question presented is thus whether Basin water rights holders would be injured or harmed by virtue of withdrawal from the Basin of any amount of water that is not purely seawater. The extensive groundwater modeling conducted for this EIR/EIS and discussed in detail in the Groundwater Resources section and in Appendix E2 is different from that conducted for the 2015 Draft EIR on the MPWSP. As explained in Chapter 4.4, Groundwater Resources, the modeling is specifically targeted to isolating the change in groundwater levels that would be generated by the MPWSP. This modeling, however, cannot project the amount of Basin water that is expected to be drawn into the supply wells.</p>	<p>As the first sentence below the section title of “2.6.2 Project Water Rights”, Cal-Am asserts that seawater extraction does not require water rights; this is then followed by the second sentence which speaks of “injury or harm” as if legal rights to a water source somehow is contingent upon doing no harm. If this were the case, Cal-Am would have had no rights to the Carmel River and Seaside Groundwater Basin! Does not doing “harm” give an agency water rights? Further, there is the convenient omission that extracting “groundwater” (versus “seawater”) does require water rights! And Cal-Am does plan to extract the groundwater from the Salinas Valley Groundwater Basis.</p> <p>Does Cal-Am have the legal rights to take water from the Salinas Valley Groundwater Basin? Has this been adjudicated? If not, why has the project been allowed to go forward without the basic issue of water rights not clearly established? Is there any CPUC written process that would allow such a practice of advancing a huge water project for approvals without first producing evidence that water rights exist? Is this legally defensible or does CPUC, in addition to Cal-Am, bear liability should the MPWSP project result in damage to the Salinas Valley Groundwater Basin without definitive water rights in place? At what point in the CPUC administrative process, must water rights be defined and by what agencies? If CPUC concludes that there are no established, definitive water rights of Cal-Am to the Salinas Valley Groundwater, will that end the entire approval of MPWSP? Would a moratorium of all DEIR approvals be in order until CPUC water rights processes are completed?</p> <p>Further, the whole notion of harm (as distinct from legal water rights) must be evaluated not just at a contained location of the slant well site</p>

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		<p>but from the standpoint of impact to a <i>regional</i> source of water since the slant wells pull water from the 180' aquifer. We do not doubt Cal-Am's admission that their "<i>modeling cannot project the amount of Basin water that is expected to be drawn into the supply wells</i>". But the salient point is that this is precisely the information needed to assess the degree of harm that might occur by collective overdrafting of all aquifers. If the current modeling cannot produce this data of the danger points for overdrafting the Basin, then is it not a compelling reason for some other more comprehensive model to be created that will do so? Is there any legal basis upon which project approvals must be delayed until such basic water rights have been established? If so, will CPUC institute this delay in the DEIR process?</p>
<p>2.6 Water Rights pg. 2-30</p>	<p>#2. Topic: Degree of likelihood that Cal-Am has water rights.</p> <p>The CPUC is not the arbiter of whether CalAm possesses water rights for the project and nothing in this EIR/EIS should be construed as the CPUC's opinion regarding such rights, except to the extent that the CPUC must determine whether there is a <i>sufficient degree of likelihood</i> that CalAm will possess rights to the water that would supply the desalination plant such that the proposed project can be deemed to be <i>feasible</i>."</p>	<p>Please clarify on what specific basis will the project be deemed "feasible" based on "sufficient likelihood of possessing water rights"? What specific agencies or legal experts has CPUC sought out to determine if there is "sufficient likelihood" of water rights? If some of these agencies are government agencies, would it not be a conflict of interest for a premature determination to be informally given by CPUC without due process including public hearing and/or independent legal inquiry? Cal-Am has already spent millions on this project and thereby presents more pressures for approval so that this money will not appear to be "wasted". CPUC must exercise great caution to <u>not</u> allow this factor to influence their decisions regarding this project. The failed Dana Point Doheny slant well resulted in an almost \$3M loss among four out of five agencies who opted out but this was deemed preferable to going forward on the project (Minutes of the Joint Board of Directors and Commission Meeting of the Laguna Beach county Water District, March 11, 2014). Money expended is not a background reason to justify DEIR approvals.</p>
<p>2.6.2 Project Water Rights pg. 2-35</p>	<p>#3. Topic: Misleading distinctions made between "brackish" water versus "fresh, potable water".</p> <p>Due to decades of seawater intrusion in the area, any Basin water extracted by the supply wells would be brackish water, which is a combination of ocean water and water that originated from the inland aquifers of</p>	<p>Cal-Am asserts: "Due to decades of seawater intrusion in the area, any Basin water extracted by the supply wells would be brackish water". According to Hydrogeologist Curtis Hopkins, "CalAm's 2014/15 modeling inaccurately assumes that the entirety of the geographical area of the Salinas Valley Groundwater Basin</p>

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	<p>the Basin. CalAm proposes as part of the MPWSP to return to the Basin (in the manner further described below) the fresh water portion of the brackish source water.</p> <p>In other words, although the groundwater modeling indicates that the Basin water that could be withdrawn by the <u>supply wells would be brackish and thus not fresh, potable water</u>, the MPWSP would return to the Basin desalinated product water in the amount of the fresh water molecules that make up the withdrawn brackish Basin water. <u>In that the quantity of such fresh water component of the supply water is not currently known, the modeling and the EIR/EIS analysis assess a range of return water between 0 and 12 percent of the source water.</u></p>	<p>contains brackish or high salinity ocean water rather than fresh water. Recent monitoring data developed for the Test Slant Well (TSW) project demonstrates all of these assumptions are false.” (MEMORANDUM to Mr. Keith Van Der Maaten, General Manager, Marina Coast Water District dated January 22, 2016). The presence of a perched layer of fresh water has been identified.</p> <p>Cal-Am states: “ <u>In that the quantity of such fresh water component of the supply water is not currently known, the modeling and the EIR/EIS analysis assess a range of return water between 0 and 12 percent of the source water.</u>” How is it that Cal-Am can openly state the quantity of fresh water components of supply water is “<i>not currently known</i>” when this information is crucial to the determination of harm? What other methods not currently being utilized can provide more data on this fundamental issue, such that Cal-Am does not have to report a “guess” of return water of “0-12 %”? This is scientifically unacceptable.</p> <p>Cal-Am further concludes that: “...the Basin water that could be withdrawn by the <u>supply wells would be brackish and thus not fresh, potable water...</u>” is a purposely misleading distinction that minimizes the fact that brackish water contains fresh water and is part of a regional subsurface aquifer network. Does CPUC accept such misleading statements? Using brackish water is part of long term strategies of the Marina Coast Water District for developing alternative sources of water as it contains fresh water. It is NOT “un-useable, unwanted water” as Cal-Am suggests. This representation of the value of brackish water needs to be corrected in the DEIR.</p> <p>Further, returning a portion of fresh water to an alternate site in the Basin does not preclude the possibility of extensive, irreversible damage to an already fragile aquifer system. The two are unrelated. Without knowing first what kind of overall impact the MPWSP is likely to have over <i>regional</i> water sources, offering return water is but a ploy to justify a lack of responsible inquiry. Is there any scientific evidence that water extracted from Marina and returned to Castroville will “benefit” the water source of MCWD, as Cal-Am claims? Will Cal-Am be expected to do a complete and accurate baseline study of the <i>regional</i> aquifer impacts of their project? If not, why not?</p>

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<p>2.6.2 Project Water Rights</p> <p>pg. 2-37</p>	<p>#4. Topic: Question whether the slant wells access aquifers versus merely “brackish” water.</p> <p>Pg. 2-37 The entirety of the geographical area of the Basin that would be affected by the project <u>contains brackish water rather than fresh water.</u></p> <p>Based on the groundwater modeling and as discussed in the Groundwater Resources section, while <u>the project may actually improve the Basin’s seawater intrusion issue</u> by slowing the seawater interface line from advancing more inland, <u>the project is not forecasted to draw any fresh water through the MPWSP source water supply wells over the life of the project.</u> If indeed no fresh water is withdrawn by the project, then no physical solution in the form of return to the Basin of fresh water (or other off-setting mechanism to alleviate the harm) would be required in order for CalAm to secure and maintain water rights for the project feedwater.</p>	<p>Firstly, the statement that “the geographical area of the Basin that would be affected by the project <u>contains brackish water rather than fresh water</u>” is not true. According to Hydrologist Curtis Hopkins, “the salinity of seawater up to 8 miles inland is not as assumed by Cal-Am in its modeling and evaluation of return water requirements. The presence of a perched layer of fresh water was not included in Cal-Am’s 2014 modeling.” (MEMORANDUM to Mr. Keith Van Der Maaten, General Manager, Marina Coast Water District dated January 22, 2016).</p> <p>Will the modeling be revised to include this perched layer of fresh water and will the modeling be reviewed again by objective, independent experts? If the presence of this important perched layer was not known by Cal-Am, what other significant subsurface structures are also not known? Does this significant lapse in Cal-Am baseline data suggest that there could be other significant missing information such that the model is currently invalid?</p> <p>Secondly, the notion being purported that all “brackish” water has no origins in or links to fresh water aquifers is false. Cal-Am is making the distinction between “brackish/ unuseable” water (pumped from their slant wells) vs potable, fresh water”. In the section 2.6.2 (Pg. 127), Cal-Am accurately states brackish water is “a combination of ocean water and water that originated from the inland aquifers of the Basin”. As a note, an aquifer whether “inland” (Cal-Am’s words) or entering the ocean is still the same aquifer. However, Cal-Am continues to focus exclusively on the “unuseable” aspect of brackish water and not on the association of brackish water with fresh water aquifers.</p> <p>This distinction between brackish water as completely different from fresh water is intentionally promoted to support the false claim that “fresh water is not withdrawn by the project” (because it is brackish) and therefore no harm has been done and therefore there is no need to secure water rights. Is there acceptance by CPUC of such leaps in formulations for dismissal of Cal-Am’s need to have water rights? What proof of each part of this formulation has been validated by Cal-Am?</p> <p>Further, Hydrogeologist Curtis Hopkins, notes that “monitoring Well-7 is no longer contaminated by high concentrations of seawater and is likely explained by the changing hydrogeological conditions resulting from the efforts of MCWD and others to reduce pumping</p>

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	<p><u>Pg. 2-37 If the water in the Basin were to become fresher in the future such that the MPWSP supply wells were drawing fresh water from the Basin, then a physical solution (such as the proposed return component of the project, discussed below) would be needed in order for CalAm to maintain rights to the Basin water for the project.</u></p>	<p>in the area". Responsible curtailing of pumping results in decreases of seawater contamination. Decreases of seawater contamination does NOT occur through massive pumping as would occur in the MPWSP project and which Cal-Am asserts benefits the basin. (MEMORANDUM to Mr. Keith Van Der Maaten, General Manager, Marina Coast Water District dated January 22, 2016).</p> <p>The possibility that drawing fresh water in the future somehow determines MPWSP water rights in the Basin seems preposterous and needs to be challenged. Where is this idea substantiated in any legal precedents?</p> <p>The theory that pumping a large volume of groundwater i.e. 24.1 million gallons per day in the MPWSP project, will slow the advance of seawater intrusion must be proven in peer-reviewed scientific research. Where is the scientific evidence to support such a theory?</p> <p>It should be noted that the MPWSP project intends to pump 27,000-32,000 acre feet of water per year at full capacity whereas the total current pumping of Marina Coast Water District (MCWD) is approximately 2,700-3,800 acre feet per year (one seventh the amount in the proposed MPWSP). Even with MCWD's current pumping, maintaining sustainable water supplies is a regional and ongoing challenge.</p>
<p>Pg. 1-9 1.4.2 The Monterey Peninsula Water Supply Project</p> <p>2.6 Water Rights pg. 2-30</p> <p>Geosciences MPWSP Hydrogeologic Investigation,</p>	<p>#5. Topic: False premise of slant wells not accessing fresh water; evidence that slant wells are in 180' aquifer.</p> <p>The MPWSP includes the following proposed facilities, all of which are described in detail, and locations shown on figures, in Chapter 3:</p> <p>A seawater intake system, which would consist of 10 subsurface slant wells (eight active and two on standby) extending offshore into the submerged lands of Monterey Bay at the CEMEX sand mining facility in the City of Marina, and a Source Water Pipeline;</p> <p>The proposed project (MPSWP) and Alternative 5a are designed to take supply water from the ocean via</p>	<p>A "seawater intake system" means that seawater is pumped, NOT fresh water or brackish water (that has mixed fresh and seawater); brackish signifies connection to the freshwater aquifers somewhere along the extent of the aquifer. By pumping brackish water, the MPWSP slant test well is also pumping from fresh water resources. This is a complete misrepresentation of this project as it directly taps into the aquifers currently being used to provide needed water to another region that has water rights to this water, be it fresh or brackish.</p> <p>The slant wells are, in fact, in the 180' aquifer. This is clearly shown in Appendix E-2. The Cal-Am MPWSP references to brackish water as "unuseable" water attempts to obfuscate the fact that the slant wells are accessing the 180' aquifer, a current</p>

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<p>Technical Memorandum (TM-1), Summary of Results-Exploratory Borehole</p> <p>Appendix E-2</p>	<p>underground slant wells that draw water from the earth underneath the ocean.</p> <p>Appendix E-2 Geosciences diagrams show slant well in the 180' aquifer of the Salinas Groundwater Basin.</p>	<p>source of regional water! Does CPUC agree that the slant wells are clearly drawing water from the 180' aquifer? Why is a percentage of <u>any</u> fresh water to be drawn in MPWSP deemed acceptable? On what basis is this made?</p>
<p>2.6.2 Project Water Rights</p> <p>pg. 2-35</p> <p>Executive Summary ES-13-14</p>	<p>#6. Topic: Harm/ injury/water rights.</p> <p>Pg. 2-35 Here, though, the Groundwater Resources section of this EIR/EIS strives to and does in fact effectively and meaningfully analyze two of the three precise concepts of “harm” or “injury” set forth in the Report. These two criteria are reduction in the availability of fresh water and reduction of water quality .</p> <p>pg. 40 The SWRCB has indicated that for CalAm to appropriate the CalAm Monterey Peninsula Water Project the groundwater from the SVGB, the MPWSP EIR/EIS must demonstrate that the proposed project will not harm or cause injury to other basin users (SWRCB, 2013) and made certain recommendations for further study.</p>	<p>The three precise concepts of “harm” or “injury” under section Project Water Rights 2.6 are identified as follows:</p> <ol style="list-style-type: none"> 1) reduction in the availability of fresh water 2) reduction of water quality 3) reduction in groundwater levels that requires users to spend additional funds to extract water. <p>These issues of harm and injury criteria as listed above must be applied to the regional Salinas Valley Groundwater Basin, as the aquifers are extended across the region, and flow to the ocean, as well as having random, and at this point unknown, connections between the layers through fissures. The pumping of 180 foot aquifer water and the increased impact of regional saltwater intrusion are the key harms for the SVGB stakeholders.</p> <p>Harm and injury cannot be isolated to one part of one aquifer in one limited area. Have the impacts to the Salinas Valley Groundwater Basin been carefully analyzed with regard to these three “harms”? Will the current modeling provide accurate predictive information of these three harms? Would a comprehensive Electrical Resistivity Tomography regional mapping be beneficial to identification of potential harms to the Salinas Valley Groundwater Basin?</p>
<p>2.6.2 Project Water Rights</p> <p>pg. 2-36</p>	<p>#7. Topic: Water rights and No Harm.</p> <p>Pg. 2-36 Applying the thresholds stated above, the analysis concludes that the MPWSP would not result in a significant impact to groundwater resources. It would not reduce, or affect at all, the availability of fresh water (only brackish water from the Basin is projected to be drawn into the MPWSP supply); would not lower</p>	<p>There are numerous re-statements claiming general “no harm” without giving specific, scientific data that would support such global claims of “no harm” or “injury”.</p> <p>Per Cal-Am’s own statements: “Groundwater Resources, the modeling is specifically targeted to isolating the change in groundwater levels that would be generated by the MPWSP. This modeling, however, cannot project</p>

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	<p><i>groundwater levels in the Basin so as to affect the water supply of any groundwater users or substantially deplete aquifer volume; and would not alter or reduce groundwater quality.</i> ⁽¹⁾ ⁽²⁾ ⁽³⁾ ⁽⁴⁾ ⁽⁵⁾ ⁽⁶⁾ ⁽⁷⁾ ⁽⁸⁾ ⁽⁹⁾ ⁽¹⁰⁾ ⁽¹¹⁾ ⁽¹²⁾ ⁽¹³⁾ ⁽¹⁴⁾ ⁽¹⁵⁾ ⁽¹⁶⁾ ⁽¹⁷⁾ ⁽¹⁸⁾ ⁽¹⁹⁾ ⁽²⁰⁾ ⁽²¹⁾ ⁽²²⁾ ⁽²³⁾ ⁽²⁴⁾ ⁽²⁵⁾ ⁽²⁶⁾ ⁽²⁷⁾ ⁽²⁸⁾ ⁽²⁹⁾ ⁽³⁰⁾ ⁽³¹⁾ ⁽³²⁾ ⁽³³⁾ ⁽³⁴⁾ ⁽³⁵⁾ ⁽³⁶⁾ ⁽³⁷⁾ ⁽³⁸⁾ ⁽³⁹⁾ ⁽⁴⁰⁾ ⁽⁴¹⁾ ⁽⁴²⁾ ⁽⁴³⁾ ⁽⁴⁴⁾ ⁽⁴⁵⁾ ⁽⁴⁶⁾ ⁽⁴⁷⁾ ⁽⁴⁸⁾ ⁽⁴⁹⁾ ⁽⁵⁰⁾ ⁽⁵¹⁾ ⁽⁵²⁾ ⁽⁵³⁾ ⁽⁵⁴⁾ ⁽⁵⁵⁾ ⁽⁵⁶⁾ ⁽⁵⁷⁾ ⁽⁵⁸⁾ ⁽⁵⁹⁾ ⁽⁶⁰⁾ ⁽⁶¹⁾ ⁽⁶²⁾ ⁽⁶³⁾ ⁽⁶⁴⁾ ⁽⁶⁵⁾ ⁽⁶⁶⁾ ⁽⁶⁷⁾ ⁽⁶⁸⁾ ⁽⁶⁹⁾ ⁽⁷⁰⁾ ⁽⁷¹⁾ ⁽⁷²⁾ ⁽⁷³⁾ ⁽⁷⁴⁾ ⁽⁷⁵⁾ ⁽⁷⁶⁾ ⁽⁷⁷⁾ ⁽⁷⁸⁾ ⁽⁷⁹⁾ ⁽⁸⁰⁾ ⁽⁸¹⁾ ⁽⁸²⁾ ⁽⁸³⁾ ⁽⁸⁴⁾ ⁽⁸⁵⁾ ⁽⁸⁶⁾ ⁽⁸⁷⁾ ⁽⁸⁸⁾ ⁽⁸⁹⁾ ⁽⁹⁰⁾ ⁽⁹¹⁾ ⁽⁹²⁾ ⁽⁹³⁾ ⁽⁹⁴⁾ ⁽⁹⁵⁾ ⁽⁹⁶⁾ ⁽⁹⁷⁾ ⁽⁹⁸⁾ ⁽⁹⁹⁾ ⁽¹⁰⁰⁾</p>	<p><i>the amount of Basin water that is expected to be drawn into the supply wells.</i>" (2.6.2 Project Water Rights pg.127)</p> <p>Without such information, how can Cal-Am claim that the MPWSP "would not lower groundwater levels in the Basin" or would not substantially deplete aquifer volume? This projective information about the amount of Basin water to be drawn into the supply wells is crucial; how can this vital information be obtained? Would having this information, change the modeling?</p>
<p>2.6.2 Project Water Rights pg. 2-36</p>	<p>#8. Topic: Test Slant Well decrease in water level drawdown.</p> <p>Pg. 2-36 Due to the long-degraded condition of water in the Basin within the radius of influence (the area within which the project could affect groundwater levels), there are few active wells that could potentially be affected by the project. As discussed in detail in the Section 4.4, Groundwater Resources, there are only three active supply wells with well screens across the Dune Sand Aquifer or 180-Foot Equivalent Aquifer within the area where the project may cause groundwater levels to decrease by more than 1 foot but no more than 5 feet.³⁵ These three wells are located at the Monterey Peninsula Landfill and are used for dust control. Given that the well pumps and the screens are set at least tens of feet below the existing groundwater level, a decrease in the levels of less than 5 feet would not cause injury to this overlying user. There are four active wells with well screens in the 400-Foot Aquifer. ...Due to the brackish to saline quality of the groundwater within the 400-Foot Aquifer, these wells would not be expected to supply drinking water. The Groundwater Resources section concludes as to all active wells that a water level decline between 1 and 5 feet would not expose well screens, cause damage, or reduce yield in the groundwater supply wells that could be influenced by the MPWSP. All in all, the project was determined not to result in a significant impact in terms of groundwater supplies either quantitatively or qualitatively. Thus, it appears reasonable to conclude that the MPWSP would not</p>	<p>What is the scientific basis upon which they can assert " a decrease in the (groundwater) levels of <u>less than 5 feet</u> would not cause injury to this overlying user." Where is the scientific proof of this? Over what period of time and under what pumping conditions are they predicting "levels of less than 5 feet"? An unsubstantiated statement is not sufficient to quell real concerns about the MPWSP causing "no harm". Proving "no harm", in fact, requires the highest standard of scientific review and modeling. The CCC defined excessive decline in water level more than one foot; this was, in fact, exceeded and the test well was stopped. What levels are currently occurring? What were Cal-Am's reason for the increase in groundwater levels? Was this answer given scrutiny by third party experts? What model or scientific data justified the CCC original parameter of one foot decline in water level? Are those standards still the ones in place and if not, what was the process to modify them such that Cal-Am is now allowed to decrease water levels greater than one foot? How long was the pumping interrupted? Does interrupting the pumping in itself cause an invalidation of the test? A five foot decrease in levels could be a large difference when applying to a manmade intervention impacting subsurface groundwater tables.</p> <p>Stating that "it appears reasonable to conclude that the MPWSP would not result in harm ..." is not acceptable. Scientific research to answer unknowns is driven by defining "levels of uncertainty" applying scientific parameters. It is unacceptable to make guesses when it "appears" to be favorable; one does not keep moving the target to fit the data, especially when the issue of harm is being addressed. This is another example of sloppy science being employed by Cal-Am. The Electrical Resistivity Tomography would be a more accurate and detailed record of changes in the aquifers that could substantiate or not substantiate Cal-Am's claims. If CPUC demands proof of Cal-Am's</p>

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	<p>result in harm or injury to the water rights of legal users of water in the Basin in terms of fresh water supply or water quality, two of the Report’s three injury criteria relative to the development of legal water rights.</p>	<p>“no harm” claim, can Cal-Am be compelled to pay for a regional ERT study rather than CPUC merely “taking their word” on such a critical issue?</p> <p>Further, the assertion that “Thus, it appears reasonable to conclude that injury to the water rights of legal users of water in the Basin in terms of fresh water supply or water quality...” makes no sense. Water rights are not “injured” or “harmed”; they are violated or not; one has the right or not. The simple question that must be answered is “Does Cal-Am have water rights to the Salinas Valley Groundwater Basin or not?” And this must be determined in a court of law and BEFORE final approvals of this project.</p>
<p>Executive Summary ES-5</p> <p>4.4.4.2 Groundwater Modeling ESA</p> <p>4.4-43</p> <p>Pg. 4.4-47 Groundwater Resources, Superposition</p>	<p>#9. Topic: Failure to apply accepted standards of scientific research methodologies.</p> <p>Executive Summary ES-5 pg. 32 The test slant well is permitted to operate until February 2018 and it is not part of the proposed project being evaluated in this EIR/EIS. If the MPWSP with subsurface slant wells at CEMEX is not approved and implemented, the test well will be removed.</p> <p>4.4.4.2 Groundwater Modeling ESA-43 pg. 499</p> <p><u>Pg. 4.4-43 The applicability or usefulness of the model depends on how closely the mathematical equations approximate the physical system being modeled.</u></p> <p>For example, models that cover an entire groundwater basin of many square miles may have cells that represent one square mile area each while models designed to evaluate smaller areas have cells representing only 200 square feet.</p> <p>Pg 4.4-47 Groundwater Resources, Superposition</p>	<p>It is entirely with disbelief that Cal-Am seeks DEIR approvals for an untested, experimental slant well technology for which no precedent is in existence and without the full results of a test! What legal authority is CPUC operating from to potentially approve such a project without knowing the conclusions of a completed test?</p> <p>The first step in any scientific methodology is observation and description of a phenomenon or group of phenomena. There is so much at risk with the MPWSP i.e. harm to the Salinas Valley Groundwater Basin that is the water source for an entire region. Given that the accuracy and predictive ability of a model is based upon the understanding of the physical subsurface, how much more accurate is a baseline from 9 monitoring vertical wells of the MPWSP project as compared to the tens of thousands of data points of an Electrical Resistivity Tomography (ERT)? Further, ERT subsurface imaging can extend further inland as well as reaching depths of 1200 feet versus the limitations of vertical wells presently used in the MPWSP modeling. What future legal liabilities will there be for intentional disregard of establishing relevant and complete baseline data as the foundation for a model when such information is currently available but not sought?</p> <p>The second step in any scientific methodology is formulation of a hypothesis to explain the phenomena. What were the hypotheses to be tested by the model? It is not clearly evident in the DEIR. What were</p>

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<p>Executive Summary Es-14</p>	<p>“transducer was replaced”. This type of lack of scientific rigor is highly suspect.</p> <p>Executive Summary pg. ES-14</p> <p>The Hydrogeologic Working Group (HWG) developed a work plan in order to reach agreement about the studies, well tests, field work, modeling, monitoring, and other data analyses that is needed to assess and characterize whether and to what extent the proposed operation of the MPWSP may adversely affect the SVGB and the water supply available to legal water users thereof.</p> <p>Data from the DEIR reference to Hydrogeologic Working Group (HWG) website, Monthly Report #14;</p> <p>There have a large number of stops and starts of data collection of both short and long durations. A sampling of such interruptions as documented by the HWG records is as follows (Monthly Report #14):</p> <p>Short durations: On January 19, 2016 22 hour stoppage but was again turned off 22 hours after restarting. Jan. 22, 2016 stoppage for 35 hours. Jan. 30, 2016 stoppage for 8 hours Jan. 31, 2016 stoppage for 20 hours. Feb. 12, 2016 stoppage for 8 hours. March 1, 2016 stoppage for 29 hours for discharge line repairs. March 4, 2016 stoppage (Figures2-1, 2-2, 2-11 and 3-9); resumed on May 2, 2016 May 17, 2016 stoppage for 15 hours May 25, 2016 stoppage for 4 hours June 3, 2016, July 8, 2016, July 14, 2016 for one hour each. August 13, 2016 stoppage for 80 hours for power interruptions October 3, 2016 stoppage 46 hours Dec. 24, 2016 through Dec. 31, 2016 for storm event.</p>	<p>the salinity of the water pumped. How is this a valid model?</p> <p>The modeling has been limited to a small area of the Salinas Valley Groundwater Basin and this represents a significant weakness, as the water source is expansive and can be negatively affected by localized impacts. The predictive power of a model evaluating the MPWSP must be able to predict the impacts of an entire water basin as this is the priority concern for regional stakeholders. To not include the Basin as a whole is to ignore the true harms of a project such as MPWSP.</p> <p>The last step in any scientific methodology is that there is <i>replication of the predictive performance</i> of experimental tests <i>by several independent experimenters</i> and <i>properly performed experiments</i>. As previously stated, the modeling must be expanded to cover the actual areas to be potentially harmed, i.e. the Salinas Valley Groundwater Basin, not a small portion of this. Although the HGW is composed of a small group of reputable hydrogeologists “familiar with the local region”, but does this not speak to a potential bias and possible political influences of these individuals? The interests of Marina Coast Water District which has the greatest to lose if MPWSP causes harm is starkly omitted from HGW membership. Will CPUC allow members chosen by MCWD on the HGW? Will CPUC mandate the expansion of applicability of test results to the broader Salinas Valley Groundwater Basin area?</p> <p>The total estimated interruptions as of Dec. 31, 2016 over the previous 20 months demonstrated pumping was interrupted intermittently in excess of 30 weeks (75 interruptions in 1.5 years of test well operation). How do such interruptions affect the accuracy of the rate of salinity rise? Is this data collection valid? Should the model have included such impacts or anticipated variances in order to be considered a valid model? Does a reset of the slant well test be required from each major interruption of pumping stoppage for whatever reasons?</p>

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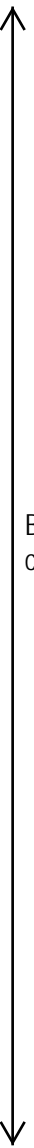
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Pg/Section	Cited text	Comments/Questions
	<p>Long durations: June 5, 2015 - Oct. 27, 2015 pumping stoppage related to water level decline exceeding thresholds. March 4, 2016 - May 2, 2016 pumping stoppage due to Cal-Am outfall pipe on shoreline exposed due to erosion, and had to be disconnected and moved.</p>	
<p>2.5.4 Assumptions about the Allocation of MPWSP Water Pg. 2-29</p>	<p>#10. Topic: Future demand needs of not just Cal-Am's customers but of the Salinas Valley, Marina and Ord communities.</p> <p>2.5.4 Assumptions about the Allocation of MPWSP Water Pg. 2-29</p> <p>As discussed in Section 2.3, CalAm proposes to size the MPWSP Desalination Plant to provide, along with other sources, sufficient supply to meet service area demand of 14,275 afy. This amount is 2,005 afy more than the 12,270 afy existing service area demand (shown in Table 2-3), and without Seaside Basin replenishment, it would be 2,705 afy more than existing demand. In addition to meeting existing service area demand, CalAm proposes sizing the plant to meet demand associated with existing Pebble Beach water entitlements, estimated demand associated with the development of vacant legal lots of record and, if the economy improves, demand from increased water use at existing hospitality businesses. While such increases in water demand can reasonably be expected, estimating future water demand necessarily entails the use of assumptions about demand factors that cannot be predicted with absolute certainty. (As discussed in Section 2.3.3, MPWMD's review of the factors included in CalAm's estimate produced somewhat different results. For example, MPWMD's review indicated that supply needed for future development of vacant lots of record may be underestimated and the supply needed for economic recovery of the hospitality industry may be overestimated.) Moreover, under past and current allocation programs, once a given supply has been allocated to a jurisdiction, whether or not the jurisdiction reserves its allocation for specific uses and at specific levels that CalAm assumed for project sizing</p>	<p>The needs of Cal-Am are thoroughly documented for current and future anticipated needs for the Peninsula; the demand needs of the Marina and Ord communities must be equally considered as there are also severe concerns that the current water supplies are inadequate for the existing population plus anticipated growth of the Marina and Ord communities, even without the MPWSP project. To devote extensive survey of Cal-Am's customer needs without also documenting MCWD's demand needs of a community with much higher levels of undeveloped properties becomes a mere compounding of critical water supply issues. Solving one entity's water issues by compromising another's has no logic and is unjust. Cal-Am created their present water shortages and MCWD has responsibly managed theirs. The injustice of this may be a future lack of potable water for MCWD which CPUC has willingly enabled, in support of an irresponsible water purveyor over a responsible one.</p> <p>Further, there is an <u>environmental injustice</u> that Cal-Am has progressed this far in the approval processes and blatantly ignores the rights and welfare of Marina, a city of 21,000 with a low income and highly diverse population. Cal-Am assumes that compromising the Salinas Valley Groundwater Basin water supply is inconsequential over the needs of a wealthier, more politically influential jurisdiction.</p> <p>Is a DEIR format structured in such a way that it assumes a request for a project review would be for the same area in which the applicant has jurisdictional rights? There is something extremely amiss when a DEIR structurally ONLY requires evaluation of the applicant's demand needs and potential harm in their "sphere of influence" when the applicant is planning on operating in a completely different jurisdiction. Will there be a supplement to this DEIR that considers water demand needs, adequacy of water and regional harm to the Salinas Valley Groundwater Basin stakeholders? All criteria considered and documented for Peninsula stakeholders must be replicated for each city within the Salinas Valley Groundwater Basin.</p>

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Pg/Section	Cited text	Comments/Questions
<p>1.3.1 CalAm’s Project Objectives Pg. 1-5</p>	<p>would be up to the jurisdiction. It is the jurisdiction’s responsibility to determine, subject to applicable plans, policies, laws, and regulations, whether or not to approve a new or intensified water use within its boundaries. In addition, with other supply sources the MPWSP would provide total supply of 16,294 during the Seaside Basin replenishment and 16,994 after the replenishment period, as shown in Table 2-4.</p> <p>1.3.1 Pg. 1-5 Provide sufficient conveyance capacity to accommodate supplemental water supplies that may be developed at some point in the future to meet build out demand in accordance with adopted General Plans;</p> <ol style="list-style-type: none"> 1. Develop water supplies for the CalAm Monterey District service area to replace existing Carmel River diversions in excess of CalAm’s legal entitlement of 3,376 afy, in accordance with SWRCB Orders 95-10 and 2009-0060; ^[1]_[SEP] 2. Develop water supplies to enable CalAm to reduce pumping from the Seaside Groundwater Basin from approximately 4,000 to 1,474 afy, consistent with the adjudication of the groundwater basin, with natural yield, and with the improvement of groundwater quality; ^[1]_[SEP] 3. Provide water supplies to allow CalAm to meet its obligation to pay back the Seaside Groundwater Basin by approximately 700 afy over 25 years as established by the Seaside Groundwater Basin Watermaster; ^[1]_[SEP] 4. Develop a reliable water supply for the CalAm’s Monterey District service area, accounting for the peak month demand of existing customers; ^[1]_[SEP] <p>^[1]_[SEP] Pg. 1-5 Provide sufficient conveyance capacity to accommodate supplemental water supplies that may be developed at some point in the future to meet build</p>	<p>Absent from these project objectives is any consideration that Cal-Am would exacerbate the same demand needs of the Salinas Valley Groundwater Basin by extracting 27,000-30,000 thousand acre feet of water per year; it is unconscionable that only the needs of Cal-Am are being considered. The same criteria of meeting “General Plan future buildouts” should be applied to the jurisdictions from which Cal-Am plans to illegitimately take the water from; such a review will confirm that there is also not enough water in the Salinas Valley Groundwater Basin to supply its own future demand buildout needs without carefully planned water supply strategies.</p> <p>A complete and fact based study must be made of the adequacy of water supplies and the legal rights of Salinas Valley Groundwater Basin stakeholders to meet their own current and future demand needs, including future buildout, <i>without the impact of the Cal-Am pumping.</i> This will establish a needed baseline to know whether the Cal-Am project will exacerbate an already critical situation and could jeopardize MCWD’s legal commitment to serve its own customers. Will CPUC create a supplemental addendum to the DEIR for a complete assessment of both current and future needs of Marina and Ord communities and the surrounding agricultural region in the Salinas Valley Groundwater Basin?</p>



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	<p>out demand in accordance with adopted General Plans.</p>	
<p>APPENDIX: J1 pg. 1570</p>	<p>#11. Topic: Salinas Valley, Marina and Ord communities' water demand needs.</p> <p>APPENDIX: J1 pg. 1570</p> <p>Coastal Water Project EIR Analysis: MPWMD 2006 Estimate of Long-Term Water Needs Compared with Growth Anticipated in Jurisdictions General Plans\</p> <p>City of Monterey Pg. 1581</p> <p>General Plan and Housing Element dates and planning periods Monterey's General Plan was adopted in January 2005 and has a long-range planning period of 10 to 20 years.</p> <p>The Housing Element is included as part of the General Plan (adopted January 2005) and, based on the implementation schedule of its goals and programs, its planning period extends through 2007.</p> <p>-Potential new single-family dwellings: 163 units -Potential new multi-family dwellings: 500 units in areas designated for multi-family dwellings and 1,302 units in areas designated for mixed use -Potential new military quarters at the Defense Language Institute and Naval Postgraduate School: 170 -Non-Residential square footage: 398,574 sf, combined total for the Downtown/East -Downtown, North Fremont, Lighthouse/Wave, and Cannery Row districts; assumes 60 percent in each district would be low water use (MPWMD Group I category of non-residential use) 40 percent would be high water use (MPWMD Group II category of non-residential use) -Remodels: None indicated -Other: None indicated Monterey suggested a 20 percent contingency factor,</p>	<p>Cal-Am's project has carefully analyzed their own customer future demand projections but has no regard for the Salinas Valley stakeholders needs from which from they intend to illegitimately take water from.</p> <p>The Marina and Ord communities have some of the largest undeveloped and coveted parcels on the Bay, and therefore have significant "future demand needs for buildouts" which the current water supplies from the 180', 400' and 900' aquifers are in question of their adequacy to meet demand. MCWD's service demands include an area with 33,000 people with doubling water demands in 10 years, anticipated future CSUMB Master Plan enrollment of 12,000 students, and a not-as-yet opened Veterans Administration flag ship clinic (to open 2017). The demands needs of the Salinas Valley Groundwater Basin is of equal importance to Cal-Am's water demands. Will there be a supplemental addendum to the DEIR on the future demand projections of the Marina, Ord communities and the regional agricultural interests?</p> <p>These kind of detailed buildout needs assessments of the City of Monterey are illustrative of the overt lack of any consideration of whether Marina and Ord Communities have adequate water for their future buildout. There are no considerations, whatsoever, of the Housing Element, new single-family dwellings, new multi-family dwellings, or non-residential square footage of Marina and Ord communities. Can CPUC mandate such an accounting? If not, what possible justifications would merit omitting such a review?</p> <p>The Marina Coast Water District has been responsibly concerned with and dealing with the threats to its groundwater. Their website posts:</p> <p>Securing Our Water Supply: "MCWD is dedicated to providing clean drinking water to the 33,000 residents in our service area now and well into the future. Currently, our sole source of water comes from the Salinas Valley Groundwater Basin which supplies many other communities</p>



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	<p>which was ultimately adopted for all jurisdictions. <small>SEP</small> Buildout information submitted by Department of the Army for the Presidio of Monterey (U.S. Department of the Army, 2005) <small>SEP</small></p>	<p>beyond our service area. <u>In order to meet future demands, MCWD is already working to maximize how we use our existing supplies, researching potential new sources, encouraging conservation and investing in infrastructure to deliver advanced recycled water. As we work to balance future needs with supply, conservation and new sources, we must be ever vigilant to guard against environmental impacts such as saltwater intrusion into fragile groundwater basins.</u></p> <p>Cal-Am cannot be allowed to express their needs without equal, if not more, consideration of the Salinas Valley Groundwater Basin stakeholders that have been proactive in preserving their fragile water source. How has this basic consideration of the water demand needs of Marina and the Ord communities not been considered by CPUC in supporting the MPWSP project?</p>
<p>1.4.3 Environmental Review: Context for this Draft EIR/EIS Pg. 1-8</p> <p>Appendix E-1 Lawrence Berkeley Nat'l Lab Report</p>	<p>#12. Topic: ERT Reference but scope of research not adequate.</p> <p>To address questions about the accuracy and credibility of the groundwater modeling work that was the subject of the potential conflict of interest comments, the CPUC made the groundwater data files available for public review, and the CPUC employed the Lawrence Berkeley National Laboratory to conduct an independent evaluation of that data and the results of that evaluation are provided in</p> <p>Appendix E1. The Project was determined to require full environmental analysis in accord with the California Environmental Quality Act. An analysis was prepared under the auspices of the California Public Utilities Commission (CPUC) and issued as a Draft Environmental Impact Report (DEIR) in April 2015. Among the potential environmental impacts considered, reduction of groundwater supplies, declines in groundwater levels resulting from extraction of saline groundwater from beneath the sea floor near the shoreline, and degradation of</p>	<p>Did the scope of work for the Lawrence Berkeley Livermore National Lab only request study of the groundwater near the shoreline? When the disruption to a regional aquifer network is in question by massive extraction of water at certain locations on the shore, why was the entire Salinas Groundwater Basin not included in any modeling and not commissioned for examination by Lawrence Livermore Labs?</p> <p>A model with such limited scope of verification, only correlates with a very minor impact of the immediate site on which the project is located and fails to consider the most important impact to the regional water resources consequences.</p> <p>This omission demonstrates a lack of understanding of what localized slant wells can impose upon the entirety of the region, or demonstrates an intentional obfuscation of regional effects of the Cal-Am project by limiting the extent of scientific inquiry. CPUC should re-contract with the Lawrence Berkeley Lab for a broader modeling verification using the Electrical Resistivity Tomography to map the broader Salinas Groundwater Basin. A moratorium should be called on further EIR approvals until such vital information is available and analyzed. Are these moratoriums/delay considerations being entertained by CPUC? If not, why not?</p>

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	groundwater quality were assessed.	
<p>Ground-water Sources 4.4. Pg. 4.4-43</p> <p>Pg. 4.4-44</p>	<p>#13. Topic: ERT regional imaging is currently available but not mandated.</p> <p><i>Groundwater Models</i></p> <p>What is a Groundwater Model?</p> <p>The applicability or usefulness of the model depends on how closely the mathematical equations approximate the physical system being modeled.</p> <p>Limitations of Groundwater Models</p> <p>Groundwater models simulate aquifer conditions based on a specific set of data that describes parameters such the subsurface characteristics, groundwater flow, and land use. The more robust the data set, the more capable the model will be to accurately simulate subsurface conditions.</p> <p>Given that, and given the fact that these models were calibrated with known data, the level of degree of uncertainty for this analysis is considered tolerable.</p>	<p>What is quite missing is that the impacts of 27,000 acf a year, will have immediate and long term effects on a fragile regional water basin, and the models applied to the project are not concerned with the regional impacts. Further, the modeling must achieve higher levels of certainty (not “tolerable uncertainty”) through the application of Electrical Resistivity Tomography (ERT) technology. There is no excuse not to apply state-of-the-art, available and affordable methods when the dramatic and possibly permanent negative impact to a region’s water supplies is at stake.</p> <p>It is clear that any model’s accuracy depends on how much real data it is based upon. (See DEIR quote of “What is a Groundwater Model?”. The current model relies on a limited number of vertical wells (sentinel or monitoring wells). Dr. Rosemary Knight’s Electrical Resistivity Tomography (ERT) technology generates tens of thousands of data points compared to the hand full of vertical wells. Additionally, the ERT can show subsurfaces of saltwater and fresh water reserves to 1200 feet below the earth’s surface compared to the two MCWD wells that reach the 900 foot aquifer. Which should be trusted...a model based upon a comprehensive ERT or a model based on a small number of vertical wells? Which model will give more accurate estimates of uncertainty given the stakes are so high with risking an entire regional water source. Why is CPUC not mandating an ERT study of the Salinas Valley Groundwater Basin before environmental review approvals?</p> <p>Why has ERT not been required in establishing the baseline data of saltwater intrusion, the integrity of aquitards and the health of the three levels of aquifers in the Salinas Valley Groundwater Basin? Can a supplemental section to the DEIR be added that explains the relationship of ERT data to modeling and to establishing levels of uncertainty and creating predictive ability of assessing “harm”?</p>
<p>Pg. 4.4-28</p> <p>4.4 Ground-water Resources</p> <p>Seawater Intrusion</p>	<p>#14. Topic: ERT Reference.</p> <p><i>Seawater Intrusion</i> Pg. 4.4-28</p> <p>The current, standard practice for monitoring the inland advance of seawater intrusion involves TDS analysis of groundwater from a select group of monitoring wells</p>	<p>Cal-Am states “The study found that the electrical resistivity readings positively correlated with measured TDS concentrations to a depth of 500 feet in four area groundwater wells.” Why does Cal-Am acknowledge Electrical Resistivity Tomography (ERT) as a tool yet states nothing of its potential value in modeling and its ability to answer the many unknowns about the groundwater in the area they plan to pump from? This is like explaining some of the moving parts of</p>

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	<p>that intersect the seawater- intruded aquifers. The TDS concentration data are used to identify the areas of the aquifer intruded by seawater and to plot the leading edge of the inland seawater intrusion front. The more groundwater wells available in the monitoring program, the better regional seawater intrusion is represented. Regular annual monitoring data can be used to estimate the rate at which seawater is migrating inland. The MCWRA has been conducting seawater intrusion monitoring for many years using several groundwater wells in the western end of the Salinas Valley.</p> <p>Geophysics are giving researchers the opportunity to study seawater intrusion using high- resolution, regional scale imaging. The technique, sometimes referred to as Electrical Resistivity Tomography (ERT), can be used to differentiate salty water from fresh water hundreds of feet beneath the ground. Electrical resistivity imaging uses a series of sensors placed along a transect line on the ground surface. An electrical current is applied and the sensors measure the electrical resistance the current encounters as it travels at depth between the sensors. Salty water has a lower resistance than freshwater, due to the higher TDS. The high and low resistivity zones in the subsurface are displayed as a series of colors in a cross section that indicate areas of fresh water, brackish water and seawater.</p> <p>Pg. 487 Over the past few years, Stanford environmental geophysics researcher Rosemary Knight has conducted a study to determine the viability of using electrical resistivity techniques to study seawater intrusion along the coast of the Monterey Bay. Professor Knight’s initial survey was conducted along a 4-mile segment parallel to the beach between the cities of Seaside and Marina. The study found that the electrical resistivity readings positively correlated with measured TDS concentrations to a depth of 500 feet in four area groundwater wells.</p>	<p>an airplane but omitting the fact that it can fly and transport passengers!</p> <p>(Project Water Rights 2.6.2 Pg. 127) As explained in Chapter 4.4, Groundwater Resources, the modeling is specifically targeted to isolating the change in groundwater levels that would be generated by the MPWSP. <i>This modeling, however, cannot project the amount of Basin water that is expected to be drawn into the supply wells.</i></p> <p><u>Pg. 114</u> <i>MPWSP source water would include some brackish groundwater from the SVGB.</i></p> <p>The origins of this “brackish groundwater” must be known i.e. where this mixing of fresh and ocean water is occurring and clearly documented. ERT will provide critical information not currently known. Again, will CPUC mandate such information be clearly identified in the DEIR?</p> <p>There will be a new peer reviewed professional journal article released very soon by Dr. Knight that describes the capabilities of a more expansive, regional ERT imaging. A finished ERT study of the Salinas Valley Groundwater Basin, using such techniques, must be included in the approval process with adequate time allowed for proper evaluation</p>



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		by experts. Can CPUC require that DEIR approvals not be made until ERT studies have been completed for the SVGB and applied to the current model?
Baseline Conditions 4.1.3 Pg. 4.1-8 Appendix E-1 Pg. 1045	<p>#15. Topic: Groundwater modeling based upon 2012 data is not current and has omissions.</p> <p>Pg. 4.1-8 Although the Notice of Intent for the NEPA review contained within this document was issued in 2015, use of the 2012 baseline is appropriate and reasonable because (i) 2012 is a very recent point in time; (ii) the CPUC invested considerable resources amassing 2012 background/baseline data for the April 2015 Draft EIR; and (iii) environmental conditions in the study area have been relatively static such that 2012 conditions remain representative of meaningful baseline conditions.</p> <p>Lawrence Berkeley Livermore Laboratory Report Pg. 1045 As for our review of the foundation of the groundwater modeling, we find that there are shortcomings in the hydrostratigraphic model and simulation inputs that could potentially change the impact assessments. Chief among these was the absence of the Fort Ord-Salinas Valley Aquitard (FO-SVA), which hydraulically separates the Dune Sand and 180-foot equivalent (180- FTE) aquifers from greater than about 2 km east of the proposed extraction site. <i>Appendix E1 Lawrence Berkeley National Laboratories peer review Conclusions</i></p>	<p>Cal-Am asserts the adequacy of data from 2012. It is clear from the Lawrence Berkeley Livermore Laboratory report that potentially crucial “shortcomings” are present. Additionally, according to Hydrogeologist, Curtis Hopkins, Cal-Am’s 2014/15 modeling did not use wells located south of the Salinas River for calibration to compare simulated results with observed groundwater level elevations. Consequently, there cannot be a high level of confidence in their accuracy in the project area because accuracy has not been demonstrated through a comparison of actual data ((MEMORANDUM to Mr. Keith Van Der Maaten, General Manager, Marina Coast Water District dated January 22, 2016).</p> <p>Further, Cal-Am’s 2014/15 modeling assumed the 180-FTE Aquifer was unconfined within the project area. As Cal-Am has acknowledged elsewhere, the Test Slant Well project data demonstrates this assumption was incorrect. ((MEMORANDUM to Mr. Keith Van Der Maaten, General Manager, Marina Coast Water District dated January 22, 2016).</p> <p>Additionally, Hydrogeologist Curtis Hopkins, notes that monitoring Well-7 is no longer contaminated by high concentrations of seawater and is likely explained by the changing hydrogeological conditions resulting from the efforts of MCWD and others to reduce pumping in the area. Cal-Am’s current water proposals do not consider or address any potential harm to protective conditions. (MEMORANDUM to Mr. Keith Van Der Maaten, General Manager, Marina Coast Water District dated January 22, 2016).</p> <p>Will there be any further scrutiny of Cal-Am’s data and modeling based upon all the aforementioned discrepancies and omissions, both from the Lawrence Berkeley Livermore Lab and the report by Hopkins Groundwater Consultants?</p>
Appendix E-1	<p>#16. Topic: Lawrence Berkeley Livermore National Laboratory report: need for more data on modeling.</p>	Have all the Lawrence Berkeley Livermore Laboratory recommendations been adequately addressed by Cal-Am? If so, where

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Pg. 1043-1056	<p>2. Conclusions</p> <p>pg. 1054 Based on this review, LBNL found its simulation results match those in Appendix E2 of the DEIR. Some of the groundwater modeling outputs are reproduced exactly, while others show small differences that can be attributed to computer round-off and cancellation errors.</p> <p>As for our review of the foundation of the groundwater modeling, we find that there are shortcomings in the hydrostratigraphic model and simulation inputs that could potentially change the impact assessments. Chief among these was the absence of the Fort Ord-Salinas Valley Aquitard (FO-SVA), which hydraulically separates the Dune Sand and 180-foot equivalent (180- FTE) aquifers from greater than about 2 km east of the proposed extraction site.</p> <p>Pg. 1054 If there are insufficient data to constrain the position of water levels and the position of the FO-SVA, multiple simulations should be conducted to provide a suite of results that in sum bracket the likely changes resulting from the proposed extraction. This suite of results can be used to determine the maximum capture area, drawdowns, and extraction from beneath onshore, or to provide a probability distribution for those values if probability distributions for the inputs can be established.</p> <p>Pg. 1054-1055 The new simulation should be initialized with hydraulic conductivities measured from field data collected in the nearby former Fort Ord. In general these hydraulic conductivities are lower than those previously used to initialize the model and resulting from calibration by the model. The model should also be initialized with larger storativities in the Dune Sand aquifer based upon analysis of field data from the nearby former Fort Ord.</p>	<p>is this documented?</p> <p>Further, the modeling must be expanded to incorporate as much of the Salinas Groundwater Basin as possible through Electrical Resistivity Tomography; it would seem necessary to then contract with Lawrence Berkeley Livermore National Lab to validate the new model based upon new ERT information. Are there plans to do so? If not, why not?</p>
2.6.2 Project Water Rights	#17. Topic: Water Rights, Harm and individual compensation	How is injury to individual well owners because of increased difficulty in pumping due to drawdowns by Cal-Am, to be compared with the injury to the region of pumping significant volumes of water without

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Pg. 2-37	<p>Pg. 2-37 Turning to the third of the three injury criteria set forth in the Report – increased pumping costs – as noted above, the water levels in seven potentially active wells could drop by somewhere between 1 and 5 feet, thus requiring marginally more energy to extract the water from those wells. As a physical solution to ensure that those well owners continue to enjoy the same measure of water rights as they do prior to MPWSP implementation and thus are not injured, CalAm could compensate the well owners for any increased pumping costs causally tied to the MPWSP. Assuming that CalAm were to compensate the owner of these wells for any increased pumping costs sustained due to the MPWSP, the slant wells’ operation would not cause injury under the Report’s third injury criteria.</p>	<p>knowing, studying and reliably predicting the impacts to the region’s aquifers? This interpretation of “harm” and “injury” on such a small scale is egregious and serves only to cloud the real issues at hand.</p> <p>What monetary compensation to MCWD, the City of Marina and Ord communities is Cal-Am prepared to compensate for damages to the Salinas Valley Groundwater Basin stakeholders? Such mitigation measure must be in writing with details of compensation to all injured parties not merely to “compensate the well owners for any increased pumping costs causally tied to the MPWSP”. Such written stipulations for compensation should also include designated amounts for set aside funds.</p> <p>Can Cal-Am be compelled to commit to such compensation strategies for Marina, the Ord communities and MCWD as they have addressed for other contingencies in this DEIR?</p>
2.6.2 Project Water Rights Pg. 2-37	<p>#18. Topic: Water rights, Harm and Cal-Am future “good will” financial support, individual compensation.</p> <p>Pg. 2-37 Furthermore, CalAm has proposed a mitigation measure (set forth in Section 4.4, Groundwater Resources as Mitigation Measure 4.4-3) to further ensure that Basin groundwater users are not injured. Working with the Monterey County Water Resources Agency, CalAm would fund the installation of monitoring wells to expand the County’s network of groundwater monitoring wells so as to be better able to monitor on an on-going basis the effect of the project slant wells on groundwater within the radius of influence. If the monitoring efforts were to demonstrate that the project were affecting any existing neighboring active wells, CalAm would coordinate with the affected well owner and take both interim and long-term steps to avoid harm (possibly including improving well efficiency, providing a replacement water supply and/or compensating the well owner for increased costs).</p> <p>In light of the foregoing, it seems reasonable to conclude that the MPWSP would not cause harm or injury to Basin water rights holders such that CalAm would possess the right to withdraw water from the Basin to produce</p>	<p>If the current modeling that presumably demonstrates “no harm” has been confirmed by Cal-Am, why are additional groundwater monitoring wells even necessary? The additional monitoring wells to be paid for Cal-Am, under the stated intent of being “better able to monitor on an ongoing basis the effect of the project slant wells on groundwater” suggests that there are some inadequacies of data in their project proposal. To have now, in the present, a comprehensive and accurate assessment of groundwater subsurfaces, would obviate additional future installation of monitoring wells. The Electrical Resistivity Tomography will provide a much more accurate and complete baseline today as well as providing comparison for changes from this baseline in the future. If we accept Cal-Am’s financial support for “future monitoring wells” that will inherently never be very accurate, why does CPUC not insist on ERT funding now for a baseline and in the future as an ongoing accurate monitoring tool?</p> <p>It appears that Cal-Am is willing to offer funding for more monitoring wells in the future but they have not offered to fund the Electrical Resistivity Tomography (ERT) that is a more comprehensive, accurate groundwater imaging to understand salt water intrusion as an aspect of “harm”. Monitoring wells are much less accurate in mapping saltwater intrusion than ERT. Why has Cal-Am not been required to pay expenses for current monitoring and the establishment of a baseline via ERT?</p>

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	<p>“developed water” for beneficial use and under the physical solution doctrine.</p>	<p>Further, Cal-Am’s offer to “monitor on an ongoing basis the effect of the project slant wells on groundwater <u>within the radius of influence</u>” but this “radius of influence” is defined as a constricted area around the well. The entire Salinas Valley Groundwater Basin should be defined as “their radius of influence” but current modeling and limited scope of research suggests otherwise. Why is Cal-Am’s envisioned “radius of influence” not defined as the entire Salinas Valley Groundwater Basin since “harm” will be global and devastating to the region?</p>
<p>2.6.2 Project Water Rights Pg. 2-39</p>	<p>#19. Topic: Slant wells will improve groundwater conditions? Claims of MPWSP benefiting each of the aquifers and creating a “no net loss”.</p> <p>Pg. 2-39 Water is expected to be returned between May and November of the same calendar year as it is withdrawn (see Chapter 3, operating table) such that the senior overlying and prescriptive users would not suffer harm from loss of water. As examined by the groundwater modeling and explained in the Groundwater Resources section, this proposed return water plan would improve groundwater conditions in the 400-Foot Aquifer underlying the CSIP, CCSD and adjacent areas because water levels would increase as a result of in-lieu groundwater recharge, and would benefit each of the aquifers by either reducing the area of influence of the MPWSP or by increasing groundwater levels in other areas. Since this return option would essentially put the Basin in a “no net loss” position in terms of fresh water quantity and would benefit legal water users by providing fresh water for beneficial use in lieu of Basin pumping, it appears consistent with the Report and enhances the preliminary conclusion that CalAm would likely possess water rights for the project.</p>	<p>The statements that “this proposed return water plan would improve groundwater conditions in the 400-Foot Aquifer” must have clear scientific proof that this is so. The current modeling cannot demonstrate this and if such statements are made repeatedly, scientific evidence must be produced. Is there any scientific evidence that pumping water from the Marina site but returning a portion of this to Castroville will actually improve groundwater conditions in the area from which the water was pumped? If any claims that water returned in Castroville will benefit the 400’ aquifer in the Marina and Ord communities, where is this scientific evidence that this is so? What would prevent the Castroville area from using up any returned water such that it would never reach Marina? Are there any subsurface physical barriers that prevent returned water in Castroville from reaching and replenishing Marina aquifers?</p> <p>According to Curtis Hopkins, Hyrdogeologist, “unless a return water method ensures the protective (substrate) conditions (of reduced pumping) in the MCWD area are not harmed, the MPWSP will induce seawater intrusion into the Dune Sand Aquifer (and will exacerbate seawater intrusion in the 180-Foot Aquifer through vertical leakage) in the Northern Marina Subarea and likely result in cumulative impacts to aquifers and wells much further inland.” (MEMORANDUM to Mr. Keith Van Der Maaten, General Manager, Marina Coast Water District dated January 22, 2016). Will such information be evaluated in the MPWSP project and how does this change the modeling?</p> <p>Further, Curtus Hopkins states: “...if a greater percentage of</p>

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Pg/Section	Cited text	Comments/Questions
<p>2.6.3 Water Demand, Supplies and Water Rights</p> <p>Pg. 2-39</p>	<p>Pg. 2-39 As examined by the groundwater modeling and explained in the Groundwater Resources section, this proposed return water plan would improve groundwater conditions in the 400-Foot Aquifer underlying the CSIP, CCSD and adjacent areas because water levels would increase as a result of in-lieu groundwater recharge, and would benefit each of the aquifers by either reducing the area of influence of the MPWSP or by increasing groundwater levels in other areas. Since this return option would essentially put the Basin in a “no net loss” position in terms of fresh water quantity and would benefit legal water users by providing fresh water for beneficial use in lieu of Basin pumping, it appears consistent with the Report and enhances the preliminary conclusion that CalAm would likely possess water rights for the project.</p>	<p>groundwater is pumped than estimated by the model, or if groundwater salinity is increased in the project area, the annual amount of return water required would increase accordingly. These higher return water volumes are not included in the project’s return water estimates”. (MEMORANDUM to Mr. Keith Van Der Maaten, General Manager, Marina Coast Water District dated January 22, 2016). Does the current model speak to these possibilities? Are these possibilities addressed in the current model regarding amount of return water? If not, why not?</p> <p>The basis upon the assumed water rights is made upon unscientifically verified claims that the project now “benefits” the groundwater condition.</p> <p>Pumping out massive volumes of water from a groundwater basin and putting back limited fresh water in another location, does not validate the Cal-Am conceived “no net loss” position. This is such a simplistic, almost incredulous explanation and is devoid of any scientific justification. Cal-Am further links this “benefit” to the assumption of water rights in the area.</p>
<p>APPENDIX I1</p> <p>Open-Water and Subsurface Intakes</p> <p>Pg. 1556</p>	<p>#20. Topic: Subsurface ocean intake Slant Well Technology not successful in U.S. or the world; lack of any study of previous failure at Dana Point.</p> <p>Slant Wells Pg. 1556</p> <p>Slant wells are installed at an angle below the sea floor using vertical well drilling technology. The yield from a slant well depends on the underlying geology. When compared to vertical wells and Ranney wells, slant wells can be screened at greater distances offshore and can result in fewer impacts on coastal groundwater aquifers. Slant wells can be drilled from behind sand dunes or from the active beach area (i.e., between the toe of the dunes and the open ocean). The wellheads can be buried beneath the sand or installed flush with the ground surface. Multiple slants wells can be grouped into clusters to extend from a single “pod.” Consistent with the slant wells</p>	<p>This description of slant wells is covered in the appendix regarding intake methods of Open-Water Intakes and Subsurface Intakes, including vertical wells, infiltration galleries, horizontal wells, Ranney wells, and lastly slant wells. This section on intake methods assumes a casual parity of slant wells with other intake methods when no subsurface ocean intake slant well project has ever been successful in the U.S. or the world. In fact, a lengthy description of Ranney wells includes examples:</p> <p>Pg. 1555 Examples of Ranney wells in marine environments include three Ranney wells at the Salina Cruz Power Plant in Mexico that draw between 9 and 14 mgd of seawater, and one at the Steinhart Aquarium at the California Academy of Sciences in San Francisco (Hunt, 2008; Feeney, 2013).</p> <p>This is yet another example of truth hiding. No examples of successful subsurface ocean intake slant well projects can be named but more importantly, the one attempted example has had</p>

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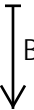
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Pg/Section	Cited text	Comments/Questions
<p>APPENDIX 11</p> <p>Open-Water and Subsurface Intakes</p> <p>Pg. 1555</p>	<p>proposed as part of the MPWSP, it is assumed that construction of each slant well pod (consisting of up to 4 wells) would result in 1 acre of temporary disturbance.</p> <p>Slant wells would require maintenance every 5 years. During maintenance, the wellheads are excavated and exposed, and mechanical brushes are lowered into the wells to mechanically clean the screens. Ground disturbance associated with periodic maintenance is assumed to be similar in extent to construction disturbance (i.e., approximately 1 acre of disturbance for each well pod).</p> <p>Slant well construction and maintenance requirements are described in greater detail in Chapter 3, Project Description. Any intake options that include slant well technology are assumed to be consistent with the slant wells proposed as part of the MPWSP, although the location and number of wells could vary.</p> <p>Ranney Wells Pg. 1555</p> <p>A Ranney well is a radial well comprised of a vertical caisson (a large diameter shaft where the water is collected from each well and then pumped) extending below the water table from which horizontally placed perforated screens are extended (SGD, 1992). The use of multiple horizontal laterals means that production of each radial well is greater than a single vertical well (Feeney, 2002). A single Ranney well can yield between 0.1 to 25 mgd, which is five to ten times the yield of a vertical well (Hunt, 2008). Examples of Ranney wells in marine environments include three Ranney wells at the Salina Cruz Power Plant in Mexico that draw between 9 and 14 mgd of seawater, and one at the Steinhart Aquarium at the California Academy of Sciences in San Francisco (Hunt, 2008; Feeney, 2013).</p>	<p>no acknowledgement or review by Cal-Am or CPUC. If an experimental design is being proposed, would not all Dana Point slant well project details be of great interest to CPUC to avoid potential repeat of failure or infeasibility? Would not CPUC wish to include the data from the Dana Point slant well project to compare to the data of the MPWSP test well that ran for 21 months? Should we not be at least curious, let alone scientifically aggressive, in pursuing more information when there is only one documented attempt of such a slant well in the U.S.? The blinders that have been put on to expedite Cal-Am's project is quite astounding and would not be tolerated in any other scientific pursuit.</p> <p>Any scientific research article begins with an extensive review of literature to give current knowledge of the topic under review. This fundamental practice has been omitted for this untested, experimental technology that has already come with a formidable price tag for the Peninsula ratepayers. Will CPUC require a DEIR addendum with more objective and complete coverage of the true state of subsurface ocean intake slant wells that includes an honest history of the Dana Point Doheny Ocean Desalination Project?</p> <p>Why has there been no scientific or feasibility studies to compare and contrast the Dana Point slant well project with the MPWSP project?</p> <p>What are the legal implications for CPUC ignoring previously available information from the abandoned Dana Point slant well project that may have been relevant to issues in the current MPWSP project? Ultimately, four of the five cooperating sponsoring agencies found other preferable ways to procure needed water.</p>
<p>2.1 Introduction</p> <p>Pg. 2-2</p>	<p>#21. Topic: Cal-Am as a non-self-regulating, environmentally destructive utility company.</p>	<p>The history in the project introduction reflects a pattern of repeated violation by Cal-Am of the terms of water extraction until the point of legal mandates being issued, rather than responsible, proactive management of available water sources. Both the Carmel River and the</p>



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Biala1-46

Pg/Section	Cited text	Comments/Questions
<p>Pg. 2-5</p> <p>2.2.4 Seaside Groundwater Basin Adjudication</p> <p>Pg. 2-8</p>	<p>2.1 Introduction Pg. 2-2</p> <p>CalAm is proposing this project to replace part of its existing water supplies, which have been constrained by legal decisions affecting CalAm’s diversions from the Carmel River and pumping from the Seaside Groundwater Basin. State Water Resources Control Board (State Water Board) Order 95-10, State Water Board Order 2009-0060 (also referred to as the Cease and Desist Order, or CDO), and the Monterey County Superior Court’s adjudication of the Seaside Groundwater Basin in 2006 substantially reduced CalAm’s rights to use these two primary sources of supply.</p> <p>Pg. 2-5 As a result of the adjudication of the Seaside Groundwater Basin (see Section 2.2.4), these satellite systems will lose all of their allocated Seaside Groundwater Basin supplies by 2018.</p> <p>Pg. 2 -8 The Decision established a physical solution to basin management that was intended to reduce aquifer drawdown to the level of the natural safe yield; to maximize potential beneficial uses of the basin; and to provide a means of augmenting water supply for the Monterey Peninsula. In addition to allocating groundwater rights to the various users, the Decision established an initial “operating safe yield,” to be decreased incrementally over time until withdrawals are equal to the identified natural safe yield.¹³</p> <p>Pg. 2-8 By adjudicating the water rights for all users of the basin, the court intended to protect the basin from long-term damage associated with potential seawater intrusion, subsidence, and other adverse effects that commonly result from overpumping. The Decision identified the “natural safe yield”¹²</p>	<p>Seaside Groundwater Basin required legal actions (Cease & Desist, reduction in water rights). Cal-Am is being seriously curtailed due to transgressions of their water rights in the Seaside Groundwater Basin and yet they are being allowed to proceed with DEIR approvals in a non-Cal-Am water district to which they have no water rights. In all other cases, must projects have confirmation of water rights and permits before proceeding under CPUC? No matter what the perceived needs of an irresponsible purveyor of water may be asserted, this should not allow complete disregard for procedural protocols. On what legal basis has Cal-Am been allowed to circumvent standard processes of determining water rights in Salinas Groundwater Basin?</p> <p>Why has the proven history of Cal-Am’s abuse of public resources in areas where Cal-Am has defined water rights, not been considered in allowing them to enter an area in which they have NO water rights? Even with the privilege of water rights, Cal-Am ignored legal and environmental responsibilities. Trusting that Cal-Am will act in a responsible, ethical and legal manner in a jurisdiction in which they have no legal rights, is simply not reasonable in any manner of thinking.</p> <p>The court intentions to “protect the basin from long-term damage associated with potential seawater intrusion, subsidence, and other adverse effects that commonly result from overpumping” related to the Seaside Groundwater Basin is the exact same concerns of the Salinas Valley Groundwater Basin. This is precisely the position of the Salinas Valley Groundwater Basin today <i>without</i> the impacts of Cal-Am drawing an astronomical volume of 27,000-30,000 acf per year. As a stark comparison, Marina Coast Water District currently pumps only 3,800-4,200 acf per year.</p> <p>There is clear evidence that the Salinas Valley Groundwater Basin is experiencing saltwater intrusion and options to desalinate its own water for its own future may be necessitated. In the meantime, MCWD has engaged in responsible initiatives on conservation, recycling and aquifer replenishment projects that Cal-Am’s project will directly mine. like Cal-Am, it plans on internally managing its own water and enact proactive strategies for “natural safe yield”.</p> <p>What are the circumstances that necessitated restrictions on Cal-Am to</p>



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Pg/Section	Cited text	Comments/Questions
<p>E.S.3 CEQA Project Objectives Pg. ES-3</p>		<p>“reduce pumping from the Seaside Groundwater Basin”? Are those not the same, if not more compelling reasons, that the Salinas Valley Groundwater Basin would be subject to? Why is there concern of overpumping in Seaside Basin but not for overpumping in the Salinas Valley Basin when there are already severe concerns with saltwater intrusion?</p> <p>Why does Cal-Am’s obligations to their customers take precedence over MCWD’s obligations to serve theirs, when Cal-Am is intruding on another district’s dwindling water source without water rights to this source? This is completely unjust and unethical.</p>
<p>Pg. 487 Ground-water Sources 4.4 Pg. 4.4-31</p>	<p>#22. Topic: Comparing the salt water intrusion between Salinas Valley and Seaside Groundwater Basins</p> <p>Salinas Valley Groundwater Basin</p> <p>Pg. 4.4-31 The SVGB is hydrologically connected to Monterey Bay by ocean outcrops of the 180-Foot and 400-Foot Aquifers a few miles offshore (Eittreim, et. al., 2000; Greene, 1970). The ocean outcrops provide a constant source both of pressure and of direct recharge of seawater, and facilitate the recharge of seawater into those aquifers along the coast when groundwater extraction exceeds natural recharge. As a result, a landward groundwater gradient has developed along the coast and induced groundwater recharge from the ocean since the mid-20th century. Seawater intrusion in the SVGB was first documented in 1946 (DWR, 1946). The overdraft condition has degraded groundwater quality along the coast within the SVGB. Before wells extracted water from the Salinas Valley, there was a balance between the seawater in the ocean and the groundwater in the inland aquifers. Surface water within the watershed would infiltrate down into the aquifer, but it would be at a higher elevation than the surface of the ocean. Gravity requires that the difference in elevation forces the freshwater in the inland areas to migrate down and press back against the seawater. With the development of the Salinas Valley, water supply wells were installed and groundwater was extracted from the aquifer. This action reduced the weight of water on</p>	<p>It is without a doubt that both Salinas and Seaside Groundwater Basins have similar situations of increasing saltwater intrusion; severe compromises to both water sources are either in the making or are already present. However, Cal-Am bears a direct responsibility to the Seaside Basin stakeholders for assuming an immediate role of pumping from this basin. Cal-Am should not be allowed to repeat their irresponsible practices and claim to be “ameliorating” the Salinas Groundwater Basin when they should be applying positive strategies to the area in which they do have legal water rights. There is no justice in supporting the further spread of saltwater intrusion by Cal-Am in the Salinas Valley Groundwater Basin.</p>

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	<p>the inland side of the seawater/freshwater interface, creating a pressure imbalance, and resulted in the landward migration of the interface to its current location.</p> <p>The 2013 estimates of seawater intrusion within the 180-Foot and 400-Foot Aquifers indicate that seawater has intruded to a maximum of approximately 8 miles and 3.5 miles inland, respectively, as inferred from chloride concentrations greater than 500 mg/L. The seawater intrusion degraded groundwater supplies, requiring urban and agricultural supply wells within the affected area to be abandoned or destroyed (MCWRA, 2001). Increased degradation of coastal groundwater aquifers led to restrictions on drilling groundwater wells and extracting groundwater from areas affected by seawater intrusion, as discussed in Section 4.4.2, Regulatory Framework. Such restrictions are intended to reduce further inland migration of seawater and reduce the landward advance of the seawater/freshwater interface.</p> <p>Seaside Groundwater Basin</p> <p>Pg. 487-488 Groundwater pumping from aquifers in the SGB has exceeded recharge and freshwater inflows that caused pumping depressions near the coast, as shown on the groundwater flow maps for both the shallow aquifer zone (see Figure 4.4-7) and the deep aquifer zone (see Figure 4.4-8) (HydroMetrics, 2015). In addition, seawater intrusion has occurred just north of the SGB in the adjacent 180/400 Foot Aquifer Subbasin of the SVGB, as discussed above. The boundary between these two basins is a groundwater divide that migrates in response to variations in natural recharge and pumping on either side of the divide. HydroMetrics noted increased chloride concentrations in two wells along the coast, although the concentrations have not yet exceeded drinking water standards. These conditions all suggest that the SGB could be vulnerable to seawater intrusion.</p>	<p>Has Cal-Am engaged in or have plans for any prevention of saltwater intrusion in the Seaside Groundwater Basin? If not, why not?</p> <p>If Cal-Am’s claims of pumping water that benefits the Salinas Valley Groundwater Basin are feasible, why have they not engaged in such “benefits” in the basins in which they currently have water rights?</p>

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<p>4.4.2.2 State Water Resources Control Board</p> <p>Pg. 4.4-33</p>	<p>#23. Topic: Applying the same standards to maintain high quality water in both Seaside and Salinas Groundwater Basin.</p> <p>4.4.2.2 State State Water Resources Control Board (SWRCB) Resolution 68-16 Anti- Degradation Policy</p> <p>Pg. 4.4-33 In 1968, the State Water Resources Control Board adopted an anti-degradation policy aimed at maintaining the high quality of waters in California through the issuance of Resolution No. 68-16 (“Statement of Policy with Respect to Maintaining High Quality Waters in California”). The policy prohibits actions that tend to degrade the quality of surface and groundwater. The Regional Water Quality Control Boards oversee this policy (SWRCB, 1968). The anti-degradation policy states that:</p> <p>5. Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water, and will not result in water quality less than that prescribed in the policies. ¹¹SEP</p>	<p>State Water Resources Control Board (SWRCB) policies:</p> <ul style="list-style-type: none"> * prohibit actions that tend to degrade the quality of surface and groundwater. * mandate that existing high quality water will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water. <p>If the State Water Resources Control Board “prohibits actions that tend to degrade the quality of surface and groundwater, why have alternative projects to MPWSP not been evaluated on their impacts to groundwater resources in the DEIR? Open ocean desalination projects, as opposed to slant wells, do not draw any fresh water/brackish water from any groundwater aquifers.</p> <p>If both Seaside and Salinas Valley Groundwater Basins will become increasingly salt water intruded, upgrading the quality of Seaside’s brackish water (where Cal-Am has water rights) would appear to be in order. Pumping brackish water from another’s jurisdiction in which they have no rights, by claiming brackish water is “unusable”, and then claiming they are actually improving the groundwater condition, is without merit. Within the <i>Seaside</i> Basin where Cal-Am has water rights, there is brackish water that should be restored to a “higher quality” in that same basin just as Cal-Am now proposes to do in the <i>Salinas</i> Valley Groundwater Basin.</p>
<p>Table J2-1¹¹SEP</p> <p>pg. 1616</p>	<p>#24. Topic: Applying the same review and considerations of General Plan growth to both Cal-Am and MCWD customer base.</p> <p>TABLE J2-1¹¹SEP SIGNIFICANT MITIGABLE (S) AND SIGNIFICANT UNAVOIDABLE (U) IMPACTS OF GROWTH IDENTIFIED BY GENERAL PLAN ENVIRONMENTAL IMPACT REPORTS AND MITIGATED NEGATIVE DECLARATIONS IN THE PROJECT AREA</p> <p>City of Del Rey Oaks</p>	<p>The TABLE J2-1¹¹SEP(SIGNIFICANT MITIGABLE (S) AND SIGNIFICANT UNAVOIDABLE (U) IMPACTS OF GROWTH IDENTIFIED BY GENERAL PLAN ENVIRONMENTAL IMPACT REPORTS AND MITIGATED NEGATIVE DECLARATIONS IN THE PROJECT AREA) documents give no considerations to the City of Marina which have greatest potential to be negatively affected by the MPWSP project.</p> <p>Given that the MPWSP proposes to be built in the City of Marina’s jurisdiction, should such critical evaluations be applied to Marina and the DEIR be revised to include such reports?</p> <p>No project approvals should be entertained until such egregious oversights have been corrected with accurate and complete</p>

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Pg/Section	Cited text	Comments/Questions
	<p>City of Monterey</p> <p>City of Sand City</p> <p>City of Seaside</p> <p>Monterey County</p> <p>U.S. Department of the Army</p>	<p>information. The DEIR review presupposes the negative impacts to be for the service area served by Cal-Am and hence does not require a more important evaluation of the negative impacts to another region from which Cal-Am proposes to be pumping.</p>
<p>Table J2-1</p> <p>pg. 1616-1619</p>	<p>#25. Hydrology and Water Quality Impacts pg.1616-1619</p> <p>Impacts on hydrology and water quality, including groundwater quality. Impacts to hydrology and surface water resources.</p> <p>Increased stormwater pollution during construction and/or following project completion.</p> <p>Agricultural and resource development would increase sediment and nutrients in downstream waterways and violate water quality standards.</p> <p>* Increased demand for water supplies and/or water storage, treatment, and conveyance facilities that could have significant secondary impacts on the environment.</p> <p>* Substantial depletion of groundwater supplies.</p> <p>* Exceed capacity of existing water supplies and necessitate acquisition of new supplies to meet expected demands.</p> <p>*Increased demand on groundwater supplies in areas experiencing or susceptible to saltwater intrusion.</p> <p>Increase flood hazard from changes in drainage patterns or insufficient storm drainage infrastructure.</p> <p>Alterations of existing drainage patterns would increase</p>	<p>This exhaustive list of “impacts on hydrology and water quality, including groundwater quality” are evaluated for the Peninsula cities only (see starred * Cited Text). These very questions need to be primarily focused upon the region of Salinas Valley stakeholders, Marina and Ord communities. What is fundamentally at stake is this region’s water source. Why has these impacts not been considered for the City of Marina, Ord communities and customers of MCWD? Will CPUC require a full supplemental report of impacts on hydrology and water for Marina and the Ord communities to be added to the DEIR?</p>

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Pg/Section	Cited text	Comments/Questions
	<p>erosion in overland flow paths and in drainage swales and creeks.</p> <p>Placement of housing or other development within a 100-year floodplain.</p> <p>The placement of land uses and structures within Special Flood Hazard Areas would impede or redirect flood flows, resulting in secondary downstream damage, including bank failure.</p> <p>Potential failure of levees or dams would expose people and structures to inundation and result in the loss of property, increased risk, injury, or death.</p> <p>* Cumulative impacts on groundwater quality.</p> <p>* Cumulative indirect Impacts of water supply projects.</p> <p>Land Use – Pg. 1620</p> <p>Inconsistency with Zoning Code.^[1]_[SEP]</p> <p>Impacts to open space areas.^[1]_[SEP]</p> <p>Conflicts between incompatible land uses.</p>	
<p>1.4.4 Revisions Made in This EIR/EIS Pg. 1-12</p>	<p>#26. Topic: Alternatives that do not impact another’s jurisdictional rights to water and do not impact precious groundwater sources.</p> <p>In addition to the project description changes, this EIR/EIS includes several other substantive revisions to the 2015 Draft EIR. These include some re-organization of the document, revised technical studies, and revisions to the analyses as a result of the revised technical studies, including:</p> <p>4.The Variant (Reduced Project) is now referred to as Alternative 5 and is evaluated in Chapter 5, Alternatives Screening and Analysis, rather than in a stand-alone</p>	<p>The preferred alternative 5a is a dangerous one as it has inherent in it all the fundamental weaknesses of the full project but may appear to “reduce the impact” as a more palatable solution for ambivalent decision makers. This project in a reduced form cannot be allowed to bypass any of concerns of the deficiencies in the full project. Does the reduced project in any way reduce the scientific weaknesses of the test well modeling or the incomplete data upon which it is developed? Does a reduced project now establish water rights? Does reducing the intended MPWSP by two slant wells obviate rigorous scientific study by a corresponding degree? Less risk of harm cannot be “assumed” by merely reducing slant wells to seven operating wells from nine.</p> <p>Where is the scientific proof that the risk to the Salinas Valley Groundwater Basin will be reduced if Cal-Am reduces the number of slant wells by two? Is there any scientific proof that two less</p>

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Pg/Section	Cited text	Comments/Questions
	<p>chapter. The DeepWater Desalination Project and the People’s Project are also addressed in Chapter 5, Alternatives Screening and Analysis</p>	<p>slant wells reduces any harm to the Salinas Valley Groundwater Basin? If no such evidence exists, why is this reduced alternative the “preferred” alternative? On what basis is Alternative 5a superior to the original MPWSP project when considering harm to the Salinas Valley Groundwater Basin?</p> <p>If so much attention and urgency was claimed in the full project, how can a reduced project now be acceptable? Does this mean that the urgency was fabricated, or that there are overinflated demand needs or that in the face of valid objections to the project that Cal-Am hopes that reducing the number of slant wells will diminish scrutiny? What specific reasons does Cal-Am now have for their willingness to support a reduced project?</p> <p>Why have all of the options, including MPWSP not been compared as to their impacts to the regional groundwater AND the existence of current water rights? These are the two most fundamental weaknesses of the MPWSP. Will this comparative criteria be added in the DEIR alternative descriptions?</p>
<p>1.4.4 Revisions Made in This EIR/EIS Pg. 1-11</p> <p>11//16/16 posting on the</p>	<p>#27. Topic: Decommissioning the project.</p> <p>In October 2014, MBNMS finished its NEPA review of the construction of the test slant well and the operation of the pilot program. In November 2014, the City of Marina and the California Coastal Commission completed their CEQA review. The test slant well is permitted to operate until February 2018 and it is not part of the proposed project being evaluated in this EIR/EIS. If the MPWSP with subsurface slant wells at CEMEX is not approved and implemented, the test well will be removed as analyzed and approved pursuant to the CEQA and NEPA reviews of the test slant well project. However, if the proposed subsurface slant wells at CEMEX are ultimately approved as part of the proposed project, CalAm would convert the test slant well into a permanent well and operate it as part of the proposed seawater intake system. The conversion and long-term operation of the well has not been covered under previous approvals and is evaluated in this EIR/EIS as part of the proposed project.</p> <p>Municipal Water District of Orange County is accepting bids for the decommissioning of the desalination slant</p>	<p>The Dana Point Slant Well project was abandoned sometime in 2014. But only as of 11/16/16, has a notice for bids to deconstruct their test slant well been posted by the Municipal Water District of Orange County (MCWDO). The MPWSP provisions must specify the time in which such deconstruction take place and this defined timeline should be short. If Cal-Am had to construct 9 more wells, they would work expeditiously, while a removal of one test well could take years. This would be unacceptable. What are the timeframes for deconstruction should this be necessary?</p>

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	<p>California Department of Fish and Wildlife, and State Historic Preservation Office would be involved in reviewing or approving the proposed project. <u>On the local level, the City of Marina would be reviewing and approving an application for a Coastal Development Permit for the slant wells consistent with their certified Local Coastal Plan.</u> On the federal level, agencies with potential reviewing or permitting authority include NOAA Fisheries, the U.S. Army, the U.S. Army Corps of Engineers, and the U.S. Fish and Wildlife Service (USFWS). A complete list of agencies and required permits or other approvals is included in Chapter 3, Description of the Proposed Project, Table 3-8.</p>	

End of Report.

Kathy Biala

Letter 2

Commentary on Monterey Peninsula Water Supply Project (MPWSP) DEIR by Kathy Biala, resident of Marina

SUBJECT: Western Snowy Plover, a federally listed threatened species that winters and nests at the proposed MPWSP site.

Respectfully Submitted to:

California Public Utilities Commission c/o Environmental Science Associates 550 Kearny Street, Suite 800 San Francisco, CA 94108	Karen Grimmer, NEPA Lead Monterey Bay National Marine Sanctuary 99 Pacific Avenue, Building 455a Monterey, CA 93940
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Section: 4.6-123, Pg. 756	<p>Construction of the nine new permanent slant wells and conversion of the test slant well into a permanent well would disturb approximately 9 acres in the CEMEX active mining area.</p> <p>Construction activities can also result in indirect impacts on special-status wildlife related to disturbance or harassment of individuals. For example, construction noise, vibration, and nighttime lighting can cause special-status birds, bats, and other animals to abandon nests, roosts, or other breeding areas. Artificial lighting during nighttime construction.</p>	<p>It is clear that the population of Western Snowy Plovers (WSP) will be adversely affected by the MPWSP project. If this disturbance will continue for up to 2 years, what is the likelihood that this population impact will be irreversible? What does the science of bird behavior say about return nesting behavior after significant disruption? If not irreversible, over what period of time could the population be restored? <i>Will MPWSP utilize the current baseline numbers of WSPs on the Marina coastline that is compiled every year by Point Blue? Based on this baseline, what % decrease of the WSP population will the MPWSP be held to or is it acceptable for the numbers to drop to zero?</i></p>
Section 4.6-123, pg. 755	<p>TTthe beach and foredunes provide important breeding/nesting and wintering habitat for the western snowy plover. Surveys conducted during the 2015 nesting season identified multiple nests along the stretch of beach in the vicinity of the CEMEX active mining area (Page et al., 2015). Some nests have been found in the vicinity of the CEMEX settling ponds and adjacent to the CEMEX access road (Zander, 2013) and at the location of the northernmost well site. Nesting has also been documented in the backdunes of the CEMEX active mining area where the subsurface slant wells are proposed (Neuman, 2015).</p>	<p>In January of this year, the City of Marina passed a resolution designating the Western Snowy Plover as the official City Shorebird, as well as endorsing a C4SM (Citizens for Sustainable Marina) program known as SPARE (Snowy Plover Active Recovery Efforts). Marina takes pride in its natural environment that is home to this federally listed threatened species. To not support the continued WSP population within its jurisdiction is to diminish an aspect of civic pride and the ongoing protection of Marina’s unique coastal habitat. In the DEIR Section 2.6.2, Cal-Am has offered to monetarily compensate any well owner who has been impacted by the MPWSP.</p>
Section 4.6-129	<p>Although birds may be initially disturbed and temporarily displaced during construction, the majority of the site (8 acres) would be returned to pre-construction conditions and birds would be able to utilize the site following construction. Temporary and permanent impacts to plover habitat were described in the previous paragraph.</p>	
2.6.2 Project Water Rights ,Pg. 2-37	<p>CalAm could compensate the well owners for any increased pumping costs causally tied to the MPWSP. Assuming that CalAm were to compensate the owner of these wells for any increased pumping</p>	<p>Does Cal-Am have an obligation to offer any type of compensation to the City of Marina or other harmed entities affected by a decline or eradication of a threatened</p>

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Pg/Section	Cited text	Comments/Questions
	costs sustained due to the MPWSP, the slant wells' operation would not cause injury under the Report's third injury criteria.	bird species on this shoreline? Marina has a rare beach habitat, indeed, where a threatened species is yet observable on its beaches! This was a platform upon which to market and one way to create special identity for the city of Marina.
<p>Section 4.6-123, pg. 755</p> <p>DEIR 4.6-129 to 131</p> <p>Pg. 761</p> <p>Section 4.6-130</p>	<p>Slant well construction would take approximately 15 months to complete, and could take place any time throughout the overall 24-month construction duration for the proposed project.</p> <p>However, individual western snowy plovers may also use the entire subsurface slant well construction area for wintering.</p> <p>Construction of the slant wells in the CEMEX active mining area could occur year-round. The nine-acre construction footprint for the subsurface slant wells is located within potential nesting habitat and construction of the nine subsurface slant wells and conversion of the test well to a permanent production well during the breeding season would result in the temporary loss of 8.0 acres (for temporary construction disturbance to areas that would be restored) and permanent loss of 1.0 acre (for new permanent above-ground facilities) of potential wintering habitat.</p> <p>Construction during the snowy plover wintering season (October 1 through February 28) could directly or indirectly impact individual birds if present within or adjacent to the construction area. Human presence and construction noise and activities can cause roosting plovers to fly and disturb resting or foraging activities. This would be a significant impact.</p>	<p>In the previous DEIR, it was publically stated that should a nest be discovered during construction, the construction would be stopped (E. Zigas). There is no mention of this intervention except to report that a Lead Biologist will be maintained and perform monitoring duties. What are the specific authorities of this Lead Biologist if a nest is discovered? Will such authorities be documented and if such authority is not heeded, what is the process for appeal? This appeal must be immediate as delaying responsible action would inevitably result in the destruction of the nest with ongoing construction.</p> <p>What are the qualifications of this Lead Biologist and who does this person report to? Is there an unbiased, environmentally oriented board/entity to which the Lead Biologist will report? Without this objective support, this mitigation action is mere "window dressing" to assuage real concerns.</p> <p>Will there be any halting of construction during the WSP nesting period? If not, why not? This temporary cessation of construction was considered for the test slant well and the same considerations are still relevant to the project as a whole. The reasons for unabashed destruction of the environment to build a questionable project that does not have any legal water rights in the region and its current failure to prove "no harm" to the region's sole source of water i.e. the Salinas Valley Groundwater Basin, creates just another devastation to the region for whom no benefits result for Marina and Ord communities.</p>
Section 4.6-131	A full list of special-status species that could be significantly impacted by subsurface slant well construction is provided in Table 4.6-6. Overall, the impact on special-status species during slant well construction would be significant. However, with implementation of Mitigation Measures 4.6-1a (Retain a Lead Biologist to Oversee Implementation of Protective	The DEIR lists mitigation efforts as "... installing a visual construction barrier for work conducted adjacent to breeding habitat during the breeding season to reduce human disturbance to plovers, conducting pre-construction surveys to determine if plovers are present and

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Pg/Section	Cited text	Comments/Questions
	<p>Measures), 4.6-1b (Construction Worker Environmental Awareness Training and Education Program), 4.6-1c (General Avoidance and Minimization Measures), 4.6-1d (Protective Measures for Western Snowy Plover), ...4.6-1i (Avoidance and Minimization Measures for Nesting Birds), 4.6-1n (Habitat Mitigation and Monitoring Plan), 4.6-1p (Control Measures for Spread of Invasive Plants), 4.12-1b (General Noise Controls for Construction Equipment), and 4.14-2 (Site-Specific Nighttime Lighting Measures), the impacts would be reduced to a less-than-significant level. These measures would reduce impacts on special-status species by designating a lead biologist to oversee and ensure implementation of special-status species protective measures; requiring worker training regarding special-status species potentially present to ensure that workers are aware of special-status species that occur in the project area and the measures to be implemented to avoid, minimize, and/or mitigate impacts; requiring general measures such as installation of an exclusion fencing to ensure special-status species do not occur within the construction area, a trash abatement program to ensure special-status species predators are not attracted to the site, and other measures to avoid and minimize impacts on special-status species; requiring specific measures to avoid, minimize, and compensate for impacts on the western snowy plover such as avoiding the breeding season, installing a visual construction barrier for work conducted adjacent to breeding habitat during the breeding season to reduce human disturbance to plovers, conducting pre-construction surveys to determine if plovers are present and implementing minimization measures to minimize construction impacts on plovers, if present, and compensating for habitat loss to mitigate for temporary and permanent loss of habitat;...</p>	<p>implementing minimization measures to minimize construction impacts on plovers”.</p> <p>Will these “pre-construction surveys” be done each day before the start of construction? Or will this be done every week, every month, quarterly and if this type of schedule is followed, is this sufficient monitoring, per the recommendations of disinterested, objective experts in the field? Who will do this and once spotting a nest, what immediate actions will take place?</p> <p>It is ironic that one of the mitigation measures during breeding season is to reduce human disturbance to plovers by “installing a visual construction barrier for work conducted adjacent to breed habitat to reduce human disturbance to plovers”. The construction site with plowing of massive sand, trucks, noise, bulldozers, drilling equipment IS the major disturbance. This type of mitigation only serves to keep out beach goers from entering the construction area and does little to protect snowy plovers against the assault of heavy equipment moving immediately along the habitat border! This mitigation measure serves only to distract us from the major impacts.</p> <p>“These measures would reduce impacts on special-status species by designating a lead biologist to oversee and ensure implementation of special-status species protective measures.”</p> <p>If true protective intent hinges solely upon the Lead Biologist, the Lead Biologist’s more frequent monitoring with the absolute, unquestioned authority to stop construction or initiate any major mitigation measures must be clearly documented. What are the written authorities of the Lead Biologist to do so? On what legal grounds does this authority stand upon? Can the Biologist determine a more frequent, more random ability to survey the site? Will this report be distributed to state, regional and federal agencies as soon as the Lead Biologist submits them to his/her supervisor to ensure public awareness and transparency of potential threats?</p>

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Pg/Section	Cited text	Comments/Questions
Section 4.6-2	Several comments on the Draft EIR concerned use of western snowy plover occurrence data in the vicinity of the proposed subsurface slant wells, status of western snowy plover in the vicinity of this facility, and potential impacts of this facility on plovers. ESA requested western snowy plover occurrence data from Point Blue Conservation Science, but Point Blue Conservation Science was unable to provide this data prior to publication of this EIR/EIS. This EIR/EIS includes additional information and analysis in regards to western snowy plover in Sections 4.6.5.1 (Construction Impacts) and 4.6.5.2 (Operational and Facility Siting Impacts).	There appears to be some limited references to Point Blue publications in this DEIR. Was Point Blue also consulted on the formation of specific mitigation measures? Will they be consulted as to the job description and reporting criteria of the Lead Biologist? Has or will Point Blue be consulted in defining specific, effective ways to mitigate harm to the WSP population in this specific location? Point Blue is the foremost authority of the WSP populations <i>on the Monterey Bay</i> ; they must be intimately involved in the MPWSP project.
Section 4.6-2	Some comments expressed concern about the authority of the Lead Biologist designated in the mitigation measures presented in the Draft EIR, and the role of that individual relative to the project proponent. This is further described in Section 4.6.5.2 under Mitigation Measure 4-6.1a.	There is very little further detail in this reference so to suggest that there is additional information about the Lead Biologist role is misleading. See above comments for questioning the qualifications, reporting relationships, authority to execute necessary protections, and transparency of the Lead Biologist reporting.
Mitigation Measure 4.6-6, pg 899	<p>Monitoring of the Brine Storage Basin shall include the following:</p> <ol style="list-style-type: none"> <i>Monthly Monitoring:</i> A qualified biologist and/or qualified biological monitor shall regularly survey the Brine Storage Basin at least once per month starting with the first month of operation of the Brine Storage Basin. The purpose of the surveys shall be to determine if the bird deterrents are effective in excluding birds and to assess whether the deterrents serve as a hazard to birds or wildlife. The monthly surveys shall be conducted in one day for a minimum of two hours following sunrise (i.e., dawn), a minimum of one hour mid-day (i.e., 1100 to 1300), and a minimum of two hours preceding sunset (i.e., dusk) in order to provide an accurate assessment of bird and wildlife use of the ponds during all seasons. Operations staff at the MPWSP Desalination Plant shall also report finding any dead birds or other wildlife at the Brine Storage Basin to the Lead Biologist within one day of the detection of the carcass. The Lead Biologists shall report any bird or other wildlife deaths or entanglements within two days of the discovery to CalAm, CDFW, and USFWS. <i>Quarterly Monitoring:</i> If after 12 consecutive monthly site visits (described above) no bird or wildlife deaths are detected at the Brine Storage Basin by or reported to the Lead Biologist, 	<p>This type of elaborate monitoring program is NOT specified for the WSP main habitats! Where is the “Brine Storage Basin” and what amount of area does this represent compared to the whole of WSP wintering and especially nesting habit area? Should this level of survey not be applied to the areas of the beach and foredunes, identified by Paget: <i>“The beach and foredunes provide important breeding/nesting and wintering habitat for the western snowy plover. Surveys conducted during the 2015 nesting season identified multiple nests along the stretch of beach in the vicinity of the CEMEX active mining area (Page et al., 2015). Will monitoring schedules, with even more frequent monitoring visits, be applied to the known significant WSP habitats i.e. on the affected beach and foredunes?”</i></p> <p>It is curious that in this Brine Storage Area, the DEIR states that the Lead Biologist <i>“may also suggest</i> adaptive management measures to remedy any problems that are detected during monitoring or modifications if bird impacts are not observed.” This does not sound like a duty nor an authority to ensure measures are actually taken. This would apply to the Lead Biologist’s role in the main habitat</p>

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Pg/Section	Cited text	Comments/Questions
	<p>monitoring can be reduced to quarterly visits.</p> <p>3. <i>Biannual Monitoring</i>: If after 12 consecutive quarterly site visits (described above) no bird or wildlife deaths are detected by or reported to the Lead Biologist, future surveys may be reduced to two surveys per year, during the spring nesting season and during fall migration.</p> <p>4. <i>Modification of Monitoring Program</i>: As appropriate, the Lead Biologist shall modify the monitoring program based on information acquired during monitoring, and may also suggest adaptive management measures to remedy any problems that are detected during monitoring or modifications if bird impacts are not observed. CalAm Monterey Peninsula Water Supply Project 4.6-243 ESA / 205335.01 Draft EIR/EIS January 2017</p>	<p>monitoring areas. Will such language be modified to specify this as duties with authorities assigned in the job description of the Lead Biologist?</p> <p>Is a month's time for monitoring sufficient or in a month's time, can a nest be made, eggs laid and the nest be destroyed by construction before the next monthly visit?</p> <p>It is imperative that monitoring not be on an anticipated, regular schedule in order to observe impacts without tampering. This project, if approved, is invested with big money and powerful political influences that could undermine the ability of the Lead Biologist to act ethically and swiftly. This circumstance, no matter how repugnant to some parties this may seem, has had a repeated state and national history that cannot be denied. Will the DEIR mandate that monitoring be on a random basis (in addition to a more frequent, defined schedule) with safeguards for verification of findings?</p>
Mitigation Measure 4.6-6, pg. 899	<p>4. Environmental Setting (Affected Environment), Impacts, and Mitigation Measures 4.6 Terrestrial Biological Resources under Impact 4.6-2, the site is in the Coastal Zone and central dune scrub in this area may be considered primary and secondary habitat under the City of Marina LCLUP. Impacts to central dune scrub would be potentially significant. Additionally, as described under Impact 4.6-2, western snowy plover critical habitat is located approximately 240 feet west of well Site 1. Slant well maintenance at well Site 1 could indirectly impact this critical habitat <u>if worker foot traffic extends beyond the designated construction work area</u>, if trash and debris is left behind following construction, and/or if invasive plant species are introduced or spread at the site. Indirect impacts on critical habitat would be significant.</p>	<p>The area around Cemex dredging pond was, at one time, fenced by the State Park District to indicate sensitive habitat and it was apparent to beach walkers that this did not protect the habitat when immediately behind this fence were truck imprints, moving of sand, and other construction activities! The MPWSP cannot rely on the annually installed symbolic fencing by the State Park District. This fencing marks the nesting habitat for protection against accessing from the beach side. Cal-Am, if concerned about "worker foot traffic" must install another separate fence to demarcate nesting habitat from the landward side. Experts on the WSP must be utilized to identify the specific sensitive habitat zone from both the beach and inland locations.</p>

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Kathy Biala
Letter 3

To: Mary Jo Borak and Karen Grimmer

Dear Ms. Borak and Ms. Grimmer:

The following is my additional public comment regarding the MPWSP DEIR; I have previously submitted two other public comments.

Dr. Ed Thorton has reported that, along the Monterey Bay, the current loss of land mass due to erosion directly attributable to the CEMEX sandmining operations is approximately 4 feet of shoreline annually. At such a rate due to sandmining activities plus any anticipated sea level rise due to global warming, what is the expected time in which the proposed slant wells will be impacted in terms of becoming situated further out in the ocean? Would this impact the cost of desalination due to the increased salinity of the water being pumped or create the need for the slant wells to be moved further inland to approximate the current equivalent status of the proposed project? It may be that with slant wells further out to the ocean, access to the 180' aquifer may be ameliorated, but if plans to move the slant wells further inland were desired, what approval processes would be required for this additional construction? Does the current DEIR address such possibilities with accurate scientific calculations? If not, why not? Would not another DEIR be necessitated and if such a condition exists, should not this process be clearly expressed in this DEIR so that it is not an assumed extension of any current DEIR approvals?

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Please confirm receipt of this email at kbiala@milestonemma.net. Thank you.

Cordially,
Kathy Biala

8.7.4 William Bourcier

Dear Sir,

I have attached a document that addresses the issue of potential greenhouse gas release from subsurface intakes for desalination plants. It specifically addresses information contained in Appendix G2 (Trussel Technologies Technical Memorandum) and compares the GHG releases rates obtained by Trussel with those I previously submitted to an earlier call for public comments on the CalAm DEIR.

To briefly summarize:

- (1) The GHG release rates estimated by Trussel are smaller than my estimates because they used a fluid with very low CO₂ content relative to the other slant-well fluids
- (2) The Trussel estimates do not include release from the RO permeate - which I argue is a bad assumption and detail my argument in my reply. This also lowers their GHG release rate estimates relative to mine.
- (3) The method for calculation of GHG release carried out by Trussel and by myself (Bourcier) provides essentially the same rates when using the same starting fluid composition. This verifies the calculational method and confirms that GHG release is an issue that needs to be addressed in regulations controlling desalination feeds.

Sincerely,
William Bourcier

COMMENTS TO TRUSSEL REPORT

William Bourcier
February 23, 2017.

I have reviewed the assessment of carbon dioxide releases from subsurface desalination feeds provided by Trussel Technologies (Appendix G2 – Trussel Technologies Inc. Technical Memorandum, Response to CalAm MPWSP DEIR) and compared their results with the estimates that I provided as comments to the DEIR and California Ocean Plan.

Bourcier-1

Our results differ in that I predict larger carbon dioxide releases than estimated by Trussel. In my opinion the values I quoted are more accurate estimates than those reported by Trussel. I believe the following observations and comparisons explain the differences.

1. The Trussel report ignores all carbon dioxide released from the reverse osmosis permeate

Bourcier-2

The Trussel report correctly assumes that the location at which the carbon dioxide release will take place will be affected by the reverse osmosis process. Once the feed fluid is brought to the surface from the well and contacts the atmosphere, it will begin to equilibrate with the atmosphere and release carbon dioxide. Depending on the type of pre-treatment and feed storage methods, much of the degassing may not happen until after the fluid has been subjected to the reverse osmosis (RO) process. In typical sea water RO processing, much of the contained dissolved carbon dioxide will end up in the permeate (vs. the concentrate) as can be seen in Appendix A of the Trussel report. The carbon dioxide in the permeate stream will be released to the atmosphere upon exiting from the RO system.

However, in the Trussel report it is asserted that this carbon dioxide will **not** be released because prior to distribution of the RO permeate, the permeate will be chemically treated to avoid release of carbon dioxide. Although no more detail is given in the Trussel report, this could be done by adding caustic (NaOH) to the permeate to increase the pH and convert the dissolved carbon dioxide gas into bicarbonate ion. Adding caustic lowers the effective partial pressure of carbon dioxide in the fluid and if added in the right amount (added molal amount of caustic = molal amount of carbon dioxide that would have been released) no carbon dioxide release to the atmosphere will take place. In normal seawater desalination systems a small amount of caustic is commonly added to the permeate in order to avoid corrosion of the distribution system. The caustic is usually added after carbon dioxide degassing in order to reduce the mass of caustic needed. I assert here that caustic addition is the chemical treatment referred to but not specifically identified in the Trussel report.

Bourcier-3

The error in this analysis is that no account is taken of the carbon dioxide release (“carbon footprint”) which takes place during the production of caustic used to treat the permeate. Caustic is commonly produced using the chloralkali process. The carbon footprint (the amount of carbon dioxide generated and released as a result of production of the caustic) is substantially larger than one mole of carbon dioxide per mole of caustic. In other words, to make enough caustic to neutralize some mass of carbon dioxide in the permeate requires that a much larger amount of

Bourcier-4

carbon dioxide be generated during the production of the caustic. This ratio is about 2 for most production facilities (i.e. two moles of carbon dioxide are produced per mole of NaOH) but numbers as low as 1.7 are reported for the most modern chloralkai plants ¹.

So it is clearly not valid to ignore the carbon dioxide released from the reverse osmosis permeate. Chemical treatment to suppress carbon dioxide release makes the total release of carbon dioxide associated with desalination even greater. In order to minimize total release of carbon dioxide the best approach is to simply allow the carbon dioxide to degas. Other options imply larger CHC releases.

The carbon dioxide that would be released from the permeate and is ignored in the Trussel report needs to be added back to the estimated carbon dioxide release in order to report an accurate and complete carbon dioxide release rate.

Bourcier-4
cont.

- In the Trussel report the well fluid composition used to compute the “worst-case” carbon dioxide release is not representative of fluids sampled to date and in fact is nearly the “best-case” scenario

The well fluid composition used in the Trussel report to compute carbon dioxide release is not representative of the carbon dioxide gas contents of the 15 wells sampled to date in the Marina area as part of the CalAm project. Figure 1 below shows my estimated carbon dioxide release rates along with the fluid studied in the Trussel report (in red). As can be seen, the well fluid

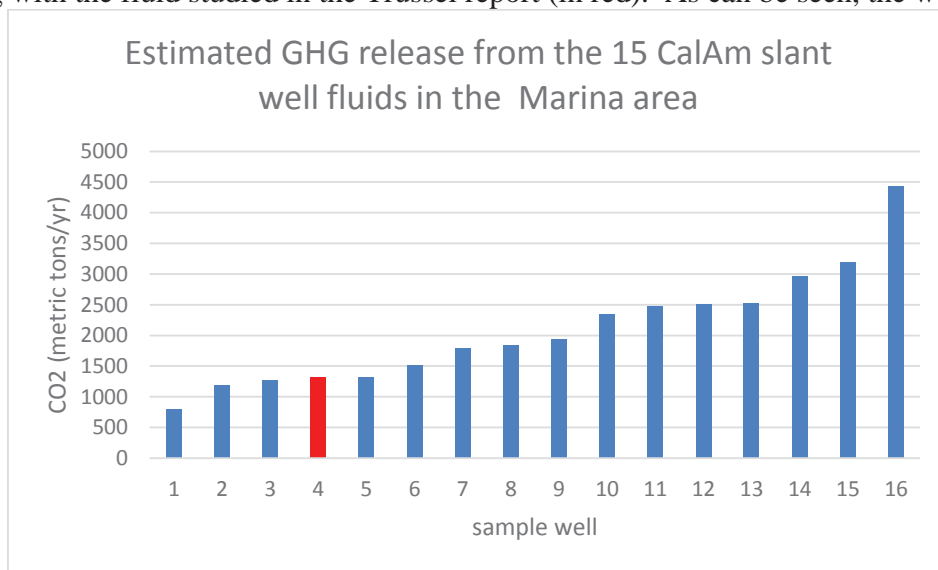


Figure 1. Estimated carbon dioxide release rates (metric tons per year) for the 15 well fluid samples reported in the Draft EIR (Appendix G2) and, in red, the fluid composition used in the Trussel study. Estimates are based on 9.6 MGD plant operating at 41% recovery. Average release for all wells is about twice the release of the fluid used in the Trussel analysis.

Bourcier-5

¹ http://www.eurochlor.org/media/9385/3-2-the_european_chlor-alkali_industry_-_an_electricity_intensive_sector_exposed_to_carbon_leakage.pdf

chosen for their study has among the lowest carbon dioxide contents of the 15 wells sampled. In fact it is the fourth lowest in gas content. The Trussel report having referred to this fluid as being a “worst-case scenario” is simply not true. It is closer to being a best-case scenario. Their estimated release rate of 735 tons/year when corrected for loss from the permeate increases to about 1311 tons/year. This is about one half of the average release rate for all wells sampled to date by CalAm in the Marina area and less than 30% of the largest value.

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3. Comparison of methods for estimating carbon dioxide releases

It should be noted that the method I use to estimate carbon dioxide release and the method described in the Trussel report provide very similar carbon dioxide release rate estimates when compared directly. I estimate about 770 tons/yr for the RO concentrate carbon dioxide release vs. 735 tons/yr of release reported in the Trussel report. The small difference between these two numbers can probably be attributed to slightly different thermodynamic data used in the two methods. Note that I used the same correction methods for salinity, temperature, and other factors described in detail in the Trussel report. This suggests that going forward we have an accurate and verified method for estimating GHG releases. What is needed now is validation of the method from an actual feed source.

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Bourcier-6

Summary and Recommendations

The Technical Memorandum provided by Trussel Technologies provides verification that carbon dioxide release from subsurface intakes is likely to take place in significant tonnages. For any given fluid composition, the calculated release tonnages calculated by Trussel are very similar to those Bourcier provided in comments to the DEIR and in a later report on the topic. The agreement verifies the method of calculation that both parties (Trussel and Bourcier) used to estimate carbon dioxide release rates.

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Bourcier-7

The fact that the carbon dioxide release tonnage estimates provided by Trussel are smaller than those reported by Bourcier is due to two issues: (1) the Trussel estimates ignore any release from the reverse osmosis permeate – which I have argued above to be an unjustifiable assumption; and (2) the Trussel report uses a fluid input composition that has among the lowest carbon dioxide contents of any of the wells sampled to date by CalAm in the Marina area. These two factors are responsible for the difference in estimated carbon dioxide release rates.

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Bourcier-9

To better clarify the Trussal analysis, I recommend that the report be revised to include a discussion of the method of treatment for the permeate (such that it will not release any greenhouse gases) and specify the chemical additives and their carbon footprint. I would ask that they also include revised calculations that include the carbon footprint of the chemical additives. I also think it would be beneficial to include an analysis of a well composition that is truly a worst case scenario instead of the lower than average carbon dioxide fluid composition that was used in the Trussel report.

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Bourcier-12

In addition, and potentially of far more importance is methane release from the feed solutions. Methane is often found in co-equal amounts with carbon dioxide in pore waters such as those that host the proposed desalination feed sites along the California coast. Because of the much greater greenhouse potency of methane vs. carbon dioxide, methane is of far more concern. Future work to address the issue of GHG release from subsurface feed intakes should include actual measurements of both carbon dioxide and methane in potential desalination feeds. I strongly recommend that measurements of methane from fluids obtained from the currently operating CalAm well be obtained to provide key information needed to better inform policy decisions relating to desalination feed regulations.

Bourcier-13

8.7.5 David Brown

From: David W. Brown, 436 Diana Place, Marina, CA 93933, Tel: 831-883-1958

To: Mary Jo Borak, CEQA Lead, California Public Utilities Commission, c/o Environmental Science Associates, 550 Kearny Street, Suite 800, San Francisco, CA 94108, mpwsp-eir@esassoc.com (via email and mail)

Karen Grimmer, NEPA Lead, Monterey Bay National Marine Sanctuary, 99 Pacific Avenue, Building 455a, Monterey, California 93940 (via mail)

Subject: MEMORANDUM FOR: CALIFORNIA PUBLIC UTILITIES COMMISSION (CPUC) AND MONTEREY BAY NATIONAL MARINE SANCTUARY (MBNMS); PUBLIC COMMENT FOR DEIR/DEIS FOR THE MONTEREY PENINSULA WATER SUPPLY PROJECT – A 12-04-019

Date: February 19, 2017

Please accept my comments and questions concerning the CalAm DEIR/DEIS MPWSP – A 12-04-019, as follows:

Re: DEIR, Page 484, 4.4 Groundwater Resources, Seawater Intrusion

The problem with the DEIR stating that there will be no harm to Marina's aquifers, based on a groundwater modeling application, is that such data application utilizes insufficient data, namely, for what is obviously a three-dimensional aquifer, the utilization of point data on salinity, as derived from vertical wells. It mentions but fails to state why electrical resistivity tomography (ERT) was not used to map the aquifer for salinity. This is irresponsible science, in the face of the existing and available ERT methodologies, which can be used to produce two-- and even three-dimensional slices of an aquifer's salinity as a function of linear location and depth to a distance of several hundred meters and over large expanses of the Salinas Valley Groundwater Basin.

ERT has in recent years been used in two-dimensional applications, so as to show groundwater salinity as a function of depth over a particular area. Stanford University professor of geophysics Dr. Rosemary Knight has recently obtained data which show relative salinity as a function of depth in southern Monterey Bay between the CEMEX plant in northern Marina, to and beyond Marina's boundary with Seaside. This shows that even at the coastline, in the Marina area, there are substantial lenses of relatively fresh water, in both the 180-foot and 400-foot aquifers. This methodology utilizes dozens of metal electrodes implanted in the beach at specified distances from one another, and the measuring of multiple electrical resistances between such electrodes.

Though unstated in the DEIR, there is even a more sophisticated use of ERT that will produce a 3-dimensional grid of data points, showing relative salinity over not just a line, but a rectangular area (the "x" and "y" directions) and depth (th "z" direction), for which the Marina Coast Water District (MCWD) has contracted with Stanford University's Department of Earth Sciences. This method utilizes a helicopter-borne antenna array to accomplish the same things during the helicopter's overflight of multiple parallel paths,

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with the data from this approach to be used to obtain multiple two-dimensional imaging, with interpolation between such images giving an overall 3-dimensional aquifer picture that shows relative salinity as a function of very-specific and precise latitude, longitude, and depth. Dr. Knight, an expert in this field, is involved in this project as well. The multiple two-dimensional images will be compared with one another, and reasonably-small interpolations made between adjacent two-dimensional images, so as to result in a precise three-dimensional imaging, to several hundred meters in depth, over large parts of the Salinas groundwater basin, whose 180-foot and 400-foot aquifers contain water bearing capacities in quality from extremely brackish, all the way down to potable water containing no more than 500 mg of chloride per liter.

The many thousands of data points which will be obtained, as opposed to the few point data from sentinel wells, will be far superior for adequate groundwater modeling of the portion of the Salinas groundwater basin which potentially will be harmed by the pumping of seawater, in a finished plant, of millions of gallons per day. It is this type of data which, one obtained within the next few months, will result in a far superior groundwater model, ultimately to determine whether it really is true that the desalination plant will supposedly not cause or exacerbate already-existing sea water intrusion into any of Marina's three aquifers, the 180, 400, and 900-foot aquifers.

In summary, ERT 2-dimensional data, far superior to point data used in the current DEIR as limited point-data from sentinel wells, is not considered in the DEIR. The DEIR mentions ERT as a tool but speaks of it as though it is a new, experimental technique. It is not. Its use, at least in terms of electrical-resistance measurement along a linear path, to map groundwater salinity, is at least a decade old. See, e.g., Goldman, M., and U. Kafri, 2006, *Hydrogeological Applications in Coastal waters, in Applied Hydrogeophysics Proceedings of the NATO Advanced Research Workshop on Soils and Groundwater Contamination: Improved Risk Assessment*, ed. H. Vereecken, A. Binley, G. Cassiani, A. Revil, and K. Titov, pp. 233-254, Dordrecht, The Netherlands; Springer, 2006. Current published ERT data and conclusions should be incorporated into any groundwater modeling that purports to predict no harm to the aquifers near where the desalination-plant intake wells would be drawing millions of gallons per day.

The DEIR mentions ERT in the 2-dimensional context spoken of (though doesn't utilize such data, for reasons unstated), but utterly fails to mention the existence of the more recent helicopter-borne-antenna ERT methodology, to obtain 3-dimensional aquifer data, despite it having been used successfully, as shown in a paper published last year, in California's Central Valley. See Knight, R., Smith, R., Asch, T., Abraham, J., Canninia, J., Viezzoli, A., *Subsurface Mapping with Airborne Electromagnetics in the Central Valley of California*, Extended Abstract, Soc. of Exploration Geophysicists International Exposition and 86th Annual Meeting, Dallas, Texas, October 2016. The DEIR should utilize information from this methodology when it comes in, hopefully within several months.

Finally, the DEIR only states that the ERT along the Monterey Bay coastline is consistent with Cal-Am sentinel-well point data, and just 2-dimensional studies at that. And, on this point, there is no mention as to whether either the raw or analyzed ERT data could improve the prediction model, either as to the well-established 2-dimensional electrodal methodology, or the more recent 3-dimensional methodology mentioned above.

Brown-2
cont.

In essence, the DEIR's prediction of no increased salinity to the aquifers mentioned above, is based on limited sentinel-well point data, without consideration of even data obtained in two dimensions at the coastline, much less 3-dimensional data that will likely be obtained soon.

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Brown-3
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Yours Truly,

/s/ David W. Brown

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8.7.6 Charles Cech

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DEIR/DEIS, MONTEREY PENINSULA WATER SUPPLY PROJECT, PUBLIC COMMENT

ES.5.1 Description of the Proposed Project Page ES-5

The project area extends approximately 18 miles, from the town of Castroville in the north to the City of Carmel in the south (see Figure ES-1). The MPWSP would include a seawater intake system, which would consist of 10 subsurface slant wells¹ (eight active and two on standby) extending offshore into the submerged lands of MBNMS, and a Source Water Pipeline. The slant wells would be constructed at the CEMEX sand mining site in the northern coastal area of the City of Marina and would extract 24.1 million gallons per day (mgd) of source water through the seafloor in MBNMS.

Public Comments

The test slant well was designated exclusively as a test device and as such CEQA requirements were circumvented. Now a footnote to ES.5.1 indicates that the test well will be converted to a production well without passing CEQA. Slant wells have never been used to draw ocean water for desalination anywhere in the world! Why should this slant well be allowed to operate in California without passing CEQA?

Cech-1
Cech-2
Cech-3

Additionally the existing test well intake has two screens neither of which are located under the seafloor as state above. The screens are located in two aquifers that are well above the seafloor. These aquifers have been contaminated with seawater and extend under the farmland bordering the Monterey Bay. Some of the test slant well tracking data indicates a substantial increase in seawater intrusion of the 180-foot aquifer since the test slant well has been operational. Why is this happening?

Cech-4
Cech-5

The water being pumped by the test slant well is not pure seawater it is contaminated ground water. Therefore the existing test slant well is not in compliance with the criteria called out by this DEIR. This fact should eliminate the test slant well as a potential production well. Why does this DEIR not address this issue?

Cech-6

If the nine new slant wells being proposed will have intake filter packs and screens under the seabed they will not perform in the same way as the existing test slant well. This will render all of the data collected by the existing slant well useless and should require that the new sub-seabed slant well be installed and pass CEQA requirements. **How** can this DEIR propose that the test slant well be included as a production well when it does not meet the sub-seabed requirement?

Cech-7

With the additional slant well intakes being placed under the seabed, the seawater being drawn will include additional minerals that will leach out of the seabed above

Cech-8

the slant well intake. This would require much more elaborate filtering of the seawater prior to being desalinated. It may also require a different size and type of slant well intake filter pack and much larger pumps to achieve the 24.1 million gallons per day required. All of these issues will have a negative impact on the environment that has not been addressed in this DEIR. Does the DEIR plan on addressing this concern?

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Cech-8
cont.

Groundwater Modeling, Impacts and Water Rights Page ES-13 Paragraph 1

CalAm’s proposed use of subsurface slant wells to withdraw source water for the MPWSP Desalination Plant is the subject of two controversies: (1) whether CalAm has the legal right to extract groundwater from the Salinas Valley Groundwater Basin (SVGB); and (2) whether implementation of the MPWSP and operation of the subsurface slant wells would exacerbate seawater intrusion in the SVGB. The proposed subsurface slant wells at CEMEX would extend offshore and be screened in aquifer units of **the SVGB that have long been intruded by seawater**. Although the subsurface slant wells would draw seawater (i.e., source water for the MPWSP Desalination Plant) from beneath the ocean floor, a fraction of the source water would be drawn from inland portions of the SVGB.

Public Comments Paragraph 1 above

The statement regarding seawater intrusion is accurate, however it does not disclose the fact that there are projects in place that have dramatically slowed and is projected to halt seawater intrusion. These projects are designated the Castroville Seawater Intrusion Project (CSIP) which started delivering recycled water in 1998 and the Salinas Valley Reclamation Project (SVRP) a inflatable rubber dam that captures Salinas River water during rainy season for future use for agriculture. Why has the DEIR ES section overlooked the positive environmental impact these project have had on the Salinas River Basin. Why has this DEIR overlooked the negatively impact the test slant well has on these projects?

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Cech-9
Cech-10

Groundwater Modeling, Impacts and Water Rights Page ES-13 Paragraph 2

In 2012, the CPUC asked the SWRCB to provide an opinion regarding whether CalAm has the legal right to extract source water for the MPWSP Desalination Plant from offshore aquifers of the SVGB. The SWRCB has indicated that for CalAm to appropriate groundwater from the SVGB, the **MPWSP EIR/EIS must demonstrate that the proposed project will not harm or cause injury to other basin users (SWRCB, 2013) and made certain recommendations for further study.**

Public Comments Paragraph 2 above

Monitoring well adjacent to the test slant well have experienced significant lowering of aquifer water levels when the teat slant well was operating. The HWG declared that the lower water level was due to irrigation, but offered no proof or data to support that assertion. Monitoring well 4M has experienced approximately 31% increase in

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Cech-11
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TDS when compares with the baseline of April 2, 2015. The HWG stated that this increase was due to stratification but provided no proof of this assumption. No one from Cal Am or the HWG has ever contacted adjacent property owners to check on the changes in their well water TDS or saline data. I suggest that if they take the time to determine the condition of the well water in the vicinity of the test slant well they will find that contamination has increase at a rate considerably higher than in the years prior to test slant well operation. Why is this overlook by this DEIR?

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Cech-11
cont.

Groundwater Modeling, Impacts and Water Rights Page ES-13 Paragraph 3

The recommendations of the SWRCB have been implemented by a Hydrogeological Working Group (HWG) comprised of licensed hydrogeologists with pertinent experience in the Monterey Bay region. The HWG was a result of an August 2013 Settlement Agreement between CalAm and 16 parties whereby CalAm agreed their hydrologist and technical team would work with the Salinas Valley Water Coalition’s and Monterey County Farm Bureau’s assigned hydrogeologists, and other technical experts designated by CalAm. The HWG developed a work plan in order to reach agreement about the studies, well tests, field work, modeling, monitoring, and other data analyses that is needed to assess and characterize whether and to what extent the proposed operation of the MPWSP may adversely affect the SVGB and the water supply available to legal water users thereof. The resulting Hydrogeological study informed the analysis presented in Section 4.4, Groundwater Resources, as well as the corresponding analysis in Chapter 5, Alternatives. Refer to Section 2.6 in Chapter 2, Water Demand, Supplies, and Water Rights, for a discussion of water rights.

Public Comments Paragraph 3 above

An overriding factor to all of the data taken by the test slant well is that Dr. Dennis Williams was the Executive Director of the HWG and is also the holder of the slant well (when used for desalination) patent and his company Geoscience is the primary source of all of the data taken on the test slant well operation. Since he and his company will benefit financially from the successful operation of slant wells, why is this not considered another major conflict of interest?

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Cech-12

Groundwater Modeling, Impacts and Water Rights Page ES-13 Paragraph 4

Furthermore, the groundwater model and results presented in the 2015 Draft EIR have been revised, to address questions about the accuracy and credibility of the groundwater modeling work that was the subject of potential conflict of interest comments. The CPUC made the groundwater data files available for public review, and the CPUC employed the Lawrence Berkeley National Laboratory to conduct an independent evaluation of that data; the results of that evaluation are provided in Appendix E1. The groundwater analysis from the 2015 Draft EIR has been updated by a new groundwater modeling consultant.

Public Comments Paragraph 4 above

Since Lawrence Berkeley National Laboratories, was required to essentially duplicate the original data analysis using the same software, there is a problem with this methodology. The problem is that if there is a fault with the modeling software, it will generate the same erroneous result. The National Lab was not required to evaluate the software or the reasonableness of the output. This was a major oversight in this evaluation. Why was an alternative modeling program not used to determine if the same results would be produced with different software?

Cech-13

Page 1-5

The secondary objectives of the MPWSP are to:

3. Improve the ability to convey water to the Monterey Peninsula cities by eliminating the **hydraulic lowpoint** in front of the Naval Postgraduate School, by improving the existing interconnections at satellite water systems and by providing additional pressure to move water over the Segunda Grade.

Public Coment:

There have been inquiries made to two major plumbing repair companies regarding the “hydraulic lowpoint” (sometimes named the hydraulic gradient and the hydraulic barrier). Both have indicated that they have worked on many homes and businesses in the vicinity of the Naval Post Graduate School and have never experienced this hydraulic phenomenon. Request of Cal Am to provide information regarding measurement techniques and data obtained to support the existence of this lowpoint have never been provided by Cal Am. Is there proof available that proves the existence of the hydraulic lowpoint?

Cech-14

4.1.3 Baseline Conditions Page 4.1-8 Paragraph 2

Since the CPUC issued its NOP in 2012, the Lead Agencies have developed or received new data on some of the resource areas, so they have updated the baseline data as appropriate. This document notes those updates in its discussions of the Setting/Affected Environment for the various resource areas and applies them in the pertinent analyses.

Public Comment

The following information was copied from a **Geoscience Technical Memorandum** dated April 20, 2015 and is provided as proof that the Monterey slant well was run for five continuous days prior to establishing the monitoring wells water levels and TDS baselines. It was reported in the Monterey Herald news paper that the slant well was pumping at the rate of 2200 GPM. This says that the test slant well pumped 15,840,000 gallons of water prior to establishing base lines..The result is that there is no way to compare subsequent data taken to a quiescent (no slant well ever run) baseline normally required as scientific evidence. Additionally, I believe that the Executive Director referred to in paragraphs 4, 5, and 6 below is Dr. Dennis

Cech-15
Cech-16
Cech-17

Williams, the president of Geosciences and the holder of the Slant well for Desalination patent. This would imply a conflict of interest.

↑ Cech-17
cont.

2.1 Special Condition No. 11 of CDP #A-3-MRA-14-0050

Special Condition 11 of the above referenced CDP entitled *Protection of Nearby Wells* and requires the following:

- 1. Prior to starting project-related pump tests, the permittee shall install monitoring devices in a minimum of four wells on the CEMEX site within 2,000 feet of the test well, and one or more offsite wells to record water and salinity levels within the wells.

Public Comment

Since these monitoring devices are installed to monitor the test slant well operation, why is the very large amount of data taken not used in this DEIR?

┌ Cech-18
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- 2. Prior to commencement of long term pumping tests, the HWG shall establish baseline water and Total Dissolved Solids (TDS) levels in those monitoring wells and recommend these levels to the Executive Director of the California Coastal Commission.

Public Comment

Why is the baseline data taken prior to the five day pump rate test not used in this DEIR?

┌ Cech-19
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- 3. During the project pumping tests, the Permittee (Cal-Am) shall, at least once per day, monitor water and TDS levels within those wells in person and/or with electronic logging devices.

Public Comment

Thousands of pages of data has been accumulated per this requirement, why has this data not been used to verify Dr. Williams modeling projections?

┌ Cech-20
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- 4. The Permittee shall post data collected from all monitoring wells on a publicly-available internet site at least once per week and shall provide all monitoring data to the Executive Director upon request.

Public Comment

The permittee being did post this data on a weekly basis, however the data was all collected and published by Geosciences, who has a financial interest in the success of the test slant well. Why was a disinterested third party not used to collect and publish this vital data?

┌ Cech-21
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5. If water levels drop more than one-and-one-half foot, or if TDS levels increase more than two thousand parts per million from pre-pump test conditions, the Permittee shall immediately stop the pumping test and inform the Executive Director. The Hydrogeology Working Group shall examine the data from Monitoring Well 4 if the test well is shut down due to either of these causes. The Hydrogeology Working Group shall determine whether the drop in water level or increase in TDS is from a cause or causes other than the test well, and will submit its determination to the Executive Director.

Public Comments

This in fact did happen but after analysis the criteria for shut down was altered by the CCC to allow the test well to continue operating. What was the justification for altering the shut down criteria?

Cech-22

6. If the Executive Director agrees with the Hydrogeology Working Group that the cause of the drop in water level or increase in TDS was a source or sources other than the test well, then the Executive Director may allow testing to resume. If, however, the Executive Director determines that the drop in water level was caused at least in part by the test well, then the Permittee shall not re-start the pump test until receiving an amendment to this permit.

Public Comment

Since the Executive Director is Dr. Williams, the Slant Well patent holder, do you really think he will shut down his patented test slant well? Again, this must be considered, a conflict of interest.

Cech-23

3.0 CEMEX TEST SLANT WELL AND MONITORING WELL CONSTRUCTION

3.1 Test Slant Well

The first Phase of Test Slant Well Investigation commenced with construction of a 724 ft Test Slant Well (TSW) at an angle of 19 degrees below horizontal at the CEMEX site. Construction began on December 27th, 2014 and was completed through the five-day pumping test on April 8, 2015. **The second phase of the Test Slant Well Investigation will include a long-term pumping test once baseline water and TDS levels have been established.**

Public Comment

How can the test slant well data be accepted when quiescent baseline is not being used to compare ongoing operational data?

Cech-24

Table 4.4-4 on page 4.4-22 Public Input

This table displays a very limited amount of data, and all of the data comes from Geoscience, the company that will benefit financially from positive analysis of the slant well. The test data contains no environmentally sensitive data regarding mercury, lead, or radiation measurements documented for the slant well water. Additionally the Central

Cech-25
Cech-26
Cech-27

Coast Seawater Average TDS does not seem to agree with federal TDS measurements in the Monterey Bay Sanctuary. Why is this critical environmental information missing in this DEIR.

↑ Cech-27
cont.

3.2.3.6 Carmel Valley Pump Station

The Valley Greens pressure zone, in Carmel Valley south of the Segunda Reservoir, does not have sufficient hydraulic head to fill the existing Segunda Reservoir, which is located at the southern end of the existing Segunda Pipeline. The proposed Carmel Valley Pump Station, with a pumping capacity of 3 mgd (2,100 gpm), would provide the additional pressure needed to fill Segunda Reservoir. The pump station would be enclosed in a 500-square-foot, single-story building on a site located approximately 240 feet south of Carmel Valley Road near the intersection of Rancho San Carlos Road (see **Figure 3-10c**). A 50 kW (68 hp) portable diesel-fuel powered generator would be stored onsite for use in the event of a power outage. A separate 100-square-foot electrical control building would be constructed outside of the pump station building.

Public Comments

Since these facilities do not exist at present. Where are the environmental impact reports on these new buildings? What is the noise and air pollution impact of the 50 KW diesel generator? What is the traffic impact for accessing these facilities? How will these facilities impact the neighboring residents? It has been disclosed by Mr. Svindland a Manager with Cal Am that Cal Am has been using the Segundo Pipeline to deliver Carmel River water to the city of Seaside on a daily basis. Has this use of the ASR pipeline passed CEQA? If not, why not?

↑ Cech-28
↑ Cech-29
↑ Cech-30
↑ Cech-31

Charles Cech
Monterey, CA

8.7.7 Bob Coble



COMMENT FORM

California American Water Company (CalAm)
Monterey Peninsula Water Supply Project
Draft Environmental Impact Report / Environmental Impact Statement

Date: 2-15-17
Name: Bob Coble
Affiliation: My family
Address: 10 Primrose Circle, Seaside, CA 93955
Email address:

Check here if you do NOT want to be added to the CEQA mailing list.

Privacy Notice: All information provided on this form will become part of the public record. Unless indicated by you otherwise, you will automatically be added to the CEQA mailing list.

Your input on the proposed project is greatly appreciated. If you have comments on the accuracy and adequacy of the Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Monterey Peninsula Water Supply Project (MPWSP) you can submit your comments by turning in this completed comment form tonight in the comment box located at the sign-in table; faxing your comments to (415) 896-0332; emailing your comments to MPWSP-EIR@esassoc.com; or mailing them to the following address:

Attn: Mary Jo Borak
California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

Attn: Karen Grimmer, NEPA Lead
Monterey Bay National Marine Sanctuary
99 Pacific Avenue
Building 455a
Monterey, CA 93940

Comments should pertain to the accuracy and adequacy of the Draft EIR/EIS prepared for the MPWSP. All comments must be received by the CPUC no later than February 27, 2017. PLEASE PRINT LEGIBLY.

Comment:

Reports from "Just Water", "Water Plus" & other groups show that the slant well project in Marina is "stealing" Marina water, causing a seawater intrusion cone, and that technique hasn't worked anywhere in the US.
Response from Cal Am?

Coble-1
Coble-2
Coble-3

8.7.8 Margaret-Anne Coppernoll

March 21, 2017

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MEMORANDUM FOR: CALIFORNIA PUBLIC UTILITIES COMMISSION (CPUC) AND MONTEREY BAY NATIONAL MARINE SANCTUARY (MBNMS)

SUBJECT: PUBLIC COMMENT FOR DEIR/DEIS FOR THE MONTEREY PENINSULA WATER SUPPLY PROJECT – A 12-04-019

Please accept my comments and questions concerning the CalAm DEIR/DEIS MPWSP – A 12-04-019. Thank you for your work on the DEIR/DEIS as it was a major undertaking, and for taking your time to respond to my inputs. Please consider the NEPA as being included in references and questions to the CPUC. My public comment is meant in a constructive way, and should be construed as a search for truth and justice, and not in any way a criticism of those who prepared this extensive tome. The DEIR/DEIS chapters and sections cited are indicated for reference. My comments and questions are as follows:

Chapter 2: Water Demand, Supplies, and Water Rights:

1. The DEIR states (2.6 Water Rights, p. 2-31): "...if CalAm did not possess legal rights to use feedwater for the MPWSP desalination plant, then the desalination plant simply could not operate and the project would not go forward. That is why water rights factors in as a key project feasibility issue."

If the MPWSP were to draw water solely from the ocean, then water rights concerns would not apply since ocean water usage does not require water rights (2,6,1, p. 32). In the case of the MPWSP, the current test slant well is drawing brackish and freshwater from its well, as will the other proposed slant wells. CalAm cannot measure with any certainty the quantity of seawater vs. freshwater that it is drawing from the well, and it has misled the public by confusing the definition of brackish water, which is a

Coppernoll-1

combination of seawater and freshwater, as a result of seawater intrusion. CalAm will be drawing 2,100 gallons of SVGB water per minute from its proposed slant wells, and then depositing it back in the Monterey Bay, if it continues to do what it is currently doing. This water, that CalAm refers to as brackish, contains freshwater as well as ocean water, but with a seriously reduced percentage of salinity and different TDS than found in ocean water. The Salinas Valley Groundwater Basin (SVGB), classified as a high priority groundwater basin by the State of California and subject to groundwater sustainability designations and regulations (SB1168, AB1739, AB1319, State of California State Water Resources Control Board), is the Marina Coast Water District's (MCWD) sole water source; it has groundwater rights and it has been an established public water utility since 1961, and has enjoyed a many decades long golden track record of providing fresh, potable water at affordable prices to its customers, in its lawful jurisdiction and service area.

Coppernoll-1
cont.

MCWD has established water rights overlying the SVGB. These groundwater rights are superior rights accorded jurisdictions overlying groundwater basins, rights that supersede appropriative, prescriptive, or developed water rights. Additionally, MCWD can claim riparian water rights because it has relied on the Salinas Valley Groundwater Basin as its sole source of freshwater since its establishment in 1961, before the founding of the City of Marina in 1975. MCWD owns the water infrastructure network that services the Ord Communities. Even though CalAm owns/leases 46 acres in the CEMEX property area and vicinity, it does not supersede the MCWD's legal groundwater rights to the SVGB, which extends approximately 100 miles in area. The slant wells will draw from the entire SVGB because the aquifers extend in linear and vertical fashion across the entire regional basin network, with water flowing in the subsurface aquifers (180, 400 and 900 foot aquifers) from inland to sea, or vertically due to gravitational pull. The proposed project assumes, incorrectly, that sucking water from one well location does not affect the entire groundwater network system. CalAm's massive pumping, in comparison to MCWD's conservative, conservation oriented draws, is exacerbating seawater intrusion, a scientifically proven result of overpumping:

"Saltwater intrusion can occur in coastal groundwater basins, where overpumping of groundwater aquifers can cause seawater to be drawn into aquifers and contaminate the water supply.", p. 8., ("The Hidden Costs of Groundwater Overdraft", by Tara Moran, Janny Choy, and Carolina Sanchez, Chapter 4, "Understanding California's Groundwater", Stanford Woods Institute for the Environment and the Bill Lane Center for the American West. Also, see "The Steep Price of Overpumping for Many Ecosystems", same reference.

Coppernoll-2

In a related article, "Sustainable Groundwater Management Act (AB1739, SB1168, and SB1319)", in aguilogic, Inc., October 2014, 'The Problem with California Groundwater Management': "...excessive groundwater withdrawal can cause subsidence of the ground surface, which in turn decreases the soil permeability, aquifer storage capacity, and reduces the infiltration rates to recharge the aquifers. Additional problems related

to excessive groundwater withdrawal are failed wells, deteriorating water quality, and environmental damage. Therefore, GSP's are necessary to prevent the loss of productive aquifers and to ensure that reliable sources will be available in the future for drinking and irrigation purposes.", p,1.

Coppernoll-2
cont.

Can the CPUC support this ongoing harmful overpumping activity that causes environmental damage? This overpumping causes large cones of depression or subsidence, which, over time can lead to beach erosion that affects the entire Monterey Bay coastline, not just the CEMEX property area. This overpumping will permanently destroy the Salinas Valley Groundwater Basin as more and more seawater intrudes the aquifers, degrading water quality. This same irresponsible conduct will continue, even more so, with the other nine slant wells the CalAm proposed project plans to construct and install, which, as the DEIR asserts, will continue to pump from the Dune Sand Aquifer and 180-Foot Aquifer.

Coppernoll-3

The MPWSP cannot be considered Feasible for the following reasons:

1. CalAm, the DEIR states, "would need an appropriative groundwater right to retrieve and export water from the basin" (2.6.1, p.32). The DEIR then continues on to assert that in order for CalAm to have the requisite appropriative rights to support the project, it will need the right to extraction of otherwise unusable Basin groundwater that will not harm lawful water users, and be able to guarantee that any fresh water extracted can be returned to the Basin without injury to existing legal water users. Only then would CalAm have rights to the portion of feedwater that comes from the Basin because the MPWSP product water that contains such Basin water would be "developed water." "Developed water is water that was not previously available to other legal users and that is added to the supply by the developer through artificial means as a new water source." (2.6.1, p. 32)

Coppernoll-4

How can the water that CalAm is currently drawing, and plans to draw, from the future proposed slant wells, be considered appropriative or developed? The SVGB is the sole water source for MCWD, thus for Marina and Ord Communities. This water, particularly the Perched Dune Sand Aquifer, through proper sustainable groundwater management plans and programs, has had freshwater restored through MCWD's good water conservation efforts, reversing seawater intrusion. There is a natural hydrogeological balance between ocean water and freshwater, through an equalized push pull system whereby freshwater aquifers, such as the Perched Dune Sand Aquifer, provide a wall against seawater intrusion into the aquifers, thus equalizing the balance between land and sea, a natural phenomenon. Overpumping causes downward pressures and subsidence that lower this natural barrier, allowing seawater intrusion. Sodium Chloride is the chemical character of ocean water, whereas the Dune Sand Aquifer Groundwater and the 180-Foot Aquifer Groundwater respectively reveal that the chemical character of groundwater in the related new wells is mainly calcium chloride and calcium

Coppernoll-5

Coppernoll-6

bicarbonate (“Technical Memorandum re North Marina Area Groundwater Data and Conditions”, Curtis Hopkins, Principal Hydrogeologist, Hopkins Groundwater Consultants, Inc., to Keith Van Der Maaten, General Manager, Marina Coast Water District, May 26, 2015, Page 7).

Coppernoll-6
cont.

(Please see Exhibit A: Perched Dune Sand Aquifer (EKI Study) at Armstrong Ranch Project).

Return water is not legitimate water for CalAm to provide because the origination of the water used comes from the Basin, water that CalAm has no right to in the first place. All water within the Basin is usable to MCWD. The “brackish” water, whose definition CalAm misstates, consists of ocean and fresh water, but contains a much smaller fraction of salinity than ocean water and different TDS. CalAm fails to give the whole truth. CalAm has rights to purely ocean water, but CalAm has no rights to brackish or fresh water drawn from the SVGB. CalAm cannot create “return” water because CalAm has no water rights to legitimately extract groundwater at all, let alone later “return” it. On what basis does the CPUC legitimize this argument in the DEIR?

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If CalAm has no groundwater rights to extract the “brackish” water in the first place, how does it have a right to claim it as a right to create return water, or to developed water whose origination is groundwater? Does the CPUC comprehend the natural balancing of aquifer layers and subsurface structures that allow aquifers to be recharged and seawater intrusion to be reversed, resulting in freshwater restoration? Or that Brackish water, which is still groundwater, plays a significant role in this process? Does the CPUC recognize the fact that the CalAm MPWSP has no water rights within the SVGB, that MCWD does own SVGB water rights, or that the MPWSP is infeasible from the beginning? **Why did the DEIR omit any analysis of harm to the MCWD or even include it as if it were nonexistent in the equation?**

Seawater intruded water is still extracted from the groundwater basin and is still a more saline mixture than freshwater, but MCWD works with this challenge to restore the balance nature intended, and the affected aquifers have been, and continue to be restored to their natural equilibrium by the constant and consistent efforts on the part of MCWD, and water conservation efforts on the part of MCWD’s customers. As stated, brackish water contains only a fraction of the salinity found in ocean water. Brackish water is usable and treatable groundwater. MCWD has treatment facilities in its sustainable groundwater management plans. Therefore, CalAm has no right to this water either. As attested to by Curtis Hopkins in his Technical Memorandum cited above, page 5, “Years of reduced pumping has resulted in beneficial groundwater conditions that are apparently slowing the movement of seawater and providing a freshwater source that is replenishing the aquifers. Notably, the fact that the Dune Sand Aquifer and 180-Foot Aquifer at Monitoring Well MW-7 are no longer contaminated by high concentrations of seawater can likely be explained by the changing hydrogeological conditions

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resulting from the efforts of MCWD (e.g., Annexation Agreement, etc.) and others to reduce pumping in the coastal area. As a result, recharge from rainfall into the Dune Sand Aquifer creates a mound of freshwater that flows toward the Salinas River and the ocean.” Presently, CalAm is furiously pumping 2100 gallons per minute from the Dune Sand Aquifer, thus undoing all the good work the MCWD and others have done to restore freshwater to this aquifer. This overpumping is clearly causing harm to MCWD and its customers, and is destroying this critical aquifer in an already over drafted basin. How can CalAm claim the groundwater it extracts is unusable to legal users? If CalAm can use the water, then the legal owners can certainly use it. Where in the DEIR is there scientific proof that the CalAm extracted water is unusable to legal users? In fact, CalAm is intentionally and unlawfully wasting this water, making it unusable to anyone, especially its legal users.

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Does the CPUC acknowledge CalAm’s unjustifiable illegal actions? Will the CPUC take action to protect the SVGB and its legal users? What is the fiduciary responsibility of the CPUC?

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Will the CPUC require more stringent baseline controls and scientific data be obtained before any approvals? Has the CPUC researched the Dana Point, California slant well experiment to find out why that slant well was not deemed viable, what its inherent technical, or other problems encountered were that halted its use? Has the CPUC established any scientific data to explain the level of efficiency dropping from 98% to 54% in the only other known slant well (Dana Point), as a point of comparison for the viability of the MPWSP, or why the CalAm test slant well is experiencing problems with clogged filters or how it will manage the toxic chemicals needed to clean the filters and wells? Will these chemicals enter the groundwater aquifers, causing further contamination? What scientific data or baseline controls have been established to justify these slant wells? So far, there are only assumptions based on faulty modeling and estimates, but no rock-solid science employed. Do the taxpayers and CalAm customers deserve a sounder basis on which to gamble this \$300 million project, or does the CPUC determine it is just fine to move forward with an untested, unproven, and scientifically uncertain project? Where is the level of uncertainty for viability and feasibility been established or presented in the DEIR? All credible scientific analysis requires a determination of the level of uncertainty and peer reviewed, published, scientific scrutiny.

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2. Has the CPUC visited the slant well sites to verify that the slant wells will be extracting ocean water from the subsurface of the ocean? Monitoring reveals the test slant well is extracting fresh water and salt water intruded water from the Dune Sand Aquifer and the 180-Foot aquifer, and not the ocean, which the DEIR confirms to be fact. In other words, there is a discrepancy between what the project design portrays and the actual slant well activity. The DEIR confirms that “The proposed slant wells would draw water from the Dune Sand Aquifer and the 180-FTE Aquifer”, but the subsurface information CalAm asserts it has retrieved is not adequate because one test slant well cannot provide data for any other areas within the

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subsurface, and the data retrieved cannot provide data for the condition of the whole aquifer, or its aquitards, or any existing fissures. Only an Electrical Resistivity Tomography (ERT) field study can provide this appropriate scientific data. CalAm and the CEMEX property area had an opportunity to benefit from such a study that was conducted by Stanford professor, Dr. Rosemary Knight, at no cost to CalAm. CalAm chose to ignore this great opportunity to collect scientifically verifiable data on the entire subsurface area underlying its proposed slant wells to determine the true condition of aquifers and aquitards, the existence of fissures, and the extent of seawater intrusion. The ERT field research study revealed that there are fissures and seawater intrusion in the subsurface aquitards.

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There is a fault just south of the CalAm test slant well location. Has the CPUC DEIR evaluated the potential environmental damage seismic activity in the area of the test slant well and its proposed nine additional slant wells could sustain? Existing fissures indicate that future seismic activity is highly probable, and that more fissures could occur to further degrade aquitards and water quality. The attached ERT slides show there are fresh water layers and salt water intruded areas in the aquifers along the coast. It is unfortunate that CalAm neglected to take advantage of this unique ERT opportunity. As the Review and Comments on Draft EIR of the Monterey Peninsula Water Supply Project prepared by SWCA Environmental Consultants states, "The DEIR's evaluation of water rights relies heavily on the July 31, 2013, report prepared by the SWRCB (refer to Section 2.7 and Appendix B-2 of the DEIR). The report ultimately concluded that the determination of whether a legal means exists for Cal Am to extract water from the Salinas Valley Groundwater Basin (Basin) will depend on developing key hydrogeologic information to support a determination that the project would not cause injury to other users in the Basin." To date CalAm has failed to conduct such a study, even when one was available at no cost to CalAm. **Furthermore, CalAm will never have the water rights to export water from the SVGB to its Monterey Peninsula service area because state law precludes exporting groundwater from one jurisdiction and transporting it to another jurisdiction. (Please see Exhibit B: ERT of Monterey Bay)**

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Do you consider CalAm negligent for not obtaining this valuable data for this DEIR and the previous one? Is CalAm remiss for avoiding this scientific data retrieval process for its test slant well, and by extension, its other proposed wells? This important information would have had a serious impact not only on the test slant well, which CalAm plans to make permanent, as well as the other nine slant wells.

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3. The DEIR states that "The key principle of developed water is: if no lawful water user is injured, the effort of an individual to capture water that would otherwise be unused should be legally recognized." **This DEIR seems to be totally one-sided, not taking into consideration the needs and water supply demands of the MCWD jurisdiction. MCWD, a long established and community recognized lawful user, will be injured, and is being injured, by the actions of the MPWSP.** It is accepted

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knowledge that the water in the SVGB is precious and scarce. All SVGB groundwater is deemed “usable” and productive for maintaining the natural hydrogeological balance.

How can the CPUC approve the MPWSP that purposely plans to export Marina’s source water to another area, namely to CalAm’s district service area, with total disregard for the harm the MPWSP is doing (exacerbating seawater intrusion through overpumping), and plans to repeat its past history of depleting precious water supplies? CalAm disregarded the law in the past, and plans to do so again. Its project plan specifically states its objective is to export the SVGB water outside the Basin to the CalAm service area, which is unlawful. (2.2) Further, CalAm announces in the DEIR its intention, via its slant wells, to calculatedly contaminate a potable groundwater supply in violation of multiple state regulations and water quality laws. Dumping illegally extracted groundwater into the Monterey Bay is wasting water. Through extensive overpumping of the SVGB’s groundwater, CalAm is converting potable freshwater into contaminated brackish water, and eventually will convert the groundwater to mostly saltwater, or to use CalAm’s terminology, brackish water. This is the strategy being used to justify its unlawful extraction of groundwater and its desalination plant. CalAm is not pumping ocean water as its feedwater. It is pumping SVGB groundwater and will deplete and destroy this invaluable asset. Why is the CPUC allowing this to occur? Why is the CPUC not collaborating with other agencies to ensure this unlawful activity is stopped? Or, how does the CPUC justify condoning this unlawful activity and ignoring in the DEIR the violation of the CEQA and state law requirement that CalAm must prove its actions will do NO HARM?

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4. Monterey County Water Resources Agency Act stipulates that “no groundwater from the basin may be exported for any use outside the basin, except that use of water from the basin on any part of Fort Ord shall not be deemed such an export. If any export of water from the basin is attempted (MCWRA) may obtain from the superior court, and the court shall grant, injunctive relief prohibiting that export of groundwater.” (2.6.3) (Since Fort Ord no longer exists, the latter portion of this Agency Act then, one can surmise, only applies directly to the SVGB and its lawful users). Continuing, the DEIR states that: “The proposed project will develop supplemental water supplies to serve CalAm’s Monterey District area” (2.2.1) and CalAm must develop a replacement water supply to meet existing demand in the Monterey District service area. In addition, CalAm proposes to provide sufficient supply to meet demand associated with the development of existing legal lots of record, Pebble Beach water entitlements in the Del Monte Forest area, and tourism demand under improved economic conditions within its service area.” (2.3)

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Where does the DEIR take into account the MCWD water supply demands and needs, and how the MPWSP will harm the MCWD’s ability to protect and preserve its own water supply resources? Currently, the CalAm slant well is pumping massive amounts of water far in excess of what even the MCWD is pumping, dumping the freshwater back

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into the Monterey Bay, which violates state law that states that “all water use in California must be for beneficial purposes and by reasonable method of use.” (AB3030) Wasting Marina’s SVGB water is harmful to the 33,000 current Marina Coast Water District’s customers. There is a limited supply of freshwater. CalAm has already demonstrated that it disregards the law (Carmel River, Seaside Groundwater Basin cases), and plans to continue doing so. How can the CPUC not recognize that CalAm has no legal groundwater rights, or any other rights, to the SVGB, especially since its objective, as stated, is to export the SVGB groundwater to its own service area, which is also illegal, as discussed above, and will deplete MCWD’s water supply source? Can this MPWSP planned action to permanently degrade and delete the last freshwater frontier, the SVGB, in the immediate area of Marina be justified or approved?

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How can the CPUC justify saddling the MCWD customers and Marina citizens with unsustainably high water rate increases to subsidize CalAm stockholders and incur the cost of this estimated \$300 million MPWSP, or its stated unsustainable over use of the City of Marina’s transportation network system since no agreements are in place to mitigate the ruining of roads that are already in a state of disrepair and marred with potholes, or avert costs to Marina taxpayers without compensation agreements in place? The DEIR does not quantify the cost, and dismisses the severe impact, of the thousands of round trips that will be made by the MPWSP trucks and vehicles over an extended period of time. Will the DEIR correct these omissions?

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5. CalAm’s MPWSP will harm the SVGB and injure the MCWD and its water customers because the project will pump massive amounts of brackish and fresh water from the SVGB aquifers, causing more and more seawater intrusion. It already has caused harm because it is undermining and undoing the water conservation and freshwater restoration accomplishments MCWD has thus far achieved. There is hardly enough groundwater supply to meet the needs and demands of the MCWD, or its future water demands for anticipated development, but with the continued freshwater restoration and conservation efforts MCWD is engaged in through its sustainable groundwater management plans and programs, there will be sufficient potable water for the MCWD jurisdiction and service areas. The SVGB water has been designated for use in Marina and the Ord Communities, Salinas and the agricultural industry’s irrigation demands, but may not lawfully be exported to the CalAm service area, which is the express purpose of CalAm’s project. How is the CPUC justifying this egregious injustice and harm to MCWD and Marina and Ord Communities, and the farmers?

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How can the CPUC not understand that this project will inflict irreparable harm on the MCWD by depleting its only source for fresh, potable water? MCWD has a vital need for its groundwater. The Perched Dune Sand aquifer is a critical source of freshwater supply. CalAm does not have any category of water rights to this groundwater asset that belongs to the MCWD. To allow another water district (CalAm) to invade the MCWD in order to procure its (MCWD) water only to

transport that water outside the Basin to its own (CalAm) district's service area is an environmental, financial, and social injustice that cannot and should not be tolerated. **(Please see Exhibit A: Freshwater Perched Dune Sand Aquifer, Armstrong Ranch Project, EKI Study)**

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6. State water policy supports enhancement of beneficial uses of water and the prevention of wasting water. CalAm is violating this policy by pumping massive amounts of water (126,000 gallons of freshwater per hour), far in excess of the water being pumped by MCWD. CalAm is spouting that water back into the Bay, squandering MCWD's water supply source, as previously noted. (Article X, section 2, California Constitution and codified state policy). The unlawful, and environmentally unsound practices being employed by the MPWSP cannot be over stressed because they are directly related to the harm being done, and the cumulative irreparable damage that is taking place, thus connecting these legal, ethical, and environmental issues requires continued underscoring and exposure.

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Will the CPUC recognize that CalAm will repeat its past unlawful behavior to the detriment of MCWD and the other SVGB legal users? Can the CPUC legitimately make any other determination than "infeasible" for the MPWSP?

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7. For these reasons so far stated, and many more, **the MPWSP is not feasible.** MPWSP solutions for mitigation to avoid harm are pie-in-the sky proposals, are deceptive, and have no practical application in real time situations. The planned 21-mile water pipeline, that will disrupt life in Marina and elsewhere, is the pipeline CalAm intends to use to export MCWD's water to Cal'Am's service area, contrary to law, and to great harm to MCWD that depends on the Basin water for its service area. While it is a shame that CalAm mismanaged its own water supply sources, it is not the responsibility of MCWD or the City of Marina to jeopardize or destroy its own water supply source and harm its own customers and citizens in order to salvage the damage CalAm has chosen to inflict on its own service area customers. The law protects MCWD from such injury. The CPUC must do the same. The CPUC must do the morally and legally right thing, and in this case, the environmentally right thing, by declaring the MPWSP **infeasible.**

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The DEIR 2-40 claim that "...the project would appear consistent with the Agency Act and the Ordinance given that the project would return to the Basin any quantity of fresh water withdrawn from the Basin" is an absurd conclusion in that the "quantity of fresh water withdrawn from the Basin" could not legally be extracted from the Basin in the first place, or exported anywhere outside the Basin. MCWD has legal groundwater rights. CalAm is literally invading another water district's water source in order to illegally extract and export that water for its own water district's use without regard to the legal user's rights.

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Where does the DEIR provide validated scientific data proving the quantity of fresh water it is extracting? How can the proposed project determine the amount to return to the basin since it has no scientific exactitude to measure that quantity? The DEIR, 2.6.2, states that "In that the quantity of such fresh water component of the supply water is not currently known, the modeling and the EIR/EIS analysis assess a range of return water between 0 and 12 percent of the source water." Does this level of uncertainty cry out for scientific data to measure how much freshwater is being withdrawn? Is this not an affirmation that freshwater is, and will be, extracted from the basin and not subsurface ocean water? Please explain why the DEIR contradicts itself when the Appendix E-2 Geoscience diagrams show the slant wells to be in the 180-foot aquifer of the Salinas Valley Groundwater Basin on the one hand, then in 2.6.2, the DEIR asserts that "the project is not forecasted to draw any fresh water through the MPWSP source water supply wells over the life of the project", on the other hand. Is this not an obfuscation of the truth that the slant wells are extracting freshwater and are not in the ocean subsurface area as claimed? Confusing brackish water and freshwater demonstrates a lack of scientific knowledge pertaining to the subsurface area of the basin and how it functions vis-à-vis freshwater and freshwater that has been contaminated by seawater intrusion. The percentage of salinity in ocean water is far higher than salinity in brackish water, and the TDS is dissimilar. There is a big difference between the two, to include the cost of ocean water desalination and brackish water treatment. To extract purely ocean water requires no water rights. To extract brackish water does require water rights because brackish water is still groundwater whose quality has been degraded, usually through over drafting.

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As pointed out, doesn't the CPUC know that any return water is already, a priori, water that is unlawfully drawn from the groundwater basin, and is, therefore, an unacceptable solution?

8. Can the CPUC justify this regional environmental injustice? CalAm has already acted in such a manner as to lose the public trust. Can the CPUC expect City of Marina, or any other city, residents to trust CalAm or its proposed project? History tells us that the MPWSP and CalAm cannot be trusted to respect the law. DEIR 2-7 states that CalAm had "no valid basis of right" and was unlawfully diverting water (surface and subsurface flow) from Carmel River. The DEIR 2-7 continues to state that CalAm was in violation of Order 95-10 and Water Code Section 1052. CalAm was directed to "terminate all unlawful diversions from the river no later than December 31, 2016."

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In DEIR 2.2.4, the text, referring to the Seaside Groundwater Basin Adjudication, states that "By adjudicating the water rights for all users of the basin, the court intended to protect the basin from long-term damage associated with potential seawater intrusion, subsidence, and other adverse effects that commonly result from overpumping." On 2.2.4, p.2-8, the DEIR text continues to explain the Decision identified the "natural safe yield" throughout the basin in each of its subareas. The

Decision also found (and noted all parties agreed) that continued production in excess of the natural safe yield would result in seawater intrusion and deleterious effects on the basin.” Additionally, the same DEIR text, p. 2-9, indicates that “...by the time the Laguna Secca Subarea will be allocated to other producers with overlying groundwater rights that are superior to CalAm’s appropriative rights (Svindland, 2013a), CalAm has to replenish the Seaside Groundwater Basin over a 25-year ‘repayment period’”.

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Has the CPUC given adequate consideration to CalAm’s history of violating the law, of requesting permission for more and more water rate hikes on its customers, or its history of disregarding the rights of other lawful water rights users? Not only should the MPWSP be deemed infeasible, but the CPUC should protect the CalAm rate payers from usurious water rate charges, charges that are intended to reward its shareholders, stockholders who for the most part do not even live on the Monterey Peninsula or pay taxes there. All in all, CalAm has damaged its reputation in the community, has lost the trust of its customers and many others, and should not be given another chance to repeat history. It has gotten away with unlawful behavior, in a sense, and manifestly intends to repeat history.

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Will the CPUC take into consideration, when deciding on the CalAm application to recover present and future costs for the proposed project, the Public Utilities Codes 451 and 454 that require that water service providers charge their customers “just and reasonable rates”?

Will the CPUC do the morally right thing for the Monterey Peninsula by denying CalAm its requested Certificate of Public Convenience and Necessity (CPCN) to build, own, and operate all elements of the MPWSP, and permission to recover present and future costs for the proposed project? Proposed Project approvals should not take place **BEFORE** any of the affected areas have given their permission or agreement, or had a chance to thoroughly assess the harm the proposed project will do. It is hoped the CPUC will deny DEIR and project approval, and refuse to issue the CPCN. That is the responsible action to take.

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9. The DEIR asserts, 2-30, that “Indeed, no government agency will formally grant water rights to CalAm for the proposed project.” This DEIR seems to support the **infeasibility of the MPWSP**. It is important to note on 2-29 that the DEIR specifies that “It is the jurisdiction’s responsibility to determine, subject to applicable plans, policies, laws, and regulations, whether or not to approve a new or intensified water use within its boundaries.” If logic prevails, would this not mean that, as the responsible agency in the Marina area, with CalAm operating in the MCWD’s jurisdiction, the MCWD would have a voice in this proposed project decision? If so, then can the CPUC explain how the DEIR statement on 2-30 can imply a unilateral decision in favor of CalAm: “This EIR/EIS assumes that water provided by the proposed project will be allocated to meet existing demand and that any water left over would be allocated in general proportion to

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projected growth in the CalAm service area jurisdictions.” Could the CPUC please explain or clarify this apparent contradiction?

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Chapter 4: Groundwater Extraction and Quality

Reasons the Proposed Project DEIR is Inadequate:

1. This DEIR is inadequate because it does not sufficiently consider the environmental impacts of the water pipelines extending to the CalAm service area, and the harm exporting SVGB groundwater to another service district will do to the MCWD service area, the quality of water based on scientific data, not inept science, and especially the severe adverse impact the proposed project will have on the integrity of the Perched Dune Sand Aquifer. **It is unconscionable that the CEQA and state law requirement to do NO Harm is currently being disregarded.**

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2. **DEIR Chapter 4 clearly states that “The proposed slant wells would draw water from the Dune Sand Aquifer and the 180-FTE Aquifer from about 30 feet below msl to 200 feet below mean sea level (GeoScience, 2016b) ...the Dune Sand Aquifer overlies the 180-FTE Aquifer with no aquitard between the units. The test slant well is screened across both units and has been sampled on a weekly basis when operational.”** The CalAm pumping has increased seawater intrusion, much to the detriment of the Perched Dune Sand Aquifer that had its freshwater restored through MCWD’s prudent water conservations and restorations plans and programs. This is a freshwater perched aquifer that CalAm had previously ignored in the last EIR, according to Curtis Hopkins, hydrogeologist, in a Technical Memorandum to MCWD, dated May 26, 2016.

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How can the slant well test be considered valid since only approximately half the total time required for the test will be considered operational time? There will be insufficient data to make any conclusive determinations concerning scientifically valid test results for safety and water quality. The well operations were halted due to construction defects and other related issues. Will the existence of the construction defects foreshadow additional more serious environmental impacts as a result of faulty or defective well and pipeline construction? Will the CPUC bank on untested, unproven technology that has no other successful slant well in the United States or the world, other than the failed Dana Point, California slant well, to use as a comparative analysis tool? Can the CPUC in good conscious take this risk? CalAm transmits the cost of its failures and unlawful conduct to its customers because it does not assume financial responsibility for its own poorly designed projects. In the Curtis Hopkins technical analysis (cited above), the faulty modeling used for the MPWSP is highlighted as providing erroneous data, and therefore should not be the source for decision making for the proposed project. Will the CPUC revisit this modeling, asking an independent third party to provide a more objective analysis?

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Does the CPUC accept as valid the modeling proffered by the same individual who holds the patent to the slant well, or the same company, GeoScience, that reviews and evaluates the proposed project? Is a second round of conflict of interest at play?

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The Perched Dune Sand Aquifer is vital to the MCWD fresh water supply, which CalAm is damaging with its pumping, just as it harmed the Seaside Groundwater Basin and the Carmel River. **Based on CalAm statements and actions, it appears that CalAm's objective is to permanently reduce the quality of the SVGB aquifers and aquitards to render them completely seawater intruded, as a way to justify its proposed desalination project.** CalAm's Director of Engineering, Ian Crooks, is claiming publicly that the 180-FTE and 400-FTE aquifers are already permanently damaged due to seawater intrusion, and that "the (180-foot aquifer) was damaged and done a long time ago." (Monterey County Weekly, article "War of the Wells", 2-2-2017). Is this statement to be understood as the rationale for overpumping the Perched Dune Sand Aquifer? This is a misleading statement because, as Electrical Resistivity Tomography field tests have scientifically demonstrated, there are freshwater and seawater intruded layers in the subsurface structures, and an EKI study of the Perched Dune Sand Aquifer shows the salt water and fresh water areas in the subsurface of the aquifer. The Perched Dune Sand Aquifer is far from "damaged and done a long time ago", but if CalAm is allowed to continue pumping 2100 gallons per minute from this aquifer, as it plans to do for all future slant wells, then this Ian Crooks statement will become a reality, and the Marina Coast Water District's freshwater supply source will indeed be destroyed, which will be a disaster for Marina and the Ord Communities. **(See Exhibit B for examples of ERT field research study results, and Exhibit A for the EKI study of the Perched Dune Sand Aquifer, showing the saltwater intrusion and fresh water subsurface areas, and the balancing of water flow to create a natural barrier to seawater intrusion).**

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There is scientific proof that pumping causes sea water intrusion, as supported in scientific journals cited above. There is scientific data to prove MCWD has restored freshwater to SVGB aquifers through its restoration plans and water conservation programs. Information obtained from one well, it has been also scientifically proven, cannot provide adequate or accurate data for the Basin's extensive subsurface area, both linear and vertical. Only through ERT testing can accurate scientific data confirm the condition of the subsurface areas. Even if Ian Crooks' statement were true, this assumed aquifer condition would not give groundwater rights to CalAm, which it is desperately seeking at the expense of MCWD. CalAm in DEIR 4.4 also claims it has gathered sufficient information to make conclusions about the aquifer. This cannot be true because sentinel wells or test slant wells only provide, through monitoring mechanisms, information on the area directly below the well, but cannot possibly provide information pertaining to the entire groundwater basin. However, Electrical Resistivity Tomography (ERT) would have provided precise data on the extent of freshwater vs seawater intrusion, as well as data on the strata, fissures,

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and aquitards, but CalAm refused the ERT's request to include the CEMEX property in its field research study, which would have been free, accurate scientific data for CalAm. ERT is the only solid authentic method for obtaining sound scientific data on the aquifers and aquitards and their degree of health and structural condition.

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Why is the CPUC ignoring the Perched Dune Sand Aquifer being used by CalAm instead of ocean subsurface intake, as it has claimed it will do in its project design description? CalAm is not drawing in ocean subsurface water. It is depleting the SVGB freshwater Perched Dune Sand Aquifer, to great peril to the Basin and rightful groundwater users. Will the CPUC do anything to rectify this situation? It surely will be repeated in the other 9 slant wells once installed, if installed, because CalAm asserts in the DEIR that it will do exactly that.

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Will the CPUC heed all the inputs from the MCWD customers who are concerned about the degradation of its sole source of freshwater supply, the SVGB? Will it deny DEIR and project approval based on the project being infeasible? There is a moral imperative to do so. Can the CPUC accept the consequences of jeopardizing the critical water supply of one district to satisfy the needs of another water district whose stated purpose is to take the SVGB water and transport it to an outside the Basin district, risking grave, even irrevocable harm, to the injured party, MCWD and its customers, present and future?

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3. In addition, this DEIR is inadequate because it fails to address several issues, and should not be certified or approved until those concerns have been addressed.

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First, on a scientific level, the DEIR does not address the potential of seismic activity and how that activity would impact both the slant wells and the pipes and pipelines. A past Electric Resistivity Tomography (ERT) field research test demonstrated that there are fissures in the existing aquitards, but CalAm neglected to employ this important, and well known, scientific method for determining the condition of the subsurface structures in the SVGB aquifers and the aquitards, even though it recognized, in the DEIR, that ERT could be used as a tool to retrieve important data. The CalAm test slant well is located in an area that has a known existing fault just south of the slant well location. ERT could have revealed results of past seismic activity in that particular location or existing seismic damage to the aquifer and aquitard. Ignorance is not bliss, and finding out too late, after gambling a \$300 million price tag for the proposed project, would be indeed tragic for all. Will this specific environmental impact risk be evaluated in this DEIR?

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Second, on another level, the DEIR is biased and inequitable in favor of CalAm, with a complete disregard for the impact on the Marina and Ord Communities' sole water supply source, a water source that CalAm is already harming, a water source that is vital to, and cherished by, the City of Marina and the Ord Communities that depend

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on this water source. That harm will be irreparable if the proposed project is allowed to proceed, and if the City of Marina, that has lead responsibility, is ignored or exploited by outside entities. To be adequate, the DEIR needs to address this side of the equation.

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Third, the City of Marina has responsibility for its certified Local Coastal Plan. The DEIR (1.5.4.3) states that the City of Marina would be receiving and approving an application for a Coastal Development Permit for the slant wells. However, approval is highly unlikely given the lack of mitigation for the significant irreparable harm to marine vegetation and ecosystems in the area of the proposed project.

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Should the City of Marina deny such permit, would CalAm be allowed to bypass the City of Marina and obtain a permit from the California Coastal Commission, which the DEIR states it will do? The City of Marina, as discussed above, has lead responsibility and should be the final step for approving or denying such permit. Under what circumstances would CalAm be able to circumvent the City of Marina and seek the Coastal Development Permit from the California Coastal Commission?

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4. The DEIR omits discussion on compensation for Marina residents and Ord Communities, and other affected areas, for the disruption its construction of the 21-mile pipeline and desalination plant heavy vehicle traffic on local roads and reduced recreational trail usage for the duration of the project construction will cause, plus the inconvenience incurred as a result of parking space displacement and commercial parking lot reduction to accommodate project vehicles and road blockages, and, most importantly, future high water rate increases that will be imposed on the MCWD customers too, if they are subsumed by CalAm, to pay for present and future costs of the MPWSP. Marina is basically a working-class city whose residents would most likely be at risk for losing their homes if water rates were to increase at the same pace and level as current CalAm customers' rates are.

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Table 4.9-4 provides details on the number of heavy truck vehicles and passenger vehicles (workers) and the number of trips per day that will be used in the proposed project construction process, which is projected to occur over a 24 month period, with individual sections of the project taking varying lengths of time, with the construction running 24/7 per the 4.9 Traffic and Transportation requirements, impacts, and proposed mitigations which are based on the Traffic Control and Safety Assurance Plan, or Mitigation Measure 4.9-1 (Traffic Control and Safety Assurance Plan). It seems that this plan has not yet been presented. Will the CPUC require this plan to be developed for review before approving this DEIR/DEIS? Where in the DEIR is an implementation plan detailed for a Traffic Control and Safety Assurance Plan? The DEIR states that "However, with implementation of Mitigation Measure 4.9-1 (Traffic Control and Safety Assurance Plan) the impact would be reduced to a less-than-significant level. The mitigation measure includes provisions for reducing construction-related traffic and traffic congestion impacts on local streets." Yet in

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the same paragraph, the DEIR states that **“these traffic increases along lower-volume local and neighborhood (residential) streets in the Marina/Seaside area are considered to potentially result in substantial adverse effects.” (DEIR 4.9-21).**

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cont.

Where is the mitigation measure found that will reduce these “adverse effects” to a less-than-significant level? And how will they be implemented? DEIR 4.9-18-21 discusses traffic details in terms of number of workers, trucks and trips, both round trip and one way trips. Where does the DEIR provide the details on the origination of the workers and trucks that are or will be commuting to and from the proposed project construction sites? Will adverse impacts on those roads be mitigated? It can be conjectured that many workers and trucks will originate in Salinas, a city that is also affected by any activity affecting the Salinas Valley Groundwater Basin. Blanco Road is a major connecting road between Salinas and Marina. Blanco Road is already riddled with pot holes, is a two-lane road that is already congested much of the time, and runs adjacent to agricultural fields. Will workers be commuting from Watsonville, or Castroville, or other locations? Will the CPUC address this insufficiency in the DEIR traffic and transportation impact analysis section? The Traffic Control and Safety Assurance Plan, not yet developed, will assume encroachment permit approvals from the City of Marina. Is this a reasonable assumption on the part of the CPUC, given that Marina’s water supply concerns have been overlooked in this DEIR? And given that the significant overload on Marina’s roadways has been diminished or dismissed as less-than-significant, despite no evidence or proof that this reduction of risk or harm is actual or that the harm can or will be mitigated? Reality says otherwise.

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On page 4.9-3 the DEIR states that Highway 1 and Del Monte Boulevard will have the greatest number of daily construction related truck trips. Will the CPUC delineate the precise impact this truck traffic will have on Del Monte Boulevard, a major thoroughfare through Marina’s business and residential areas? Table 4.9-4, numbers are provided for workers, trucks, and trips. To give general numbers, based on this table, for which the construction spans a 24-month period, with individual sections of the proposed project lasting varying periods of time, we can estimate there will be 30,840 trips by workers, and 10,320 trips by trucks per month. Will the CPUC require the DEIR to include a more detailed and accurate analysis of the actual impact on Marina’s transportation network and what mitigation measures will be taken? Will a mitigation plan be provided that contains details instead of general statements without substance?

Coppernoll-60

The DEIR is inadequate because it does not provide actual impact on Marina’s streets and roads, or Highway 1 in terms of wear and tear and the cost to repair these traffic areas. Reservation Road is included in the use of Marina streets and roads, yet the adverse impact to this Marina roadway (reservation road), that is already in disrepair with a significant number of pot holes, is not adequately addressed. This substantial increase in heavy vehicle traffic will without doubt increase significantly the need for road repairs. Will the DEIR be required to provide precise details pertaining to the

adverse effects such heavy vehicle traffic will have on Marina's roadways? Already there is significant large size transport trucks coming daily through Marina, stressing its roads considerably, hence the increasing number of potholes that cause damage to local residents' cars and vans. To state, as the DEIR does, that a not yet published plan to mitigate damage is proof that the adverse impacts will be reduced to less-than-significant status is not acceptable or adequate. Can the CPUC please explain this gap in evidence that NO HARM will be done to Marina's residents? By stating that Charles Benson Road is the most heavily travelled does not prove that the other roads are not also heavily travelled since workers and trucks have to get to Charles Benson Road by some avenue of approach. Will the CPUC require the DEIR to provide proof that NO HARM will be done to Marina's transportation network system? DEIR Table 4.9-3, Summary of Impacts – Traffic and Transportation, p.4-9-18, **Impact 4.9-C, Cumulative Impacts related to traffic and transportation are rated SU, significant and unavoidable.** No indication of any attempt at mitigation is proposed. Will the CPUC require a pre-proposed project agreement process whereby Marina will be compensated for these significant cumulative impacts that cannot be mitigated? **Will the CPUC decide the proposed project is infeasible because its DEIR states it will DO HARM to Marina's transportation network system without mitigation or compensation?** An increase of 30,840 daily worker trips, coupled with 10,320 truck trips per month over an extended period of time could totally impair local residents' ability to get to work on time, or go anywhere, day or night, with the projected significant increase in traffic on the major roads, and some less major roads, in Marina. What will the CPUC undertake to address this challenge?

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cont.

It seems callous that the DEIR states in 4.9 that the proposed project will coordinate with Monterey Salinas Transit (MST) so the "transit provider can temporarily relocate bus routes or bus stops in work zones as deemed necessary". What selfish disregard for local residents whose only transportation to work is the MST! Will the CPUC require these Marina residents to take a taxi to the relocated bus route? What about seniors who take the MST to shopping or other destinations? No compensation can make up for this gross inconvenience. What will the CPUC do to rectify this injustice? This is another item overlooked in the DEIR assessment of adverse impacts, compounding the fact that the **proposed project is infeasible.**

Why were these important items not included in the DEIR?

Isn't CalAm requesting permission to recover present and future costs for the proposed project in its current project application? Just as its current customers are experiencing exceptionally high water rate increases to cover CalAm's past "expenses", won't MCWD customers and the City of Marina residents incur large water rate increases and transportation costs to restore roads, recreational trails, railroads, etc. to original condition?

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There have been no pre-project agreements to address these issues prior to project request for approval. Isn't the CPUC putting the proverbial cart before the horse?

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cont.

- 5. A major insufficiency is the inherent conflict of interest that continues to exist because the slant well patent holder, Dennis Williams, is also an evaluator of the project, or is connected to both CPUC and CalAm, which precludes objective DEIR analysis and review. This should be deemed an irreconcilable impasse and render the project infeasible. Another conflict of interest, on top of the first one, associated with the failed regional desalination project, should raise ethical, as well as project credibility and viability, issues. Impartial, third party objective analysis is the hallmark of good scientific inquiry. Will the DEIR and CPUC demand this level of project review? Will the CPUC be transparent in disclosing such conflicts of interest? Doesn't the CPUC have a moral imperative to do so in the public interest and for the public good? Doesn't Marina have an inherent right to be considered in all aspects of the proposed project, and the impacts properly assessed, rather than being ignored as if Marina does not exist? Can the CPUC explain this injustice? Has the DEIR addressed potential environmental impacts that will affect Salinas, a major water rights user of the Salinas Valley Groundwater Basin? The entire basin subsurface area is affected by actions undertaken by overlying users, just as the whole human body is connected and affected by what happens to one part of the body.

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Conclusion:

In concluding, and expressing appreciation for the CPUC and NEPA for having granted this opportunity to express our concerns, comments, and questions, please accept my sincere effort to encourage the CPUC and NEPA to seriously consider the regional water justice implications of the CalAm proposed project, and the **importance of providing a better solution that will be beneficial to everyone, not just one party.** This aspect, regional water justice, does have a very profound environmental impact. The SVGB is a regional water supply source. Regional water justice requires water projects that do NO HARM to any party.

To recap, this memorandum explains the reasons I oppose the MPWSP, request denial of certification, and denial of approval of the DEIR.

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Please do not let greed, politics, or pressure influence this decision. **We all must do all we can to ensure fresh, potable water is affordable, accessible to ALL our citizens, not just a few.** Unfortunately, CalAm has a proven track record of unlawful behavior. It is well known that CalAm exhausted its other water sources through *unlawful water diversions and a disregard for governing law.* There is no guarantee, based on past history, that CalAm will respect all the parameters involved in this DEIR or the proposed project. Trust is a major component of any business relationship, so every effort should be made to restore trust and ensure justice is assured for all concerned.

CalAm is again disregarding the law. By pumping water (2100 gallons per minute) from the fresh water Perched Dune Sand Aquifer and spurting it back into the Bay, CalAm is committing an unlawful act, over and over again, squandering Marina's only freshwater supply source, as mentioned earlier. CalAm is not pumping water from the subsurface of the ocean, as pointed out in the DEIR, or as claimed in the CalAm test slant well design depictions and statements. This is a major deception to cover up the actual source of its water not only for the test slant well, but for the other nine slant wells to be constructed. This is a falsehood that needs to be exposed in the interest of the public good.

Coppernoll-65

One may surmise that this falsehood is promulgated to validate the unlawful taking of Marina's groundwater and to insinuate that CalAm does have water rights due to ocean water not requiring water rights, all the while its actions, by inducing more and more contaminated groundwater, it can later claim the aquifers are "damaged and done for"; therefore, it is justifiable to keep on stealing the water for use in its desalination plant. But, if the CPUC or the SWRCB condones such activity, will Marina, and others affected, be forced into costly litigation to protect their lawful, constitutional rights? Can the SWRCB continue to disregard the very constitution it is sworn to uphold?

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CalAm's stated intention in the DEIR and proposed project is to transport the Perched Dune Sand Aquifer and 180-Foot Aquifer groundwater via a 21-mile pipeline over to CalAm's water district to meet the needs of its customers.

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First, this is illegal. Law forbids transporting groundwater from one jurisdiction to another jurisdiction.

Second, this law intends to prevent the illegal extraction of SVGB groundwater from the Perched Dune Sand Aquifer and the 180-Foot Aquifer, via the proposed project's slant wells, and the exportation and discharge of this same groundwater into the Monterey Bay or Pacific Ocean. That compounded action constitutes an illegal exportation of groundwater, coupled with an illegal squandering of groundwater. The DEIR clearly asserts that the MPWSP's objective is to do exactly that. It is in fact currently doing that, and manifesting its intentions to do that, as its Monterey pipeline attests to. This is another crime to be committed if certification and/or DEIR approval is/are not denied. It cannot be over emphasized that CalAm's dumping of groundwater back into the Monterey Bay constitutes a prohibited waste of water, and is in direct violation of Article X, sec. 2 of the Constitution of California and the "Doctrine of Reasonable Use" (Peabody v. Vallejo (1935) 2Cal.2d 351-371).

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Third, the astronomical cost will become another onerous burden on the CalAm rate payers, and eventually, on the City of Marina and the Ord Communities. CalAm must satisfy its stockholders' desire for higher and higher dividends. The injustice screams out at us. Water is a basic human right. Water must be affordable, accessible, and safe for drinking, cooking, and sanitary purposes. This is the declared position and

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policy of the United Nations and the State of California. Water is not a for-profit commodity for investors. Unlike other consumer products, water is critical to survival. No one should take advantage of this.

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There is a higher purpose at play. That higher purpose is regional water justice. My most ardent plea is that the CPUC and the NEPA will have the courage and the moral integrity to do the right thing, not only to comply with the law, which includes environmental law, but to do what is fair and just for everyone. There are viable alternatives and available options, such as creating more water storage capacity, cleaning the Carmel River of debris and sediment from the Soberanes Fire, and capturing the now wasted farm runoff water that can be treated and used. That action would add approximately 6,500 afy to the water supply. These options, coupled with the significant reduction in water demand due to successful water conservation accomplishments would provide ample water supply. Implementing such options would not burden the CalAm ratepayers, or Marina and Ord Communities residents, with an additional \$300 million price tag, as the proposed project would.

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We are trusting that the CPUC and the NEPA will do some deep soul searching and reflection, coupled with in-depth analysis of all the ramifications involved in this momentous decision. Our communities will not stand down because our survival is at stake. Marina and the Ord Communities view this proposed project as an existential threat to their collective well-being and their future. Our Marina Coast Water District is an ideal role model. As stated herein, it has a decades long, since 1961, golden track record of providing fresh, potable water at affordable rates to its customers, Marina and the Ord Communities. Instead of raising water rates as CalAm is doing, and punishing its customers for conserving water, Marina Coast Water District rewards water conservation efforts with incentives and provides customers with tools to prevent leakage and reduce water consumption. This public water purveyor has not performed any unlawful actions or done anything to harm or exhaust our water supply source. Quite the contrary. Marina Coast Water District has diligently worked to protect and preserve our water supply source. Through its sustainable groundwater management plans and programs, it has restored fresh water in our aquifers and reduced seawater intrusion. Yet, this DEIR is silent on the MCWD. There is no mention of the harm that is being done to Marina's sole water supply source, or the threat to MCWD's existence.

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Do not allow CalAm to split hairs over seawater or brackish water definitions. Our groundwater belongs to Marina and the Marina Coast Water District's service area. Brackish water is still our groundwater; brackish water treatment facilities are the purview of Marina Coast Water District. Those proclaiming support for the proposed project are myopic in vision, only considering their own perceived needs, but neglecting to consider other **viable options that will benefit all, and harm none**. The environmentally superior project would be a combination of options that are available and fully vetted, and to allow sage expert water management agencies and

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other stakeholders to explore those options, ones that have been evaluated to be the best solution by experts on the peninsula, ones that have a vested interest in supporting the best creative and just solution because they live and work there. The CalAm stockholders for the most part do not live here or pay taxes here, so they do not have a vested interest in doing what is best for the peninsula water consumers. Otherwise, at least give serious consideration to the other alternate desalination projects located in areas that do not harm Marina's sole water supply source. These projects may need modification to avoid harm to marine life and the hazard of brine discharge that suffocates ocean bottom marine life, but fortunately technologies are evolving quickly to address such challenges. For example, the People's desalination project, one of the alternative options that is of high value but not properly given full or fair review in the DEIR, would make an excellent choice because it already has required pipeline infrastructure with concomitant sustainable energy via a planned solar plant. It is far less costly and far more practical and environmentally sound. Ocean intake technology has become the gold standard worldwide for desalination plants. Why take a chance on slant well technology that has zero proven success over technology that is globally accepted as successful?

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We know upfront that the proposed project will bring irreparable harm to the Salinas Valley Groundwater Basin and to Marina and the Ord Communities. This MPWSP option should be eliminated from consideration, particularly since more valid and viable options are already planned in more geologically and environmentally acceptable locations, such as Moss Landing, which was cited by the California Coastal Commission as the best location for a desalination plant for the Monterey Bay area.

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The MPWSP is truly infeasible, unlawful, unjust, and environmentally unsound. It has no credible science supporting its suppositions, estimates, and assumptions. The MPWSP cannot obtain legal groundwater rights because Marina Coast Water District, which has been operating as a highly credible and respected public water utility since 1961, does have established water rights and is operating within its lawful jurisdiction. CalAm cannot claim any category of groundwater rights to the SVGB, neither riparian, nor appropriative, nor developed, nor prescriptive. The project is, as hopefully demonstrated, infeasible, and should not be allowed to go forward.

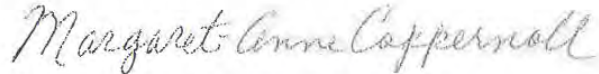
Thank you so much for your consideration, for your efforts to include the public and for hosting public open houses and public hearings, for the tremendous work involved in this four volume DEIR/DEIS, and for your review of our inputs. The statements and assessments made herein are not to be construed in any way other than as constructive review of this DEIR as it currently exists. Observations are based on data, history, and a desire for transparency and justice. Repetition was necessary due to the need to correlate issues and emphasize underlying ideas or actions.

It is understandable that the proposed project is being propelled by a sense of emergency and urgency, but one must proceed with a creative vision for solutions

that do not do more harm than good. Everyone should work together in harmony for the benefit of all citizens, in the public interest, and for the protection of the environment. We can find a way for everyone involved to survive and thrive. That solution will be the best one.

We now await a wise decision.

Very Respectfully Submitted,



Margaret-Anne Coppernoll, Ph.D.
Citizens for Just Water and Marina Resident
Marina, California 93933
(831) 5787877
mcopperma@aol.com

P.S. The time allotted to read and evaluate the four volume DEIR is insufficient for the public to adequately digest the thousands of pages involved. The sheer volume of material justifies recirculation of the DEIR, in all fairness to the public. It may make sense to delay the final comment period so the public can compare and evaluate all proposed desalination projects at the same time. This decision is of such paramount importance to the community that recirculation is the only way to ensure the public has adequate time to read and study the considerable amount of information, and to have access to technical data.

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Encis: Exhibit A: Electrical Resistivity Tomography, Monterey Bay, California
Exhibit B: Freshwater Perched Dune Sand Aquifer, Marina, California

8.7.9 Herbert Cortez

#15

HERBERT Cortez

221 Mortimer Lane

Marina CA 93933

1. I am submitting to the record a violation of CPUC resolution ALJ-252 due to having access to sign up to speak at today's meeting, 2/16/17.

Cortez-1



California Public Utilities Commission



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Home > Transparency > Commission Meetings > Rules for Public Comments at Commission Meetings

Rules for Public Comments at Commission Meetings

(Adopted June 24, 2010. Resolution ALJ-262)

You can sign up to speak at a Commission Meeting online.

The CPUC adopted Rules for Public Comment at Commission Meetings on June 24, 2010. The CPUC will follow these rules at all Commission Voting Meetings. The rules are as follows.

Rule 1. The deadline for individuals to sign up to speak is 10:00 a.m. (or the start of the meeting if not at 10:00) on the day of the meeting.

Rule 2. Individuals with a shared position are encouraged to select a spokesperson for their group.

Rule 3. Individuals who sign up by the deadline will have a maximum of three minutes to speak. The three minute speaking time may be changed by the Commission President, depending on the number of speakers. A speaker may not cede time to another speaker.

Rule 4. The order of speakers will generally be based on the order in which speakers sign up, but public officials may be taken out of order.

Rule 5. At the end of the Public Comment Session, the Commission President will ask if there are any additional individuals who wish to speak. Individuals who wish to speak but did not sign up by the deadline will be granted a maximum of one minute to make their comment.

Rule 6. The Commission President will declare when the Public Comment Session is closed. No speakers will be accommodated after the Public Comment Session is closed.

California Public Utilities Commission



The CPUC regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies. The CPUC serves the public interest by protecting consumers and ensuring the provision of safe, reliable utility service and infrastructure at just and reasonable rates with a commitment to environmental enhancement and a healthy California economy. We regulate utility services, stimulate innovation, and promote competitive markets, where possible. On this website you'll find information about the many initiatives underway at the CPUC.



Looking for Consumer Information?

The CPUC regulates privately owned electric, natural gas, telephone, water and sewer utilities. Unfortunately, we cannot help you resolve issues with publicly owned or municipal utilities, such as SMUD or the Los Angeles Department of Water and Power.

Visit the Consumer Information Website

CPUC Provides Valuable Support Programs



California Lifeline

Provides discounted home phone and cell phone services to eligible households



CARE/FERA

Lower your Energy Bills!



CASF

California Advanced Services Fund (CASF) promotes deployment of high-quality advanced communications services



DDTP

Provides assistive telecommunications equipment, speech generating devices and relay services



CTP

Provides discounted communications services to schools, community colleges, libraries, etc.

Overview of Support Programs

CPUC Regulates and Registers these Services to Protect the Public



Energy

The CPUC regulates investor-owned electric and natural gas utilities operating in California



Communications

The CPUC develops and implements policies for the telecommunications industry



Rail

The CPUC is the state agency that oversees rail safety; this includes freight, inter-city and commuter railroads, rail transit and rail crossings



Passenger & Moving

The CPUC also administers safety oversight and enforcement of moving companies and passenger carriers (limousines, shuttles, etc.)



Water

The CPUC investigates water and sewer system service quality issues, analyzes and processes utility rate change requests

Learn More

Events

February						
Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Event(s) scheduled on this date (2)

» Public Workshop Notice: Workshop for Review and Development of Proposed Regulations Related to the Development and Adoption of the Fire-Threat Maps Ordered in R.15-05-006 and D.17-01-009
2/16/2017 8:00:00 AM: AT&T Offices 2500 Camino Ramon, San Ramon, CA 94583-5000 Trinity Room

» Public Meeting Notice: California High Cost Fund A – Administrative Committee Meeting (Multiple Location)
2/16/2017 10:00:00 AM: California Public Utilities Commission 505 Van Ness Avenue, Room 3204 (Corner of Van Ness Avenue and McAllister Street) San Francisco, CA 94102





Public Participation

The Monterey Peninsula Water Supply Project is involving for users in partnership with local government agencies and elected officials which will be key to ensuring the successful implementation of development. The project involves financing, engineering, cost controls, permitting and public representation and input. The following are the forums provided governing bodies in relation to the project.

Governance Committee

Monterey Peninsula Water Supply Project Governance Committee is comprised of representatives of California American Water, the Monterey Peninsula Regional Water Authority, the Monterey Peninsula Water Management District and the County of Monterey to ensure efficient and effective public input into the development and oversight of the Monterey Peninsula Water Supply Project.

For the latest information visit the Monterey Peninsula Water Supply Governance Committee visit the website for the Monterey Peninsula Regional Water Authority page for the Governance Committee.

Governance Committee Downloads

- Governance Committee Agreement - 10/07/18
- Governance Committee Meetings Minutes 8-September
- Governance Committee Meetings Schedule

Monterey Regional Water Authority:

The MRWA is a Joint Water Authority that is represented by the majority of all cities - Carmel-by-the-Sea, Del Rey, Dava, Monterey, Pacific Grove, Santa City and Seaside. The authority is to study, plan and to develop a sustainable water supply for the Peninsula that will satisfy the MRWA's needs and objectives to protect and ensure public oversight and representation of throughout the project's development.

Monterey Peninsula Water Management District

MPWMD is a public agency that is dedicated to protect and provide for a long-term sustainable water supply and to manage and protect local water resources. MPWMD is headed by a board of elected directors consisting of local members representing various interests within the community.



Breaking: Billions of dollars to improve air

8.7.10 Bruce Delgado Letter 1

To: MPWSP-EIS@esassoc.com
Mary Jo Borak, CPUC
c/o Environmental Science Associates
550Kearny St, Ste 800
San Francisco, CA 94108

From: Bruce Delgado
3037 Vaughan Ave.
Marina, CA 93933
831-277-7690
Bdelgado62@gmail.com

Dear Mz. Borak,

Thank you for considering these few comments.

1)Figure 4.4-9. Why isn't the active CEMEX well monitored? Without knowing why, I am concerned because it would seem to provide a worthwhile opportunity for monitoring water quality/quantity and without such monitoring it seems that the best available data is less comprehensive/useful for analyzing/addressing the proposed project's impacts to groundwater.

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2) In Section 4.20 (pg. 4.20-2) it is stated that "The proposed project's impacts considered together with **existing or foreseeable environmental burdens** experienced by nearby communities are analyzed throughout Chapter 4 in the Cumulative Effects subsection of each resource section."

However, Section 4.20 appears to exclude any mention of air emissions within or proximal to the City of Marina from the Cemex sand plant, the Monterey Regional Water Pollution Control Agency's facilities (including its wastewater treatment plant), the proposed advanced treatment plant for Pure Water Monterey, the Monterey Peninsula Regional Waste Management District's facilities (including its regional landfill and authorized composting operations), methane or other greenhouse gases from livestock ranching adjacent to Marina residential areas, or emissions from drift of pesticides, fertilizers, and other soil amendments from agricultural operations adjacent to or proximal to City of Marina residential areas. These cumulative impacts are important to the residents and visitors to the City of Marina for health and environmental justice reasons. There are currently frequent complaints from this City's residents of offensive odors apparently coming from north of the City and this is but one example of existing conditions from existing or planned future facilities affecting the City of Marina's air quality.

Delgado1-2

Action: Please a) describe current conditions of potentially nuisance or unhealthy odors and emissions proximate to the City of Marina, b) disclose the total emission of existing and planned facilities (such as those listed above), and c) include their individual totals, their cumulative total, and relevant numeric emission standards/metrics/thresholds in an additional table such as a new Table 4.20-7.

3) No relevant numeric emission standards/metrics/thresholds are listed in section 4.20 including Table 4.20-6.

Delgado1-3

Action: Please include an column or columns in Table 4.20-6 for relevant numeric standards/metrics/thresholds.

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| cont.

Thank you,

Bruce Delgado

Bruce Delgado
Letter 2

Dear Mz. Borak,

Please consider this additional comment/concern I have regarding the MPWSP DEIR.

I have heard the HWG includes 2 representatives paid by Cal Am (basically to represent Cal Am interests) and two representatives paid by the agricultural industry (basically to represent this industry's interests). My concern, if this is true, is that no one on the HWG could be expected to focus on the City of Marina's interests or that of MCWD. Given that Cal Am has a vested interest in the outcomes of the DEIR it seems a conflict of interest to have paid consultants of Cal Am providing advice/hydrogeological expertise, etc. to the CPUC regarding the DEIR issues.

In addition, I understand one of the Cal Am reps on the HWG holds one or more patents to slant well technology that may be employed in the MPWSP so of course there could be a conflict of interest on his part to both be advising the project and benefitting financially and otherwise were the outcome of the project proposal to be in his favor.

Could you please explain in the FEIR or revised DEIR who is on the HWG, who is paying the HWG members, and a detailed summary of the input they have had in the 2017 DEIR especially as that input may relate to GW monitoring, modeling, model calibration modifications, interpretation of test slant well project, and any other advice or input the HWG has provided to CPUC staff or others related to the MPWSP?

Also could you please explain how a conflict of interest has been avoided if it is the CPUC's opinion there is no conflict of interest?

thank you,
Bruce Delgado

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Mayor Bruce Delgado
cell: (831) 277-7690
email: bdelgado62@gmail.com

Delgado2-1

8.7.11 Myrleen Fisher

California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108
mpwsp-eir@esassoc.com

SUBJECT: DRAFT EIR/EIS FOR THE MONTEREY PENINSULA WATER SUPPLY PROJECT/Review

Dear Staff:

Thank you for the opportunity to share with you some concerns and questions I have about the proposed project, and the quality and completeness of this DEIR relative to its claim of environmental preference, and its experimental nature.

1. 3.2.11, Pg 147, states, *"The seawater intake system would include 10 subsurface slant wells at the coast (8 active and 2 on standby...) that would draw seawater from beneath the ocean floor for use as source water for the MPWSP Desalination Plant."*

Please address the feasibility of the use of subsurface slant wells for this project, given the fact that they have not been used successfully anywhere in the world for desalination purposes.

A Google search of "slant well desalination" yields the following response:

"CA desalination slant wells prove promising...Near the Monterey Peninsula, where CAW's water supply project is ..."—nothing has been proved to be workable or feasible, only claims. There are no responses showing the successful use of slant wells for desalination purposes anywhere in the world.

The test slant well that should have provided proof of concept for this project does not conform to the description of the project slant wells. It does not extend under the ocean floor and is not drawing pure seawater.

If the 10 project slant wells are planned to extend beyond the shore to collect seawater, why isn't there a test slant well that provides data showing this seawater collection system to be feasible and practical? If the slant wells will not extend beyond the shoreline to collect water, does CalAm have rights to the groundwater they will be drawing?

Please confirm that either actual seawater will be collected as stated above or that groundwater is being taken legally in order to avoid further destruction of the shoreline, and further expense, all for a non-feasible purpose.

2. 4.5-52, Page 604, states: *"The vertical infiltration rate at the sea floor for the proposed MPWSP was estimated by assuming the entire 24.1 mgd (3,222,000 cubic feet/day) of seawater required to operate the MPWSP plant would be drawn through the sea floor located directly above the screened segment of the slant wells. The length of shoreline spanned by intake slant wells would be approximately 2,000 feet. If the sea floor area of water intake extended 500 feet offshore, the area of sea floor through which seawater would be taken into the wells would be approximately 1,000,000 square feet. Through this area of sea floor, a maximum of 3,222,000 cubic feet (24.1 million gallons x 0.1337 cubic feet per gallon) of water would be pumped each day. The vertical infiltration rate through the sea floor would have to be 3.222 feet/day or 0.0000373 ft/sec (approximately 0.011*

Fisher-1

Fisher-2

mm/sec). This calculation is very similar to the 0.000051 ft/sec (approximately 0.016 mm/sec) peak vertical infiltration rates estimated by Williams (2010) for the South Orange Coastal Desalination Project. In comparison, an open ocean intake equipped with a wedgewire screen would draw water in at a rate of 0.5 ft/sec (152.4 mm/sec). For the purposes of this assessment, it is assumed that the infiltration flow rate of seawater through sea floor sediments and into the slant wells would be approximately 0.011 to 0.016 mm/sec.

As stated above, the capability of the proposed slant wells to take in a sufficient quantity of seawater for the proposed desal project is based on a series of assumptions and estimates derived from another proposed project in southern California, also designed by Williams of Geoscience Corp., the holder of the patent for the slant well design. The predicted rate of seawater collection is based completely on the assumptions that conditions here in Monterey Bay will be nearly the same as they are at Doheny Beach in Orange County. Where are the data from the already functioning Marina Beach test slant well, constructed at great cost to the local ratepayers, that prove the assumptions are correct? Where is the proper science to guide this experimental project?

No data are provided for this DEIR from the test slant well that has been operating only intermittently at the MPWSP since mid-April 2015, as stated in this DEIR.

Even the goals and objectives in the design for Williams' Doheny project call for the collection and analysis of test slant well data, collected over an extended period of time, to determine the performance of the well and the aquifer. Please see "The Final Summary Report—Doheny Ocean Desalination Project, Phase 3 Investigation, January 2014, p.46.

Data from a different location on the California coast cannot be relied upon to provide accurate information for the Monterey Bay conditions. Please refer to: WaterReuse Assoc., 'Overviews of Desalination Plant Intake Alternatives', White Paper, June 2011, pp. 7-10, wherein it is stated "Subsurface geology typically limits capacity and performance (as compared to open ocean intakes...). It goes on to assert that ocean conditions and subsurface geology are not comparable in different areas of the coast, that location-specific data are required.

In a separate publication they go on to say, "In addition, the potential application of a subsurface intake is very site specific and highly dependent on the project size; the coastal aquifer geology (aquifer soils, depth, transmissivity, water quality, capacity, etc.); the intensity of the natural beach erosion in the vicinity of the intake site; and on many other environmental and socio-economic factors." WaterReuse Association 'Desalination Plant Intakes', White Paper, Subsurface Intakes, p.10.

The Water Foundation further states: "Ongoing long-term studies of innovative subsurface intakes in Long Beach and Dana Point, California, are expected to provide comprehensive data that would allow completing a scientifically-based analysis of the viability and performance benefits of subsurface intakes for larger-size applications. The tested subsurface intake technologies are currently under evaluation and do not yet have established performance, reliability and environmental track records."

Fisher-2
cont.

Given the highly experimental nature of using slant well technology for seawater intake, more relevant data are needed. Reliance on estimations and assumptions that are based on data from an area not at all comparable to the Monterey Bay is simply not good science.

Please provide test slant well data from the intended location of subsurface slant wells to ensure the feasibility of this experimental technology for obtaining adequate seawater.

Please identify the criteria the CPUC will use to determine if slant well intake is feasible in the current location given the lack of relevant data currently available.

Fisher-2
cont.

3. 5.4-43, Page 1507, states: “Desalination Facility (Moss Landing Green Commercial Park) The desalination plant for Alternative 4 would be located at the Moss Landing Green Commercial Park, located on the southeast corner of Dolan Road and Highway 1. The approximately 200-acre site is zoned under the Monterey County General Plan for Heavy Industrial Coastal Dependent use. Of the total site, a 16.5-acre parcel is being proposed for developing the Alternative 4 desalination plant and would be fenced off from the rest of the property.

The desalination plant would include: (1) an equalization basin to receive and store the incoming source water; (2) an inlet pump station to convey source water from the equalization basin to a pretreatment system; (3) a pretreatment system; (4) a reverse osmosis system; (5) a post treatment system; (6) a return flow pipeline that would convey brine and wash water back to the disengaging basin; (7) chemical feed and storage facilities; and (8) facilities for residuals management. The desalination plant site would also contain a 5 million gallon treated water storage tank, as well as non-process administrative facilities.”

This description does not include the planned 3.7 MW solar energy source to power the desalination plant, which is further described in the letter submitted by N. Selfridge, entitled, Section 4.1.8 Energy Conservation to which I refer the reader.

Please address this potential mitigation of energy usage and carbon emissions provided by Alternate 4 in the final EIR.

Fisher-3

This description of Alt.4 site omits the significance of an existing pipeline from the People’s Project property that crosses under CA Hwy 1, under Moss Landing Harbor and the jetty opposite, that is already owned and available for both intake and outflow after certain improvements and alterations are made with minimal environmental consequences. The existence of this 36” pipeline eliminates the environmental damage that would result from digging or tunneling under a major California highway and harbor area in order to access seawater; it also obviates the need for certain permits, inasmuch as the pipeline has been transporting seawater for many years for the former Kaiser Refractory plant. Moss Landing was considered the ideal location on Monterey Bay for a desalination operation by the California Coastal Commission.* Given the time required for permitting, both speed and feasibility of this project should be greater than any other project in this area. The pipeline provides major environmental, feasibility and cost advantages over the proposed DeepWater Desal project, which currently has no seawater access, or any other proposal to draw seawater through a pipeline in that area.

* News article: “Moss Landing Desalination Plant favored, State Issues Recommendation for Peninsula’s Water Source”, D. Moran, Monterey Herald, P.1, Aug. 10, 2002

Fisher-4

Please address this omission that fails to demonstrate the significant mitigation of environmental impact or to demonstrate the greater feasibility of the People's Project.

↑ Fisher-4
cont.

4, ES-11, Page 37, "*Alternative 2 (Open-Water Intake at Moss Landing), Alternative 3 (DeepWater Desal Project), and Alternative 4 (People's Project) would use screened, open water intakes, which would reduce or avoid several potential proposed project impacts on groundwater because of the absence of slant well pumping for source water, but would result in new significant impacts on marine resources. Significant and unavoidable impacts on marine habitat and biological resources would result from the in-water construction of new open water intakes. Operation of screened open-water intakes would result in impingement and entrainment of marine organisms, resulting in significant long-term direct and indirect effects on marine biological resources within MBNMS in Monterey Bay"*

Why is screened open-water intake considered to have "significant long-term direct and indirect effects on marine biological resources within MBNMS in Monterey Bay". As long ago as 2010 in a White Paper document by the WaterReuse Association Desalination Committee a study of seawater intake at 19 power generation plants found that the daily fish impingement impact in a one year period amounted to no more than the amount caught by a pelican in a single day.**

** https://watereuse.org/wp-content/uploads/2015/10/IE_White_Paper.pdf

Since that publication, even greater improvements to open ocean intake screening have been developed, as stated in Item 5, below.

Fisher-5

Please address the designation of screened open water intake as "significant and unavoidable", given the improved mitigation methods currently available, further described below.

5. App. I1-1, Page1551, "*Consistent with the findings of an expert review panel convened by the SWRCB, Desalination Plant Entrainment Impacts and Mitigation (finalized October 9, 2013), and SWRCB's 2014 proposed Desalination Amendment to the California Ocean Plan (SWRCB, 2014b), this EIR assumes that all open-water intake options would be equipped with a passive, cylindrical wedgewire screen at the western terminus of the intake pipeline with slot openings sized to meet regulatory and/or permitting requirements³ and would have a design velocity of 0.5 feet per second unless otherwise cited."*

Seawater intake screening is being improved. The data cited in this DEIR/EIS from 2013 are out of date for open ocean intake screening. Rotating and traveling screens with intake velocity of less than .3 ft/sec. to mitigate impingement and entrapment, are now available, eg. Invisihead by Elmosa Seawater Intake and Outfall Systems; "Water particles start to move toward the Intake Head from all directions with a velocity of about 0.0027 m/s (0.009 fps) max. 5 meters (15 ft) away from the Head entrance. It rises to 0.03 m/s (0.1 fps) max. one meter (3 ft) away. The final entrance velocity is 0.09 m/s (0.3 fps) max."

Please justify the designation of screened open water intake as "significant and unavoidable", given the improved mitigation methods currently available.

6. NOI Scoping recommendations for the proposed project:

“A-16, Page 23, Alternatives

•The EIR should consider locational alternatives that would place all facilities outside of Western Snowy Plover habitat. [F_USFWS-06]

•The EIR should evaluate a full range of project alternatives. [L_Monterey-01]

•The descriptions of project alternatives in the EIR should be based on the most current information available. [L_MPWMD-03]

•The EIR should evaluate a locational alternative that would site the desalination plant at the former National Refractories site in Moss Landing. [G_AgLandTrust-17]

•The alternatives analysis should evaluate the commercial project alternatives (i.e., People’s Moss Landing Desal, DeepWater Desal) but without mention of the commercial ventures. In addition, the EIR should evaluate a variety of design alternatives (i.e., facility locations, brine discharge facilities, pipeline alignments) that could be mixed and matched to address environmental impacts, project costs, and schedule considerations. [G_CalAm-03] “

Fisher-6

Despite the above directives of the NOI Scoping review to include alternative projects that fulfill the above criteria, the People’s Project, which clearly does do so, has been determined in this DEIR as not worthy of being carried forward as an alternative with the following statement on page 1466 of the DEIR:

“This desalination proposal has not been carried forward as an alternative to the MPWSP because the CPUC has no jurisdiction, the applicant has not yet engaged in any formal environmental review processes, project effects cannot be reasonably ascertained and the timing of its implementation remains uncertain.”

The only accurate statement above concerns CPUC not having jurisdiction. People’s Project has a completed EIR application in the preliminary review process. Information has been available, but apparently not requested. Inasmuch as the location of that project does not threaten the nesting Snowy Plover and already has much key infrastructure in place, as previously mentioned, and will be run on solar energy, its “environmental impacts and project costs” are therefore likely less than that of the proposed project. Additionally, the “timing of its implementation” is probably equal to or sooner than the proposed project. Nevertheless, it was not included as a reasonable alternative. The omission of this viable alternative project seems to be a self-serving maneuver.

Fisher-7

Furthermore, on Page 101 of the DEIR it is stated that “the only significant and unavoidable operational (long term) impact of the proposed project is to GHG”, completely omitting the People’s Project’s planned use of solar power generation from the DEIR. Additionally, 5.5-333 of the DEIR, Alternative Impact Analysis—Energy Conservations states as follows: For the same reasons described for Alternative 1, Alternative 4 would not have a considerable contribution to a significant cumulative impact associated with the unnecessary, wasteful, or inefficient use of energy, or with energy supply, either at a local or regional level, during

Fisher-8

Fisher-9

operation and maintenance. Overall, Alternative 4 would result in an increased impact conclusion compared to the proposed project, significant and unavoidable. Such a conclusion is totally incongruous with the facts. I refer the reader to the letter from Nancy Selfridge of February 8, 2017, which addresses Energy Conservation issues, wherein the description of the People's Project solar farm plan from Solar Vista is provided in her attachments.

↑
Fisher-9
cont.

Can the above inaccuracies, omissions and inconsistencies please be reviewed and addressed? Given the preponderance of evidence, the People's Project should be included as a reasonable alternative to the proposed project. Then the DEIR should be amended with the missing information and re-circulated for further review.

↑
Fisher-10

As a ratepayer on a fixed income, I thank you for your consideration.

Myrleen Fisher
Residential Ratepayer of CAW
55 Wawona Road
Carmel Valley, CA 93924

PUBLIC SUBMISSION

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Submission Type: Web

Docket: NOAA-NOS-2016-0156
Notice of Availability of a Draft Environmental Impact Report/Environmental Impact Statement;
Proposed Monterey Peninsula Water Supply Project

Comment On: NOAA-NOS-2016-0156-0001
CalAm NOA_82FR4302

Document: NOAA-NOS-2016-0156-DRAFT-0046
Comment from David Gorman

Submitter Information

Name: David Gorman
Address:
303 Whitney Place
Marina, 93933
Email: dgormancr@gmail.com
Phone: 5102929610
Fax: 5102929610

General Comment

Dear NOAA:

I strongly oppose Cal Am's attempt to create a desalination plant at the Cemex Site. I am not a water expert, but I have seen countless companies like Cal Am who use the system to con community members out of our most precious resource-- water. I'm not opposed to desalination, but the proposed site will have some serious consequences on Marina's existing pre-historic aquifers, especially the 180 foot aquifer. Cal Am has not been forthcoming in their test well data by withholding important information about salt water intrusion. Professor Rosemary Knight of Stanford claims that Cal Am has not given important information about salt water intrusion for the stretch of land where they set up their test well.

Gorman-1

As a citizen of Maria I know the water beneath us belongs to us. It's illegal for Cal Am to take away our water and their current desal plans are a serious threat to our vital water supply. We can not go back once our aquifers are polluted with salt water.

Gorman-2

I urge you to demand full disclosure from Cal Am, and at a minimum, move very slowly until all environmental implications are known. Your purpose is to protect the small guy from corporations who long ago would have polluted our whole California Coast if given a chance. Don't let Cal Am, with its big sweeping arms, be the latest abuser of our precious coast. Like courageous administrators in California's past, please work with those of us in Marina to save what rightfully belongs to us.

Gorman-3

Sincerely,

David Gorman

8.7.13 Jane Haines

California Public Utilities Commission

Date: February 16, 2017

c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

Monterey Bay National Marine Sanctuary
c/o Karen Grimmer, NEPA Lead
99 Pacific Avenue, Building 455a
Monterey, CA 93940

Re: Challenge to Purported Feasibility of the Monterey Peninsula Water Supply Project (MPWSP)

Dear Commissioners and Agency Officials:

I challenge the purported 'feasibility' of the Monterey Peninsula Water Supply Project (MPWSP) assumed by the draft Environmental Impact Report (DEIR). There have been NO successful, completed slant wells for subsurface ocean desalination anywhere in the U.S. or the world. There was only one attempted project at Dana Point, CA. Thus, there is a very high standard for assuming slant well technology for the MPWSP is 'feasible.' Before assuming the MPWSP is feasible, the draft Environmental Impact Report (DEIR) must address the following:


1. State agencies require a feasibility study of this new technology. With an untested and experimental design, the *highest standard* of scientific testing must be made before determining the MPWSP is 'feasible.' There is a more accurate method of mapping the saltwater intrusion in the Salinas Valley Groundwater Basin (called Electrical Resistivity Tomography-ERT) but this method is NOT used in the DEIR environmental review of impacts. Saltwater intrusion in the Salinas Valley is perhaps the most significant environmental issue in Monterey County. The DEIR must be put on hold until ERT imaging shows the potential impact of the MPWSP on Salinas Valley sea water intrusion; ERT technology is expected to become available this summer.
2. Cal-Am has no water rights in the Salinas Groundwater Basin but they intend to pump another water district's groundwater. Feasibility is dependent on having requisite water rights. Legal determination of such rights is required before the MPWSP progresses further.

Haines-1

Haines-2

Additionally, the DEIR must address the project's potentially significant traffic impacts. The linked 2014 article from the Orange County Register describes prohibitively high cost of water acquired through the still-experimental Dana Point slant well <http://www.ocregister.com/articles/water-601981-district-project.html>. The Monterey Peninsula has a sizeable low-income work-force that would be priced out of local housing should the cost of our water further increase; these workers would need to find housing outside this area. Thus, environmental impacts from increasing traffic into and out of the Peninsula caused by the increased cost of water resulting from slant well technology must be evaluated in the DEIR as a potentially significant environmental impact of the MPWSP.

Haines-3

Sincerely,

Jane Haines
601 Ocean View Boulevard, Apt. 1
Pacific Grove, CA 93950

PUBLIC SUBMISSION

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Proposed Monterey Peninsula Water Supply Project

Comment On: NOAA-NOS-2016-0156-0001
CalAm NOA_82FR4302

Document: NOAA-NOS-2016-0156-0003
Comment from Clifton Herrmann

Submitter Information

Name: Clifton Herrmann

General Comment

As an active community member and local applied marine science graduate student, I'd like to submit input on the proposed CalAm plan to place a subsurface intake pipe in the Monterey Bay National Marine Sanctuary, in addition to the proposed request to use existing pipelines/outfalls for desalination infrastructure.

California has seen a nearly decade-long drought, and has no reason to expect this to be an anomaly as we move into the future. As an objective scientist, I recognize the need for effective management of our natural resources, and am open to the possibility that more drastic solutions eventually become a necessity in the face of growing environmental instability resulting from climate change.

That said, in 4 years of living in this community I have not seen CalAm make a legitimate effort to reduce local water consumption. I firmly believe they have no economic incentive to reduce water use of their customers - as their market share is not at risk in the face of unhappy water customers. Rather, they are financially incentivized to convince the community that water conservation is not a viable option - that we need this new "quick fix," despite the fact that they've had over 20 years to find an alternate solution to the problem. This is a charge that CalAm has FAILED to fulfill, simply because they serve to benefit financially from the alternative outcome. We as a community are therefore rewarding this complacency by allowing CalAm to move forward with this project despite the fact that they would have failed in a truly competitive market.

I'm primarily concerned with the false way in which the desalination option has been painted, and believe many of the external impacts have not been part of the impact assessment. The financial and environmental burden of these impacts will invariably rest on the shoulders of Monterey community members and taxpayers. An example of this would be the costly process of removing the San Clemente Dam - originally implemented as a solution to increased water needs for the local private tourism industry and as a fire safety measure - and while its installation was initially paid for by private industry, the nearly

Herrmann-1

Herrmann-2

\$100 million cost of removal was paid by taxpayers. This doesn't even touch on the environmental impacts in the form of 95 years of salmon obstruction and hydrologic alteration - financial burdens we are yet to truly even experience.

CalAm has nothing to lose in this deal, and more than they deserve to gain. These major considerations have been overlooked.

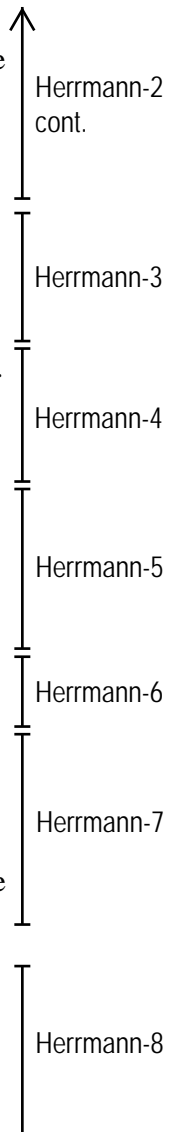
1. Energy requirements: Energy demand to support a large desalination plant means the Monterey peninsula will need to expand its energy infrastructure. It is unfair for taxpayers to bear the weight of this expense. CalAm should include the impact of any increased energy infrastructure in their EIA/EIR, as this new infrastructure will be necessary to run the system and is therefore part of the same project.

2. Carbon emissions: Community members are unaware of the carbon footprint of a desalination solution. I believe it has been in CalAm's best interest to keep these external impacts as hidden as possible. Increased carbon emissions from energy consumption should be included in the EIA/EIR, as they are again part of the same project.

3. Quality of the water: Researchers that spend long tours at sea return with complaints of the vessel-board RO water. Many claim this super-filtered water leaches nutrients from your body. This may have adverse affects on the community - osteoporosis, for example, may become a long-term impact of exclusive RO water consumption over a lifetime, which would be an expensive and dangerous public health issue.

4. Brine is denser than seawater: many are concerned with brine's ability to affect benthic species. This is a concern, as multi-million-gallons of brine/day would run down the Monterey submarine canyon in the form of a stream, encountering a great area of habitat. This stream is also, however, likely to increase erosion within the canyon - which is a relatively unstudied process. This means that many of the associated risks are highly uncertain. This erosion may impact the proposed intake pipe or other subsurface infrastructure. These engineering considerations should be practically assessed for longevity, as repeated construction efforts in and around the Sanctuary resulting from premature failure will increase the impact above projected levels.

Overall, this project may be a local necessity. Broadly speaking, I would like to see CalAm being held to MUCH more rigorous standards than they have been. They have a lot to gain from this project, and therefore must be more accountable for their proposed actions. This is not an issue of "should they or shouldn't they," but instead an issue of "how hard should we make this for them." CalAm needs to take this project seriously with thorough pragmatism. So far, their effort has not been sufficient in this regard.



February 22, 2017

Mary Jo Borak, CEQA Lead
California Public Utilities Commission
c/o Environmental Science Associates
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mpwsp-eir@esassoc.com

Karen Grimmer, NEPA Lead
Monterey Bay National Marine Sanctuary
99 Pacific Avenue
Building 455a
Monterey, California 93940

**MEMORANDUM FOR:
CALIFORNIA PUBLIC UTILITIES COMMISSION (CPUC) AND
MONTEREY BAY NATIONAL MARINE SANCTUARY (MBNMS)**

**SUBJECT:
PUBLIC COMMENT FOR DEIR/DEIS FOR THE MONTEREY PENINSULA WATER SUPPLY PROJECT –
A 12-04-019**

These are my public comments and question upon review as follows:

Chapter 2: Water Demand, Supplies, and Water Rights:

The DEIR states (2.6 Water Rights, p. 2-31): *“...if CalAm did not possess legal rights to use feedwater for the MPWSP desalination plant, then the desalination plant simply could not operate and the project would not go forward. That is why water rights factors in as a key project feasibility issue.”*

- Although the CPUC will not decide the water rights matter, it may approve the DEIR in a cart before the horse manner. If the DEIR is given approval to proceed by the CPUC, this will undoubtedly result in litigation and failure to develop a new water source as proposed by CalAm. If water rights are key to project feasibility, why has this DEIR has progressed so far without them?

The MPWSP cannot be considered *feasible* for the following reasons:

CalAm, the DEIR states, *“would need an appropriative groundwater right to retrieve and export water from the basin”* (2.6.1, p.32). CalAm would gain appropriative rights by creating *“developed water.”* *“Developed water is water that was not previously available to other legal users and that is added to the supply by the developer through artificial means as a new water source.”* (2.6.1, p. 32)

“The key principle of developed water is: if no lawful water user is injured, the effort of an individual to capture water that would otherwise be unused should be legally recognized.”

Hofmann-1

Hofmann-2

- The groundwater that CalAm describes as “degraded” or “waste water” is very important to the city of Marina and its residents. It is currently available to its legal users. CalAm’s preferred slant well location at the CEMEX plant would usurp the ability of the Marina Coast Water District to develop brackish groundwater treatment facilities as other small coastal communities with sea water intrusion have done. Brackish water becomes an important resource in a district’s reliable water portfolio, and, a way to manage and control saltwater intrusion. Hofmann-2 cont.
- The use of purposely misleading words (such as “degraded” and “waste”) is part of a calculated water grab campaign by Cal Am to take possession of groundwater by appropriative rights and should not be supported by the CPUC. Such action would compromise Marina’s future growth potential and is unjust. Hofmann-3
- CalAm must show that there will be no injury to the lawful water user. This DEIR has not proven “no harm” . Hofmann-4

ES.5.2 Summary of Potential Impacts and Mitigation Measures for Proposed Project (pg ES-6)

Alternative 2 (Open-Water Intake at Moss Landing), Alternative 3 (DeepWater Desal Project), and Alternative 4 (People’s Project) would use screened, open water intakes, which would reduce or avoid several potential proposed project impacts on groundwater because of the absence of slant well pumping for source water, but would result in new significant impacts on marine resources. Hofmann-5

- EIR establishes that there will be several impacts on groundwater using slant well technology – what are they? This point is avoided completely later in the DEIR.

ES.7.1 Key Impact Differences Between Alternatives (pg ES-12)

“For (Alternative 1 and 5b), operation of the slant wells at Potrero Road, Alternative 5b would lower groundwater levels in the Dune Sands/Perched-A aquifers in the Moss Landing area; operation of Alternative 1 would additionally lower groundwater levels in the 180- and 400-foot aquifers, thereby capturing groundwater that would have otherwise flowed into Elkhorn Slough. The direct and indirect permanent effects on marine and terrestrial biological resources at Elkhorn Slough from the lowering of groundwater levels would result in significant and unavoidable impacts.” Hofmann-6

- The Potrero Road alternative says there will be lowering groundwater levels to the 180 and 400-foot aquifers. The DEIR does not spell out adverse affects to groundwater at the proposed Cemex site in the 180 and 400-foot aquifers.
- What is that level of lowering predicted at the Cemex location? What are the *significant and unavoidable impacts*? Why are the effects different in the 2 proposed locations? Hofmann-7

ES.8 Areas of Controversy and Issues to be Resolved (pg ES-13)

CalAm’s proposed use of subsurface slant wells to withdraw source water for the MPWSP Desalination Plant is the subject of two controversies: (1) whether CalAm has the legal right to extract groundwater from the Salinas Valley Groundwater Basin (SVGB); and (2) whether implementation of the MPWSP and operation of the subsurface slant wells would exacerbate

seawater intrusion in the SVGB. The proposed subsurface slant wells at CEMEX would extend offshore and be screened in aquifer units of the SVGB that have long been intruded by seawater. Although the subsurface slant wells would draw seawater (i.e., source water for the MPWSP Desalination Plant) from beneath the ocean floor, a fraction of the source water would be drawn from inland portions of the SVGB.

- If the Slant Well proposal envisions pumping 24.1 million gallons per day (mgd) of source water – what is the fraction (amount in mgd) of fresh/brackish (not seawater) water that will be extracted from the Salinas Valley Water Basin at the CEMEX location? Hofmann-8
- If the desalination plant will be sized at delivering either 9.6 mgd or 6.4 mgd – how much is this amount captured groundwater? This could cause significant impact to fragile groundwater that the modeling does not adequately address. Hofmann-9

Required Decommissioning of Test Slant Well (pg 3-7) footnote 3

The DEIR/DEIS states “The existing test slant well would be converted into a permanent well”.

- When the original test slant well was approved it was with the understanding that it was a temporary slant well that would be decommissioned. This was a concession of the original and the revised permitting and there was a one million dollar bond posted to ensure that this was carried out. Because of this agreement, the test well sidestepped CEQA requirements, such as an Environmental Impact Report. Hofmann-10
- Why would this temporary test well be allowed to operate past its original agreed upon timeline? Is this a permit violation?
- Will there be an environmental review of the “conversion” required for this slant well?
- Is this a violation of the CEQA and NEPA processes?

4.1.3 Baseline Conditions (pg 4.1-8)

Although the Notice of Intent for the NEPA review contained within this document was issued in 2015, use of the 2012 baseline is appropriate and reasonable because (i) 2012 is a very recent point in time; (ii) the CPUC invested considerable resources amassing 2012 background/baseline data for the April 2015 Draft EIR; and (iii) environmental conditions in the study area have been relatively static such that 2012 conditions remain representative of meaningful baseline conditions.

- Livermore Berkeley analysis notes that data does not include data of the Salinas Valley Aquitard at the Cemex site. How is there a baseline for determining regional impact if this data is missing? Hofmann-11
- We have been in a drought for 4 years – new data might have been very revealing Hofmann-12

- Why is data from 2012, that is noted as incomplete (below), acceptable for basing long term impact in the region? This does not inspire confidence nor due diligence on the part of CalAm.

“As for our review of the foundation of the groundwater modeling, we find that there are shortcomings in the hydrostratigraphic model and simulation inputs that could potentially change the impact assessments. Chief among these was the absence of the Fort Ord-Salinas Valley Aquitard (FO-SVA), which hydraulically separates the Dune Sand and 180-foot equivalent (180-FTE) aquifers from greater than about 2 km east of the proposed extraction site.” Appendix E1 Lawrence Berkeley National Laboratories peer review Conclusions Pg 2

Hofmann-13

- On Pg 4.4-3 the Geoscience 2016 graphic is peppered with question marks showing a lack of data regarding the actual extent and locations of the aquifer(s). How accurate is the modeling if based on incomplete data? Why is this acceptable for modeling probability of risk to our groundwater?

Sea Level Rise and Coastal Erosion (pg 4.2-22)

For example, a winter storm surge in early March 2016 exposed the buried MRWPCA ocean outfall pipe. Up to 15 feet of scour was observed around the exposed section of the outfall. The last time the outfall pipe was exposed was in 1997. The storm surge also broke the discharge pipe from the Test Slant Well to the outfall.

Hofmann-14

- What is the determined risk for storm events in the future? How would this affect the reliable operation of the slant wells?
- The outfall pipe/concrete pad is currently exposed and constitutes an eyesore.

Hofmann-15

Desalination plants should be designed to minimize visual impacts on coastal resources. pg 6-53 NOAA Desal Guidelines table

Corrosive or Expansive Soils (pg 4.2-23)

Additionally, sand mining in the region has increased sediment and sand loss and has contributed to disequilibrium, thus increasing the rate of coastal retreat in the southern Monterey Bay south of the Salinas River (Thornton et. al., 2006)

Hofmann-16

- What is the plan for continued erosion from the sand plant?

Seismic Groundshaking (pg 4.2-25)

As discussed above (Section 4.2.1.2), the WGCEP estimated that a major earthquake has a 72 percent chance of affecting the project vicinity in the next 30 years and would produce strong groundshaking throughout the region (WGCEP, 2015a, b).

Hofmann-17

- There is a high liquification area indicated on the chart 4.2-27 for the CEMEX site. What are the risks for this project in the event of a 7.0 earthquake event? No actual earthquake values are assigned to the charts.

Evaluation Criteria (pg 4.3-55)

Implementation of the proposed project (MPWSP), which would include 10 slant wells at CEMEX, would have a significant impact related to surface water hydrology and water quality if it would:

- Violate any water quality standards or waste discharge requirements
- Otherwise substantially degrade water quality

Here it relates to surface water in the DEIR, but the Anti-degradation policy reference on pg 4.3-35 includes ground waters.

“One significant difference between the State and Federal programs is that California’s Basin Plan established standards for groundwater in addition to surface water.” Pg 4.4-34 DEIR

- Why is “groundwater” not referenced here in regards to violation of water quality standards and degraded water quality?
- This Anti-degradation policy speaks to groundwater impacts as well as surface water

Hofmann-18

Dune Sand Deposits and the Dune Sand Aquifer (pg 4.4-8)

Based on the investigative work to correlate the hydrogeologic units of the Pressure Area, these Terrace Deposits along the coast appear to be at the same depth, and have similar geologic characteristics, as the inland Quaternary Alluvium of the 180-Foot Aquifer in the Salinas Valley (see Figure 4.4-3). Even though the Terrace Deposits are older than and lithologically different from the inland deposits of the 180-Foot Aquifer, the units are at the same depth interval, and groundwater likely flows from one unit to the next.

- Is this an assumption that the Cemex pump area is connected to the SVA aquitard? If they are connected, shouldn’t there be more data to confirm affects of pumping to SVA water basin? Is this the Fort Ord-Salinas Valley Aquitard (FO-SVA) area Lawrence Berkeley National Laboratories peer review states lacked data?

Hofmann-19

Pg 4.4-11

Based on the recent groundwater testing data discussed in the Groundwater Quality subsection below, the quality of water in the 180-FTE Aquifer is directly influenced by seawater; this influence extends for miles inland, as discussed below in the Seawater Intrusion section. The lower portion of the proposed slant wells at the CEMEX site would have well screens installed across and would draw water from these deposits.

180/400-Foot Aquitard As shown on Figures 4.4-2 and 4.4-3, the 180- and 400-Foot Aquifers are separated by the 180/400-Foot Aquitard (Kennedy/Jenks, 2004). The unit is mostly 50 to 100 feet thick, is rarely as much as 200 to 250 feet thick, and may be absent in some areas. This aquitard is present beneath the CEMEX site at about 220 feet below the ground surface or about 200 feet below

Hofmann-20

mean sea level,) and is 10 to 70 feet thick. **The slant wells at the CEMEX site would not penetrate the 180/400-Foot Aquitard.**

- Which is it – the slant wells will pull water from these deposits or will bypass? Are they different deposits? These are contradicting statements and the graphs show otherwise (fig 4.4-3).

Hofmann-20
cont.

Seawater Intrusion (pg 4.4-28)

... Over the past few years, Stanford environmental geophysics researcher Rosemary Knight has conducted a study to determine the viability of using electrical resistivity techniques to study seawater intrusion along the coast of the Monterey Bay. **Professor Knight's initial survey was conducted along a 4-mile segment parallel to the beach between the cities of Seaside and Marina. The study found that the electrical resistivity readings positively correlated with measured TDS concentrations to a depth of 500 feet in four area groundwater wells.**

- Missing here is the fact that Dr. Knight was unable to obtain permission to map the CEMEX property in her study.
- There is no ERT data for the CEMEX property and the groundwater below it.
- Why is Cal Am citing ERT data as if it relates to the CEMEX property!
- CalAm should employ its own ERT scan to study seawater intrusion instead of piggybacking this instance as if it is relevant to their project.
- Which four area ground water wells is this text referring to? Somewhere in Seaside? This is an unsupported supposition that data from area A is equal to Area B.

Hofmann-21

Regional and Local (pg 4.4-37)

The proposed project would not adversely affect groundwater management in the Basin, because it would be extracting groundwater that is not presently being used as a potable or an irrigation supply. Rather, when considering seawater intrusion and water surface elevations in the 400-Foot Aquifer, the proposed project may have a positive contribution to the sustainable management of groundwater. Regarding the former, groundwater modeling shows that the proposed project would retard the advance and limit the ultimate inland extent of seawater intrusion. With respect to the latter, by returning in-lieu desalinated water to the CCSD, the proposed project would provide recharge benefits to groundwater levels in the 400-Foot Aquifer. For these reasons, the proposed project would not conflict with the SGMA.

- Where is the data modeling that shows retardation of advancing seawater in to the Salinas Valley Basin? **Appendix E2**
- How will moving desalinated water taken from the Marina coast into the Castroville service district retard seawater intrusion at the Marina Coast location? Where is evidence?

Hofmann-22
Hofmann-23

- Conflict with SGMA if poor evidence is presented to support this claim that the project provides benefits to groundwater by retarding seawater intrusion. Again, how accurate is the modeling using ONE slant well with incomplete data? Hofmann-24
- Does the data show that the CEQA requirement (chapter 9.2) to do “No Harm” has been met adequately met? Hofmann-25
- What is the probability of certainty that the modeling informs predicted results? What is the probability of risk that the modeling shows an inaccurate assessment? Hofmann-26

MCWRA Act (1995) (Agency Act) pg 4.4-37

In accordance with the Agency Act, MCWRA is charged with preventing the waste or diminution of the water supply in its territory by, among other things, controlling groundwater extractions and prohibiting groundwater exportation from the SVGB (MCWRA, 1995). Specifically, section 9(v) of the Agency Act provides that MCWRA has the power:

To prevent the export of groundwater from the SVGB, except that use of water from the basin on any part of Fort Ord shall not be deemed such an export. Nothing in this act shall be deemed to prevent the development and use of the Seaside Groundwater Basin for use on any lands within or without that basin. If any person or entity attempts to export groundwater from the SVGB, the MCWRA may seek an injunction from the Monterey Superior Court to prohibit such export. The Agency Act further authorizes the MCWRA to commission groundwater studies to determine whether any portion underlying its territory is threatened with the loss of useable groundwater supply and to adopt an ordinance prohibiting further extraction of groundwater from an area and depth defined by the MCWRA.

As discussed more fully in Section 2.7, Water Rights, given the locations of the slant well screens beyond the jurisdictional boundaries of the County, it is not clear whether the Agency Act applies to the proposed project. However, as further discussed in that section, were the Agency Act to apply, it is preliminarily reasonable to conclude that the proposed project would be consistent. This is because the proposed project would return to the SVGB any incidentally extracted useable groundwater. The water available for export would be new supply, or developed water, not extracted from the SVGB.

- How does moving extracted water from Marina to Castroville conform to the intent of the MCWRA– this seems outside of the intent to keep groundwater at its local source.
- Where is the MCWRA on this subject? Has this agency issued any position on this project?
- The slant well screens may be beyond the jurisdictional boundaries, but the aquifer that is being drawn from is not. See Appendix E2 for draw down models. Do these cones of depression extend into the city limits? Does the draw down influence beyond the site boundary?

- Again, incidentally extracted groundwater from Marina and moving to Castroville – this seems outside of the intent to keep ground water at its source. Who decides that the incidental extracted groundwater uptake is new, or developed water? CalAm? MCWRA?
- If this is “useable ground water” by CalAm’s admission, how can they have rights to it? Here again is the appropriative rights campaign to usurp water rights by calling it a “new supply”.

Hofmann-27
cont.

MCWRA Ordinance (pg 4.4-38)

MCWRA Ordinance 3709 prohibits drilling into and pumping groundwater from the 180-Foot Aquifer within specific onshore areas, designated as Territories A and B (MCWRA, 1993). The proposed seawater intake system would be located at the westernmost edge of Territory B. Although the wells would be drilled within Territory B, the source water for the proposed project would be extracted from beneath the ocean floor, an area not located within the restrictive territories identified by Ordinance 3709.

Hofmann-28

- How much incidentally extracted ground water would be sucked up from the intake system? This could be considerable even if it is a fraction of the proposed 24.1 million gallons per day (mgd) of source water through the seafloor in MBNMS estimate.
- Why are there no numbers for the actual groundwater uptake from the slant wells?

Appendix E2 (pg 43)

... Rather, the flow path directions indicate that existing intrusion at these interface locations will slow proportionally to the relative lengths of the flow paths. Hence, slant well pumping retards the continued inland movement of the seawater interface in the southern portion of Model Layer 4.

“At the CEMEX site (24.1 MGD), the maximum distance from the well field to the 1-foot drawdown contour was about 15,000 feet under 2012 sea level, and about 20,000 feet in Model Layer 4.” pg 43

- Does this move the project influence within city limits?
- How does slant well pumping retard seawater intrusion?
- Is this retard claim based on data modeling of only the one test well in Marina?
- Is any of the data to support this claim provided from actual operating desal slant wells?
- Data used in the modeling has already been tagged as incomplete by peer review yet this modeling is all we have to make a decision to put in 8-10 slant wells and extrapolate long term ground water impact.

Hofmann-29
Hofmann-30
Hofmann-31
Hofmann-32
Hofmann-33

THERE IS NO DATA FROM ANY OTHER OPERATING DESAL SLANT WELL CITED TO SUPPORT THIS CLAIM THA SLANT WELLS RETARD SEA WATER INTRUSION!

Significant and Unavoidable Environmental Effects (pg 6.3)

Several proposed facilities would occur in areas that may qualify as Primary and Secondary Habitat according to the City of Marina Local Coastal Land Use Plan (LCLUP). These facilities, which include the subsurface slant wells, and portions of the Source Water Pipeline, new Desalinated Water Pipeline, new Transmission Main, and the staging area at Beach Road, would be inconsistent with the City of Marina's LCLUP Policy 25 that prohibits development in Primary Habitat that is not protective of and dependent upon that habitat. The LCLUP states, "Primary habitat areas shall be protected and preserved against any significant disruption of habitat values and only uses dependent on those resources shall be allowed within those areas (City of Marina, 1982)." Implementation of mitigation measures would reduce impacts on special-status species habitat. However, given that project facilities proposed for such habitats are not resource-dependent, and because the LCLUP policy provides no exception to the requirements that development within such habitats be resource-dependent, potential conflicts with this policy would remain unresolved. The effect would be significant and unavoidable. Section 4.6, Terrestrial Biological Resources, for additional information.

Hofmann-34

- This plan is in conflict with the City Policy
- There are no exceptions in the City Policy for development.
- Why does this not spell out the "significant" impacts?
- If there are no exceptions and damages do occur – where are the mitigations?

Approach to Analysis (pg 6-12)

While Castroville is not in CalAm's service area, the analysis also considers the growth inducement potential of delivering Salinas Valley Groundwater Basin return water as desalinated supply, to the Castroville Community Services District (see Section 6.3.5.4).

- Why is Marina not included in this analysis? Clearly there will be an effect to growth if Marina has impacts from the slant wells causing harm to the water supply or CalAm's usurpment of rights to brackish water that Marina Coast might have developed as a brackish groundwater treatment water supply (desalter project) to serve the needs of Marina and Ord development.

Hofmann-35

Service Area Growth Trends 1990-2010 (pg 6-22)

Table 6.3-6 shows population and housing data from the U.S. census for the years 1990, 2000, and 2010. Except for Sand City, population in all of the cities in the service area declined between 1990 and 2000; population in the service area cities as a whole decreased by about 9 percent.

Hofmann-36

- So, all this projected water use demand is really going to Pebble Beach, Peninsula tourism, and undeveloped lots on record? Certainly not serving the declining residential population cited.

TABLE 6.3-9 SIGNIFICANT IMPACTS ASSOCIATED WITH PLANNED GROWTH IN THE PROJECT AREA (pg 6-40)

Significant and Unavoidable Impacts...

- *Degradation of visual character or quality of the area and surroundings*
- *Substantial new sources of light and glare*
- *Cumulative impacts on aesthetics, light and glare*
- *Effects on special status species*
- *Effects on riparian habitat and other sensitive natural communities...*
- *Increased demand for water supply and/ or water storage, treatment, and conveyance facilities and associated secondary effects*
- *Substantial depletion of groundwater supply*
- *Increased demand on groundwater in areas experiencing or susceptible to saltwater intrusion*
- *Cumulative impacts on groundwater quality*
- *Cumulative indirect impacts of water supply projects*
- *Demand for water resources that exceed available water supply*
- *Cumulative impacts on water supply...*
- *Where are the details of the possible impacts? This is horribly uninformative and provides no foundation for informing regional decisions*
- *These are not spelled out in relation to the measurable impacts to Marina or the proposed Potrero Road location.*

Hofmann-37

NOAA Desal Guidelines table (pg 6-48)

Where feasible and beneficial, subsurface intakes should be used. It must be ensured however, that they will not cause saltwater intrusion to aquifers, negatively impact coastal wetlands that may be connected to the same aquifer being used by the intake, and they must address the likelihood of increased coastal erosion in the future.

- *Why is subsurface intake promoted as the preferred method when it has yet to be used reliably in any successful desal subsurface intake project to date?*
- *There is no long term data (over 10 years) for the effect of subsurface intake on coastal erosion.*

Hofmann-38

Hofmann-39

- There is no long term data (over 10 years) for unique cost and repair issues for subsurface slant wells operating in coastal areas. | Hofmann-40
- There are no desal slant wells providing water to customers. Why is this MPWP regional water solution adopting an untried, experimental and expensive technology to find a reliable water supply? Why has straight intake desal not been considered in more depth and dismissed so quickly? It is a proven, known technology and provides fresh water worldwide. | Hofmann-41
- The DEIR must prove no harm on these issues and it does not give accurate assessment or long term risks. | Hofmann-42

Conclusion: Deny approval of the DEIR

Juli Hofmann
 resident of Marina, Citizens for Just Water
 3201 Martin Circle
 Marina, California 93933

8.7.16 Thomas Moore

Thomas P. Moore, Ph.D.
P.O. Box 8704
Monterey, CA 93943-8704

March 28, 2017

California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108


Monterey Bay National Marine Sanctuary
c/o Project Lead for Cal Am Desalination Project
99 Pacific Avenue, Bldg. 455a
Monterey, CA 93940

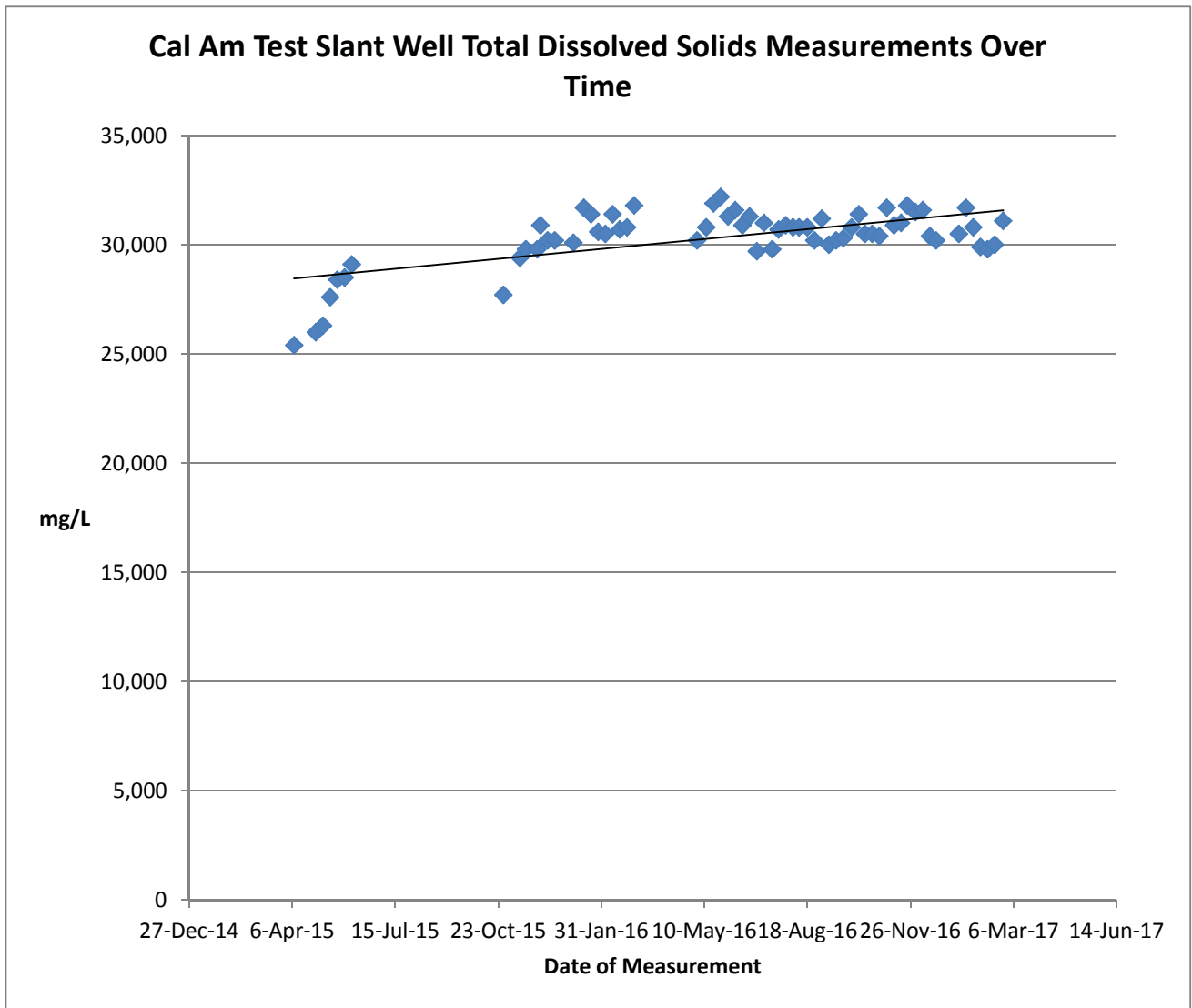
SUBJECT: Comments on the joint Draft Environmental Impact Report/Environmental Impact Statement (DEIR/DEIS) for the Monterey Peninsula Water Supply Project (MPWSP)

To Whom It May Concern:

1. The CALAM MONTEREY PENINSULA WATER SUPPLY PROJECT Draft Environmental Impact Report/Environmental Impact Statement (DEIR/DEIS) has stated that the test slant well on the CEMEX site is screened in substantial part in the 180/400 Sub-basin (as defined in Bulletin 118 of the State Department of Water Resources). (See page 3-15 of the DEIR/DEIS.)
2. The State Department of Water Resources has designated the 180/400 Sub-basin as a groundwater basin subject to critical conditions of overdraft. (See page 12 of the Interim Update 2016 to Bulletin 118.)
3. The DEIR/DEIS has proven that the operation of the test slant well on the CEMEX site has increased seawater intrusion in the 180/400 Sub-basin (as defined in Bulletin 118 of the State Department of Water Resources). The graph below shows the increases over time in the amount of total dissolved solids (TDS) in the water pumped from the test slant well. The TDS of water in the Monterey Bay varies from time to time but is generally in the vicinity of 34,000 mg/L.

Moore-1



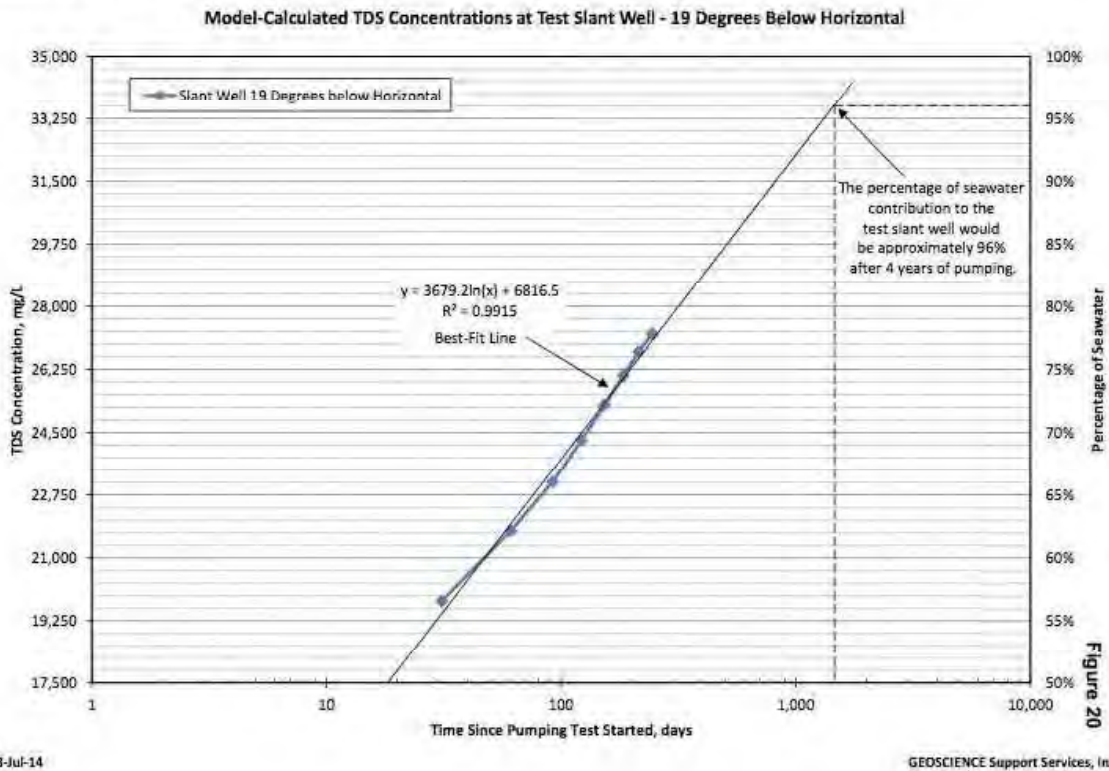


Moore-1
cont.

This chart is generated from the data found in the Monterey Peninsula Water Supply Project Test Slant Well Long Term Pumping Test Monitoring Report No. 97 which is found on the website <http://www.watersupplyproject.org/#!test-well/c1f1l>, which, in turn, is briefly mentioned on page 4.4-42 of the CALAM MONTEREY PENINSULA WATER SUPPLY PROJECT Draft Environmental Impact Report/Environmental Impact Statement.

4. Further evidence that the test slant well has caused seawater intrusion into the 180/400 Sub-basin is provided by Figure 3 below, extracted from the GeoScience 2014b report in the appendices to the DEIR/DEIS.

Moore-2



8-Jul-14

GEOSCIENCE Support Services, Inc.

Figure 3 Time for Slant Well to Pull 96% Seawater (GeoScience 2014b).

5. The DEIR/DEIS has therefore proven that the operation of the test slant well has harmed the 180/400 Sub-basin by inducing more seawater intrusion into this sub-basin.
6. The DEIR/DEIR should have made this highly significant environmental impact (the increase in seawater intrusion caused by the pumping of the test slant well) far clearer, more prominent and in the main body of the DEIR/DEIS document rather than burying this information in the Appendices and a buried reference to a website.
7. The DEIR/DEIS states that, “Developed waters are available for use by the party who develops them, subject to the “no injury” standard discussed previously.” Increasing seawater intrusion into a critically overdrafted sub-basin is a form of environmental injury.

Moore-2
cont.

Moore-3

Thank you for the opportunity to comment on the DEIR/DEIS. I look forward to reading your responses to the concerns I have raised.

Sincerely,

Thomas P. Moore

8.7.17 Hebard Olsen

Please discard previous E-mail and accept this revised one .I request Deis/EIR//EIS should be rejected because injury caused to Marina lawful users. Data for model too little. Un scrambling water from two sources IS unscientific!

Quoted from the DEIS/eis/EIR etc,“The Report concludes that the withdrawal for creating developed water is appropriate so long as no injury is incurred by existing legal water users of the Basin. Setting up the test to discern whether Cal Am possesses water rights for the proposed project, the Report states: [I]n developing a new water source Cal-Am must establish no other legal user of water is injured in the process. Even if Cal-Am pumps water unsuitable to support beneficial uses, the water could not be considered developed water unless users who pump from areas that could be affected by Cal-Am’s MPWSP are protected from harm. “

Marina is using water from the 900 ft aquifer which the Army Core of engineers considers a temporary source. That water will run out. The water which Cal Am is proposed to use could be desalinated more cheaply than sea water and they would be permanently harmed if Cal Am uses it up. That water needs to be available to percolate down to the 900 ft aquifer.The water is usable even though not currently used. The intake needs to be far enough away so as to not take any water from under the land or the legitimate owners will be harmed! Cal Am plans to give water back to users they choose not the people they harmed which is not acceptable! When one test well was operating wells at some distance showed substantial depression. 9 wells would make the depression much greater. When I turn on the tap from Cal Am the water which comes out would include water stolen from Marina.

The people harmed must be a part of the DEIS/EIR/EIS and needs to be discussed even if that harm is in the future!

Reject all of the alternatives intakes which are located in Marina !

I request a determination as to how much data is enough to make an accurate model to be able to draw accurate conclusions from!

Drawing water from both the land and from the sea is and trying to unscramble data is an unscientific way to go about this which should be grounds for rejecting the DEIS/EIS/EIR. Cal Am’s process is like my 10 year old son putting every house hold chemical in a bottle of water then asking me to explain the reactions going on in the bottle! Keep it simple to be scientific!

Olsen-1

Olsen-2

Olsen-3

Olsen-4

Olsen-5

Hebard R Olsen MA natural Science Chemistry Physics Earth Science Biology

8.7.18 Larry Parrish

Mary Jo Borak (CPUC), Karen Grimmer (MBNMS), and ESA

Feb. 23, 2017

Dear Ms. Borak & Ms. Grimmer and ESA:

Thank you for the opportunity to comment and submit some questions regarding the Monterey Peninsula Water Supply Project EIR/EIS. The draft EIR/EIS mentions erosion due to sea level rise and other factors, but it does not address coastal erosion due to excessive pumping and land subsidence. Here follows my comments and questions in that regard.

BEACH AND DUNE COASTAL EROSION FROM LAND SUBSIDENCE:

A. The test slant well:

Given that the test slant well (TSW) is not drawing its intake water from below the sea floor, and; given that the TSW is drawing brackish water from the beach/dunes aquifers, (as much as 66%) and the remainder from the upper and lower portions of the 180' aquifer, and; given that these aquifers are perched one on top of the other, and; given that these aquifers are solely recharged from intermittent rainfall, and; given that the cone of depression (COD) created from extensive and continual pumping from these aquifers is by and large beneath the land masses located inland of the mean high tide line, and; given that the cone of depression is massively large, therefore, I must conclude that there is definite potential for erosion of the land masses (i.e. the beaches and dunes) due to land subsidence caused by either aquifer-system compaction, hydrocompaction, or decomposition of organic soils located in and/or around the cone of depression zone. Since the pumping of the TSW (and ensuing production wells) will be continuous, there exists the potential for the aforementioned aquifers that lie above and/or around the well head pump(s) to actually be pumped into a state in which available source water could be drastically diminished or disappear altogether, particularly during dry (no rainfall) months and/or droughts. And once the source water is depleted sufficiently, subsidence will occur because "when long-term pumping lowers groundwater levels and raises stresses on the aquitards beyond the preconsolidation-stress thresholds, the aquitards compact and the land surface subsides permanently." (USGS) And once the land masses subside, the shoreline land masses become more vulnerable to increased wave action and erosion occurs (including wind erosion) and beaches disappear and/or the mean high tide line recedes inland.

Parrish-1

So, my questions are:

1. Have you taken comprehensive soil samples from throughout the entire cone of depression zone, including the aquitards within the zone? If not, why not? If so, where is the data?
2. Are you now, or have you been monitoring and/or measuring land surface elevations in, above, or around the COD zone? If not, why not? Do you have baseline data with regard to these elevations? If not, why not? Please present the appropriate data.
3. Have you conducted any data-based studies with regard to beach or dune erosion in or around the COD zone? If not, why not?
4. Have you conducted any modeling (computer or otherwise) with regard to erosion or potential erosion in or around the COD? If not, why not? Please present the data.
5. Have you considered that if/when beach or dune erosion occurs within the parameters of the COD zone that seawater intrusion into the nearby aquifers would likewise increase as a result? Have you presented any mitigations should seawater intrusion occur within these aquifers? If not, why not?

Parrish-2

Parrish-3

Parrish-4

Parrish-5

Parrish-6

B. Cumulative impacts:

Given that the intent is to deploy 8 -10 production wells along the Cemex property and perhaps elsewhere, I will ask the same questions asked previously above with regard to those additional cones of depression zones created by the production wells. In other words, what are the cumulative impacts from the entire group of production wells with regard to coastal erosion, which includes the beaches and dunes? You must also take into account the possible overlapping of some of the CODs which will exacerbate the negative effects of pumping from these aquifers and in the overlapping areas.

Parrish-7

Also, since the Monterey Bay beach and dune areas on the Cemex property are all part of a much larger geological ecosystem and what happens in one area with respect to beach or dune erosion usually has adverse effects elsewhere along the Bay shoreline, I will ask you this question - What mitigations have you presented or offered in the event of beach loss or dune erosion due to the implementation of the MPWSP (desalination project) which includes the TSW and the proposed production wells?

In conclusion, I must stress that my concerns are legitimate concerns and my questions are appropriate and should be answered and this issue of coastal erosion caused by land subsidence needs to be fully addressed. The EIR/EIS is therefore deficient and constitutes serious and unmitigated adverse environmental impacts and is not in compliance with CEQA requirements. Quite simply, the EIR/EIS needs to be revised and recirculated with these issues adequately addressed and attended to, otherwise the EIR/EIS will be subject to costly court challenges.

Parrish-8

Thank you for your consideration,

Respectfully yours,
Larry Parrish

PUBLIC SUBMISSION

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Docket: NOAA-NOS-2016-0156
Notice of Availability of a Draft Environmental Impact Report/Environmental Impact Statement;
Proposed Monterey Peninsula Water Supply Project

Comment On: NOAA-NOS-2016-0156-0001
CalAm NOA_82FR4302

Document: NOAA-NOS-2016-0156-0005
Comment from Paula Pelot

Submitter Information

Name: Paula Pelot

General Comment

Although the DEIR provides detail on nearby faults in its' "Geology, Soils, and Seismicity" Section 4.2, it inadequately addresses the potential impacts of seismic activity of the Reliz (Blanco Section) and other nearby faults and does not present mitigation for any potential impacts. The Reliz (Blanco Section) underlies much of the project area and could cause rupture and/or displacement of the subsurface slant wells, source water pipeline, desalinated water pipeline, proposed brine discharge pipeline, transmission main and transfer pipelines. In the instance of rupture of the proposed brine discharge pipeline, large amounts of brine discharge would be released into a concentrated area and could be devastating to the biology of the immediate and adjacent areas of the Monterey Bay. Additionally, compromised pipelines could also have negative impacts to local agricultural lands.

Pelot-1

Pelot-2

The DEIR does not adequately address the potential of subsidence due to all ten (10) wells pumping. Although the well design at this proposed site has been amended from that of Dana Point with the anticipated, but not yet known, outcome being there would be less subsidence at the top of the wells, subsidence will inevitably occur, albeit at what is assumed to be slower pace.

Pelot-3

The DEIR does not present evidence that the impacts of subsidence, in conjunction with the seismic activity for the Reliz (Blanco Section) Fault Zone and other nearby fault systems that underlies much of the project area, have been modeled to evaluate the cumulative/combined impacts of seismic activity with that of subsidence.

Pelot-4

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Proposed Monterey Peninsula Water Supply Project

Comment On: NOAA-NOS-2016-0156-0001
CalAm NOA_82FR4302

Document: NOAA-NOS-2016-0156-0027
Comment from Carol Reeb

Submitter Information

Name: Carol Reeb
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120 Oceanview Blvd.
Pacific Grove, CA, 93950
Email: creeb@stanford.edu

General Comment

I am writing in regards to the Draft EIR for CalAm's proposed seawater desalination facility to be built on the shore of Monterey Bay. My comments are specific to analysis of brine for CalAm's desalination facility with a short comment on subsurface intakes.

Use of Wastewater for Brine Dilution:

I was happy to read a more thorough reanalysis (with a time component) in the sections involved with brine plume modeling compared to the earlier version of a similar DEIR from 2009. While the new analyses supports conclusions that brine from MRWPCA's offshore pipe will most likely comply with salinity requirements, Section 4.3 raises concerns that compliance may fail when pipe flow is low. Augmenting pipe flow with wastewater would solve that problem. However nowadays, most experts consider wastewater to be a valuable resource. Using it to dilute brine cannot be called a "beneficial use" under California water law

Reeb-1

Reeb-2

According to the DEIR, retrofitting MRCPCA's offshore pipe with high velocity jet diffusers (at a 60 angle) ensures salinity levels would comply with Ocean Plan regulations within the ZID. Unfortunately, Table ES-2 (Summary of Impacts and Mitigation Measures) does not list pipe retrofit as a mitigation measure. Monitoring is the action taken instead. Retrofitting the pipe now will save CalAm ratepayers money when flow augmentation with wastewater is not an option.

Reeb-3

I believe third party environmental consultants best serve the public for monitoring environmental affects in and around the ZID, not private consultants paid by an industry operator. Seawater desalination in California is in its infancy. Marine scientists need publically available data to improve future brine outfall designs. Given the many marine institutes and research programs around the Bay, monitoring should involve researchers and students, which helps train our next generation of scientists too.

Reeb-4

I am aware that approximately 6000 AFY of tertiary treated wastewater was currently discharged offshore last winter from MRWPCA. This volume is enough to replace much, if not all of CalAm's proposed plant capacity. Expanding GWR is a way to save ratepayers' money while turning an unwanted water source into a beneficial supply. Therefore, I question the need for seawater desalination at this time. It seems we do not have a water shortage after all. We have a break down of collaboration among communities that really must be overcome.

Reeb-5

Reeb-6

California Market Squid and Brine Monitoring

The DEIR focuses on lethal salinity thresholds lethal to marine species and notes that *Dorytheuthis opalescens* can be reared in salinities up to 38 ppt in captivity (i.e. adequate food and no predators). Because salinity in the Bay never reaches 38 ppt, referencing Vidal and Boletzky's study on lab cultured market squid as proof eggs and paralarvae will be fine in the wild is misleading. Brine monitoring studies could include questions that address the unknown sublethal salinity impacts on survivorship.

Reeb-7

Subsurface Intakes in Marina's Coastal Aquifer

Recently, Dr. Knight's lab (Stanford University) published a paper (Goebel et al. in press) showing clear evidence of freshwater flows interspersed among regions of elevated salinity in the Marina coastal region. Using electrical resistivity, 3D images of aquifers revealed complex patterns of seawater intrusion. These new images and findings are significant, given the way groundwater laws and water ownership is currently treated. It would be prudent to use this technology in the area of CalAm's proposed slant wells to ensure subsurface intakes do not harm the aquifer's productivity.

Reeb-8

Having said that, I strongly believe subsurface intakes are essential for facilities located in Monterey Bay, where Red Tides" are commonplace. Algal blooms can clog/shut down seawater desalination facilities for days, weeks, or months making them unreliable (Caron et al. 2010; Richlen et al. 2010). Subsurface wells prevent this. Because there is no way to run "real-time" assays to test product water for soluble algal toxins leaking through old/poorly maintained filters, algal blooms become a critical issue for water providers should toxins enter the municipal supply.

Reeb-9

Sincerely,

Carol Reeb

References:

Caron, D.A., M. Garneau, E. Seubert, M.D.A. Howard, L. Darjany, et al. 2010. Harmful algae and their potential impacts on desalination operations off southern California. *Water Research* 44:385-416.

Goebel, M. A. Pidlisecky, R. Knight (in press). Resistivity Imaging Reveals Complex Pattern of Saltwater Intrusion Along Monterey Coast. *Journal of Hydrology* DOI: <http://dx.doi.org/10.1016/j.jhydrol.2017.02.037>

Richlen, M. S.L. Morton, E.A. Jamali, A. Rajan, D.M. Anderson. 2010. The catastrophic 2008-2009 red tide in the Arabian Gulf region with observations on the identification and phylogeny of the fish-killing dinoflagellate *Cochlodinium polykrikoides*. *Harmful Algae* 9:163-172.

8.7.21 Dick Rotter

From: Richard Rotter [mailto:dickrotter@gmail.com]
Sent: Wednesday, February 22, 2017 10:31 AM
To: MPWSP-EIR
Subject: Cal Am EIR/EIS comments

2-22-17

The Highway 68 pipeline crossing from Fairgrounds Road on the East over the overpass above Highway 68 to the West connecting onto Mark Thomas Drive, does not appear in this EIR/EIS or in the Pure Water Monterey EIS. Why? The cost estimates are also not included. Why? Highway 68 is designated as a Scenic Highway. How does Cal Am plan on getting a right of way to cross over this highway? There are also two "active" earthquake faults that run into the project: the Sylvan and the Navy. These faults are in a report issued by AMBAG. What do Cal Am's plans for these faults include?

Rotter-1

Rotter-2

Rotter-3

Rotter-4

A Department of Transportation letter to Cal Am dated October 23, 2015, stated that Cal Am had not completed any of the required items for its Encroachment Permit Applications 0514-6US-0229 Site No. 8-State Route 1, which was denied without prejudice. After the 45 day response time expired, the file was closed without prejudice. Why no response from Cal Am?

Rotter-5

Dick Rotter
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Corral de Tierra, CA 93908

dickrotter@gmail.com

8.7.22 Nancy Selfridge Letter 1

February 14, 2017

California Public Utilities Commission
C/O Environmental Science Associates
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San Francisco, California 94108
mpwsp-eir@esassoc.com

SUBJECT: DRAFT EIR\EIS COMMENTS FOR THE MONTEREY PENINSULA WATER SUPPLY PROJECT

Dear Staff:

Thank you for the opportunity to comment on a project which has far reaching implications to our community, and the residents of the City of Monterey. I have commented on three sections; Energy Conservation (Section 4.18), Determination of Environmentally Superior and Preferred Alternatives (Section 5.6.2) and Comparative Analysis of the Project Alternatives (Sections ES.6 to ES.8). I will submit each as a separate letter.

SECTION 4.18 ENERGY CONSERVATION

CEQA Sec. 21 100(b) “requires evaluation of the potential energy impacts of a proposed project. And consideration of mitigation measures that would avoid or reduce the wasteful, inefficient, and unnecessary consumption of energy associated with the project”. Appendix F of the CEQA Guidelines provides three goals for energy conservation:

1. Decrease overall per capita energy consumption;
2. Decrease reliance on natural gas and oil; and
3. Increase reliance on renewable energy sources.

With regard to NEPA, the Council on Environmental Quality (CEQ) regulations 40 CFR 1502.16(e) requires “analysis of energy requirements and conservation potential of various alternatives and mitigation measures”.

In the EIR documentation you state the requirements of the *Energy Policy Act of 2005*, State Regulations (4.18.2.2), including the *California Coastal Act*, the *State of California Integrated Energy Policy*, *Title 24 Building Energy Efficiency Standards (California Energy Code)* and the *California Green Building Standards Code (Cal Green)*.

On pages 5.5-325, 5.5-32, 5.5-332 and 5.5-333 (see attached) the EIR\EIS document does a comparative analysis of the Energy Conservation and Usage criteria of each alternative. My comments are on the preferred project and Alternative 4, People’s Moss Landing Water

Desalination Project. The conclusion drawn by the author of the EIR\EIS regarding Energy Conservation for Alternative 4 is as follows: “Overall, Alternative 4 would result in an increased impact conclusion compared to the proposed project, significant and unavoidable”.

In the Executive Summary, and again, in the body of the text of the EIR\EIS the author describes the rigorous analysis employed in the preparation of the document and the use of the best data available to reach its conclusions.

ALTERNATIVE 4 ENERGY CONSERVATION MEASURES:

In July of 2016, the Peoples Project entered into detailed discussion with a solar contractor, (see attached) for the construction of a 3.7 MgW to 5.0 MgW solar energy farm designed to reduce the reliance of the project on fossil fuels. To date, the project design is approaching completion, the PG&E interface study has been performed and multiple milestones have been achieved. The solar project has been discussed in public meetings and is in the minutes of several public agencies. In addition, a state of the art brine containment system is also being designed for the Project, thereby significantly reducing the return water impacts to the environment.

The solar project will need a dedicated 18-20 acres of an approximate 200 acre business park and the owner has designated 2 separate parcels to achieve the goal. Permits from the County of Monterey have been applied for and the process is proceeding.

QUESTIONS FOR THE EIR\EIS CONSULTANT:

1. In preparation for this comment to the EIR\EIS some research was done into who, if anyone, associated with the Peoples Project had been contacted by ESA, Cal Am, the PUC or anyone associated with the project regarding the Energy Conservation section. The Moss Landing Harbor District was not contacted, counsel for said Agency, which is the lead agency for the Project was not contacted, counsel for the Peoples Project was not contacted, the solar contractor was not contacted, no consultant or employee of the Peoples Project was contacted and the owner of the property was not contacted. No one was contacted!!!

Selfridge1-1

QUESTION: How is it possible, in the context of a thorough review of project alternatives, that the only Project attempting to comply with the multiple State and Federal laws discussed above was not consulted regarding components of their Project?

QUESTION: The EIR\EIS for the Peoples Project has been presented to the lead Agency for review and Aspen Consulting is performing this work. The joint document will be available for review shortly, so I understand the consultant for the proposed project does not have access to it. How did the consultant arrive at the conclusion that Alternative 4 would result in an *increased impact conclusion* compared to the proposed project?

Selfridge1-2

QUESTION: Referencing Table 5.6-1, Alternatives Impact Study, Page 5.6-18, there are 3 impacts analyzed. In each case, alternative 4 is given the same rating as the proposed project, and yet in each case, the rating is adjusted to being more significant for Alternative 4. Please explain the rationale?

Selfridge1-3

QUESTION: Impact 4.18-2, **“Use large amounts of fuel and energy in an unnecessary, wasteful or inefficient manner during operations”**. Might this lower rating for Alternative 4 been modified if the consultant was aware of the construction of a solar array to service the Moss Landing Green Business Park? Should the consultant have performed a necessary level of due diligence to even be aware of said solar energy park?

Selfridge1-4

QUESTION: Impact 4.18-3, **“Constrain local or regional energy supplies, require additional capacity, or effect peak and base periods of electrical demand during operations.”** The Moss Landing Green Business Park will be self-sufficient, or possibly, an actual contributor of energy to the grid. Please explain how the existence of the solar array farm on the property might affect the answer to this rating question?

Selfridge1-5

Each and every one of my questions, criticisms and observations incorporated herein constitute significant unmitigated adverse impacts as defined by CEQA and NEPA, and these significant deficiencies in the draft EIR\EIS cause the EIR\EIS to be defective and not in compliance with the mandates of CEQA or NEPA. Further, the significant adverse impacts and deficiencies, which have largely been intentionally ignored by the preparers of the EIR\EIS, cause the document to need to be significantly revised and recirculated so as to avoid damaging both the environmental and natural resources of Monterey County and the individual rights of innocent land owners who have not received the statutorily (CEQA) mandated mailed notices inasmuch as their groundwater resources are now being proposed to be stolen by Cal Am.

Selfridge1-6

Failure to make these necessary and legally required revisions, and to identify and mitigate these significant adverse impacts will cause this EIR\EIS to be defective and subject to successful challenge in Court.

Please see attached data for your reference.

Sincerely,

A handwritten signature in cursive script that reads "Nancy Selfridge". The signature is written in black ink and is positioned above a solid horizontal line.

Nancy Selfridge

Former Member Monterey City Council

Board Member Water Ratepayers of the Monterey Peninsula (WRAMP)

CC Full Copy:

Maryjo.Borak@cpuc.ca.gov

Karen.Grimmer@noaa.gov

Nancy Selfridge
Letter 2

February 20, 2017

California Public Utilities Commission
C/O Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, California 94108
mpwsp-eir@esassoc.com

SUBJECT: DRAFT EIR\EIS COMMENTS FOR THE MONTEREY PENINSULA WATER SUPPLY PROJECT

Dear Staff:

Thank you for the opportunity to comment on a project which has far reaching implications to our community, and the residents of the City of Monterey. I have commented on three sections; Energy Conservation (Section 4.18), Determination of Environmentally Superior and Preferred Alternatives (Section 5.6.2) and Comparative Analysis of the Project Alternatives (Sections ES.6 to ES.8). I will submit each as a separate letter.

SECTION 5.6.2 DETERMINATION OF THE ENVIRONMENTALLY SUPERIOR AND PREFERRED ALTERNATIVE:

CEQA and NEPA both require extensive comparison of a variety of factors in comparing the proposed project and identifiable alternatives. In fact, in referencing Table ES-1, Alternative Impact Summary there are 115 comparative analytics. These are assigned grades (ie: LS, Less than Significant, SU, Significant and unavoidable, etc). These weighted grades are then used as a component in the consultant selecting the environmentally superior and preferred alternative. I will compare the preferred alternative to Alternative 4, the Peoples Project.

On page 5.6-5 the consultant specifically notes (see attached) the following impacts are unique to Alternative 4 (Peoples Project):

1. Construction of the desalination plant could impact (currently unsurveyed) historical resources, resulting in a significant and unavoidable impact;
2. Operation and siting of the intake pumping facilities on top of the existing caisson at the existing shoreline could result in the long-term direct effects on coastal erosion and scour processes that could expose adjacent properties to coastal flooding and a change in sediment transport, resulting in potentially significant impacts;
3. Operation and siting of the desalination plant facilities within a 100 year flood one could cause long-term direct effects related to redirection of flood flows, resulting in a significant and unavoidable impact.

Following are questions regarding the Alternatives Impact Summary:

QUESTION: Impact 4.2.1 *Substantial soil erosion or loss of topsoil during construction*. Where is the analysis of the topsoil that may exist at the Moss Landing Business Park in the appendix or body of the report?

Selfridge2-1

QUESTION: Impact 4.2.10 *Accelerate and/or exacerbate natural rates of coastal erosion, scour, or dune retreat, resulting in damage to adjoining properties or a substantial change in the natural coastal environment*. The Peoples Project is being built on an existing location that has been in business operation for over 80 years and has the necessary infrastructure in place to intake seawater (it currently does so now) and has existing outfall. The preferred project will contemplate 10 wells being drilling on the coastline, Alternative 4 uses preexisting infrastructure. Where in the EIR\EIS is the support data to study the comparative impacts of the two projects on coastal erosion?

Selfridge2-2

QUESTION: Impact 4.2.11 *Degrades the physical structure of any geologic resource or alters any oceanographic process, such as sediment transport, that is measurably different from pre-existing conditions*. The preferred alternative receives a grade of NI, No Impact, whereas Alternative 4 receives a SU, Significant and Unavoidable. The preferred alternative drills 10 wells, pumps, delivery systems, etc on pristine beach in a Marine Sanctuary and Alternative 4 uses existing infrastructure already buried in the ground. Where in the EIR\EIS is the supporting study and science to support this logic?

Selfridge2-3

QUESTION: Impact 4.3.1 *Degradation of water quality associated with increased soil erosion and inadvertent releases of hazardous chemicals during general construction activities*. The preferred alternative receives a grade of LS, Less than Significant and Alternative 4 a grade of SU, Significant but Unavoidable. The preferred alternative is being constructed in various locations, all within the Coastal Zone on virgin ground, some of it contiguous to the coastline. Alternative 4 is being built in an existing business park which is almost all concrete in the 16.5 acre building site. Where is the study in the EIR\EIS that supports the conclusions drawn in the Summary?

Selfridge2-4

QUESTION: Impact 4.3-9 *Impedance or redirection of flood flows due to the siting of project facilities in a 100 year flood hazard area*. The preferred alternative receives a grade of LS, Less than Significant and Alternative 4 receives a grade of SU, Significant and Unavoidable. According to the Monterey County Water Resource Agency web site the ENTIRE coastal region of the Monterey Peninsula, Moss Landing and Santa Cruz are in a 100 year flood hazard area. Alternative 4 is protected by rock jetty's, large sand bars and a harbor. The Moss Landing Business Park is built at least 20 feet above sea level.

Selfridge2-5

Conversely, the preferred alternative is contemplating building 10 well sites at approximate sea level, per the EIR\EIS, all within the 100 year flood hazard zone. The transmission lines will all be built within the 100 year flood hazard zone, both of these tasks in sand. Please provide the scientific study that shows the preferred alternative well sites and transmission pipelines at less than a significant risk. Please provide the scientific analysis that supports the conclusion that the risk to Alternative 4 is many magnitudes greater than to the preferred alternative. How is it possible that Alternative 4 is subject to grave risk, in a 100 year flood one, at an elevation of 20+ feet, with a concrete berm, when the preferred project components are built in sand at sea level and are deemed to have little, if any, risk?

Selfridge2-5
cont.

QUESTION: Impact 4.3-10 *Exposure of people or structures to a significant risk or loss, injury or death from flooding due to a tsunami.* The preferred project receives a grade of LS, less than significant, whereas Alternative 4 is deemed Significant and Unavoidable. I raise the same objection as the previous section. The consultant is comparing projects that both lie in the same National Marine Sanctuary, on the same coastline within the same Bay. Is the EIR\EIS suggesting the tsunami would be targeted only at Moss Landing? Please provide the scientific study that shows the evidence that Moss Landing is at a significantly higher risk for such an event than any other area of the Bay. Please provide context to the issue by providing the historical data to show the impacts and location of a tsunami in the Monterey Bay. Has there ever been a measurable tsunami in the last 100 years of records in the Monterey Bay?

Selfridge2-6

QUESTION: Impact 4.3-11 *Impact of people or structures to a significant loss, injury, or death from flooding due to sea level rise.* The preferred project receives a grade of LS, less than significant while Alternative 4 receives a grade of SU, significant and unavoidable. Being redundant, the preferred project is at sea level and Alternative 4 is not. What scientific data was used by the consultant to arrive at this conclusion? How is it possible to draw this conclusion when the EIR\EIS discusses possible sea level rises in its modeling work and does not list a major concern for any significant issue over the next 20 years?

Selfridge2-7

QUESTION: Impact 4.15-1 *Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the CEQA Guidelines or historic properties pursuant to 36 CFR 800.5.* The preferred project received a grade, undoubtedly appropriately of NI, No impact. The Alternative 4 received a grade of SU, significant and unavoidable.

I asked the owner and consultants of the project, as well as the Moss Landing Harbor District if they has ever been consulted by the EIR\EIS consultant for this document, regarding this issue. No one was ever contacted. The owner has already paid for a historical resource study on the property, as required by the aforementioned laws. The conclusion in the study; no significant historical issues, with the exception of one strip of the property which is in no way jeopardized by the project during operation or construction. How is it possible that during a complete and exhaustive analysis of competing projects as required by CEQA and NEPA this

Selfridge2-8

report was not known to the consultant? Why was this information never requested by the consultant in the preparation of the EIR\EIS document?

↑ Selfridge2-8
cont.

QUESTION: Impact 4.15-2 *Cause a substantial adverse change during construction in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines or historic properties pursuant to 36 CFR 800.5.* The preferred project received a LSM grade, less than significant, mitigations available, Alternative 4 received the same grade but more severe mitigation measures required. Refer to the prior question, same facts apply. If the consultant had simply asked any members of the Alternative 4 team, from the lead agency to employees, they would have discovered the historical and archaeological studies had been done with no significant impacts.

Selfridge2-9

SUMMARY: The consultant (ESA) uses the grid analysis for Alternatives Impact Study to grade 115 separate impacts and determine the best possible outcome. The consultant could have accomplished a far more fair and valuable comparison, as required by CEQA and NEPA if he had simply consulted with the members of Alternative 4, and perhaps a very different conclusion may have been reached. These analyses need to be redone and recirculated.

Selfridge2-10

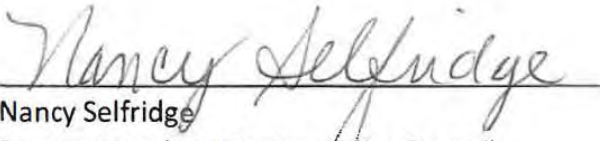
Each and every one of my questions, criticisms and observations incorporated herein constitute significant unmitigated adverse impacts as defined by CEQA and NEPA, and these significant deficiencies in the draft EIR\EIS cause the EIR\EIS to be defective and not in compliance with the mandates of CEQA or NEPA. Further, the significant adverse impacts and deficiencies, which have largely been intentionally ignored by the preparers of the EIR\EIS, cause the EIR\EIS to need to be significantly revised and recirculated so as to avoid damaging both the environmental and natural resources of Monterey County and the individual property rights of innocent land owners who have not received the statutorily (CEQA) mandated mailed notice inasmuch as their groundwater resources are now being proposed to be stolen by Cal Am.

Selfridge2-11

Failure to make these necessary and legally required revisions, and to identify and mitigate these significant adverse impacts will cause this EIR\EIS to be defective and subject to successful challenge in Court.

Please see attached data for your reference.

Sincerely,

A handwritten signature in cursive script that reads "Nancy Selfridge". The signature is written in black ink and is positioned above a horizontal line.

Nancy Selfridge

Former Member Monterey City Council

Board Member Water Ratepayers of the Monterey Peninsula (WRAMP)

Full copy CC:

Maryjo.Borak@cpuc.ca.gov

Karen.Grimmer@noaa.gov

Nancy Selfridge
Letter 3

February 20, 2017

California Public Utilities Commission
C\O Environmental Science Associates
550 Kearny Street, Suite 800
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mpwsp-eir@esassoc.com

SUBJECT: DRAFT EIR\EIS COMMENTS FOR THE MONTEREY PENINSULA WATER SUPPLY PROJECT

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SECTION ES.6 to ES.8 COMPARATIVE ANALYSIS OF THE PROJECT ALTERNATIVES:

Pursuant to Section 15123(b) (1) of the California State CEQA Guidelines and NEPA regulations (40 CFR 1502.12), and EIR\EIS shall identify areas of controversy known to the lead agency including issues raised by agencies and the public and the issues to be resolved (including the choice among alternatives and whether or how to mitigate significant effects).

Section ES-8 Groundwater Modeling, Impacts and Water Rights: (See page ES-13) *Cal Am's proposed use of subsurface slant wells to withdraw source water for the MPWSP Desalination Plant is the subject of two controversies; (1) whether Cal Am has the legal right to extract groundwater from the Salinas Valley Groundwater Basin (SVGB); and (2) whether implementation of the MPWSP and operation of the subsurface slant wells would exacerbate seawater intrusion in the SVGB.*

FACT: Per Section 2.6, Water Rights, page 2-30 (*Indeed, no government agency will formally grant water rights to Cal Am for the proposed project*), page 2-31 (*Cal Am has no prescriptive groundwater rights in the Basin*) and (*Naturally, however, if Cal Am does not have the right to the supply water for the proposed project, the proposed project could not proceed and would thus prove unfeasible*). The consultant admits that Cal Am has no water rights and this is obviously a contentious issue.

Selfridge3-1



QUESTION: Would it have not been prudent for Cal Am and the PUC to resolve the water rights issue prior to spending millions of dollars of ratepayer money on test wells? What cost contingency has been built into the process if, as expected, the issue is determined by Courts and Cal Am has been deemed to have seriously damaged a State protected basin and stolen other people's water?

Selfridge3-1
cont.

FACT: Page ES-13 of the EIR\EIS states: "the proposed subsurface slant wells at CEMEX would extend offshore and be screened in aquifer units of the SVGB that have long been intruded by seawater. Although the subsurface slant wells would draw seawater (i.e., source water for the MPWSP Desalination Plant) from beneath the ocean floor, a fraction of the source water would be drawn from inland portions of the SVGB)".

Selfridge3-2

QUESTION: The test slant well, per the consultants own data, does not extend under the sea floor, but rather, under the beach high mean tide line. How does the empirical data derived from the test well correspond to subsurface wells hundreds of feet deeper in the SVGB aquifer? Please explain and provide the hydrologic data and basis for this conclusion, discussed in the EIR\EIS.

FACT: For the last 25 years, the ratepayers in Zone 2B (12,000 acres of irrigation land commonly referred to as the Castroville Seawater Intrusion Project (CSIP)) and all Salinas Valley Groundwater Basin members (Zone 2C) have paid assessments to the County of Monterey through the Resource Agency to protect the 12,000 acres from basin degradation and sea water intrusion advancement. Farmers in the area have willingly given up their pumping rights in the aquifer to protect against further seawater intrusion. Further, the Coastal Commission, the County of Monterey and the State of California are legislatively mandated to preserve and protect the SVGB, specifically the North County area.

Selfridge3-3

QUESTION: How does voluntarily complying with a County Ordinance equate to abandoning the water in the aquifer making it "found water"? Further, how do the protective bodies of government not only allow this type of devastation to occur in a protected zone, but actually condone and actively participate by ignoring its own ordinance and legislative mandate?

FACT: Per the Monterey County Water Resource Agency website the 25 years of drastically reduced pumping in the 12,000 acres has seen a steady rise in water tables, a slight increase in fresh water component and an almost complete cessation of seawater intrusion into this area. Taxpayers have paid millions of dollars to the County to protect them and carry out the provisions of the CSIP.

Selfridge3-4

QUESTION: Please provide the baseline statistics for the contiguous area around the CEMEX site from 1992 to 2015, (prior to the test slant well) and compare to the condition of the same area today? Please explain how pumping approximately 2,000 gallons per minute, in an area

previously left primarily un-pumped through County Ordinance, has not been impacted by such high pumping rates.

↑ Selfridge3-4
cont.

FACT: Section 2.6.1 State Water Resources Control Board Report page 2-32 (see attached). *“Developed water is water that was not previously available to other legal users and that is added to the supply by the developer through artificial means as a new water source.”* As previously stated, the water in the perched 1800 and upper dunes sand aquifers was not abandoned or unavailable to the overlying land owners, it was voluntarily not pumped, as the landowners had, and are, continuing to pay to protect the Zone 2B basin.

QUESTION: How does the consultant justify classifying the water in the aquifers under CEMEX as “not previously available to other water users” when the landowners legally agreed to use CSIP water that they were paying for? How do the legislatively mandated bodies ignore the legal mandate created by the passage of laws designed to protect an impaired water basin? How does the consultant and the PUC ignore these laws that have been on the books for many years? Please present the study documents used by the consultant for this section of the EIR\EIS for public review?

Selfridge3-5

FACT: Section 2.6.1 State Water Resources Control Board Report page 2-33 “State water policy favors enhancement of beneficial uses of water. Specifically, Article X, section 2 of the California Constitution requires **“that the water resources of the State be put to beneficial use to the fullest extent to which they are capable, and that waste or unreasonable use or unreasonable method of use of water be prevented”**.”

QUESTION: The test slant well, when operational, has been pumping approximately 2,000 gallons per minute, or, 2,880,000 gallons per 24 hour day. This equates to over 8 acre feet per day. Much of this water was fresh water, agreed by various government bodies to not be available. The test slant well, by design draws the water into its test pump and immediately diverts it back out into the ocean. This is known within the industry as “pump and dump”. How does the consultant and the PUC justify an obvious violation of State law by not adhering to the beneficial use concepts of State law? Please provide the analysis and study documents prepared in conjunction with this EIR\EIS to justify said process.

Selfridge3-6

FACT: Much of the water being “pumped and dumped” is coming from contiguous land owners, all of whom possess prescriptive water rights to said water. One of those land owners is the Agland Trust, who purchased the land for agricultural perpetuity 30+ years ago. The land was purchased with a grant from the United States government, specifically the Department of Agriculture. One of the tenets of the purchase was that the land stay permanently agriculture and that all assets of the property, **including its water**, be used only for the said purpose. The potential penalty, per the documents, if violating any of the provisions was reversion of the

property back to the Federal Government. (Please see the attached purchase documents with the reversion language therein)

QUESTION: Much of the water “pumped and dumped”, by the Cal Am test slant well belongs to the Agland Trust. Did the consultant communicate with the owners of the Agland Trust property prior to the start of pumping to determine the existence of any such restrictions? Did the consultant communicate with the United States Department of Agriculture prior to the start of the test slant well to determine if use of their potential asset was agreeable to them? Has the consultant considered the potential negative conversion impacts to the Agland Trust in the event the Federal government exercises its rights under the initial contract? Please provide the documentation that must surely exist, that shows the inappropriate theft of Federal property by Cal Am was preapproved by the United State government.

Selfridge3-6
cont.

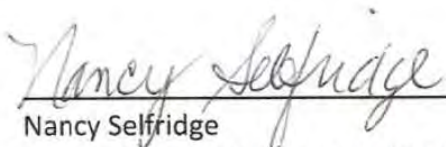
Each and every one of my questions, criticisms and observations incorporated herein constitute significant unmitigated adverse impacts as defined by CEQA, and these deficiencies in the draft EIR\EIS cause the EIR\EIS to be defective and not in compliance with the mandates of CEQA and NEPA. Further, the significant adverse impacts and deficiencies, which have largely been ignored by the preparers of the EIR\EIS, cause the document to need to be significantly revised and recirculated so as to avoid damaging both the environmental and natural resources of Monterey County and the individual property rights of innocent land owners who have not received the statutory (CEQA) mandated mailed notice inasmuch as their groundwater resources are now being proposed to be stolen by Cal Am.

Selfridge3-7

Failure to make these necessary and legally required revisions, and to identify and mitigate these significant adverse impacts will cause this EIR\EIS to be defective and subject to successful challenge in Court.

Please see attached data for your reference.

Sincerely,



Nancy Selfridge
Former Member Monterey City Council
Board Member Water Ratepayers of the Monterey Peninsula (WRAMP)

Full copy CC: Maryjo.Borak@cpuc.ca.gov
Karen.Grimmer@noaa.gov

8.7.23 Jan Shriner

These comments are sent to the CPUC by me as a resident of Marina. I am also a Director of the Board of Marina Coast Water District and these comments are not authorized by the Board but submitted as an individual resident of Marina.

March 28, 2017

The first of the slant wells was called a "test" well and proposal received scant environmental written review as if it would be removed when test was complete. The definition of the completion was vague but a target date of February 2018 is specified on page 155 in project description section 3.2.

Shriner-1

Annual erosion rate of 2014 in the coastline of Cemex nearly doubled from 220,000 to 380,000 cubic yards in 2016 according to analysis by Ed Thornton and reported in the Monterey Herald. State Parks uses a 7 feet per year estimate in planning. On page 374 of Appendix C-2 of the Draft EIR it states the erosion data was provided by California American Water Company (Cal Am).

Shriner-2

The projected loss due to erosion for Potrero Road is 120 feet and the Cemex location of 300 feet for 2060. Based on this projection, the calculated erosion rates of 2.5 feet per year at Potrero and 6.4 feet per year at Cemex between 2014 and 2060. In the public workshop in Seaside on February 15, 2017, no one would tell me what erosion rate was used in the study for the draft EIR.

Shriner-3

The "test" well is now proposed to be left in its location but the other proposed 9 slant wells to be located 800' inland of shoreline at an angle of 14 degrees off horizontal rather than 19 degrees as is the "test." The test is to remain about 400' seaward of the new wells. The panorama photo, attached, shows the test well (blue pipe in right side of photo, next to vertical yellow posts) to be within 300' inland of the intertidal at an elevation of about 15 feet. The current situation is flatter and closer than the DEIR states, suggesting that the test slant well needs to be removed before 2018 during a season when Snowy Plover nests will not be impacted by the removal activity.

Shriner-4

The Figures 4.2 7 and 8 are compressed to exaggerate the angles and mislead the public. The well head is within 30 feet in elevation from the intertidal zone. The vertical and horizontal axes in the figures are shown to be in feet but the scale being an order of magnitude different is misleading.

Shriner-5

Page 4.2-70 at the top of the page explains "The coastal retreat study determined that under a conservative predicted erosion rate and considering the additional scour caused by a 100-year storm event in that time horizon, the proposed slant wells would remain buried in the dunes and would not become exposed on the beach until sometime after 2060."

Shriner-6

"According to the evaluation criteria for coastal erosion (see Section 4.2.4, Evaluation Criteria above), the proposed project would cause a significant impact if it accelerated and/or exacerbated natural rates of coastal erosion, scour, or dune retreat resulting in substantial adverse change in the coastal environment. The proposed slant wells would not be exposed during the operational life of the slant production wells (anticipated to be 20 to 25 years) and would not contribute to

further coastal erosion or changes in the beach environment. Therefore, the proposed location of the proposed slant wells would not represent a potential erosion hazard and would not contribute to a significant impact of the proposed project."

"Given the test slant well's forward location on the beach at the estimated 2060 future 100-year storm coastal erosion profile and lower profile envelope, it is possible that the well casings and concrete well head vault might become exposed on the beach sometime during the operational life of the project. If exposed, the subsurface slant well could contribute to accelerated and/or exacerbated natural rates of coastal erosion, scour, and dune retreat that could alter the natural coastal environment."

The following two statements are alarming due to the impact on a local business. CEMEX sand mining is a questionable business practice but so is the questionable or illegal business of over-pumping the Carmel River. It appears that the Cal Am would like CEMEX to eliminate sand mining in favor of two alternatives for a project area. Due to cumulative impacts by sand mine and test slant well, the alternates off Cemex properties more feasible. Page 147 states: "the subsurface slant wells would be located in the City of Marina, about 2 miles south of the Salinas River, in the retired mining area of the CEMEX sand mining facility (see Figure 3-3a)." Page 374 states ..."interventions may change shore recession." There are no real cumulative impact evaluations because Cal Am is trying to eliminate the existing business or pretend it will no longer exist instead of revealing the cumulative impacts.

I have looked at Figure 5.1 for the modeling of the sea level rise for 2073. The problem is that the difference in scale makes this figure difficult to compare with the schematics of Figure 3-13 but it appears the sea level rise is expected to impact the Cemex site more severely than the Potrero Road site. The Figure 5.1 of Appendix E-2, page 377 needs to be revised to the same scale as Figure 3-13 for the final EIR to clarify the projected coastal contour at the site. Add a section modeling sediment transport and projected impacts to function of screens and pumps with anticipated seafloor modification, to determine if intakes be exposed or develop greater depth in sand than initial engineering.

When the possibility exists of losing 300 feet of coastline that is reportedly 30 feet above the Mean High Water (MHW) then at the same time create a model of the new corresponding bottom contour and depth in the sand of the intake pipes. If the test well is to remain in place, modeling is needed for the eventual exposure of the test slant well cumulative impacts to coastal erosion in the project site in comparison to the alternatives without a test well. Expand on cumulative impacts terrestrial section for best and worst case scenarios. Expand on terrestrial impacts section for mitigation of 300 feet for half mile of loss to dunes habitat.

Cumulative impacts to the location should describe the additional impacts with the sediment ponds and MRWPCA outfall as well as the proposed MCWD desalination project. Cumulative impacts need to include projected reconstruction of multiple sets of slant wells over the anticipated operational life of the desalination project. The projections require far more construction and reconstruction impacts than currently described and mitigated by this analysis.

Shriner-6
cont.

Cumulative impacts of the components of the project should not include The Monterey Downs as MPWSP is designed only as replacement water for The Carmel River and MCWD would have been the water purveyor for Monterey Downs. The inclusion of Monterey Downs is now moot as it is currently retired due to inadequate support.

Shriner-7

The Draft EIR has not made the modeling assumptions and graphic representations clear. On February 15, members of the public were invited to ask questions of the “experts.” The implication for the public was that reasonable and detailed answers would be made in response to the questions. I found the experts to be quite defensive and the most valuable answers were about which section numbers and appendices numbers would narrow my search. Hovering at the tables was the Project Manager of the proponent who was actually quite condescending in regards to the question “what is the erosion rate used in the modeling?” His behavior was unnecessarily hostile for the public process and made me concerned that the CPUC experts were being monitored and intimidated by the employees of Cal Am.

Shriner-8

I suppose the pumping history of Fort Ord and reduction of rate is not relevant if the appearance of a localized pressure head of the freshwater is fantasy as CPUC scientists told me at the Oldemeyer workshop of February 15. Otherwise, I believe the history is relevant to the groundwater management of the Dune Sands and 180 Equivalent aquifers. I have not been offered any reasons yet for why the CPUC scientists can't verify the evidence of the recovery efforts and reduced total dissolved solids in the preliminary well pumping data.

Shriner-9

Please extend the public comment time for a more thorough investigation into the assumptions, cumulative impacts, and modeling.

Shriner-10

The alternatives have not yet been given adequate review.

Shriner-11

The scientists of the San Francisco office of the CPUC have not been adequately open to the peer reviewed science of other experts.

Shriner-12

Jan Shriner
Marina Resident

8.7.24 Roy Thomas

Karen Grimmer NEPA Lead
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California Public Utilities Commission
Mary Jo Borak
Energy Division CEQA Unit 505 Van Ness Ave

The public was informed the desalination (desal) project would save the Carmel River. The California American Water (CalAm) Water Supply Project draft environmental impact report and environmental impact statement say nothing about how this project will impact the Carmel River and ESA listed fish and frogs. There will be two new ASR wells ASR 5 and ASR 6. Will these be used to store more water from the Carmel River? What are the effects on the Carmel River? Cal Am diversion wells are deep wells and it takes time for surface water to percolate to the deep zones. How long is surface flow reduced until the deep deficit is restored?

Thomas-1
Thomas-2
Thomas-3

There is a plan for a new Carmel Valley Pumping Station. How much water and when will it be pumped from the river.

Thomas-4

I have heard that Cal Am will take its water from desal and ASR in the summer and take Carmel River in the winter. Is this the case?

Thomas-5

How will the new project improve the spring, summer, and fall flow on the Carmel River?

Thomas-6

There are two 3 million gallon tanks 33 ft. diameter x 130 ft. tall as described in the EIR. What is the water source for these tanks? It appears to be related to the Carmel Valley pumping station.

Thomas-7

There is no explanation of how and when project water will be used. There is no discussion on how the project will affect the Carmel River environment Section 7.1.1, mentions the ESA but does not discuss the “take” of steelhead and their environment. It also mentions in 7.1.2 the Mag-Stevens Fish Conservation Essential Habitat but does not explain what, if anything, the project will do; help or destroy essential habitat.

Thomas-8
Thomas-9

Cal Am: Monterey Peninsula water supply Project (Cont)

There is a mention of 700 AFY to be added and left in the Seaside groundwater basin. This “Payback” would amount to 17.500 AF over 25 years. Is any or all of this water coming from the Carmel River what are the environmental effects of this? What is the lag time for percolation into the deep extraction well on the Carmel River? The Carmel River has been flowing now for over 4 months. The flow at Robles Del Rio gage is

Thomas-10

1000 cubic ft. per second (CFS), the lower Carmel River gage) is 722 CFS. There are 3 major tributaries between these two gages. The lower gage should read much higher flow than the upper gage. The 3-400 CFS is water still percolating into the ground from the overdraft. It takes time for the surface flow to make up for pumping deep wells. If Cal Am pumps “excess flow” during the winter it may well reduce essential surface flow in spring and summer. ASR water should only be extracted from the surface flow, not deep wells.

Thomas-11

The public has been told that desal ASR and recycled water will reduce the use of Carmel river water in the summer. The EIR does not say how much and when. In the spring maximum surface flow is very important. This is when the fish and the frogs hatch and spread out on the river. Edge habitat is extremely important for the young of the year.

Thomas-12

Why is there an interconnect for Ryan Ranch – Bishop? Are they allowed Carmel water, are they paying for this project?

Thomas-13

What about Main System – Hidden Hills interconnect improvements. Are they paying project expenses, are they allowed to use Carmel river water?

An EIR is about environmental impacts on a project. The environmental impacts on the Carmel River and its ESA listed Fish and Frogs are not addressed.

Thomas-14

8.7.1 Responses to Comments from Michael Baer

- Baer-1 A lead agency is required to recirculate an EIR when significant new information is added after the release of the draft, but prior to certification. CEQA Guidelines Section 15088.5 provides guidance on what might constitute significant new information and notes that recirculation is not required where the new information merely clarifies or amplifies, or makes insignificant modifications in an adequate EIR. Nothing in this comment letter or the associated responses triggers a need for recirculation per CEQA Guidelines Section 15088.5. Master Response 9, Electrical Resistivity Tomography (ERT), provides supplemental information and further clarification on ERT and its use as a method to help characterize water quality and seawater intrusion along the coast of Monterey Bay. Master Response 11, CalAm Test Slant Well, Section 8.2.11.8, provides a discussion of the evolving slant well technology. Not only has source water intake technology evolved over the past several years, but so have the regulations governing intake systems. EIR/EIS Section 5.3.1 presents regulatory considerations that govern desalination plant intake systems and Section 5.3.1.1 specifically states that, “The [State Water Resources Control Board] SWRCB prefers subsurface intakes, but allows surface water intakes where subsurface intakes are not feasible or economically viable (SWRCB, 2016).” Section 5.4 describes and Section 5.5 evaluates several alternatives (Alternatives 2, 3, and 4) with open water intake systems. Please see responses to comments that follow.
- Baer-2 Consistent with CEQA Guidelines Section 15147, the information contained in the EIR/EIS included summarized technical data, maps, plot plans, diagrams, and similar relevant information sufficient to permit full assessment of significant environmental impacts by reviewing agencies and members of the public. Placement of highly technical and specialized analysis and data in the body of an EIR was avoided through inclusion of supporting information and analyses as appendices to the main body of the EIR/EIS. Additional clarifying language has been added throughout the EIR/EIS, and via responses to comments, to help break down some of the more difficult concepts. While these clarifying descriptions are intended to further assist the public in understanding technical concepts, they do not change the conclusions of the EIR/EIS.
- Baer-3 The Draft EIR/EIS explains in Section 1.3 that the MPWSP is needed to reduce and eventually terminate surface water diversions from the Carmel River in excess of CalAm’s legal right, and to comply with the Seaside Groundwater Basin adjudication which substantially reduced the amount of groundwater available to CalAm. Details of SWRCB Order 95-10 and the associated Cease and Desist Order on the Carmel River are presented in Draft EIR/EIS Section 2.2.3. Details about the Seaside Groundwater Basin Adjudication are presented in Draft EIR/EIS Section 2.2.4.
- Baer-4 See Master Response 3, Water Rights, Section 8.2.3.2.
- Baer-5 The data from the test slant well is collected by staff from Geoscience (CalAm’s contractor), and not by the Hydrogeologic Working Group (HWG). Data from the test

slant well is presented to the HWG members for their peer review, interpretation and reporting. The EIR/EIS did not evaluate the impacts of the test slant well and made no conclusions about the impact of the test slant well on the surrounding groundwater. The EIR/EIS evaluated potential impacts associated with the proposed conversion of the test slant well to a production well, including analysis of the potential impacts on groundwater supplies and/or recharge from operation of all project wells (converted and new production wells), in Impact 4.4-3. Such impacts were determined to be less than significant.

- Baer-6 Regarding the parties to the August 2013 Settlement Agreement that established the HWG, see Section 8.2.5.1 of Master Response 5, The Role of the Hydrogeologic Working Group and its Relationship to the EIR/EIS. As noted in the comment, CalAm, along with the other parties, “agreed their hydrologist and technical team would work with the Salinas Valley Water Coalition’s and Monterey County Farm Bureau’s assigned hydrogeologists.” Thus, this group of hydrogeologists is considered to represent the diverse interests of the 16 parties to the Settlement Agreement, who agreed to this representation. Neither CPUC nor MBNMS convened the HWG or determined its membership.
- Baer-7 Regarding the role of Dr. Dennis Williams and potential conflicts of interest, see Master Response 5, Section 8.2.5.6.
- Baer-8 The conflict of interest was discussed in the Draft EIR/EIS Executive Summary Section ES.8 on page ES-14, and again in Section 1.4.3. More detail is provided in Master Response 5, Section 8.2.5.6.
- Baer-9 As noted in the Draft EIR/EIS Section 1.4.3, in July 2015, the CPUC terminated its relationship with Geoscience and “the CPUC Energy Division extended the public comment period on the [April 2015 MPWSP] Draft EIR ... to address a possible conflict of interest associated with one of the CPUC’s environmental subconsultants, Geoscience.” See responses to comments PWN2-2 in Section 8.6.17, Baer-5, Baer-6, and Master Response 5, Section 8.2.5.6.
- Baer-10 See response to comment Baer-6 and Master Response 5, Section 8.2.5.3.
- Baer-11 See Master Response 5, Section 8.2.5.6. Note that the Lead Agencies have no authority over the HWG membership.
- Baer-12 The reference to Section 4.4.3.2 has been revised to read 4.4.4. Section 4.4.4, titled “Approach to Analysis” as was noted in the footnote on Draft EIR/EIS page 4.4-4, does discuss the HWG.
- Baer-13 The HWG did not contribute directly to the preparation of the Draft EIR/EIS. They were a resource to the Lead Agencies as explained in Master Response 5, Sections 8.2.5.4 and 8.2.5.5.

- Baer-14 See Section 8.2.11.2 of Master Response 11, CalAm Test Slant Well.
- Baer-15 The comment is not correct. The appeal was filed because pursuant to the California Coastal Act Section 30603(a)(5), the CCC may hear an appeal of a local agency denial of a permit for a major public works project. See Master Response 11, Section 8.2.11.2.
- Baer-16 The comment incorrectly states that the decommissioning of the test slant well “was a contingency of avoiding the EIR process.” See Master Response 11, Section 8.2.11.7.
- Baer-17 See Master Response 11, Section 8.2.11.4, regarding baseline levels and compliance with Special Condition 11. The Executive Director of the CCC (Charles F. Lester) informed CalAm that the water level decrease appeared to be caused in part by the pump test and acknowledged that based on the data, several influences other than pumping of the test slant well were responsible for the decrease. See also Master Response 11, Section 8.2.11.5, regarding the influence of regional pumping.
- Baer-18 Inflows to and outflows from the Salinas Valley Groundwater Basin are discussed in Draft EIR Section 4.4 on page 4.4-19, and in Table 4.4-3. One of the sources listed for the table is MCWRA, 2015, which is the 2014 Groundwater Extraction Report for Monterey County. The HWG established seasonal and regional trends in a July 23, 2015 letter to Charles Lester (HWG, 2015).
- Baer-19 The publicly available HWG-prepared Monthly Test Slant Well Monitoring Reports (<https://www.watersupplyproject.org/test-well>) include rainfall events as blue bars on each of the groundwater elevation and salinity plots. As explained in Master Response 5, Section 8.2.5.4, the HWG prepared the Hydrogeologic Investigation Workplan and the Hydrogeologic Investigation Technical Report; the latter is included in the Final EIR/EIS as Appendix E3. Section 2.1.7.4 of Appendix E3 presents test slant well electrical conductivity results and explains the relationship between precipitation events and how they impact groundwater and TDS levels in the test slant well and monitoring wells.
- Baer-20 See Master Response 11 Section 8.2.11.4, which discusses the April 15, 2015 report titled *Baseline Water and Total Dissolved Solids Levels* prepared by the HWG.
- Baer-21 See responses to comments Baer-18 through Baer-20.
- Baer-22 This comment misrepresents the text from page 11 in Section 5.3.2 of HWG Monthly Report 15. The text in HWG Monthly Report 15 states, “Figure 3-3 shows conductivity in MW-4M is slightly increasing continuously with time, for the monitoring period from April 22, 2015 to January 31, 2017. The consistent slight rise in TDS shows no change with TSW [test slant well] pumping and is strongly indicative of a regional trend in TDS concentration. ...The regional very slight increase in conductivity may be indicative of continued slow progress of seawater intrusion due to the continued landward groundwater gradient in the aquifer penetrated by MW-4M.” See responses to comments Baer-18 through Baer-20 and also Baer-24.

- Baer-23 The historic seawater intrusion maps of the 180-Foot and 400-Foot Aquifers cited in the comment (Draft EIR/EIS Figures 4.4-10 and 4.4-11) are prepared annually by MCWRA (see EIR/EIS Sections 2.6.3 and 4.4.2.3). MCWRA defines the leading edge of inland seawater intrusion as groundwater containing TDS at 500mg/L or more. Regarding baseline conditions, see responses to comments Baer-18 through Baer-20.
- Baer-24 The Lead Agencies do not prepare the HWG Monthly Reports, and are not responsible for how terms are defined. However, the phrase “regional slightly increasing trend” is not used anywhere in HWG Monthly Report 15, Section 5.3.2; see response to comment Baer- 22. The HWG Monthly Report 15 does state that “. . . conductivity in MW-4M is slightly increasing **continuously with time** [emphasis added], for the monitoring period from April 22, 2015 to January 31, 2017.” While Table 2 does in fact show an increase of 29 percent over 21 months, that represents a slight increase (continuously with time) of about 1.4 percent per month.
- Baer-25 The Lead Agencies acknowledge receipt of comments submitted to the CCC on or about February 2015. The Lead Agencies do not direct the HWG, nor can they compel the CCC to respond to the commenter’s questions directed to Tom Luster. Further, the Lead Agencies do not possess the information to respond to these questions directly, nor would such responses be within the scope of this EIR/EIS.
- Baer-26 Source water ocean intake technology has evolved over the past several years, as noted in response to comment Baer-1. See Master Response 11, Section 8.2.11.8 for a discussion of slant well technology. As described therein, the loss of well efficiency at the Doheny Test Slant Well (aka Dana Point) was expected due to the inability to fully develop the well during construction. The report cited by the comment is referenced in the EIR/EIS Section 4.4 as Geoscience, 2012.
- Baer-27 This comment is not correct; see Master Response 11, Section 8.2.11.8 and response to comment Baer-26.
- Baer-28 See Master Response 11 regarding the long-term pump test results and use of test slant well data in the Draft EIR/EIS. The comment references “slant well performance expectations.” The Draft EIR/EIS did rely on observed, reported data from the test slant well monthly reports as described in Master Response 11 Section 8.2.11.6. “Expectations” or projections of future test slant well results not yet reported as of publication of the Draft EIR/EIS would have been speculative; however, because the reported results informed the revised groundwater model, the Draft EIR/EIS did incorporate modeled projections of MPWSP pumping results that were based in part on test well data. See, e.g., Draft EIR/EIS pages 2-34 (“Test slant well pumping and monitoring data was used to refine the aquifer properties represented in the revised version of the groundwater model. . .”) and 4.4-42 (“The results have been used to refine the groundwater models and inform the analysis of the proposed project.”)

- Baer-29 Reporting of the test slant well performance was a condition of the CDP and those publicly available reports were filed with the CCC in compliance with Special Condition 11. The table does not include the interruptions from 2015 because those events are described in the text that precedes the table. See also Master Response 11, Section 8.2.11.5. Test slant well performance has been a topic in the CPUC proceeding and will be taken into consideration during the decision-making process (see EIR/EIS Section 1.5.4.1). In addition, test slant well data is discussed further in Master Response 11, which is part of the Final EIR/EIS. See also response to comment Baer-19 and Final EIR/EIS Appendix E3, Section 3.4, wherein the HWG summarizes the results of the 2.5-year slant well pumping test.
- Baer-30 Power interruptions accounted for 19 days of test slant well outages over the two-year (730-day) period between April 2015 and April 2017. EIR/EIS Section 3.2.5 describes the proposed project electrical power facilities and states that “new underground and aboveground power lines would be installed at the CEMEX active mining area” as well as new electrical control cabinets for more reliable electric service to avoid these types of power outages (see Draft EIR/EIS page 3-44). As described in Section 3.2.2.2, “CalAm would install a 750-kilowatt (kW) (1,000 hp) emergency diesel fuel-powered generator and a 2,000-gallon, double-walled, aboveground diesel storage tank next to the [RO] process building. The generator would provide backup power for critical desalination plant facilities (e.g., lights, electrical controls, and high-service pumps to empty the clearwells) during power outages.” (see Draft EIR/EIS page 3-26). In the event of an extended outage, CalAm would rely on its other supply sources including the Carmel River, Seaside Basin groundwater, the Sand City Desalination Plant, and Carmel River and desalinated water that have been stored in ASR. See also Section 3.4.1, Table 3-7, which discusses recovery operations of the desalination plant following a shut-down.
- Baer-31 As stated in EIR/EIS Section 4.3.5.4, Impact 4.3-6, because slant well maintenance activities would be considered a “land disturbance activity” the Construction General Permit would apply and require the contractor to prepare a SWPPP that includes specific measures to manage pollutants generated during maintenance activities. Pollutants could include those generated from equipment fueling and storage, inadvertent releases of toxic chemicals (i.e., solvents or oxidizers), if used, and discharges of cleaning effluent. Sediment is also a concern as it could contain well cleaning chemicals, but, it also could be released to the waters of the Monterey Bay, locally increasing the sediment load and degrading the visual quality of the water. The Construction General Permit does not permit sediment to be released into surface water bodies.
- Baer-32 See response to comment Baer-31. Environmentally inert refers to substances that are not reactive with soil, water, and air. Properly used, environmentally inert cleaning agents have been successful in cleaning well screens. The test slant well has been cleaned using standard well cleaning procedures with no issues.

Baer-33 As the slant well design for groundwater wells is adapted from the technology that has been employed in the oil industry for many years, products and procedures to maintain these large extraction wells have long been established and successful. The well cleaning procedures are described in Master Response 11, Section 8.2.11.9.

References

Hydrogeologic Working Group (HWG), 2015. Letter to Charles Lester, California Coastal Commission, July 23.

8.7.2 Responses to Comments from David Beech – Letters 1 through 6

8.7.2.1 Responses to Comments from David Beech – Letter 1

- Beech1-1 See Master Response 11, CalAm Test Slant Well, Sections 8.2.11.2 and 8.2.11.3. Regarding Special Conditions 6 and 17 of the CDP, which address decommissioning of the test slant well and posting a bond to ensure that it is carried out, see response to comment MCWD-80 in Section 8.5.2.
- Beech1-2 See Master Response 11, Section 8.2.11.7.
- Beech1-3 See Master Response 11, Section 8.2.11.2.
- Beech1-4 See Master Response 11, Section 8.2.11.2.
- Beech1-5 The operation of the test slant well pursuant to its existing permits is outside the scope of this EIR/EIS; therefore, this comment does not address the Draft EIR/EIS. The Lead Agencies do not manage the test slant well and thus do not have data in response to the commenter's question.
- Beech1-6 See response to comment Cech-11 in Section 8.7.6, and Master Response 11, Section 8.2.11.5.
- Beech1-7 See Master Response 11, Section 8.2.11.7.
- Beech1-8 As explained in the EIR/EIS in Section 3.1, the test slant well is now permitted to operate until February 2019 and it is not part of the Proposed Project being evaluated in this EIR/EIS. If the MPWSP with subsurface slant wells at CEMEX is not approved and implemented, the test well would be removed. The CPUC, as the CEQA Lead Agency for the MPWSP EIR/EIS, does not have jurisdiction over the test slant well, nor the terms and conditions of the CDP issued by the CCC. See Master Response 11.
- Beech1-9 This comment does not address the adequacy or accuracy of the Draft EIR/EIS.
- Beech1-10 The Lead Agencies acknowledge receipt of the commenter's letter to Mr. Traylor at the CCC Enforcement Office. The Lead Agencies do not have jurisdiction over the CCC or the terms and conditions of the CDP issued by the CCC. See also Master Response 11.
- Beech1-11 See Master Response 11, Sections 8.2.11.2, 8.2.11.3 and 8.2.11.7.

8.7.2.2 Responses to Comments from David Beech – Letter 2

- Beech2-1 As noted in EIR/EIS Appendix I1, “Subsurface intakes . . . collect source water through the ocean bottom and coastal aquifer sediments.” Footnote 4 in Draft EIR/EIS Section 1.3.2.1 states, “. . . The proposed slant wells would draw ocean water through the seafloor sediments, which would pre-filter the seawater for use at the desalination plant.” See Master Response 2, Source Water Components and Definitions, Master Response 11, Section 8.2.11.5, as well as response to comments PWN2-52 in Section 8.6.17, and Coppernoll-36 in Section 8.7.8.
- Beech2-2 See Master Response 8, Project Source Water and Seawater Intrusion. Also see response to comment Cech-4 in Section 8.7.6, regarding the position of the slant well screens.
- Beech2-3 The EIR/EIS indicates that proposed slant wells would extract primarily seawater and a smaller volume of brackish inland groundwater, and evaluates the impacts of this proposed source water intake. See Master Response 8.
- Beech2-4 The performance and reliability of vertical wells are well known. They would penetrate the same aquifer units as the proposed slant wells and would be located the same distance inland from Mean High Water because of the effects of coastal erosion. As explained in EIR/EIS Appendix I1, at least 24 vertical wells would be needed over a linear distance of at least one mile to provide the 24.1 mgd of source water required for the MPWSP; alternative subsurface intakes would result in a smaller construction and operational footprint than vertical wells. Therefore, vertical wells were considered infeasible for the MPWSP, both from a construction and operation perspective and in terms of economic, legal (permitting), and environmental factors.
- Beech2-5 See Master Response 11, Section 8.2.11.8, which addresses comments about the evolving slant well technology.
- As explained in EIR/EIS Appendix I1, to be screened in the Dune Sands and 180-FTE Aquifers, a vertical well at the CEMEX location would have to be drilled to about 200 feet deep to avoid penetrating the Salinas Valley Aquitard; the well screens could not be any longer than the 200 feet, minus any allowance for the non-screened portions of the well casing. Vertical wells have a yield of between 0.1 and 1.5 mgd. The proposed slant wells, on the other hand, would be screened for approximately 400 to 800 feet and like the test slant well, would pump approximately 2,000 gpm, or about 3 mgd. Therefore, vertical wells do not have the same output as slant wells.
- Beech2-6 See response to comment Beech2-5.
- Beech2-7 EIR/EIS Table 3-2 presents the lengths of permanent slant wells seaward of mean high water (MHW) line. Mean High Water was mapped because it delineates

MBNMS jurisdiction; Mean Low Water has not been mapped. The term “offshore” is used in the table to identify lengths within MBNMS.

- Beech2-8 See Master Response 11, Section 8.2.11.9.
- Beech2-9 Assumptions are explained in the footnotes to EIR/EIS Table 3-2, and are further explained in EIR/EIS Appendix C2, Analysis of Historic and Future Coastal Erosion with Sea Level Rise.
- Beech2-10 Draft EIR/EIS Figure 3-3a on page 3-13 is true-to-scale and shows the wells within the City of Marina, as well as extending beyond MWH 2020, which puts them within MBNMS jurisdiction.
- Beech2-11 The well screens will be at depths corresponding to the Dune Sand and the 180-FTE Aquifers. Ocean water and a small percentage of seawater-intruded groundwater that originated in the Salinas Valley Groundwater Basin would be drawn through these aquifer units as source water. See also Master Response 8.
- Beech2-12 See Master Response 11, Sections 8.2.11.9 and 8.2.11.5.
- Beech2-13 The proposed project includes a permanent connection to the outfall, which will eliminate outages from storm events, and new electrical control boxes for more reliable electric service to avoid these types of power outages. See also Master Response 11.
- Beech2-14 See Master Response 11, Section 8.2.11.9.
- Beech2-15 Only minor design changes would be allowed without a further discretionary approval process and any such process could trigger additional NEPA or CEQA review. CEQA Guidelines Sections 15162 through 15164 describe the circumstances under which further CEQA review is required after an EIR has been certified, and the extent of such review. Similarly, NEPA at 40 CFR 1502.9(c) describes the responsibility of agencies to prepare supplements to environmental impact statements if substantial changes in the proposed action are made that are relevant to environmental concerns. In the event that CalAm proposes changes to the project after completion of the CEQA and NEPA evaluation processes, the Lead Agencies will fulfill their responsibilities pursuant to these requirements.
- Beech2-16 The EIR/EIS analyzes the effects of the totality of the proposed project’s production wells (as described in EIR/EIS Section 3.2.1.1) throughout the EIR/EIS, and not as a cumulative scenario. The 2016 version of the North Marina Groundwater Model (NMGWM²⁰¹⁶) was used to simulate the impacts of the proposed project pumping. See EIR/EIS Section 4.4.4.2 and Appendix E2 regarding the groundwater model and methodology.

- Beech2-17 The existing Begonia Iron Removal Plant (BIRP), with a throttling valve at Valley Greens, currently provides the pressure for the water to reach the Segunda Reservoir. If the MPWSP were operating and the lower Carmel River wells were not, there would only be a minimal maintenance flow going through the BIRP. At this low flow, the Carmel Valley Pump Station would be necessary to boost water up to Segunda Reservoir.
- Beech2-18 The MPWMD, as the Lead Agency for the Monterey Pipeline CEQA review, determined that an Addendum was the appropriate CEQA document to prepare. The Lead Agencies for the MPWSP EIR/EIS do not have jurisdiction over the MPWMD. This comment does not address the adequacy or accuracy of the MPWSP Draft EIR/EIS.
- Beech2-19 Master Response 2 addresses the topic of water rights. This comment does not address the adequacy or accuracy of the Draft EIR/EIS. The Lead Agencies do not take a position in this EIR/EIS regarding cost recovery.

8.7.2.3 Responses to Comments from David Beech – Letter 3

- Beech3-1 The 2011 RBF report was prepared for CalAm, it was a preliminary review of potential alternatives to the Coastal Water Project (and the Regional Project) at that time, and it was not used in the EIR/EIS. The 2011 RBF report concludes that “the next step is to complete an assessment of the permitting and schedule impact for each alternative. This will be presented in a subsequent technical memorandum at which point a final recommendation as to the most attractive alternate or alternates can be determined.” The Lead Agencies have not seen the final recommendation but it appears as though CalAm considered the RBF recommendation in its preparation of the project description included in its application for the MPWSP that was submitted to the CPUC on April 23, 2012.

The evaluation of alternatives in Chapter 5 of the EIR/EIS includes a reasonable range of alternatives to the proposed MPWSP that meets the requirements of both CEQA and NEPA. One of the documents considered in the alternatives analysis was the January 9, 2013 memo prepared by RBF titled *Memorandum: Contingency Planning for the MPWSP (Update of November, 1, 2012 TM)* and cited in the Draft EIR/EIS as RBF, 2013 (see Draft EIR/EIS page 5.3-5).

The RBF-conceived Alternative 9 was based on the assumption that water rights could be obtained to divert significant amounts of water from either the Carmel River or the Salinas River in the winter months, for storage in the Seaside Groundwater Basin for extraction in the summer months. The alternative was described by RBF as including (but not being limited to) a separate intake and pumping station located at the existing Salinas River Diversion Facility Inflatable Dam, 4,000 feet of new 48-inch diameter pipeline to convey raw water to a new surface water treatment plant, and 16 new ASR wells in the Seaside Basin to inject and extract a long term average

of approximately 6,850 afy in the Seaside Groundwater Basin. EIR/EIS Section 5.2.3 discusses that it was previously determined the purchase of water rights from the Salinas River was fatally flawed and infeasible (see EIR/EIS Table 5.2-1 and also response to comment Beech3-3).

Beech3-2 Master Response 15, Alternative Desalination Projects – Status, Information Sources, and Cumulative Scenarios, describes the status of the DeepWater Desal Project and People’s Project, as well as the communication among the Lead Agencies and proponents of these projects.

Beech3-3 The availability of winter runoff would not meet the peak month demands of CalAm’s customers without significant storage. See response to comment Beech3-1. In 2010, the State Water Resources Control Board (SWRCB) issued a Notice of Proposed Revocation of Water Right Permit #11043,¹ asserting that the Monterey County Water Resources Agency (MCWRA) had “failed to commence, prosecute with due diligence and complete the work necessary to appropriate water under Permit #11043” (SWRCB, 2010). In 2013, the SWRCB approved a Settlement Agreement² that amended Water Right Permit #11043, reducing the face amount of the permit and setting forth required Salinas River bypass flows. In addition, the Settlement Agreement outlined a series of 12 milestones that MCWRA is required to meet in order to demonstrate progress towards implementing Phase II of the Salinas Valley Water Project (SVWP): a timely petition for extension of time was submitted to the SWRCB and a Notice of Preparation for the Salinas Valley Water Project Phase II Draft EIR was issued by July 1, 2014. However, a Draft EIR was not released by July 1, 2015; a draft financing plan was not issued by July 1, 2016; and a Final EIR was not certified by July 1, 2017. Therefore, several milestones within the Settlement Agreement have not been met and the future availability of water under Permit #11043 is extremely uncertain.

Beech3-4 The water provided under Permit #11043 would be for irrigation and municipal purposes within portions of Zone 2 of the MCWRA and would be an important part of the SVWP Phase II solution to seawater intrusion. However, since the SWQCB issued a Notice of Proposed Revocation of Water Right Permit #11043 in 2010, and since several annual milestones within the Settlement Agreement that amended Water Right #11043 have not been met, the future availability of water under Permit #11043 in Zone 2 is extremely uncertain (see response to comment Beech3-3). Therefore, since the SWRCB has proposed to revoke the permit, and MCWRA has failed to meet all but the first of 12 milestone cited in the Notice of Proposed Revocation of Water Right Permit #11043, the prognosis for refinements by the SWRCB to allow the water to be used outside of MCWRA’s Zone 2 in the CalAm service area is extremely uncertain and not reasonably foreseeable or attainable.

¹ Available online at <http://www.co.monterey.ca.us/home/showdocument?id=19020>

² Available online at <http://www.co.monterey.ca.us/home/showdocument?id=24248>

- Beech3-5 See responses to comments Beech3-3 and Beech3-4.
- Beech3-6 The Interlake Tunnel project was considered and discussed in EIR/EIS Section 5.2.5.
- Beech3-7 Source waters for Pure Water Monterey GWR will include stormwater, wastewater, food industry process water as well as impaired surface waters of the State. The SWRCB, not the Salinas Valley farmers, will determine the place of use of water from Permit #11043.
- Beech3-8 If Salinas River surface water could be made available to CalAm (see responses to comments Beech3-3 and Beech 3-4), it would be less expensive to treat than seawater. The RBF 2011 report presumed, however, that Salinas River water would: 1) be of suitable quality that it would be possible to meet drinking water standards with membrane filtration treatment, and; 2) that regulatory or public concerns over water quality issues do not prevent Salinas River water from being stored in the Seaside Groundwater Basin. Both of these issues are currently uncertain (RBF, 2011). The delivery pipeline might be sharable, and the CA Department of Public Health, Division of Drinking Water, would need to make that determination.
- Beech3-9 The Pure Water Monterey GWR Final EIR evaluated source water quantities in excess of the needs of that project in the event one or more sources may not be available. The availability of water under Permit #11043 for an expansion of GWR is extremely uncertain. See responses to comments Beech3-3 and Beech3-4.
- Beech3-10 See responses to comments Beech3-3, Beech3-4, Beech3-8 and Beech3-9.
- Beech3-11 The comment does not address the adequacy or accuracy of the Draft EIR/EIS.
- Beech3-12 See responses to comments Beech3-1, Beech3-3, Beech3-4, Beech3-7, Beech3-8 and Beech3-9.
- Beech3-13 “Plan C” as described in the comment is not much different than Alternative 5a or 5b (reduced-size desalination plant plus ASR and GWR), but for the unlikely addition of Salinas River ASR. See responses to comments Beech3-1, Beech3-3, Beech3-4, and Beech3-9.
- Beech3-14 Both the DeepWater Desal Project and the People’s Project are considered as alternatives to the proposed project, as defined in Chapter 5 of the EIR/EIS. This allows decision-makers to judge the options against each other, and to consider which option best meets the project objectives and minimizes environmental impacts. Master Response 15 describes the status of these projects, as well as the communication among the Lead Agencies and proponents of these projects. There is no specific requirement under either CEQA or NEPA to coordinate reviews of projects that share one or more project objectives. These projects are at different stages of development and have different lead agencies. For example, the CPUC is the CEQA Lead Agency

for the proposed project, but the Moss Landing Harbor District is the CEQA Lead Agency for the People’s Project, and the State Lands Commission is the CEQA Lead Agency for the DeepWater Desal Project. CEQA and NEPA do contain requirements on timely preparation of CEQA and NEPA documents for a proposed project such that a lead agency could not readily delay analysis of a project because a competing project lagged behind in review. Furthermore, a basic objective of the MPWSP is to comply with state orders directing CalAm to secure a replacement water supply for certain water being taken from the Carmel River. The need to comply with such state legal requirements dictates against delaying a decision on the best option to select for CalAm to meet its customers’ water needs.

Beech3-15 As described in EIR/EIS Section 1.5.2, the comment period for the MPWSP Draft EIR/EIS commenced on January 13, 2017, the date of publication. Draft EIR comment periods under CEQA are governed by CEQA Guidelines Section 15105. Draft EIS comment periods under NEPA are governed by NEPA implementing procedures at 40 CFR 1506.10(c). Proposals for other projects by other proponents do not affect the comment periods relevant to the MPWSP. See also response to Beech3-14, and Coppernoll-75 in Section 8.7.8.

Beech3-16 See responses to comments Beech3-14 and Beech3-15 and Master Response 15 regarding the status of environmental review of the DeepWater Desal Project and People’s Project.

Beech3-17 No comments received on the Draft EIR/EIS have raised issues that would require recirculation of the Draft EIR/EIS. The Final EIR/EIS does not alter the significance conclusions reached in the Draft EIR/EIS or identify new and feasible alternatives or mitigation measures to address significant effects, which alternatives or mitigation measures will not be incorporated into the project.

Beech3-18 See responses to comments Beech3-7 through Beech3-10.

Beech3-19 The Lead Agencies will take all comments into consideration in the decision-making process. See also EIR/EIS Section 1.5.4 and Master Response 15.

8.7.2.4 Responses to Comments from David Beech – Letter 4

Beech4-1 The representation of the test well in the EIR/EIS is not inconsistent with the CCC staff report that is provided as a link in the comment. The project purpose in the staff report is presented correctly by the commenter (“If the data collected from this proposed test well demonstrates that **this** well design and location would provide the necessary amount of water . . .”), and as a result of operating the test slant well, CalAm indeed revised this well configuration (design) at this location, as described in EIR/EIS Section 1.4.4. Furthermore, revising the representation of the test slant well’s stated project purpose in the EIR/EIS would not change or alter any of the analysis or

conclusions of potential impacts associated with the conversion of the existing test slant well to a permanent production well. No change has been made to the text.

Beech4-2 The slant wells described in the EIR/EIS, Section 3.2.1.1 were used in the groundwater modeling scenarios presented in EIR/EIS Section 4.4 and in Appendix E2. See also Master Response 11, Section 8.2.11.9.

See Master Response 11, Sections 8.2.11.2 and 8.2.11.3, for a discussion of the CEQA/NEPA review of the test slant well. Footnote 2 has been revised accordingly in the Final EIR/EIS.

Beech4-3 As noted in response to comment Beech4-2, the footnote has been revised in the Final EIR/EIS. See Master Response 11, Section 8.2.11.2.

Beech4-4 The HWG was not established by the CPUC. See Master Response 5, The Role of the Hydrogeologic Working Group and its Relationship to the EIR/EIS, Sections 8.2.5.2, 8.2.5.3, and 8.2.5.6.

Beech4-5 The pump test was suspended in June 2015, in compliance with the CDP Special Condition 11. See Master Response 11, Section 8.2.11.5 for a discussion of the long-term pump test and the provisions of Special Condition 11 that required suspension of the test in response to specific monitored conditions. The HWG provided the CCC with two analyses of groundwater elevations and TDS trends in the compliance monitoring wells, and demonstrated the influence of regional pumping. Also note that the water level in the monitoring wells continued to drop even when the test slant well was not operating. The CPUC does not have authority to review the monitoring well data, nor does it have authority over the HWG. The CPUC therefore, cannot compel that group to respond to the questions posed by the commenter to the CCC.

Beech4-6 This comment addresses the test slant well permits and is not a comment on the adequacy or accuracy of the MPWSP Draft EIR/EIS. As stated in the CCC staff report referenced by Beech4-1, “Cal-Am would use the test slant well to conduct a pumping and testing program over an approximately 24-month period . . .” The commenter is correct -- the CDP for the test slant well did not preclude voluntary interruption of testing.

The issue of ratepayer liability is outside the scope of the CEQA and NEPA; see response to comment PWN2-22 in Section 8.6.17.

Beech4-7 Regarding the feasibility of slant well technology, see Master Response 11, Section 8.2.11.8. Regarding ratepayer liability, see response to comment Beech4-6.

Beech4-8 See response to comment Beech4-6.

Beech4-9 An EIR/EIS does not recommend approval or disapproval of a proposed project. The basic purposes of CEQA, described in the CEQA Guidelines at Section 15000, are to:

- (1) Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities.
- (2) Identify the ways that environmental damage can be avoided or significantly reduced.
- (3) Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- (4) Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The purposes of NEPA are very similar. An EIR/EIS objectively evaluates the environmental effects of the proposed project and feasible alternatives to the project so that the decision-makers can take that information into account.

Beech4-10 The receipt of the January 17, 2016 letter to Dr. Charles Lester is acknowledged.

Beech4-11 The commenter is correct; the test slant well CDP Special Condition 11 was modified by the CCC to include taking regional trends into account when considering the test slant well's contribution to changes in water levels. Because, for example, water levels in some of the monitoring wells continued to drop while the test well was not pumping. But the commenter is not correct that each [monthly] report sets a new baseline; the CEQA/NEPA use of the baseline is not violated. See Master Response 11, Section 8.2.11.5, specifically Figure 8.2.11-1.

Beech4-12 This comment does not address the EIR/EIS. The Lead Agencies are not responsible for publishing the test slant well data. See EIR/EIS Appendix E2, Section 4.2, for how the test well data was used to calibrate the groundwater model.

Beech4-13 See response to comment Beech4-12.

8.7.2.5 Responses to Comments from David Beech – Letter 5

Beech5-1 The use of the EIR/EIS in decision making, specifically the CPUC and MBNMS processes, is explained in EIR/EIS Section 1.5.4. CPUC and MBNMS must complete the CEQA and NEPA processes, respectively, before taking action to consider approving the proposed project or an alternative.

Beech5-2 See responses to comments Beech3-1, Beech3-3, Beech3-4, Beech3-7, Beech3-8, Beech3-9, Beech3-10, and Beech5-1. The Lead Agencies will require publication of the Final EIR/EIS before any decisions are proposed by either Lead Agency.

- Beech5-3 The Lead Agencies will require publication of the Final EIR/EIS before any decisions are proposed by either Lead Agency.
- Beech5-4 Termination of a project would obviate the requirement to continue CEQA or NEPA work to evaluate the project. Here, the Lead Agencies will require publication of the Final EIR/EIS before any decisions are proposed by either Lead Agency.
- Beech5-5 EIR/EIS Chapter 5 includes a suite of alternatives, and the decision-makers could select any one of them, or some combination of alternatives. See also response to comment Beech5-1 and Master Response 15.
- Beech5-6 Nothing in the comments received on the EIR/EIS changes the conclusion of the environmentally superior alternative identified in EIR/EIS Section 5.6. See response to comment Beech5-2.

8.7.2.6 Responses to Comments from David Beech – Letter 6

- Beech6-1 The comment does not address the adequacy or content of the environmental analysis in the Draft EIR/EIS.

References

RBF, 2011. Cost Analysis of Water Supply Alternatives. Prepared for California American Water, October 5.

State Water Resources Control Board (SWRCB), 2010. Notice of Proposed Revocation of Water Right Permit #11043t. Available online at http://www.waterboards.ca.gov/waterrights/water_issues/programs/hearings/mcwra/010610mcwraproprevo.pdf

8.7.3 Responses to Comments from Kathy Biala

8.7.3.1 Responses to Comments from Kathy Biala – Letter 1

- Biala1-1 Regarding the issue of seawater versus groundwater extraction, water rights, and harm, see Master Response 3, Water Rights, Section 8.2.3.5. Regarding all comments in this letter that quote the EIR/EIS as “CalAm’s statement,” please note that this EIR/EIS was prepared by the CPUC as the CEQA Lead Agency, and MBNMS as the NEPA Lead Agency and by independent consultants on behalf of these agencies, and not by CalAm, the project applicant. See Master Response 1, EIR/EIS Authorship.
- Biala1-2 See Master Response 3, Water Rights, Section 8.2.3.2.
- Biala1-3 The concept of “harm” as used in EIR/EIS Section 2.6 is specific to water rights; see Master Response 3, Water Rights, Section 8.2.3.5. Impacts on groundwater levels and groundwater quality are addressed as required by CEQA and NEPA in EIR/EIS Section 4.4. Groundwater drawdown in the Salinas Valley Groundwater Basin (SVGB), as calculated by the North Marina Groundwater Model v. 2016 (NMGWM²⁰¹⁶), is not dependent on relative volumes of freshwater originating in the Basin (the “Basin water” referred to in the quoted text) and seawater that are expected to be drawn into the supply wells. Accordingly, Master Response 12, The North Marina Groundwater Model (v. 2016), explains that NMGWM²⁰¹⁶ was employed to calculate the water level decline (drawdown) in response to proposed project pumping. Regarding the method of estimating the ocean water percentage (OWP) in project source water, see Master Response 4, Agency Act and Return Water, Section 8.2.4.3 and EIR/EIS Appendix E3.
- Biala1-4 See Master Response 3, Water Rights, Section 8.2.3.3, as well as Master Response 11, CalAm Test Slant Well, Section 8.2.11.8, regarding the Dana Point slant well at Doheny State Beach.
- Biala1-5 The Lead Agencies’ assertion (not CalAm’s, see Master Response 1, EIR/EIS Authorship), that the water that would be extracted by the slant wells would be brackish, is because the sampled water drawn from the monitoring wells within the capture zone indicate the water is brackish. See Master Response 8, Project Source Water and Seawater Intrusion, Section 8.2.8.2, and responses to comments MCWD-Hopkins Groundwater Consultant (HGC) in EIR/EIS Section 8.5.2.2. Note also that the HGC January 2016 memo cited in the comment refers to the modeling effort associated with the April 2015 Draft EIR, known as NMGWM²⁰¹⁵; that version of the model was updated for the January 2017 Draft EIR/EIS; see Master Response 12, The North Marina Groundwater Model (v. 2016).
- Biala1-6 See Master Response 4, Agency Act and Return Water, Section 8.2.4.3, and EIR/EIS Appendix E3 for information regarding the calculation of the OWP; and Master Response 8, Project Source Water and Seawater Intrusion, for further information on

the groundwater quality of the slant well capture zone. When the Draft EIR/EIS was prepared, the estimate of the OWP in the source water was not finalized, but based on monitoring work at the test slant well, it appeared that the actual OWP necessary to gauge return water amounts would range between 0 and 12 percent. For example, the test slant well at CEMEX was extracting water that was reported to be in the range of 29,400 mg/L (see Table 3 in Geoscience, 2016a), or 12 percent of ocean water salinity (33,500 mg/L), suggesting 12 percent was a reasonable upper limit. EIR/EIS Section 2.6.2 has been revised to acknowledge, as discussed in Section 4.4, Groundwater Resources, that as a result of the data generated from the test slant well long-term pump test, the HWG estimates that the long term amount of fresh water within the source water (stabilizing over the first several years of project operation) would be between 1 and 4 percent. The water in the capture zone of the slant wells is currently brackish to saline, so it was reasonable to expect the feedwater would contain about 88 to 100 percent seawater. As discussed in EIR/EIS Impact 4.4-3, the groundwater modelers used these return water percentages to capture minimum, maximum, and mid-range estimates of return water volumes for purposes of projecting groundwater response.

- Biala1-7 See Master Response 2, Source Water Components and Definitions, and Master Response 3 Water Rights.
- Biala1-8 See Master Response 4, The Agency Act and Return Water, and Master Response 3, Water Rights. The EIR/EIS does not assert that return water would benefit MCWD. Impacts on groundwater resources, both local and “regional” (to the extent that project impacts would extend beyond the slant well capture zone) are fully analyzed in EIR/EIS Section 4.4 and determined to be less than significant.
- Biala1-9 See responses to comments MCWD-HGC in Section 8.5.2.2.
- Biala1-10 See Master Response 2, Source Water Components and Definitions, and Master Response 3, Water Rights.
- Biala1-11 CalAm monitoring well MW-7S, -7M and 7D all show signs of groundwater quality impacts by seawater intrusion. These wells range in Total Dissolved Solids (TDS) from 1,200 milligrams per liter (mg/L) in the shallow well to 26,700 mg/L in the deep well. Curtis Hopkins, in his January 2017 memo to MCWD, states that groundwater in monitoring wells MW-7S and MW-7M has a calcium chloride signature indicative of recharge from an overlying layer and not seawater. However, as explained in the responses to comments MCWD-HGC in Section 8.5.2.2, this is a mischaracterization of the data since a calcium chloride character suggests a cation exchange between sodium and calcium and is an indicator of incipient seawater intrusion.

The water quality data does not verify that the well is no longer “contaminated by seawater” and there is no historical record of data confirming the assertion that any or

all of the MW-7 wells are “no longer contaminated by high concentrations of seawater.” While it has been demonstrated that “responsible curtailing of pumping results in decreases in seawater contamination,” current efforts in the Marina Area to reduce pumping in the 180-Foot Aquifer and 400-Foot Aquifer would likely have a diminutive positive effect on decreasing seawater intrusion since the inland hydraulic gradient has been established for years and seawater continues to intrude inland. As discussed in Master Response 8, Project Source Water and Seawater Intrusion, the proposed pumping under the MPWSP would occur in a coastal-adjacent capture zone that receives recharge from the ocean, thereby capturing seawater that would otherwise migrate inland. As discussed in Impact 4.4-4, groundwater modeling and particle tracking shows that the MPWSP would not exacerbate seawater intrusion and would be expected to retard future inland migration of the seawater intrusion front.

- Biala1-12 The EIR/EIS does not state that drawing fresh water in the future in any way determines CalAm’s water rights; it does state that if the water in the underlying groundwater basin were to become fresher in the future, steps may need to be taken to ensure that no harm ensues to existing legal users of groundwater. See also Master Response 3, Water Rights.
- Biala1-13 The hydrogeologic understanding that pumping 24.1 million gallons per day (mgd) of groundwater from a capture zone along the coast would retard future inland migration of seawater intrusion is not a theory but an expected outcome based on an understanding of the regional hydrogeology and the output of a groundwater model. The scientific evidence is contained in the results of an independent, validated physically-based groundwater flow model that has been calibrated using data from numerous soil borings and wells. The EIR/EIS Impact 4.4-4 and Appendix E2 explain how the groundwater model was used to project how groundwater would respond to the proposed pumping. See Master Response 12, The North Marina Groundwater Model (v. 2016), Sections 8.2.12.2 and 8.2.12.3, for more information on model construction and calibration. Also, see Master Response 8, Project Source Water and Seawater Intrusion, Sections 8.2.8.1 and 8.2.8.4, which provide additional information on the capture zone and cone of depression that form in response to the proposed MPWSP pumping.
- Biala1-14 The comment is noted and will be considered by decision-makers. But the comment is incorrect in that a 9.6 mgd and a 6.4 mgd desalination plant would extract 27,000 afy (24.1 mgd) and 17,360 afy (15.5 mgd) respectively, as source water. If CalAm’s return water obligation was 6 percent (the mid-point evaluated in the EIR/EIS), CalAm would be required to return 1,620 afy or 1,042 afy, depending on the size of the desalination facility. See also Master Response 3, Water Rights, Section 8.2.3.6 and Master Response 4, Agency Act and Return Water, Section 8.2.4.3.
- Biala1-15 See Master Response 2, Source Water Components and Definitions, and Master Response 3, Water Rights.

- Biala1-16 The EIR/EIS clearly and repeatedly describes that the slant wells would draw water from the Dune Sand and 180-Foot Aquifers; see for example, EIR/EIS Table 3-1, “The slant wells would draw water from groundwater aquifers that extend beneath the ocean floor (the Dune Sands Aquifer and the 180-Foot-Equivalent Aquifer of the Salinas Valley Groundwater Basin) for use as source water for the MPWSP Desalination Plant.” See Section 4.4, Groundwater Resources, for an analysis of project impacts on groundwater resources. Also see Master Response 3, Water Rights.
- Biala1-17 Impacts on groundwater resources, both local and “regional” (to the extent that project impacts would extend beyond the slant well capture zone) are fully analyzed in Section 4.4. See also Master Response 3, Water Rights, and Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM).
- Biala1-18 See response to comment Biala1-3. The text cited in the comment is from EIR/EIS Section 2.6, Water Rights, and the scientific data to support those claims are presented in EIR/EIS Section 4.4, Groundwater Resources, which is supported by Appendices B2, C1, C2, C3, E2 and E3.
- Biala1-19 As stated in the EIR/EIS text quoted in the comment, “Given that the well pumps and the screens are set *at least tens of feet* below the existing groundwater level,” (emphasis added), a drawdown of less than 5 feet would not affect these wells. See EIR/EIS Section 4.4, Groundwater Resources, concerning the expected project effects on local groundwater levels and wells. See Master Response 11, CalAm Test Slant Well, for information on the history and status of test well activities and results. The condition imposed on test slant well operations by the California Coastal Commission with respect to a water decline resulting from the test well (which is discussed in detail in Master Response 11) was not necessarily correlated to the water rights question of whether existing legal water users would be harmed by the project, nor was that condition of approval informed by the analysis (including groundwater modeling of project effects) contained in the EIR/EIS. Also, see Master Response 3, Water Rights.
- Biala1-20 Conclusions in the EIR/EIS are supported by scientific study and evidence cited in the EIR/EIS and included in the administrative record; see responses to comments Biala1-13 and Biala1-18. See also Master Response 3, Water Rights.
- Biala1-21 ERT/AEM provides a static image representing a point in time and does not, as the comment states, “provide a detailed record of changes in the aquifers.” See Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM), Section 8.2.9.3.
- Biala1-22 See Master Response 3, Water Rights. In particular, see Section 8.2.3.2.

- Biala1-23 See Master Response 11, CalAm Slant Test Well, concerning the status of data available from the test slant well. Test well data received to date have been used by the Lead Agencies to assess project feasibility and impacts on groundwater resources, and the Lead Agencies will consider this data during the decision-making process. See also EIR/EIS Section 1.5 and Appendix E3.
- Biala1-24 See Master Response 12, The North Marina Groundwater Model (v. 2016), Section 8.2.12.1, which indicates that the NMGWM²⁰¹⁶ is a *more accurate representation* of the hydrostratigraphic framework of the Fort Ord area than the NMGWM²⁰¹⁵ and Salinas Valley Integrated Ground and Surface Water Model (SVIGSM). The nine recently installed monitoring wells were used to aid with this improved layer delineation and re-calibration; however, they were not the only points used in the model development and calibration. Model layering was defined using: available cross section data points from many sources; conductivity values were initially estimated from the SVIGSM and then modified based on pumping test results and calibration to water levels, and; measured water levels from multiple wells used in the SVIGSM as well as the nearby monitoring wells were used to access the model calibration. See also Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM), Section 8.2.9.2.
- Biala1-25 The model was employed to answer questions about the effects of slant well pumping on groundwater levels; see EIR/EIS Appendix E2, Section 1. The purpose for the model was not to test a hypothesis; an explicit hypothesis was not stated prior to model development. Its purpose was to “solve the groundwater changes due solely to the proposed project,” which is not a hypothesis statement. It is however, a reasonable attempt at a statement of the method used for answering questions about the effects of slant well pumping. EIR/EIS Section 4.4.4.2, Groundwater Modeling, states “Modeling scenarios were developed to project the drawdown from groundwater pumping at the CEMEX site and the alternative location at Potrero Road, and to assess the uncertainty in drawdown to model assumptions and input” (see Draft EIR/EIS page 4.4-50). Factors mentioned “such as seasonal climate and agricultural pumping trends” were considered and reviewed. However, the objective was to isolate the effects of slant-well pumping. Thus, the superposition model was developed. As indicated in Master Response 12, The North Marina Groundwater Model (v. 2016), Section 8.2.12.3, superposition is employed to isolate the expected change in groundwater levels and fluxes due solely to the slant wells. It is not necessary to study the impacts of agricultural pumping on the Basin because they do not inform the effects of slant well pumping using superposition. Therefore, it was not necessary to calibrate the revised model to the seasonal agricultural impacts on the basin. The uncertainty of the parameter values used in the model are discussed in EIR/EIS Section 4.4.4.2 and Appendix E2, Section 6.
- Biala1-26 The percentage of seawater contribution to the test slant well was projected to be approximately 96 percent *after four years of pumping* (emphasis added); see Figure 3

from Geoscience 2014b, as cited in EIR/EIS Appendix G2, and in response to comment Moore-2 in EIR/EIS Section 8.7.16.

As described in Master Response 4, The Agency Act and Return Water, Section 8.2.4.3, the return water volume (i.e., 100 percent minus the Ocean Water Percentage or OWP) was expected to be more than 0 percent but less than 12 percent, based on preliminary groundwater model runs and calculations. Therefore, to account for the variable return water volumes, the NMGWM²⁰¹⁶ was run with pumping scenarios that included representative return water volumes of 0, 3, 6, and 12 percent of the total source water volume. As further explained in Master Response 4 and EIR/EIS Appendix E3, the models used to estimate return water percentage confirmed that this range of assumptions was reasonable. Note that the analytical equation and numerical modeling methodology used to estimate the OWP from slant well pumping is different from the use of the NMGWM²⁰¹⁶ to estimate changes in groundwater levels. See the discussion titled “Return Water Considerations” in EIR/EIS Section 4.4.4 for discussion.

Biala1-27 This comment is addressing a product of the HWG (Monthly Report #14), and not the EIR/EIS. The NMGWM²⁰¹⁶ was not intended to be used to predict the results of test slant well pumping and was not used to assess the salinity of the test well water pumped. See EIR/EIS Appendix E2, Section 4.2, Test Slant Well Pumping, for an example where real-world monitoring data is utilized to compare measured drawdown with the drawdown calculated with the superposition model. See also Master Response 12, The North Marina Groundwater Model (v. 2016). The NMGWM²⁰¹⁶ is a valid model because: 1) it synthesizes the current hydrologic conditions in the area; 2) it is based on a solution of accepted mathematical equations that describe flow in porous media; and 3) the rigorous evaluation of uncertainty and its performance described in the EIR/EIS Appendix E2, Section 6, ensures that model errors are only a small part of the overall model response and the model meets the requirements for a well calibrated model. Also, as discussed in Appendix E2 Section 4.1, the NMGWM²⁰¹⁶ simulates the measured historical water level elevations from nearby wells within acceptable modeling criteria.

Biala1-28 The modeling has not been limited to a small area of the Salinas Valley Groundwater Basin. The NMGWM²⁰¹⁶ is based on the telescopic mesh refinement approach, where a relatively coarse model grid is utilized to represent the regional groundwater system defined by the physical limits of the aquifer, and a second smaller model having a relatively fine grid is utilized to represent a subregion of the aquifer. See Master Response 12, The North Marina Groundwater Model (v. 2016), for more information regarding the approach to groundwater modeling. The CPUC does not manage the HWG or its membership; see Master Response 5, The Role of the Hydrogeologic Working Group and its Relationship to the EIR/EIS.

Biala1-29 The text cited in the comment is from the Test Slant Well Long Term Pumping Monthly Monitoring Reports that are prepared by the Hydrogeologic Working Group

for the California Coastal Commission in compliance with CalAm's Coastal Development Permit Special Condition 11, and is not from the Draft EIR/EIS. The NMGWM²⁰¹⁶ was not employed to project the rate of salinity rise due to future test slant well pumping, nor was it calibrated using test slant well pump data. Data obtained during the pump test was used to validate the model. Therefore, any interruptions are part of the historical data set considered as part of that validation. See also EIR/EIS Appendix E3.

Biala1-30 See EIR/EIS Section 2.3, CalAm Service Area Demand, Section 4.4, Groundwater Resources, and Section 4.20, Socioeconomics and Environmental Justice. Consistent with NEPA and CEQA, the EIR/EIS analyzes the project as it was proposed by CalAm, the applicant. Likewise, the project objectives within the EIR/EIS (see Section 1.3) reflect the purposes for which CalAm proposed the project; to develop water supplies for the CalAm Monterey District service area. As discussed in EIR/EIS Section 2.3, CalAm Service Area Demand, CalAm must develop a replacement water supply to meet existing demand in its Monterey District service area, based on State Water Board Orders 95-10 and 2016-0016, and the Seaside Groundwater Basin adjudication. See also response to comment Hofmann-35. The Lead Agencies are not required to analyze the water supply and demand needs of jurisdictions outside the service area of the proposed project's applicant; however, EIR/EIS Section 4.4, Groundwater Resources, analyzes the physical impacts of the proposed project on the quality and quantity of water in the regional aquifers that could be affected by the project, thus providing data as to whether and how the water needs of other water users could be affected. See Master Response 3, Water Rights, specifically Section 8.2.3.7. EIR/EIS Section 4.20 analyzes the distributional patterns of minority and low-income populations in the region and characterizes the impacts of the proposed project on these communities, consistent with NEPA and CEQA. Water demand and the potential effects of the project on regional and local groundwater resources are fully evaluated in the EIR/EIS; no supplement is needed regarding these issues.

Biala1-31 The Lawrence Berkeley National Laboratory (LBNL) was scoped, as described in the comment, to address questions about the accuracy and credibility of the groundwater modeling work that was the subject of the potential conflict of interest comments, and the CPUC employed the LBNL to conduct an independent evaluation of that data. The text in EIR/EIS Appendix E1 – *near the shoreline* – is qualifying the phrase, “extraction of saline groundwater from beneath the sea floor *near the shoreline*.” The wells are indeed, *near the shoreline*.

EIR/EIS Appendix E2 explains that the Salinas Valley Groundwater and Surface Water Model (SVIGSM) represents the entire Salinas Valley Groundwater Basin; whereas, the NMGWM represents a 149 square mile subset of the over 650 square mile SVIGSM area; see response to comment Biala1-28. Master Response 12, The North Marina Groundwater Model (v. 2016), Section 8.2.12.1, explains that the NMGWM²⁰¹⁶ is based on the telescopic mesh refinement approach, where a relatively coarse model

grid is utilized to represent the regional groundwater system defined by the physical limits of the aquifer, and a second smaller model having a relatively fine grid is utilized to represent a sub-region of the aquifer. Continuity between the two models is maintained by extrapolating and specifying the simulated water levels from SVIGSM, at the NMGWM²⁰¹⁶ boundaries. See Master Response 12, Section 8.2.12.2 for information regarding the scope of the LBNL peer review of the NMGWM, as well as EIR/EIS Appendix E1. Also, see Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM), Section 8.2.9.2 and 8.2.9.3 for information on the use and application of ERT/AEM data for the EIR/EIS groundwater analysis. Refer to Impacts 4.4-3 and 4.4-4 for a discussion of the impacts of the project on regional groundwater resources. See also Master Response 8, Project Source Water and Seawater Intrusion, Section 8.2.8.4 for additional clarity regarding the effects of slant well pumping on the SVGB.

The CPUC decision-making process is explained in EIR/EIS Section 1.5.4. Pursuant to CEQA Guidelines Section 15090, as CEQA Lead Agency, the CPUC must certify that the Final EIR/EIS complies with CEQA and reflects the CPUC's independent judgment and analysis prior to approving the MPWSP or an alternative. If the CPUC certifies the Final EIR/EIS, it will then decide whether or not to grant the Certificate of Public Convenience and Necessity (CPCN) for the MPWSP, as proposed or modified. In addition to environmental impacts addressed during the CEQA process, the CPCN process will consider any other issues that have been established in the record of the proceeding.

- Biala1-32 See Master Response 12, The North Marina Groundwater Model (v. 2016), Section 8.2.12.2. See also Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM), Section 8.2.9.2 and 8.2.9.3 for information on the use and application of ERT for the EIR/EIS groundwater analysis.

The NMGWM²⁰¹⁶ has been demonstrated to produce reliable results in light of the quantified uncertainty. Substantial effort has been expended to quantify model uncertainty and incorporate the uncertainty into estimated drawdown due to slant well pumping. ERT data (Pidlisecky et.al., 2016) and Dr. Knight's preliminary AEM report (Gottstchalk and Knight, 2017) were carefully reviewed by the EIR/EIS preparers. It was determined that ERT data will not necessarily produce greater certainty for a three-dimensional model because of the uncertainty in the ERT methodology. As discussed in Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM), ERT requires correlation and ground truthing with known data that describe the geologic, groundwater, and water chemistry. Additional limitations include the spacing of arrays required and avoiding potential sources of "noise" (or interference), such as pipelines or buried utility cables. Additionally, it is important to note that information regarding subsurface geology, groundwater flow and occurrence, and groundwater chemistry used in the EIR/EIS were obtained from known scientific sources and included some of the same sources that Dr. Knight's team used to verify the ERT survey findings. Given the uncertainty inherent in ERT, it would not be

appropriate to add a supplemental section comparing ERT data to modeling, but Master Response 9 provides supplemental information on ERT technology and data. See also EIR/EIS Appendix E3, Section 3.1.8.

Biala1-33 The shortcomings noted in the comment (i.e., exclusion of the Fort Ord Aquitard) were addressed as part of the updates to the NMGWM²⁰¹⁵ – i.e., the NMGWM²⁰¹⁶. HydroFocus included 14 wells located south of the Salinas River from various depths in the NMGWM²⁰¹⁶ to assess the calibration; see Appendix E2 Section 3.1 and Figure 3.1. For both the A-Aquifer and FO-SVA in this area, reported hydraulic conductivity measurements from Fort Ord documents were used, and the model was then calibrated to the new wells added south of the Salinas River. As stated in Master Response 12, The North Marina Groundwater Model (v. 2016), the inclusion of these geologic features are consistent with, but were implemented independently of the Lawrence Berkeley National Laboratory (LBNL) recommendations. The LBNL recommendations are based on their review of the previous model version (NMGWM²⁰¹⁵), and not the NMGWM²⁰¹⁶. The LBNL review and recommendations are provided in EIR/EIS Appendix E1; updates to the NMGWM²⁰¹⁵ are documented in Appendix E2.

Model-calculated water levels from the historical model run (1979-2011) were compared to measured water levels throughout the basin. Additionally, although outside the model time period, 2015 water level data measured from monitoring wells were also compared against model-calculated water levels.

Biala1-34 As part of the FO-SVA addition in the NMGWM²⁰¹⁶, a transition clay layer was also added based on available cross section data and presence of clay in monitoring well boring logs (see EIR/EIS Appendix E2, Section 3.3). Similarly, hydraulic conductivity of this transition zone was adjusted based on water level data collected from nearby monitoring wells. This clay layer was not found directly beneath the CEMEX site, and therefore, the 180-Foot Aquifer is considered unconfined at that location. Moving eastward into to model domain, the 180-Foot Aquifer becomes confined. See EIR/EIS Figure 4.4-3.

Biala1-35 See responses to comments MCWD-HGC in Section 8.5.2.2.

Biala1-36 See response to comment Biala1-1; the Lead Agencies, and not CalAm, are the authors of this EIR/EIS. The above responses describe the Lead Agencies' consideration of available information, and the analyses contained herein reflect the independent judgment of the Lead Agencies. See also responses to comments MCWD-HGC in EIR/EIS Section 8.5.2.2.

Biala1-37 The EIR/EIS relies on groundwater modeling completed in 2017 by HydroFocus using the NMGWM²⁰¹⁶ which is documented in EIR/EIS Appendix E2. See response to comment Biala1-33.

Biala1-38 See response to comment Biala1-32. See also Master Response 12, The North Marina Groundwater Model (v. 2016), Section 8.2.12.2 for information regarding the scope of the LBNL peer review of NMGWM²⁰¹⁶, and Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM), Sections 8.2.9.2 and 8.2.9.3 for information on the use and application of ERT/AEM data for the EIR/EIS groundwater analysis. The NMGWM²⁰¹⁶ adequately incorporates the area necessary to assess the impacts of the proposed project on groundwater resource and a new model is not needed to incorporate ERT/AEM data, since the ERT/AEM data has a higher degree of uncertainty than the NMGWM²⁰¹⁶.

Biala1-39 See Master Response 3, Water Rights.

Biala1-40 See Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM), Section 8.2.9.2 and 8.2.9.3 for additional clarity on the usefulness and applicability of ERT/AEM. Also, see responses to comments Biala1-32 and Biala1-38. Groundwater monitoring wells are necessary to ground-truth and correlate ERT/AEM data, and without a monitoring well network that can collect ongoing data, the uncertainty of ERT/AEM data would increase and not be representative of actual conditions. ERT/AEM is not a substitute for traditional data acquisition through groundwater monitoring wells.

CalAm's commitment to implementing Applicant Proposed Measure 4.4-3, Groundwater Monitoring and Avoidance of Well Damage, does not signify that, as the comment states, "there are some inadequacies of data in their proposal." As explained in EIR/EIS Section 4.4.5.2, CalAm recognizes the long-term nature of the proposed project and the need to provide continued verification that the project would not contribute to lower groundwater levels in nearby wells within the SVGB. CalAm proposes to expand the existing regional groundwater monitoring program to include the area where groundwater elevations are anticipated to decrease by one foot or more in the Dune Sand Aquifer, the 180-FTE Aquifer and the 400-Foot Aquifer. Expanding a monitoring network is a prudent common practice for verifying groundwater response projected by a groundwater model in large groundwater pumping programs.

The NMGWM²⁰¹⁶ is based on the telescopic mesh refinement approach, where a relatively coarse model grid is utilized to represent the regional groundwater system defined by the physical limits of the aquifer, and a second smaller model having a relatively fine grid is utilized to represent a subregion of the aquifer. The regional aquifer network is therefore, considered as part of modeling slant well pumping. The modeling was employed to calculate the area where the difference between pumping and non-pumping water levels (the drawdown) are greater than or equal to 1 foot.

Biala1-41 Source water for the MPWSP would be extracted at the coast from a capture zone in the Dune Sand and 180-Foot Aquifers. This zone is recharged by seawater that infiltrates through the Terrace Deposits at the coast, and not from areas further

inland. See Master Response 8, Project Source Water and Seawater Intrusion, Section 8.2.8.1 for the extent of the capture zone.

The project would return desalinated water to the CCSD as in-lieu pumping. The results from the NMGWM²⁰¹⁶ provide the evidence supporting the conclusion that the MPWSP would increase groundwater levels through in-lieu groundwater pumping. The NMGWM²⁰¹⁶ was the key analytical tool used to project aquifer response and assess groundwater level impacts associated with the proposed project. See Master Response 4, The Agency Act and Return Water, Section 8.2.4.1 regarding returning water to an area different from where it was pumped. Providing desalinated surface water (new water) would replace the groundwater that is presently used, thereby lowering demands for groundwater and reducing overdraft, which ultimately would improve groundwater levels. As discussed in EIR/EIS Section 4.4.5.2 (Impact 4.4-3) and shown on Figures 4.4-15 and 4.4-16, the water returned to the basin would increase groundwater levels in the 400-Foot Aquifer beneath the CCSD, but not in the 400-Foot Aquifer to the south in the Marina area. However, note also that the slant wells would not draw groundwater from the 400-Foot Aquifer beneath the City of Marina.

- Biala1-42 See Master Response 8, Project Source Water and Seawater Intrusion, Section 8.2.8.1. The MPWSP slant wells would extract a mixture of brackish groundwater and seawater from an area close to the coast and the effects of the capture zone would not extend inland. The particle tracking analysis completed under the NMGWM²⁰¹⁶ shows that slant well pumping would intercept seawater that is currently moving inland and contributing to seawater intrusion. By capturing the seawater source of recharge, slant well pumping would provide a degree of protection against seawater intrusion.
- Biala1-43 See Master Response 4, The Agency Act and Return Water, Sections 8.2.4.2 and 8.2.4.3. Given the location of the capture zone, the quantities of return water would likely not increase because as the ocean recharges the capture zone, the salinity within the capture zone would likely stabilize; see EIR/EIS Appendix E3. The NMGWM²⁰¹⁶ addresses changes in the return water volumes by calculating the area where the difference between pumping and non-pumping water levels (the drawdown) are greater than or equal to one-foot under a range of return water volume scenarios ranging from 0 to 12 percent return water, under the 24.1 mgd and 15.5 mgd pumping rates. These percentages equate to return water volumes ranging from 0 acre feet per year (afy) to 3,242 afy.
- Biala1-44 See EIR/EIS Appendix E3, Master Responses 3, Water Rights, and Master Response 4, Agency Act and Return Water. See also Master Response 1 regarding authorship of this EIR/EIS.
- Biala1-45 The Lead Agencies have considered available information on slant wells, including the information referenced in the comment. EIR/EIS Section 4.4 references Geoscience, 2012, which is the aquifer pumping test analysis and evaluation of the

test slant well at Doheny State Beach, in Dana Point, California. See also Master Response 11, CalAm Test Slant Well, Section 8.2.11.8, which discusses the Dana Point Test Slant Well, the Huntington Beach Subsurface Intake Feasibility Report and the Santa Barbara Subsurface Desalination Intake Feasibility Study; see also the References in Section 8.2.11.10.

Biala1-46 See Master Response 3, Water Rights.

CalAm is a public utility under the CPUC's jurisdiction, and has applied to the CPUC for a Certificate of Public Convenience and Necessity (see EIR/EIS Section 1.2.1). CalAm also requested from MBNMS, authorization and permits to construct, operate, maintain, and decommission subsurface intake facilities under the Sanctuary and to allow brine discharges through an existing ocean outfall facility within the Sanctuary (see EIR/EIS Section 1.3.2). This EIR/EIS evaluates the project that was applied for by the applicant, as well as alternatives to the proposed project, and assumes the applicant will comport with applicable laws and regulations. The Lead Agencies are responsible for enforcing the implementation of the measures adopted in the MMRP. See also response to comment MCWD-115; the CPUC Energy Division will contract with an independent third-party construction monitoring provider to ensure that a neutral third party will oversee the Applicant's implementation of all mitigation measures. Further, any monitoring reports that are submitted to the CPUC and/or MBNMS will be public records and will be accessible to the public upon request. Questions regarding CalAm's history are outside the scope of CEQA/NEPA.

Biala1-47 EIR/EIS Section 2.2 presents background on CalAm's existing supplies, and Section 2.2.4 speaks specifically to the adjudication of the Seaside Groundwater Basin. The court intended to "protect the basin from long-term damage associated with potential seawater intrusion, subsidence, and other adverse effects that commonly result from overpumping" by adjudicating the water rights for all users of the basin. As described in EIR/EIS Section 2.2.4, the adjudication was initiated because CalAm sued a number of parties who held or potentially held water rights in the Seaside Basin, and asked the court to adjudicate those rights.

As described in EIR/EIS Section 4.4.1.3, the Salinas Valley Groundwater Basin (SVGB) is in overdraft because outflow, including pumping, exceeds inflows. To avoid court intervention, several projects have been implemented in the SVGB to promote recharge and halt seawater intrusion; specifically, the Castroville Seawater Intrusion Project and the Salinas Valley Water Project. The EIR/EIS makes no determinations on what obligations take precedence over others. The EIR/EIS evaluated the potential impacts of the CalAm proposed project, and considered how the proposed project would interact with other proposed projects, in the evaluation of cumulative effects. See EIR/EIS Section 4.1.7.

Biala1-48 EIR/EIS Section 4.4.1 presents the setting/affected environment for groundwater resources. Seawater intrusion in the SVGB and the SGB are described in this section

and the situations are different; the SVGB is experiencing seawater intrusion and the SGB is at risk of seawater intrusion. The word “ameliorate” or “ameliorating” is not used anywhere in the EIR/EIS.

As stated in EIR/EIS Section 2.2.4, CalAm’s eventual allocation from the Coastal subarea of the SGB would be 1,474 afy (compared to their 2016 operating yield of 2,254 afy, see EIR/EIS Table 2-1). As a result of the adjudication, the court also required that production from the SGB in excess of natural safe yield be replenished. CalAm and the SGB Watermaster agreed to a replenishment schedule of 25 years at a replenishment rate of 700 afy by either in-lieu or artificial replenishment. CalAm has committed to only extracting 774 afy of their 1,474 afy allocation from the SGB for 25 years.

- Biala1-49 EIR/EIS Section 5.5 fully examines the effects of numerous project alternatives on groundwater resources. EIR/EIS Section 5.5.4 evaluates alternatives to the MPWSP that include open water intakes and that do not include subsurface intakes; the EIR/EIS concludes that the operation of these alternatives would have no impact on local groundwater levels in the SVGB, a reduced potential for impact compared to the proposed project. See EIR/EIS Sections 5.5.4.5 for that conclusion about Alternative 2 (Open Water Intake at Potrero Road), Section 5.5.4.6 for Alternative 3 (DeepWater Desal) and Section 5.5.4.7 for Alternative 4 (People’s Project). See also response to comment Marina-144 (EIR/EIS Section 8.5.1). Note however, that Section 4.4, Groundwater Resources, finds that the proposed project would not degrade the quality of surface water or groundwater. The policies cited in the comment speak to ensuring that high quality water is maintained, but do not mandate that existing brackish water be improved to a higher quality. See also Master Response 3, Water Rights.
- Biala1-50 Appendix J2 is appended to the EIR/EIS in support of the analysis in EIR/EIS Section 6.3, Growth Inducing Impacts, which addresses the potential indirect growth inducing impact of the water supply that would be provided by the proposed project. Growth induced by the project water supply would occur in areas that would receive it – the CalAm’s service area – which would not include the City of Marina. The impacts of project construction and operation, such as impacts on air quality, groundwater and traffic, are evaluated in Chapter 4 of the EIR/EIS and the impacts of project alternatives are evaluated in Chapter 5, Section 5.5.
- Biala1-51 The localized and regional impacts of the MPWSP on hydrology and groundwater are evaluated in EIR/EIS Sections 4.3 and 4.4, respectively. Appendix J2 summarizes the impacts of growth in the area that would be served by project water supply since the provision of water supplies to this area could result in growth-inducing effects. Other areas such as the City of Marina are not included in the growth-inducement evaluation because the project would not serve these areas and therefore would not contribute to growth in these areas, as noted in response to comment Biala1-50, and response to comment Hoffman-35.

- Biala1-52 This comment is addressing the EIR/EIS Section 1.4.4, Introduction. EIR/EIS Section 5.5.4 presents the potential impacts of the proposed project, the No Action and all “action” alternatives, on groundwater resources with the same rigor. The scientific data are presented in EIR/EIS Section 5.5, which is supported by Appendices B2, C1, C2, C3, E2 and E3. Master Response 3, addresses water rights; Master Responses 4, 5, and 12 address The Agency Act and Return Water, The Hydrogeologic Working Group, and The North Marina Groundwater Model (v. 2016), respectively. The same version of the NMGWM²⁰¹⁶ was used to evaluate all alternatives (see EIR/EIS Appendix E2) and modeling of the reduced-size project (Alternative 5a) does not change the conclusions reached in the modeling analysis. The modeling analysis shows a lesser extent of drawdown under the reduced slant well scenario. A summary and comparison of impacts of alternatives is presented in EIR/EIS Section 5.6.1; see Table 5.6-1.
- Biala1-53 As noted in EIR/EIS Section 1.1, CalAm’s application also includes an option that would meet all of the project objectives by combining a reduced capacity desalination plant (6.4 mgd) with a water purchase agreement for 3,500 acre-feet per year (afy) of product water from another source, the Pure Water Monterey Groundwater Replenishment (GWR) Project. As stated in EIR/EIS Section 1.1, this capacity option is reflected in Alternative 5a. While both of these options were proposed by CalAm (in an “either/or” fashion) and thus represent the project proposed by the applicant, the larger desalination plant was selected to be analyzed as the “Proposed Project” in Chapter 4 of the EIR/EIS since it is larger and thus was expected to have greater impacts than the smaller capacity option, which is fully examined as an alternative in Chapter 5. The reduced size alternatives evaluated by the Lead Agencies in the EIR/EIS (Alternatives 5a and 5b) would meet the same need for water as the proposed project, not a reduced need for water, since 3,500 afy of GWR supplies would be included in the overall supply for Alternatives 5a and 5b; see EIR/EIS Section 5.5.6. See also Master Response 13, Demand (Project Need) and Growth, and EIR/EIS Appendix L for more information on water demand and growth under various supply scenarios.
- Biala1-54 See Chapter 5, Alternatives Screening and Analysis for detailed descriptions (Section 5.4) and analysis of impacts (Section 5.5) of all alternatives. See Chapter 4, Environmental Setting (Affected Environment), Impacts, and Mitigation Measures for the analysis of the proposed project. See Master Response 3, for more information on water rights.
- Biala1-55 See Master Response 11, CalAm Test Slant Well. The process and timeline for decommissioning of the test slant well are governed by the permits for that well, and are not pertinent to the EIR/EIS analysis of the environmental effects of the proposed MPWSP.
- Biala1-56 CalAm cannot bypass the City of Marina’s CDP process. However, an applicant or any person who participates in the local permitting process for a project, or who

otherwise communicates their concerns to the local government, may file an appeal to the California Coastal Commission. In addition, any two Coastal Commissioners may also appeal projects to the Commission. (CCC, 2007)

8.7.3.2 Responses to Comments from Kathy Biala – Letter 2

- Biala2-1 As described in EIR/EIS Section 3.3.2.1, Subsurface Slant Wells, slant well construction would take approximately 15 months to complete, not 2 years. The 9-acre construction area would have a temporary impact on western snowy plover habitat because the site would be returned to pre-construction conditions. With implementation of the mitigation measures described in Impact 4.6-1, these impacts would be reduced to a level that is less than significant. As described in Impact 4.6-6, maintenance activities would be conducted every 5 years and this is considered a permanent loss of habitat. Permanent impacts would be reduced to less than significant with implementation of Mitigation Measure 4.6-1d (as revised; see Final EIR/EIS Section 4.6). Existing snowy plover use of areas within and at the proposed northernmost slant well cluster in the CEMEX mining area (described in EIR/EIS Section 4.6.1.8), which has been subject to disturbance associated with mining activities, suggests that temporary construction disturbance would not result in irreversible impacts on snowy plover use of this area following restoration.
- Biala2-2 See responses to comments CURE-Owens-9 and CURE-Owens-10 regarding the use of western snowy plover data for the impact analysis. The approach to analysis of impacts on all special-status species, including western snowy plover, was described in EIR/EIS Section 4.6.4.
- Biala2-3 See response to comment Biala2-2. The western snowy plover is protected under the Federal Endangered Species Act (federally listed as threatened) and is considered a California species of special concern by CDFW. Impacts on this species are analyzed pursuant to the Federal Endangered Species Act and in accordance with its special status under both federal and state laws, and mitigated accordingly. Additionally, MBNMS is undertaking the required consultation with USFWS under the Federal Endangered Species Act; see EIR/EIS Section 7.1. The City of Marina resolution referenced by the commenter does not obligate the Lead Agencies to require that CalAm provide compensation to the City of Marina for potential impacts on western snowy plover.
- Biala2-4 Mitigation Measure 4.6-1d describes the required protocols for identifying and avoiding nests for any work that cannot be completed during the non-nesting season, and requires that any additional avoidance and minimization measures required by USFWS as a result of consultation under the Federal Endangered Species Act be incorporated and implemented as part of this measure. The duties of the Lead Biologist and the related monitoring and reporting requirements are described in Mitigation Measure 4.6-1a. CalAm would be required to comply with these measures as would be documented in an adopted Mitigation Monitoring and Reporting

Program (MMRP). The full text of these measures, as revised, is provided in Final EIR/EIS Section 4.6.

- Biala2-5 The required qualifications of the Lead Biologist are described in detail in Mitigation Measure 4.6-1a. The Lead Biologist would be responsible for implementing the Lead Agencies' adopted biological resource-related mitigation measures to the extent described in adopted measures, including 4.6-1a, and would report to the Lead Agencies as described in Mitigation Measure 4.6-1a.
- Biala2-6 See Mitigation Measure 4.6-1d which restricts construction time periods to the western snowy plover non-breeding season, unless otherwise approved by USFWS and with the incorporation of specific avoidance and minimization measures. Master Response 3 addresses concerns related to water rights.
- Biala2-7 Per Mitigation Measure 4.6-1d, pre-construction nesting surveys shall be conducted by a "qualified western snowy plover biologist" "within 24 hours of initiation of construction activities." See subpart 3 of revised Mitigation Measure 4.6-1d for the required actions to be implemented if a nest is located in the project area. This measure was developed based on knowledge of western snowy plover biology, a review of similar measures that have been required by USFWS and other CEQA and NEPA lead agencies, and experience developing and implementing similar measures.
- Biala2-8 Consistent with CEQA, the EIR/EIS analyzes impacts from the proposed project compared to the baseline conditions, which include existing sand mining operations. The purpose of subpart 4 of Mitigation Measure 4.6-1d is to minimize visual impacts from construction activities on nesting western snowy plover. See Impact 4.8-2 in EIR/EIS Section 4.8, Land Use and Recreation, which explains that there is no existing public access to the slant well construction site.
- Biala2-9 See responses to comments Biala2-4 and Biala2-5.
- Biala2-10 See response to comment Biala2-7 above and Subparts 3b and 3c of Mitigation Measure 4.6-1d. Further, as described in Mitigation Measure 4.6-1a, "The Lead Biologist shall be onsite, or shall appoint qualified biologists and/or qualified biological monitors to be onsite, during all fencing and ground disturbance activities." This is the most frequent monitoring that can be conducted. Additionally, Mitigation Measure 4.6-1d specifies that a biologist will also conduct periodic monitoring during construction to determine if there are any new western snowy plover nest starts.
- Biala2-11 Reporting requirements are described in Mitigation Measure 4.6-1a. As is the case for CPUC-approved projects, the public is allowed access to records and reports used to track the monitoring program. Monitoring records and reports will be made available for public inspection by the CPUC on request. The CPUC and CalAm will develop a filing and tracking system. Public access to records will be addressed in the MMRP.

- Biala2-12 Point Blue raised several concerns on the 2015 Draft EIR in their June 2015 comment letter and those concerns were addressed in the Draft EIR/EIS. Indeed, Point Blue acknowledges that these issues were addressed in their comment letter on the Draft EIR/EIS. See responses to comments Point Blue-1 through Point Blue-6 for response to Point Blue's comments on the Draft EIR/EIS. See also response to comment CURE-Owens-9 and revised Mitigation Measure 4.6-1d in Final EIR/EIS Section 4.6, Terrestrial Biological Resources.
- Biala2-13 See the responses to Biala2-4, Biala2-5, and Biala2-10.
- Biala2-14 As described on Draft EIR/EIS page 4.6-237, the brine storage basin is a component of the proposed MPWSP Desalination Plant that would be located on Charles Benson Road. Construction and operation of this facility would not occur in or around western snowy plover habitat. Mitigation Measure 4.6-6 would reduce potential operational impacts from the brine storage basin on migratory waterfowl to less than significant. The proposed project would not result in similar potential operational impacts on western snowy plover, so a similar measure is not described for western snowy plover.
- Potential impacts on western snowy plover, and mitigation measures to reduce impacts to less than significant, are described in the subsurface slant well section in Impact 4.6-1 and Impact 4.6-6 and in the Source Water Pipeline section in Impact 4.6-1. As described in Mitigation Measure 4.6-1a, full-time biological monitoring will be required during all fencing and ground disturbance activities.
- Biala2-15 In response to this comment, Mitigation Measure 4.6-6 has been revised to clarify that it is the Lead Biologist's responsibility to determine what adaptive management measures, if any, are needed to remedy problems detected during monitoring.
- Biala2-16 Mitigation Measure 4.6-6 would be implemented to reduce impacts on migratory waterfowl from operation of the brine storage basin, and is unrelated to construction impacts. Construction impacts on nesting western snowy plover and special-status birds are described in Impact 4.6-1.
- Biala2-17 As explained in CEQA Guidelines section 15040, CEQA is intended to be used in conjunction with discretionary powers granted to public agencies by other laws. The CPUC and other jurisdictional agencies are responsible for enforcing the procedures adopted for monitoring based on the enforcement authorities provided by laws governing those agencies. CalAm would be responsible for successfully implementing all of the measures in the MMRP, including compliance with the provisions of Mitigation Measure 4.6-6, if adopted. The MMRP will outline a dispute resolution process in the event that a dispute concerning the implementation of adopted measures arises. However, at this time, the Lead Agencies are not aware of, nor does the commenter provide evidence, that CalAm has violated the terms of mitigation measures or other such requirements in the past. Therefore, there is no reasonable basis

to assume that CalAm may attempt to “undermine the ability of the Lead Biologist to act ethically and swiftly” or tamper with potential evidence of bird impacts related to operation of the brine storage basin. Further, as explained in Impact 4.6-6, it is unlikely that many birds would become sick or die at the brine storage basin; Mitigation Measure 4.6-6 is recommended to ensure that this expectation is borne out or that adaptive management techniques are implemented if needed. No revision to Mitigation Measure 4.6-6 has been made in response to this comment.

Biala2-18 Per subpart 1 of Mitigation Measure 4.6-1c, the project work area shall be delineated with stakes and flagging prior to construction and construction-related disturbance outside of these boundaries shall be prohibited without approval of the Lead Biologist. This measure does not rely on fencing installed by other agencies.

8.7.3.3 Responses to Comments from Kathy Biala – Letter 3

Biala3-1 Table 1 in EIR/EIS Appendix C2 presents the erosion rate data sources that were included when the consultants to the Lead Agencies established historic shoreline change trends that were used in the development of dune erosion profiles; Dr. Thornton’s work is the first entry in that table. The methodology for projecting future vertical and horizontal erosion profiles is described in EIR/EIS Section 4.2.4.5 and in Section 3 of Appendix C2; the analysis considered localized erosion (rip currents), long term erosion (including Dr. Thornton’s data), and sea level rise (see EIR/EIS Appendix C1) to develop the erosion profiles. EIR/EIS Figures 4.2-7 and 4.2-8 present the erosion profiles and envelopes for the test slant well and the production wells, respectively. As shown in Figure 4.2-7, coastal erosion could expose the test slant well in a 100-year storm event by the year 2060, and Mitigation Measure 4.2-10 requires implementation of a Slant Well Abandonment Plan that would address this potential exposure. With implementation of Mitigation Measure 4.2-10, the impacts of the anticipated future presence of the test slant well on the beach would be reduced to a less than significant level. All of the other proposed wells would be located further inland of the 2060, 100-year flood event envelope as shown on Figure 4.2-8. Impacts on the 180-FTE Aquifer from project operation are described in Section 4.4.5.2 and were determined to be less than significant; therefore, the EIR/EIS identified no significant impact that would necessitate moving these proposed wells closer to the shoreline.

As explained in EIR/EIS Appendix E3, while placement of production well screens closer to or under the ocean may achieve the maximum Ocean Water Percentage (OWP) in the first few months and a very slight increase in the medium-term OWP, a difference of a few hundred feet in screen placement relative to the ocean boundary would have minimal overall effect on OWP because of the volume of seawater at the recharge boundary. If CalAm needs to replace a slant well, they will be required to apply for a Coastal Development Permit to do so, and they may also be required to apply for an MBNMS authorization or permit. Under NEPA, replacement of a slant well would not necessitate a supplement to the EIS unless the lead agency makes

substantial changes in the proposed action that are relevant to environmental concerns, or if there are substantial new circumstances or information relevant to environmental concerns and bearing on the proposed project or its impacts (40 CFR 1502.9). Likewise, under CEQA, a supplemental EIR would only be necessary if substantial changes are proposed in the project or substantial changes occur with respect to the circumstances under which the project is being undertaken which will require major revisions in the environmental impact report; or if new information, which was not known and could not have been known at the time the environmental impact report was certified as complete, becomes available. (CEQA Guidelines Section 21166). Since the slant wells would draw mostly seawater through the aquifers (see Master Response 8, Project Source Water and Seawater Intrusion), dune recession would not affect project operations. See also responses to comments MCWD-78 and MCWD-79.

References

- California Coastal Commission, 2007. Frequently Asked Questions: The Coastal Commission Permit Appeal Process. Available at <https://documents.coastal.ca.gov/assets/cdp/appeals-faq.pdf>. Accessed January 29, 2018.
- Geoscience Support Services, Inc. (Geoscience), 2012. Aquifer Pumping Test Analysis and Evaluation of Specific Capacity and Well Efficiency Relationships SL-1 Test Slant Well Well, Doheny Beach, Dana Point, California, dated September 7, 2012.
- Geoscience Support Services, Inc. (Geoscience), 2016a. *Monterey Peninsula Water Supply Project, Test Slant Well Long Term Pumping Monthly Monitoring Report No. 7, 1-May-16 - 31-May-16*, June 15, 2016.
- Goebel, Meredith, Adam Pidlisecky, and Rosemary Knight, 2017. *Resistivity Imaging Reveals Complex Pattern of Saltwater Intrusion along Monterey Coast*, Journal of Hydrology, accepted manuscript February 22.
- Gottschalk, Ian and Rosemary Knight, 2017. *Preliminary Interpretation of SkyTEM Data Acquired in the Marina Coast Water District*, June 16.

8.7.4 Responses to Comments from William Bourcier

- Bourcier-1** Responses to the commenter’s specific comments on the Trussell Technologies’ Memorandum (Draft EIR/EIS Appendix G2) are provided in responses to comments Bourcier-2 through Bourcier-13 and demonstrate why the Trussell estimates are lower and more representative of the actual off gassing process expected from the operation of the MPWSP slant wells at CEMEX.
- Bourcier-2** The commenter’s agreement with the assumption in the Trussell analysis that the CO₂ in the permeate (product water) stream would be released to the atmosphere upon exiting from the reverse osmosis (RO) process is acknowledged. However, as explained in response to comment Bourcier-3, the permeate is treated after the RO process and prior to distribution; therefore, off gassing of CO₂ is prevented. It should also be noted that off-gassing is a slow process, and any water that is exposed to the atmosphere will take time to equilibrate and release CO₂. However, since the release of brine will be a dynamic, ongoing process, so will be the release of CO₂ following the initial equilibration.
- Bourcier-3** The first part of the comment regarding treatment is correct; the Trussell report (Draft EIR/EIS Appendix G2) at page 3 states, “The water in the finished water tanks would travel through each treatment process prior to equilibration with the atmosphere. During post-treatment, the pH of the desalinated water would be adjusted to ensure that carbon dioxide would not be released from the desalinated water as it contacts the atmosphere.”
- Typical seawater RO permeate, or product water, regardless of whether the source water was obtained with screened open water intakes or subsurface intakes, is treated for corrosion control prior to distribution due to the aggressiveness of the RO permeate. The same chemicals in approximately the same amounts would be used to treat RO permeate regardless of the intake method. Corrosion control involves the addition of chemicals to adjust pH, alkalinity, and calcium hardness. To control corrosion from the RO permeate, the MPWSP plant would use CO₂ to adjust alkalinity, lime to adjust calcium hardness, and sodium hydroxide to adjust pH as described in Draft EIR/EIS Section 3.2.2.3, Post-treatment System. For information on the estimated amounts of specific chemicals that would be used to adjust pH at the proposed MPWSP plant, refer to Draft EIR/EIS Table 3-3, Desalination Chemicals and Annual Usage. The comment suggests that caustic would be used in the treatment process, but as shown in Table 3-3 and described further in response to comment Bourcier-4, caustic would not be used for this project and its use was not assumed in the Trussell analysis.
- Bourcier-4** As shown in Draft EIR/EIS Table 3-3, lime is the chemical that would be most widely used to treat permeate during the proposed desalination process, not caustic. And the CO₂ carbon footprint that would be released during the production of lime used to treat the RO permeate is not included in the Trussell analysis. The

production of lime involves a series of steps including the quarrying, crushing, sizing, and transportation of raw materials. However, quantifying GHG emissions from producing lime requires specific information that is unavailable at this time and attempting to quantify such emissions would be overly speculative.

GHG life cycle emissions are also emitted from the fuel combustion process used to heat the kiln for the calcination process, calcining the raw materials to produce lime, and (if required) hydrating the lime to calcium hydroxide. Calcination is the process by which limestone, which is mostly calcium carbonate (CaCO_3) is heated in a kiln to produce quick lime (CaO). CO_2 is a byproduct of this reaction and is usually emitted to the atmosphere. The GHG Protocol Initiative has developed a model based on methods and default values contained in Intergovernmental Panel on Climate Change (IPCC) Guidelines for National Greenhouse Gas Inventories (The GHG Protocol Initiative, 2007). This model could be used to make a general estimate of life cycle GHG emissions that would be associated with the production of lime that would be used for operations of the proposed project. However, because manufacturing plant-specific information and values, such as the process type, proportion of hydrated lime, water content of hydrated lime, CaO content of lime, fraction of calcination achieved from carbonate, type of fuel(s) to heat the kiln for the calcination process, etc., are not known or available at this time, the estimation would have to rely completely on default values, which would make quantification overly speculative.

In addition, CEQA guidance does not require production-related life cycle analyses of GHG emissions for materials since the term “life cycle” is not well defined and is too speculative, which is why the California Office of Planning and Research (OPR) removed the term from the CEQA guidelines within its 2010 amendments.

Therefore, the EIR/EIS does not address the lifecycle emissions associated with the lime or any other chemical or fuel, or construction materials such as concrete and steel. Therefore, neither the CO_2 that would be released from the permeate (if post-treatment as proposed were not to occur), nor the lifecycle emissions from the production of lime is included in the Trussell conclusions or the GHG emissions of the project as a whole.

Bourcier-5 The comment indicates that the water quality of the “15 wells sampled to date in the Marina area” would result in a higher CO_2 release than the test slant well water quality used in the Trussell analysis, and the Lead Agencies agree. However, the Trussell analysis treats the water from the currently-operating test slant well as “worst-case” because it would result in higher CO_2 levels than seawater from Monterey Bay, which would eventually displace the intruded seawater once the full scale project is operational.

The commenter provided estimates of CO_2 releases from 15 wells and the one where fluid composition data was used for the Trussell analysis. The 15 wells

discussed by the commenter are exploratory boreholes that are not indicative of source water quality to the desalination plant, as explained below.

The water quality data collected from these 15 boreholes was used by the hydrogeologists to:

- characterize the aquifer units for the conceptual groundwater model;
- characterize the water contained in the aquifer units (to determine if it is seawater, groundwater, or seawater intruded groundwater); and
- determine if the Salinas Valley Aquitard (a blue clay layer) exists between the aquifer units at this location.

The water quality from these exploratory boreholes is not representative of the source water quality for the desalination plant. The desalination plant would employ slant wells that are expected to pull approximately 93 percent seawater from the Monterey Bay and 7 percent groundwater that originated from the surrounding area. The exploratory borehole water quality samples used in the commenter's analysis are static, and not from an active, operating slant well, and therefore, have a different water quality composition than the test slant well water quality composition used in the Trussell analysis. Because the test slant well is a full-scale well that has been producing water intermittently since April 2015 for the purpose of collecting water quality data for the MPWSP, it is more appropriate to use the test slant well water quality data than to use the static water quality data from the 4-inch vertical exploratory boreholes designed to characterize the composition of the aquifer.

The test slant well is being operated to gain a better understanding of the water quality that would be fed to the full-scale desalination plant. When the test slant well began operation in April 2015, there was old, intruded seawater present in the aquifer. Water quality sampling at the test slant well suggests that even after two years of intermittent production, the well is drawing a great deal of old intruded seawater; and this water, which has been in the aquifer for many years, has a lower pH and higher silica concentration than Monterey Bay seawater. Once the proposed full-scale production slant wells begin to operate at a steady rate, they are expected to displace the old, intruded seawater in the aquifer. The slant wells would draw mostly Monterey Bay seawater with a small fraction of water that originated from inland. Thus, the quality of the water currently being produced by the slant well and the quality of fresh Monterey Bay seawater set bounds on the future quality of the water to be withdrawn by the full-scale slant wells once they are in operation. Calculations show that if the desalination plant operated on the water being withdrawn by the test slant well after two years of intermittent production (with higher amounts of old, intruded seawater), it would release more CO₂ than would be released when the desalination plant begins to operate on fresher Monterey Bay seawater. As a result, the Trussell analysis treats the water from the test slant well as "worst-case" and the Monterey Bay seawater as the "best case."

- Bourcier-6 See response to comment Bourcier-13 regarding validating the method for estimating GHG releases from an actual feed source. The similarities of the commenter's methods to estimate CO₂ off gassing with the methods identified in the Trussell analysis and the commenter's suggestion that the two methods are accurate and verified are noted.
- Bourcier-7 The Trussell analysis did not conclude that carbon dioxide releases from subsurface intakes is likely to take place in significant tonnages. The Trussell analysis concludes the current test slant well water quality represents the "worst-case" scenario for off gassing, since it has a lower pH and higher alkalinity than seawater, and that fresh Monterey Bay seawater would be the "best case" scenario because ultimately, there should be minimal change in pH and alkalinity as the water travels through the ground, to the slant well, and into the desalination plant. This analysis shows that the projected range of released carbon dioxide would be 95 to 735 metric tons per year. The commenter indicates that the Trussell analysis and the Bourcier analysis identified similar levels of CO₂ off gassing, which verifies the method of calculation for both parties. This is correct, although the commenter estimated that 822 to 14,577 metric tons of carbon dioxide would be released if the exploratory boreholes cited in the DEIR were the source water for the MPWSP. As noted in response to comment Bourcier-5, the exploratory borehole data are not indicative of the source water quality for the proposed project.
- Bourcier-8 See response to comment Bourcier-3.
- Bourcier-9 See response to comment Bourcier-5.
- Bourcier-10 See responses to comments Bourcier-3 and Bourcier-4. The purpose of the Trussell analysis was to evaluate the GHG releases anticipated from the source water used for the MPWSP. There is no need to revise the Trussell analysis as requested.
- Bourcier-11 See responses to comments Bourcier-3 and Bourcier-4.
- Bourcier-12 See response to comment Bourcier-5.
- Bourcier-13 The Lead Agencies asked CalAm to collect water samples from its existing test slant well to measure the CH₄ content.

Three water samples were collected from the test slant well on March 2, 2017, and were analyzed for methane on March 6 and 7, 2017. The results ranged from 0.54 to 0.58 micrograms per liter (MBAS, 2017a and 2017b). Two additional water samples were collected from the test slant well along with travel blanks on March 9, 2017 and March 15, 2017. These samples were analyzed on March 16, 2017 and March 24, 2017, respectively. In the two additional water samples from the test slant wells, methane concentrations were 0.55 and 0.68 micrograms per liter, respectively (MBAS, 2017c and 2017d); however, on the second occasion,

travel blanks were also taken and analyzed and these contained methane concentrations of 1.9 and 2.5 micrograms per liter, respectively.

A travel blank is purified water from the analytical lab which is transported in a sealed bottle to the site where it is used to fill an empty sample bottle in the field at the same location and in the same manner as the target sample. Travel blanks are used as a quality control measure to assure that methane is not introduced into the sample while it is being handled at the field site. In this case, the travel blanks have concentrations of methane that do not appear to be significantly different from the target samples taken from the test slant well itself, indicating that methane was likely introduced during the sampling. From this analysis, there is no evidence that the water from the test slant well contains methane.

While the travel blanks suggest there is no evidence of methane in the test slant well water, for the purposes of this discussion, the amount of methane that would be released by the project was estimated using the results of the sampling events. It is assumed that methane in the full source water flow would be released to the atmosphere. Using the full source water flow of the desalination plant (i.e., 24.1 million gallons per day (mgd)), a maximum CH₄ concentration of 0.68 as discussed above, and a global warming potential for CH₄ that is 25 times that of CO₂ (CARB, 2016), it is estimated that up to 0.70 metric tons CO₂ equivalent (CO₂e) CH₄ per year would be released. This is substantially less than the 735 metric tons CO₂ estimated to be released from the discharged brine and does not change the significance of the conclusion.

8.7.5 Responses to Comments from David Brown

- Brown-1 The conclusion that the MPWSP would not harm the aquifers underlying Marina (discussed further in Master Response 3, Water Rights) is based on an analysis that incorporated data obtained from a validated, physically based groundwater flow model, groundwater quality data obtained from the installation and testing of several clustered groundwater wells, and data obtained from the test slant well. See Section 4.4.4 for a description of the key elements that contributed to the analysis on groundwater. For additional information on the 2016 version of the North Marina Groundwater Model, see Master Response 12, Section 8.2.12.3, and Master Response 8, Project Source Water and Seawater Intrusion, Section 8.2.8.4.
- Brown-2 See Master Response 9, Electrical Resistivity Tomography (ERT) Airborne Electromagnetics (AEM).
- Brown-3 The Draft EIR/EIS did not predict salinity would not increase in the aquifers. Impact 4.4-4 in EIR/EIS Section 4.4.5.2, acknowledges that project pumping would result in changes in the local groundwater quality around the slant wells and within the capture zone, measured as an increase in total dissolved solids (TDS), a measure of salinity; however, this localized increase in salinity within the capture zone would not interrupt or eliminate the available potable groundwater for other users in the basin (Draft EIR/EIS page 4.4-76). See also: Master Response 3, Water Rights, Section 8.2.3.7; Master Response 8, Project Source Water and Seawater Intrusion, Section 8.2.8.2 and Section 8.2.8.4, and; Master Response 9, Section 8.2.9.3.

8.7.6 Responses to Comments from Charles Cech

- Cech-1 See Master Response 11, CalAm Test Slant Well, Section 8.2.11.2.
- Cech-2 The conversion of the test slant well to a permanent well is part of the proposed project and is evaluated in the EIR/EIS. See Master Response 11, Section 8.2.11.7.
- Cech-3 See Master Response 11, Section 8.2.11.8.
- Cech-4 The screens of the test slant well are not located above the seafloor. EIR/EIS Figure 4.2-3 is a cross section of the geology that includes the location of the test slant well. This cross section indicates that the seafloor is composed of a thin layer of Deltaic Deposits overlying Older Dune Sand and Terrace Deposits (this unit is also known as the 180-Foot Equivalent Aquifer). The screens of the test slant well are indeed located in the Dune Sand and 180-FTE Aquifer units. See also Figure 7b in EIR/EIS Appendix C3.
- Cech-5 As noted in Master Response 11, Section 8.2.11.5, the Dune Sands Aquifer and the 180-FTE Aquifer have been intruded by seawater for decades, and the monitoring wells show distinct seasonal trends in salinity, reflecting the effects of increased regional pumping in the summer months during irrigation season, and reduced regional pumping in the winter months, especially following rain events. The test slant well tracking data indicate an increase in salinity at and near the test slant well and not an increase in seawater intrusion in the 180-Foot Aquifer. See also Master Response 8, Project Source Water and Seawater Intrusion, Sections 8.2.8.1 and 8.2.8.2.
- Cech-6 The water being pumped by the test slant well is not pure seawater; this fact is acknowledged in the Draft EIR/EIS, for example on page 4.4-60, which explains that the project “would extract primarily seawater and a smaller volume of brackish inland groundwater from a localized area with only minor localized groundwater drawdown.” Further, as stated in the EIR/EIS in Impact 4.4-3, “The groundwater in the 180-Foot Aquifer that is underlying the area influenced by the MPWSP pumping, up to about 4 miles inland, has been intruded with seawater for decades, and far exceeds the State Drinking Water Standard of 500 mg/L of total dissolved solids (TDS).” The comment does not provide enough specificity regarding which criteria the test slant well is out of compliance with to allow the Lead Agencies to provide further substantive response.
- Cech-7 As noted in Master Response 11, Section 8.2.11.8, a 5-inch artificial filter pack was installed around the screens of the test slant well. No evidence is available to indicate or suggest that the nine new wells will not perform in the same way as the test slant well. The proposed nine new wells (and the test slant well) are described in EIR/EIS Section 3.2.1.1. See response to comment Cech-4 regarding the location of the test slant well screens in relation to the seafloor.
- Cech-8 See response to comment Cech-4 regarding the location of the test slant well screens in relation to the seafloor. The EIR/EIS describes the pre-treatment, reverse osmosis

treatment, and post-treatment components of the proposed project in Chapter 3, Sections 3.2.2.1 through 3.2.2.3, respectively. As described therein, these systems would provide treatment of intake water to address, at minimum, iron, manganese, pathogens, suspended solids, salts and other minerals, alkalinity, calcium hardness, and pH.

- Cech-9 The Draft EIR/EIS describes these “Groundwater Enhancement Programs in the SVGB” in Section 4.4.1.3 at page 4.4-19.
- Cech-10 See Master Response 11, Sections 8.2.11.2 and 8.2.11.3 regarding the impacts of the test slant well. The EIR/EIS evaluates the potential impacts the whole of the proposed MPWSP would have on groundwater quality, including conversion of the test slant well to a permanent well (see Master Response 11, Section 8.2.11.7). EIR/EIS Section 4.4.6 evaluates the cumulative impacts of the MPWSP in relationship to the groundwater enhancement programs mentioned in comment Cech-9.
- Cech-11 Monitoring wells have experienced both a lowering and rising of groundwater levels whether the test slant well was operating or not. See Master Response 11, Section 8.2.11.5 for a summary of the HWG’s conclusions regarding groundwater levels and TDS concentrations in MW-4S and MW-4M, which indicate that there have been no impacts resulting from test slant well pumping. As noted in EIR/EIS Table 4.4-10, the only wells that are screened in the Dune Sands and 180-FTE Aquifers are owned by the Monterey Peninsula Landfill; three are used for dust control and the fourth is inactive. The monitoring wells installed by CalAm in the Dune Sand and 180-FTE Aquifers offer the most comprehensive data set of water quality in the area of influence.
- Cech-12 Dr. Dennis Williams is not the Executive Director of the HWG. As explained in Master Response 5, The Role of Hydrogeologic Working Group and its Relationship to the EIR/EIS, Section 8.2.5.2, the HWG does not have an executive director or any other leader; Dennis Williams represents CalAm as a member of the HWG. As explained in Master Response 5, Section 8.2.5.5, CalAm entered into an agreement with Dr. Williams granting a royalty-free license for the technology, resolving a potential financial conflict of interest.
- Cech-13 As explained in Master Response 5, Section 8.2.5.5, several parties, including Lawrence Berkeley National Laboratories (LBNL), received the groundwater data files from the April 2015 Draft EIR. However, LBNL was not provided with the groundwater modeling software. In order to run the data files, LBNL (and HydroFocus and any other user of the data files) needed to independently download or otherwise obtain the application software MODFLOW, a three-dimensional finite-difference groundwater flow model, which is published by the U.S. Geological Survey. MODFLOW is an industry standard model that simulates steady and non-steady flow in an irregularly shaped flow system in which aquifer layers can be confined, unconfined, or a combination of confined and unconfined.

- Cech-14 The hydraulic lowpoint is an issue that was resolved with the CPUC's September 2016 Phase 2 GWR decision that included approval of the Monterey Pipeline. The EIR/EIS does not evaluate the Monterey Pipeline as part of the proposed project (rather, it is considered a project relevant to the cumulative impact analysis). Accordingly, comments regarding the hydraulic lowpoint are no longer pertinent to the proposed project.
- Cech-15 See Master Response 11, Section 8.2.11.4. As confirmed in the *Baseline Water and Total Dissolved Solids Levels* report, prior to initiating this five-day test, groundwater level measurements and groundwater quality samples were collected from the test slant well and all monitoring wells.
- Cech-16 See Master Response 11, Section 8.2.11.4, regarding establishing baseline conditions prior to pumping, as well as response to comment Cech-15.
- Cech-17 The passages quoted in the comment letter and referenced in this comment are from the test slant well CDP, and all references to the "Executive Director" in these quoted passages refer to the Executive Director of the CCC. Dennis Williams is not currently, and has never been, the Executive Director of the CCC. See also response to comment Cech-12.
- Cech-18 As explained in Master Response 11, Section 8.2.11.6, the available data were indeed used to assess the reliability of the North Marina Groundwater Model used in the EIR/EIS (referred to as NMGWM²⁰¹⁶).
- Cech-19 The baseline water levels and salinity collected prior to the 5-day pump test indicate trends, not a static condition. The *Baseline Water and Total Dissolved Solids Levels* report (see response to comment Cech-15 and Master Response 11, Section 8.2.11.4) as well as the monitoring data collected while the test slant well was not pumping (during the 144-day shutdown), were used by the HWG to establish regional trends. The data were used in the EIR/EIS to help calibrate the NMGWM²⁰¹⁶, as described in Master Response 12, The North Marina Groundwater Model (v. 2016), Section 8.2.12.3. See also response to comment Cech-18.
- Cech-20 See Master Response 11, Section 8.2.11.6 and Master Response 5, Section 8.2.5.5. Dr. Williams did not perform modeling for the Draft EIR/EIS. HydroFocus performed the groundwater modeling used in the EIR/EIS and they used the test slant well data to update the calibration of the NMGWM²⁰¹⁶ as described in Master Response 12, Section 8.2.12.3.
- Cech-21 The CCC set the terms of Special Condition 11 in the CDP, requiring the permittee (i.e., CalAm) to collect and post the data. See response to comment Cech-12 and Master Response 5, Section 8.2.5.5 regarding potential conflicts of interest.

- Cech-22 See Master Response 11, Section 8.2.11.5. The shut down criteria were altered to better incorporate local and regional trends.
- Cech-23 See response to comment Cech-12 and Cech-17.
- Cech-24 See response to comment Cech-15 and Master Response 11, Section 8.2.11.4.
- Cech-25 The Draft EIR/EIS text states (on page 4.4-22) that the data shown in Table 4.4-4 summarizes water quality results from a single sampling event. See also Master Response 11, Section 8.2.11.6 for a discussion of the test slant well data, and Master Response 5, Section 8.2.5.5 for a discussion of the conflict of interest.
- Cech-26 Ocean water quality data are shown in Draft EIR/EIS Table 4.3-5 (page 4.3-32), water quality of the brine discharge based on test slant well water quality data is shown in EIR/EIS Appendix D3 Table 4, and a summary of test slant well laboratory water quality results are provided by CalAm in every Test Slant Well Monthly Monitoring Report (see Master Response 11, Section 8.2.11.5 for detailed references to these reports).
- Cech-27 Ocean water quality in Monterey Bay (e.g., temperature and salinity) varies by season, as explained in EIR/EIS Section 4.3.1.3 as well as in EIR/EIS Appendix D1 Table 1. The comment does not provide enough specificity regarding federal TDS measurements in MBNMS and potential differences between such measurements and the Central Coast Seawater Average TDS measurement (reported in Table 4.4-4 on Draft EIR/EIS page 4.4-22) to provide a substantive response. See also response to comment PWN2-52.
- Cech-28 As a component of the MPWSP, the Carmel Valley Pump Station (including the electrical control building) is described in EIR/EIS Section 3.2.3.6. The potential construction and operational impacts of the Carmel Valley Pump Station are addressed in all topical sections of Chapter 4 and these are summarized in EIR/EIS Table ES-2.
- Cech-29 The direct and indirect noise impacts of the Carmel Valley Pump Station are addressed in EIR/EIS Section 4.12.6; the direct and indirect air quality impacts are addressed in Section 4.10.5; and the direct and indirect traffic impacts are addressed in Section 4.9.5.
- Cech-30 See response to comment Cech-28.
- Cech-31 The operation of existing pipelines or other facilities not related to the proposed project is outside the scope of the analysis of the proposed project in this EIR/EIS. Therefore, this is not a substantive comment on the Draft EIR/EIS.

8.7.7 Responses to Comments from Bob Coble

Coble-1 See Master Response 3, Water Rights.

Coble-2 See Master Response 11, CalAm Test Slant Well, Section 8.2.11.5, for a discussion of the results of the test slant well long-term pump test. See also Master Response 8, Project Source Water and Seawater Intrusion, for a discussion of the modeled cone of depression projected to be caused by project pumping, and its relationship to ongoing seawater intrusion.

Coble-3 See Master Response 11, Section 8.2.11.7, for a discussion of the evolving slant well technology.

8.7.8 Responses to Comments from Margaret-Anne Coppernoll

Coppernoll-1 The comments regarding water rights are addressed by Master Response 3, Water Rights. The comments regarding basins are addressed in Master Response 6, Sustainable Groundwater Management Act. The comments regarding the method for calculating return water are addressed in Master Response 4, The Agency Act and Return Water.

Coppernoll-2 Draft EIR/EIS Section 4.4.4.1 describes an extensive subsurface investigation that included drilling exploratory boreholes to identify and correlate the subsurface geologic units, to collect groundwater quality data, and to build clusters of monitoring wells. The details of the subsurface exploration are presented in Appendix C3 and were used to develop a conceptual hydrogeologic model of the project area that ultimately became the North Marina Groundwater Model (NMGWM). In addition, see Appendix E2 where vertical and horizontal parameter zones are described in Section 3.3 and are presented in Figures 3.3a and 3.3b. The NMGWM was used to predict, not assume, the effects on groundwater from proposed project pumping. Clarification on the NMGWM is provided in Master Response 12, The North Marina Groundwater Model (v. 2016). Additionally, Master Response 11, CalAm Test Slant Well, provides a discussion on how the test slant well is not exacerbating seawater intrusion.

As noted in Draft EIR/EIS Section 4.4.1.3 on page 4.4-19, the estimated 555,000 afy of groundwater pumping and evapotranspiration in the Salinas Valley exceeds the 504,000 afy of inflow, resulting in basin overdraft. Draft EIR/EIS Section 4.2.5 at page 4.2-66 explains that as a result of this overdraft, saltwater has replaced the freshwater in those areas, thereby preventing subsidence (Monterey County, 2010). Section 8.2.6.3 of Master Response 6, Sustainable Groundwater Management Act, describes why project pumping would not cause subsidence.

Coppernoll-3 The impact on seawater intrusion is discussed in the Draft EIR/EIS on page 4.4-77, and concludes that “the proposed project would facilitate the reduction of seawater intrusion in the long term, and the impacts of the proposed project are considered less than significant.” In addition, Master Response 4, The Agency Act and Return Water discusses how fresh groundwater (the fresh water component of brackish groundwater) pumped by the slant wells, if any, would be returned to the Salinas Valley Groundwater Basin resulting in a net zero impact relative to groundwater pumped from the basin.

Coppernoll-4 See Master Response 3, Water Rights, Master Response 6, Sustainable Groundwater Management Act, and Master Response 4, The Agency Act and Return Water.

- Coppernoll-5 The groundwater referred to in this comment originates in a perched groundwater-bearing zone located inland of the proposed slant wells. Groundwater flows to the edge of this zone and “waterfalls” into the underlying Dune Sand or 180-Foot Aquifer formations. The edge of the perched layer occurs 1.5 miles inland from the capture zone of the proposed slant wells. There is no evidence that the groundwater in the perched zone is reversing seawater intrusion or providing “protection” against seawater intrusion. This is evident in the fact that there is documented seawater intrusion further inland, which has been occurring for decades. The projected capture zone for the proposed slant wells is located at the coast and the effects of that capture zone would not encroach on the inland perched groundwater bearing zones. Refer also to Master Response 8, Project Source Water and Seawater Intrusion, Section 8.2.8.4.
- Coppernoll-6 See Master Response 2, Source Water Components and Definitions, for clarification of the chemical character of source water components. As listed in Table 4.4-4, while sodium and chloride are major components of ocean water, the chemical character is actually composed of numerous cations (positively charged ions) and anions (negatively charged ions), only some of which are listed in the table. While the chemical character of groundwater located further inland may be mainly calcium chloride and calcium bicarbonate, groundwater in the area around the slant wells has been intruded by seawater for decades and shows a predominant seawater chemistry, as discussed on Draft EIR/EIS pages 4.4-28 through 4.4-31, and shown on Figure 4.4-10. The Total Dissolved Solids (TDS) concentrations, a measure of all of the dissolved ions, including sodium and chloride, are shown on Figure 4.4-3. As shown on Figure 4.4-3, many of the groundwater samples collected from the Dune Sand Aquifer, 180-Foot Equivalent Aquifer, and 400-Foot Aquifer have elevated TDS concentrations clearly strongly influenced by seawater intrusion and the sodium and chloride ions that dominate seawater chemistry.
- Coppernoll-7 See Master Response 3, Water Rights, and Master Response 4, The Agency Act and Return Water. In addition, Impacts 4.4-3 and 4.4-4 discuss how the impact on water supply and well users within the affected area would be less than significant. Applicant Proposed Measure 4.4-3 would be implemented by CalAm, but is not necessary to reduce a significant impact to a less-than-significant level.
- Coppernoll-8 This comment is mostly about water rights, which are addressed in Master Response 3, Water Rights and Master Response 4, The Agency Act and Return Water. The commenter notes that various actions throughout the Salinas Valley Groundwater Basin have slowed seawater intrusion and that brackish water can be treated and put to beneficial use, both of which are true. See response to comment Coppernoll-5 regarding claims about MCWD’s water quality restoration efforts. The example provided in the comment of the observed conditions in CalAm’s monitoring well MW-7 is a mischaracterization of the water quality data. Water quality data in monitoring well MW-7 clearly displays chemistry consistent with

seawater intrusion. The deep well in the MW-7 cluster shows total dissolved concentration at 26,700 mg/L, which is indicative of seawater intrusion. The mid-range well in the MW-7 cluster shows a concentration of 3,832 mg/L, which is an elevated TDS concentration indicative of incipient seawater intrusion. See also Master Response 2: Source Water Components and Definitions, and response to comment Biala1-11 in Section 8.7.3.

- Coppernoll-9 See Section 8.2.11.5 of Master Response 11, CalAm Test Slant Well for discussion of how the test slant well has not been observed to cause harm to the seawater-intruded Dune Sands Aquifer.
- Coppernoll-10 See Master Response 3, Water Rights, specifically Sections 8.2.3.5 and 8.2.3.6. See also Master Response 4, The Agency Act and Return Water, Section 8.2.4.1.
- Coppernoll-11 EIR/EIS Section 1.2 explains that the CPUC is the CEQA Lead Agency, and is a constitutionally established state agency charged with regulating investor-owned utilities in the transportation, energy, communications, and water industries. CalAm is a public utility under the CPUC's jurisdiction, and has applied to the CPUC for a Certificate of Public Convenience and Necessity under Public Utilities Code Section 1001 to build, own, and operate all elements of the MPWSP, and also for permission to recover present and future costs for the proposed project by short-term rate increases. As the federal lead agency, MBNMS has joined in the preparation of this EIR/EIS for purposes of NEPA compliance and consideration of authorizations for CalAm's proposed project. The authority for MBNMS actions is outlined in EIR/EIS Section 1.3.2.
- In addition, see Master Response 3, Water Rights, Sections 8.2.3.5 and 8.2.3.6, and Master Response 4, The Agency Act and Return Water, Section 8.2.4.1.
- Coppernoll-12 As discussed in Impact 4.4-3 and Master Response 4, The Agency Act and Return Water, CalAm would work with MCWRA to expand the existing program to monitor the response of the aquifers in nearby wells to the operation of the slant wells, and to measure the actual percentage of seawater in the source water.
- Coppernoll-13 The operation of the Dana Point test well is discussed in Section 8.2.11.7 of Master Response 11, CalAm Test Slant Well.
- Coppernoll-14 There is no evidence that the test slant well is experiencing problems with clogged filters. Maintenance procedures for the proposed wells are described in EIR/EIS Section 3.4.1, which notes that if chemical cleaning products are needed for well maintenance, only environmentally inert products would be used. In addition, the test slant well has undergone successful and uneventful routine maintenance cleaning events. See also Master Response 11, CalAm Test Slant Well.

Coppernoll-15 See Master Response 12, The North Marina Groundwater Model (v. 2016), regarding the NMGWM. The test well has been operating since April 2015, and the data collected from the test well has been made publically available. See also Master Response 11, CalAm Test Slant Well.

Coppernoll-16 Lead agency staff has visited the test slant well. Sampling of the test slant well water reveals the salinity of the pumped water has varied over time, ranging from 25,400 mg/L of TDS at start-up in April 2015 (76 percent ocean water salinity) to 31,800 mg/L in November 2016 (95 percent ocean water salinity). This comment is further addressed in Master Response 11, CalAm Test Slant Well.

The Dune Sand Aquifer and the 180-Foot Equivalent Aquifer are both predominantly recharged by the ocean during pumping, and this phenomenon is explained in EIR/EIS Section 4.4.5.2. Stratigraphic data from the boreholes that CalAm drilled were used to develop the conceptual groundwater model, and the data from the monitoring well have been used to calibrate the NMGWM²⁰¹⁶; the modeling was used to predict the effects of the full scale project as described in EIR/EIS Section 4.4.4.2. See Master Response 12, The North Marina Groundwater Model (v. 2016), Master Response 8, Project Source Water and Seawater Intrusion, and Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM).

Coppernoll-17 EIR/EIS Section 4.2.1.2 describes the seismicity and faults in the project area. The Reliz-Rinconada Fault Zone is the nearest known potentially active fault (no known Holocene movement) and is located a little over 1 mile to the south of the slant wells. Impacts from seismicity and faults are analyzed in Impacts 4.2-2, 4.2-3, and 4.2-4.

Coppernoll-18 See Master Response 9 regarding ERT, specifically Section 8.2.9.3.

Coppernoll-19 See Master Response 3, Water Rights, Section 8.2.3.6, and Master Response 4, The Agency Act and Return Water, Section 8.2.4.1.

Coppernoll-20 See Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM), specifically Section 8.2.9.3.

Coppernoll-21 See Master Response 3, Water Rights, Sections 8.2.3.5 and 8.2.3.7 and Master Response 4, The Agency Act and Return Water.

Coppernoll-22 Much of this comment is addressed in Master Response 3, Water Rights and Master Response 4, The Agency Act and Return Water. In addition, Impacts 4.4-3 and 4.4-4 explain how the MPWSP would not worsen seawater intrusion and actually would, in fact, incrementally reduce seawater intrusion.

Coppernoll-23 Comments about the concept of “harm” as defined in the State Water Resources Control Board report are addressed in Master Response 3, Water Rights. There is

no requirement under CEQA that the project do “no harm;” rather, that concept is related to the water rights discussion. Nonetheless, the Draft EIR/EIS addressed this concept in Chapter 2 and Section 4.4, Groundwater Resources; see, for example, Impact 4.4-3 and Applicant-Proposed Measure 4.4-3.

Coppernoll-24 Much of this comment is addressed in Master Response 3, Water Rights and Master Response 4, The Agency Act and Return Water. In addition, Impacts 4.4-3 and 4.4-4 explain how the MPWSP would not adversely impact the water supply within the current jurisdiction of the MCWD.

Chapter 4, Environmental Setting (Affected Environment), Impacts, and Mitigation Measures, evaluates the impacts of project construction and operation, including impacts on surface water hydrology and water quality (Section 4.3), groundwater resources (Section 4.4), and public services and utilities (Section 4.13).

Coppernoll-25 The test slant well was pumping 2,100 gallons per minute (about 3 mgd, or annualized to 3,300 afy) in April 2015. In comparison, MCWD pumped 4,200 afy in 2015 (MCWD, 2016). Furthermore, the test slant well has not been pumping fresh water; but rather brackish to saline (water with the TDS of seawater) water ranging from 25,400 mg/L¹ of TDS at start-up (76 percent ocean water salinity) to 31,800 mg/L in November 2016 (95 percent ocean water salinity). Regardless, the CPUC does not manage the operation of the test slant well and is not responsible for determining water rights related to the test slant well, nor application of the reasonable use doctrine to its operation. See Master Response 11, CalAm Test Slant Well, Sections 8.2.11.1 and 8.2.11.4. See also Master Response 3, Water Rights, Section 8.2.3.7.

Coppernoll-26 See Master Response 3, Water Rights and Master Response 4, The Agency Act and Return Water.

Coppernoll-27 The issue of ratepayer liability is outside the scope of CEQA and NEPA requirements; however, as described in Draft EIR/EIS Section 1.5.4.1, the CPUC decision to grant or deny a Certificate of Public Convenience and Necessity for the project (i.e., project approval) would follow a process after certification of the EIR during which the Commission will consider any other issues that have been established in the record of the proceeding, including but not limited to economic issues, social impacts, specific routing and alignments, and the need for the project. Therefore, comments regarding ratepayer liability are relevant to and will be considered as part of that proceeding.

The CPUC has no regulatory authority over MCWD because MCWD is a municipal utility and not investor-owned. Therefore, the MCWD Board of Directors, not the CPUC, establishes what MCWD customers pay for water.

¹ Seawater generally has a TDS of 33,500 mg/L

Coppernoll-28 The Draft EIR/EIS (Impact 4.9-6, page 4.9-31) identifies increased wear-and-tear on designated haul routes used by project construction vehicles as a potentially significant impact. Mitigation Measure 4.9-6 (page 4.9-32) stipulates that prior to commencing project construction, CalAm and the affected jurisdiction(s) shall enter into an agreement to repair roads damaged by project-related construction vehicles. The measure also requires that those roads shall be repaired to a structural condition equal to that which existed prior to construction activities. The EIR/EIS did not quantify the cost of implementing this mitigation measure because such cost analyses are outside the scope of the CEQA and NEPA analysis, and not necessary to identify the significance of the impact or identify appropriate mitigation measures. However, to clarify CalAm's financial responsibility for implementation of Mitigation Measure 4.9-6, the text of this measure is modified to include the following as the last sentence:

CalAm shall be responsible for paying for all repairs needed to fix the damage caused by project-related construction vehicles.

Coppernoll-29 The response to comment Coppernoll-3 addresses the issue of seawater intrusion. The cumulative impact analysis in the EIR/EIS considers MCWD's reasonably foreseeable projects (see EIR/EIS Section 4.1.7). Regarding water rights, see Master Response 3. See also Master Response 4, The Agency Act and Return Water and response to comment MCWD-Hopkins and MCWD-EKI.

EIR/EIS Table 4.4-10 describes the City of Marina's municipal wells: "Wells 10, 11, and 12 are over 2 miles to the southeast, and are screened in the 900-Foot Aquifer (MCWD, 2005). The Ord Community Wells 29, 30, and 31 are located 5 plus miles to the southeast and are screened in the lower 180-Foot and the 400-Foot Aquifers." See also Master Response 3 regarding water rights and Master Response 4 regarding the Agency Act and return water.

Coppernoll-30 See response to comment Coppernoll-25.

Coppernoll-31 EIR/EIS Section 1.5.4 describes the lead agencies' decision-making processes.

Coppernoll-32 Regarding project feasibility, water rights, and harm, see Master Response 3, Water Rights. As discussed in Section 2.6, the proposed project does not intend to export water from the SVGB. Although the comment does not specify which mitigation measures "to avoid harm" are considered inadequate, the Lead Agencies note that as explained in EIR/EIS Section 2.6 and Master Response 3, in the context of water rights in which this EIR/EIS uses the term "harm," no mitigation for significant impacts under CEQA and NEPA is required, because no significant impacts would occur. Rather, CalAm has proposed Applicant-Proposed Measure 4.4-3, Groundwater Monitoring and Avoidance of Well Damage, to ensure that if the project causes groundwater levels to damage local active wells, those active wells would be repaired or replaced. This measure would be implemented in coordination with the Monterey County Water

Resources Agency (MCWRA), and would be incorporated into the Mitigation Monitoring and Reporting Program (MMRP) that will be adopted by CPUC if the project is approved, providing a monitoring and reporting mechanism to ensure that the measure is implemented as proposed.

Additionally, the proposed project does not include a “21-mile pipeline,” but as summarized in Table 3-1 in EIR/EIS Chapter 3, Description of the Proposed Project, includes approximately 21 total miles of pipelines. The potential impacts of these pipelines are analyzed throughout EIR/EIS Chapter 4, and mitigation proposed as appropriate to reduce significant impacts.

- Coppernoll-33 See Master Response 3, Water Rights and Master Response 4, The Agency Act and Return Water.
- Coppernoll-34 See Master Response 3, Water Rights, Section 8.2.3.6. See also Master Response 4, The Agency Act and Return Water, Sections 8.2.4.2 and 8.2.4.3.
- Coppernoll-35 Figure 4.2-3 is a cross-section of the local geology and shows the test slant well penetrating the Dune Sands Aquifer and the 180-Foot Equivalent Aquifer. (Appendix E2 was prepared by HydroFocus and does not include a Geoscience diagram showing the slant wells in the 180-Foot Equivalent Aquifer.)
- Section 2.6 explains that the entirety of the geographical area of the Basin that would be affected by the project contains brackish water. Therefore, the slant wells would be extracting brackish water, not fresh water. As the pumping continues, the predominant source of water replacing the extracted water is expected to be from the ocean. Master Response 2, Source Water Components and Definitions, provides further discussion of source water components. See also Master Response 4 regarding return water.
- Coppernoll-36 See responses to comments Coppernoll-16 and Coppernoll-25. The water being extracted by the test slant well is not fresh water; it is much closer to ocean water salinity (33,500 mg/l) than to fresh water; see Master Response 11, CalAm Test Slant Well. The definition of the term “brackish water” is defined in Master Response 2. Water rights are discussed in Master Response 3.
- Coppernoll-37 The lead agencies acknowledge that CalAm’s water supplies have been constrained by legal decisions affecting the Carmel River (see Section 2.2.3) and the Seaside Groundwater Basin (see Section 2.2.4).
- Coppernoll-38 See response to comment Coppernoll-27.
- Coppernoll-39 See response to comment Coppernoll-27, as well as Sections 1.5.4.2 and 1.5.4.3 for a discussion of other agencies’ consideration of the EIR/EIS and proposed project. In addition, Table 3-8 discusses the anticipated permits and approvals that may be required by federal, state, and local agencies.

Coppernoll-40 Section 2.6 discusses water rights, and the sentence on Draft EIR/EIS page 2-30 following the sentence cited in the comment explains that in California, “groundwater . . . is regulated through common law (court cases) rather than through the issuance of permits by government bodies.” Section 2.6 concluded on Draft EIR/EIS page 2-39 with the statement that CalAm would likely possess water rights for the project; this conclusion has not been revised in the Final EIR/EIS. See Master Response 3 regarding water rights for additional details.

Section 2.5.4, including Draft EIR/EIS page 2-29 as cited in the comment, describes the assumptions about the allocation of MPWSP water supplies to jurisdictions within the boundaries of the MPWMD; the MPWMD is the jurisdiction to which the quoted sentence refers. MCWD provides water to Central Marina and the Ord Community and does not provide service within the boundaries of the MPWMD. MCWD is a party to the CPUC proceeding but does not have any authority to carry out or approve the MPWSP and therefore, does not meet the CEQA Guidelines Section 21069 definition of a Responsible Agency. The City of Marina is a Responsible Agency as described in Section 1.5.4.3 and their permit authority is described in Table 3-8 (see Draft EIR/EIS page 3-65).

Coppernoll-41 The discussion at the bottom of Draft EIR/EIS page 2-29 explains that one of the key functions of the MPWMD is to allocate water supplies within its boundaries, and Draft EIR/EIS page 2-30 concludes with the assumption that water provided by the proposed project would be allocated by the MPWMD (not by the CPUC). Because the MPWMD has not yet determined the allocation of supply that would be provided by the project, the discussion in Section 2.5.4 simply discloses the assumptions, for the purpose of the EIR/EIS analysis, of how the water would generally be distributed. The discussion in Section 2.5.4 does not contradict the discussion of water rights presented in Section 2.6, Water Rights. As stated there (on Draft EIR/EIS page 2-30), the issue of water rights is addressed in the EIR/EIS as one of project feasibility. Assuming the project is feasible and approved, it would provide water supply to the CalAm service area. See also response to comments MPWMD-21 and Coppernoll-40.

Coppernoll-42 The impacts of the proposed pipelines are discussed in every topical section of Chapter 4. The impacts on the SVGB are described in Section 4.4.5.

Coppernoll-43 See response to comment Coppernoll-5. The “Perched Dune Sand Aquifer” referred to in this comment has not been affected by CalAm pumping at the test slant well.

Coppernoll-44 See Master Response 11, CalAm Test Slant Well, Sections 8.2.11.5 and 8.2.11.8.

Coppernoll-45 See Appendix E-1, which reports on the peer review of the North Marina Groundwater Model (NMGWM²⁰¹⁶) by Lawrence Berkeley National Laboratory

(LBNL) and Master Response 12, which responds to comments on the construction, assumptions and operation of the NMGWM²⁰¹⁶. See also response to comment Coppernoll-43.

- Coppernoll-46 The groundwater modeling used in the Draft EIR/EIS was conducted by HydroFocus, not by Geoscience; see Master Response 12 regarding the NMGWM²⁰¹⁶. Also see Master Response 5, The Role of the Hydrogeologic Working Group and its Relationship to the EIR/EIS, Section 8.2.5.5 for a discussion of the alleged conflict of interest.
- Coppernoll-47 See response to comments Coppernoll-29 and Coppernoll-43. Project objectives are presented in EIR/EIS Section 1.3.1. The local and regional hydrogeology is presented in Section 4.4.1.2; the Dunes Sands Aquifer is described on page 4.4-6 and the 180-Foot Aquifer is described on page 4.4-8. The 180-Foot and 400-Foot aquifers referred to in the comment are not equivalent to the Dune Sands Aquifer; regardless, the EIR/EIS did not rely on the quoted statement or other statements from CalAm to determine potential groundwater impacts. See Master Response 9 for a discussion of the relevance of ERT data.
- Coppernoll-48 See Master Response 9, which discusses how the ERT survey results are consistent with the characterization of the Basin in Section 4.4. As the property owner, CEMEX refused to grant access for the ERT study; neither CalAm nor the CPUC had authority to grant access.
- Coppernoll-49 See response to comment Coppernoll-47 and Section 8.2.8.1 of Master Response 8, Project Source Water and Seawater Intrusion.
- Coppernoll-50 The CPUC decision-making process is described in EIR/EIS Section 1.5.4.1. All input will be considered by the lead agencies.
- Coppernoll-51 Seismic activity is addressed in Section 4.2.5; specifically, in Impacts 4.2-2, 4.2-3, and 4.2-4. See also response to comment Coppernoll-17.
- Coppernoll-52 See Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM), which discusses how the ERT survey results are consistent with the characterization of the SVGB in Section 4.4.
- Coppernoll-53 See response to comment Coppernoll-29.
- Coppernoll-54 See response to comment Coppernoll-40. The comment does not specify what “significant irreparable harm to marine vegetation and ecosystems” lacks mitigation; see Sections 4.5.5 and 4.6.5 for a discussion of direct and indirect impacts on marine biological resources and terrestrial biological resources, respectively.

Coppernoll-55 Appeals may be filed with the California Coastal Commission (CCC), pursuant to Coastal Act Section 30603(a)(5), for any development that constitutes a major public works facility.

Coppernoll-56 See response to comment Coppernoll-28 regarding the discussion of increased wear-and-tear and subsequent repair of the designated haul routes used by project-related construction vehicles. The project's temporary effects on recreational trail usage (during periods of pipeline installation within or adjacent to the Monterey Peninsula Recreational Trail, not for the duration of the project construction) are discussed under Impact 4.9-5 in Section 4.9. Of note, as part of the Traffic Control and Safety Assurance Plan (Mitigation Measure 4.9-1), CalAm and its contractors would be required to schedule construction activities to minimize impacts during heavy recreational use periods (e.g., weekends and holidays). The project's effects caused by temporary displacement of parking spaces are discussed under Impact 4.9-7. As described, roadways that could be affected by project construction have less-than-substantial demand for the available on-street parking spaces, and/or alternative parking spaces are present nearby, and the impacts associated with temporary displacement of on-street parking would be less than significant. Of note, Mitigation Measure 4.9-7, which applies to staging areas in publicly-used parking lots, would require that the construction contractors coordinate with the affected entities to design the staging areas to avoid or minimize parking impacts in those lots.

Coppernoll-57 See response to comment Coppernoll-27.

Coppernoll-58 As stated on page 4.9-24 of the Draft EIR/EIS, the Traffic Control and Safety Assurance Plan (Plan) shall be developed on the basis of detailed design plans for the approved project. Such detailed plans are not yet available, and consideration of approval of the Draft EIR/EIS is not dependent on a detailed Plan. The Draft EIR/EIS presents the required major elements of and performance standards to be included in the Plan, but clearly states that the Plan shall not necessarily be limited to the elements listed on page 4.9-24 to 4.9-26. This is standard practice for EIRs/EISs.

The comment quotes two statements from the Draft EIR/EIS, but presents them in reverse order from how they appear within the cited paragraph on Draft EIR/EIS page 4.9-21. The reference to potentially substantial adverse effects on local and residential streets is followed by, not preceded by (as implied by the comment), the statement that implementation of Mitigation measure 4.9-1 would reduce that same impact to a less-than-significant level.

Coppernoll-59 The trip distribution (origins and destinations) of project-generated construction traffic is addressed as part of the discussion of "Combined Construction-Related Traffic Increases" in different areas within the project area (i.e., North Marina Area [Draft EIR/EIS page 4.9-19], Marina/Seaside Area [Draft EIR/EIS

page 4.9-21], and Monterey Area [Draft EIR/EIS page 4.9-22]). As stated at the start of each area's discussion, the estimated number of project trips on the area's access roads was based on assumptions developed by a professional traffic engineer regarding the origins and destinations of those trips. By way of example, project construction-related trips to and from the North Marina Area are reasonably expected to be split as follows: about 50 percent on Highway 1 north of Reservation Road (trip origins/destinations in the Highway 1 and Highway 101 corridors; about 25 percent on Highway 1 south of Reservation Road (trip origins/destinations in the Highway 1 corridor; and 25 percent on Reservation Road (trip origins/destinations in the Highway 1 corridor southeast of the project area).

Coppernoll-60 See response to comment Coppernoll-59 regarding project trip distribution. Project trips would disperse among an increasingly wide network of roads as one gets farther away from the project area, decreasing the number and effects of added traffic on roads removed from the corridors near-in to the project construction sites. For example, trips from Salinas to the various construction sites could travel on (could be dispersed among) Highway 183, Blanco Road, Nashua Road, Davis Road, or Highway 68.

See response to comment Coppernoll-58 regarding the timing of development of the required Traffic Control and Safety Assurance Plan.

The Draft EIR/EIS analysis of impacts from project construction trips (trucks and workers) on area roadways was conducted using an approach and methodology consistent with standard practice for such analyses. The basis for the commenter's estimate of truck and worker trips per month is unknown, but trips per month is not a measure germane to traffic analyses. Traffic operating conditions are judged on a daily and hourly basis, with conditions during the peak morning and evening commute hours having the greatest potential for significant impacts. It is this latter point that typically leads (and in this case, does lead) to the need for a mitigation measure (see the 4th bullet of Mitigation Measure 4.9-1, page 4.9-24 of the Draft EIR/EIS) to "schedule truck trips outside of peak morning and evening commute hours to minimize adverse impacts on traffic flow (i.e., if agencies with jurisdiction over the affected roads identify highly congested roadway segments during their review of the encroachment permit applications)."

See response to comment Coppernoll-28 regarding increased wear-and-tear on and subsequent repair of the designated haul routes used by project-related construction vehicles.

The statement about the project's use of Charles Benson Road cited by the commenter pertains to vehicle trips associated with operations of the MPWSP Desalination Plant. The Plant-generated vehicle trips on any other roads would be lower than that on Charles Benson Road (i.e., immediately reduced by a split

between Del Monte Boulevard either north or south of Charles Benson Road, and then further reduced as trips disperse onto different roads farther removed).

Regarding cumulative impacts during project construction (Draft EIR/EIS pages 4.9-36 to 4.9-38), the cumulative analysis discusses Mitigation Measures 4.9-1, 4.9-6, and 4.9-7, each of which would lessen the project contribution to cumulative construction-related traffic and transportation impacts. On top of that, the EIR/EIS identifies Mitigation Measure 4.9-C (Construction Traffic Coordination Plan), which is designed to further reduce the project's incremental contribution to the potential cumulative impact. The significant and unavoidable cumulative impact determination is based on the fact that there is no guarantee that local agencies would participate in the coordination efforts.

Regarding impacts on public transportation during project construction, there are no full road closures anticipated, so while individual bus stops could need to be temporarily relocated, relocation of bus routes would not be needed. The last bullet of Mitigation Measure 4.9-1 (page 4.9-26) is revised as follows:

- Coordinate with Monterey-Salinas Transit so the transit provider can temporarily relocate ~~bus routes or~~ bus stops in work zones as deemed necessary.

Coppernoll-61 See responses to comment Coppernoll-27 and -28.

Coppernoll-62 Dennis Williams is not under contract to the CEQA/NEPA Team and did not participate in the preparation of the Draft EIR/EIS; see Section 8.2.5.5 of Master Response 5, The Role of the Hydrogeologic Working Group and its Relationship to the EIR/EIS, for a detailed discussion of the alleged conflict of interest. Potential impacts on water supply are analyzed in Section 4.4, Groundwater Resources. See also Section 8.5.1 for comments from and responses to the City of Marina.

Coppernoll-63 The operational impacts of the proposed project on groundwater resources are addressed in Section 4.4.5.2 and do not extend to Salinas. See Figure 4.4.13.

Coppernoll-64 Potential impacts on the SVGB are addressed in Section 4.4.5, and environmental justice is addressed in Section 4.20. Legal constraints on CalAm's water supplies are acknowledged in Sections 2.2.3 and 2.2.4.

Coppernoll-65 See response to comment Coppernoll-25. Regarding the source water components and location, see Master Response 2. See also Master Response 8, Project Source Water and Seawater Intrusion.

Coppernoll-66 See Master Response 3 regarding water rights and Master Response 8 regarding source water and seawater intrusion. The Lead Agencies have no jurisdiction over SWRCB actions.

- Coppernoll-67 See Master Response 1, EIR/EIS Authorship, regarding EIR/EIS authorship. The project objectives are presented in Section 1.3.1. The water produced by the MPWSP and delivered to CalAm customers would be “developed water” (see Draft EIR/EIS page 2-32).
- Coppernoll-68 See Master Response 3, Water Rights, master Response 8, Project Source Water and Seawater Intrusion, and Master Response 11, CalAm Test Slant Well.
- Coppernoll-69 See response to comment Coppernoll-27.
- Coppernoll-70 The ASR component of the proposed project would create more storage capacity; therefore, this suggestion already is proposed. It is not clear from the comment how removing debris from the Carmel River would provide additional supply, nor would such an action respond to the SWRCB orders to reduce diversions from the Carmel River. The farm runoff that is available for capture and reuse is one of the sources of water for advanced treatment by Pure Water Monterey GWR, a project considered in the cumulative scenario that is part of the basis for considering a reduced-size desalination plant under Alternatives 5a and 5b; thus, this potential source of water already is accounted for in alternatives to the proposed project. However, the GWR project would provide 3,500 afy as described in EIR/EIS Table 5.4-1 and in Section 5.4.7.1, not 6,500 afy.
- Coppernoll-71 Impacts on MCWD wells are discussed in response to comment Coppernoll-29.
- Coppernoll-72 See Master Response 1, EIR/EIS Authorship, regarding EIR/EIS authorship, Master Response 2 regarding source water definitions, and Master Response 3 regarding water rights. The other desalination projects being proposed in the Moss Landing area are described in Sections 5.4.3 (DeepWater Desal) and 5.4.4 (People’s Project) and they are evaluated as alternatives to the MPWSP in Section 5.5. See also Master Response 15, Alternative Desalination Projects – Status, Information Sources, and Cumulative Scenario, for a discussion on the status of the Moss Landing desalination proposals.
- Coppernoll-73 Regarding harm to existing water users, see Section 8.2.3.5 of Master Response 3.
- Coppernoll-74 See Master Response 15, Alternative Desalination Projects – Status, Information Sources, and Cumulative Scenario, for a discussion of the status of the Moss Landing desalination proposals. As noted in response to comment Coppernoll-72, several Moss Landing alternatives were analyzed in the EIR/EIS in Chapter 5. No reference is provided for the CCC statement described in the comment.
- Coppernoll-75 As described in Section 1.4.3, the MPWSP Draft EIR was issued in April 2015 for a 60-day review period that was extended until September 30, 2015. Following that 5-month review period, the CPUC announced that the April 2015 Draft EIR would be modified and recirculated as a joint EIR/EIS in coordination

with MBNMS. CEQA Guidelines Section 15105 states, “the public review period for a draft EIR shall not be less than 30 days nor should it be longer than 60 days except under unusual circumstances.” The Draft EIR/EIS was released on January 13, 2017, for a 45-day review period that was then extended by 30 days, for a total review period of 75 days. CEQA Guidelines Section 15088.5, which provides guidance on circumstances requiring recirculation of a Draft EIR, does not include the length of the public review period as a potential reason for recirculation.

References

Marina Coast Water District (MCWD), 2016. Draft 2015 Urban Water Management Plan, May. [http://www.mcwd.org/docs/agenda_minutes/2016-06-06_board/Item%2011-A%20-%20MCWD%20Draft%202015%20UWMP%20v20160520.pdf]

8.7.9 Responses to Comments from Herbert Cortez

Cortez-1 The comment on CPUC Resolution ALJ-252, Rules for Public Comments at Commission Meetings, was submitted at the MPWSP Public Hearing on Thursday, February 16, 2017, in Carmel, CA. The public hearing was announced in the January 13, 2017 Notice of Availability of the MPWSP Draft EIR/EIS as a chance to interact with technical staff and preparers of the Draft EIR/EIS, and as an opportunity for the public to provide oral and/or written comments. The Public Hearing on the Draft EIR/EIS was not a CPUC Commission Meeting; therefore, rules described in CPUC Resolution ALJ-252 did not apply to the Public Hearing.

8.7.10 Responses to Comments from Bruce Delgado

8.7.10.1 Responses to Comments from Bruce Delgado – Letter 1

- Delgado1-1 As explained in EIR/EIS Table 4.4-10, the CEMEX South Well is located about 1,600 feet southeast of the insertion point of the proposed slant wells. The well screen is set between 400 and 506 feet below ground surface and is separated from the intake portion of the slant wells by the 180/400-Foot Aquitard. The CEMEX North Well collapsed and is unusable. The monitoring well clusters installed by CalAm have known depths and provide more accurate data.
- Delgado1-2 See response to comment Marina-135 in Section 8.5.1, which addresses comments regarding the cumulative analysis and analysis of environmental justice effects of air quality impacts in Section 4.20, Socioeconomics and Environmental Justice. Further, as described in Impacts 4.10-3 and 4.10-5, project construction and operation would not create objectionable odors that would affect a substantial number of people, and cumulative impacts related to odors are addressed in Impact 4.10-C. Because no odor-related impacts affecting people are anticipated, they are not discussed further in the environmental justice analysis in Section 4.20.
- Delgado1-3 The last row in EIR/EIS Table 4.20-6 displays the Monterey Bay Unified Air Pollution Control District (MBUAPCD) Significance Thresholds for ROG, NO_x, CO, PM₁₀ and PM_{2.5}. See also Section 4.10.5.1, which discusses construction-related air quality impacts; specifically, see Table 4.10-5 and Table 4.10-6. See also Section 4.10.5.2 (Operational and Facility Siting Impacts); specifically see Table 4.10-7.

8.7.10.2 Responses to Comments from Bruce Delgado – Letter 2

- Delgado2-1 Master Response 5, The Role of the Hydrogeologic Working Group and its Relationship to the EIR/EIS, addresses this comment. Sections 8.2.5.1 through 8.2.5.3 describe the establishment of the Hydrogeologic Working Group (HWG) and its membership as defined by a 2013 settlement agreement. Section 8.2.5.5 describes the relationship of the HWG to this EIR/EIS. Section 8.2.5.6 describes the potential conflicts of interest raised in comments. Regarding authorship of this EIR/EIS, see also Master Response 1.

8.7.11 Responses to Comments from Myrleen Fisher

- Fisher-1 See Master Response 11, CalAm Test Slant Well, regarding the test slant well and the feasibility of slant well technology, and Master Response 3 regarding water rights. See also Master Response 2, Source Water Components and Definitions, for a discussion of the location and composition of the source water.
- Fisher-2 The calculation of the infiltration rate at the seafloor in the EIR/EIS was performed by the EIR/EIS consultants for this project, at this location, and was compared to conditions at Doheny State Beach. EIR/EIS Section 4.5.5.2 presents the independent calculation of the infiltration rate at the seafloor at CEMEX that was then compared to, but not derived from, the work by Dr. Williams at Dana Point. See Master Response 11 regarding the test slant well, which has provided the site-specific data requested in the comment. The issue of slant well feasibility is addressed in response to comment PWN2-8 in Section 8.6.17.
- Fisher-3 See Master Response 15, Alternative Desalination Projects – Status, Information Sources, and Cumulative Scenarios, Section 8.2.15.2, regarding the status of and information about the People’s Project (Alternative 4) with respect to solar energy. Responses to comments from Nancy Selfridge are provided in Final EIR/EIS Section 8.7.22.
- Fisher-4 The information provided by the People’s Project applicant showed the alignments of the intake and discharge pipelines that were presented in Chapter 5, Alternatives Screening and Analysis. The description of Alternative 4 (People’s Project) in EIR/EIS Section 5.4.6.1 specifically identifies the existing caisson for the proposed open water intake system, and the existing 51-inch-diameter concrete pipe that originates at the Moss Landing Green Commercial Park and crosses under the marina and marina parking lot island, under the commercial harbor and under the island, that extends 800 feet from shore. As described in Section 5.4.6.1, both the intake and discharge pipelines would need to be extended offshore. Section 5.5.5 provides detailed descriptions and analysis of impacts of all alternatives; Section 5.5.5.6 addresses the DeepWater Desal Project and Section 5.5.5.7 addresses the People’s Project. As explained in EIR/EIS Section 5.5.5.7, the new offshore intake and discharge pipelines proposed as part of the People’s Project would be laid on the seafloor with concrete collars and protected with approximately 100,000 cubic yards of riprap armoring, and this construction effort would still result in the need for permits. EIR/EIS Table 5.6-1 presents the impact conclusion against baseline/existing conditions for each impact statement, for every topical area evaluated, for the proposed project and for all alternatives, and further provides a relative impact severity for each alternative (increased, decreased or same) compared to the proposed project. Regarding the suggestion of the “greater feasibility of the People’s Project,” analysis of alternatives under CEQA and NEPA compares the environmental impacts of *feasible alternatives*. The EIR/EIS does not attempt to characterize the relative

feasibility of alternatives because the proposed project and all alternatives (1 through 5a/5b) are considered feasible as described in Chapter 5.

Fisher-5 The executive summary text on Draft EIR/EIS Page ES-11 that discusses impacts resulting from open water Alternatives 2, 3 and 4, is a summary of the detailed analysis that is presented in EIR/EIS Sections 5.5.5.5, 5.5.5.6, and 5.5.5.7, respectively. The conclusion of a significant and unavoidable impact on marine organisms resulting from the screened open water intakes considered under Alternatives 2, 3, and 4 is not based on the impingement of adult fish. As indicated for Alternative 2 in Section 5.5.5.5 (see Draft EIR/EIS page 5.5-117), “Direct impingement of larger fish and invertebrate organisms is not expected due to the wedgewire screens and the low flow rate.” For Alternative 2, the significant and unavoidable impact conclusion for marine biological resources is based on the uncertainty of the efficacy of proposed mitigation to reduce entrainment of plankton, larval invertebrates, and larval fish. As shown in Table 4.5-8, the swimming speeds of plankton, invertebrates, and larval fish evaluated range from 0.2 millimeters per second (mm/sec) to 600 mm/sec. An open ocean intake that would draw water in at a rate of 0.5 ft/sec (152.4 mm/sec) or even the 0.3 ft/sec (91.4 mm/sec) suggested in the comment would have the potential to entrain most of the plankton and invertebrates listed in Table 4.5-8. Such an entrainment effect is the basis for the calculation of Area of Production Foregone in Section 5.5.5.5. Note that in Mitigation Measure ALT-2-Marine-2, item 1 requires that *in addition to* the required operational standard of limiting through-screen velocity at the intake to not exceed 0.5 ft/sec, CalAm would be required to implement the best available technology feasible to minimize intake and mortality of all forms of marine life in the context of design and operation of an open ocean intake. Thus, if Alternative 2 were implemented and CalAm could feasibly install intakes with through-screen velocity of 0.3 ft/sec, the mitigation measure would require them to do so; however, the significance conclusion would not change.

Similarly, the analyses for Alternatives 3 and 4 (Sections 5.5.5.6 and 5.5.5.7, respectively) conclude that impacts may remain significant and unavoidable for the same reasons specified for Alternative 2, and would result in greater Areas of Production Foregone than Alternative 2 as a result of their greater proposed intake volumes. However, the impact conclusion was not determined based on the order of magnitude of the impact; it was based on the fact that “residual impacts may remain due to the uncertainty of the efficacy of the mitigation.”

Fisher-6 The comment appears to refer to the April 2015 Draft EIR, in which the quoted statement appears on page 7-13 (page 1466 of the CD version of the Draft EIR). The quoted statement does not appear in the January 2017 Draft EIR/EIS. The People’s Project was described and analyzed in detail as Alternative 4 in Chapter 5, Alternatives Screening and Analysis.

- Fisher-7 See response to comment Fisher-6 and Master Response 15 regarding the status of the People's Project and MPWSP Lead Agency efforts to obtain information about that project from the applicant.
- Fisher-8 The comment appears to refer to the April 2015 Draft EIR, in which the quoted statement appears on page ES-79 (page 101 of the CD version of the Draft EIR). The quoted statement does not appear in the January 2017 Draft EIR/EIS. Any proposal made by the People's Project applicant to use solar power would not affect the significance conclusions relevant to the proposed MPWSP. See Master Response 15, Section 8.2.15.2, regarding the potential for the People's Project to use solar power. Further, see response to comment USEPA-4, in Section 8.3.5, for revised Mitigation Measure 4.11-1, regarding the proposed project's greenhouse gas emissions; based on revisions to this measure, the proposed project's greenhouse gas impacts have been reduced to less than significant with mitigation in Final EIR/EIS Section 4.11.
- Fisher-9 See response to comment Selfridge1-2, in Section 8.7.22, which describes the EIR/EIS text revision made at the specified location in the alternatives analysis.
- Fisher-10 See responses to comments Fisher-5, Fisher-6, Fisher-7, Fisher-8, and Fisher-9. The People's Project was described and analyzed in detail as Alternative 4 in EIR/EIS Chapter 5, Alternatives Screening and Analysis. The Final EIR/EIS has not been altered in such a way as to identify new or substantially more severe significant environmental impacts compared to the Draft EIR/EIS, nor has the Final EIR/EIS identified new, feasible mitigation measures or project alternatives to reduce significant impacts that the project proponent refuses to incorporate into the project. The comments on the Draft EIR/EIS have not raised issues or presented data so as to cause the Lead Agencies to conclude that the Draft EIR/EIS was fundamentally flawed. For these reasons, the EIR/EIS need not be recirculated for further public review.

8.7.12 Responses to Comments from David Gorman

- Gorman-1 Lead agencies consider all comments on the Draft EIR/EIS when making decisions about the proposed project. See Master Response 8, Source Water and Seawater Intrusion, Section 8.2.8.1, which explains that the MPWSP would extract seawater and brackish water from a coastal capture zone, the effects of which would not negatively impact the water quality (including salinity) of the inland portions of the 180-Foot Aquifer. See also Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM), for a discussion of the use of ERT in the analysis of groundwater quality and seawater intrusion impacts in the EIR/EIS.
- Gorman-2 See Master Response 3, Water Rights.
- Gorman-3 Refer to Section 1.1, Introduction, which explains that, as required by CEQA and NEPA, the EIR/EIS analyzes and discloses potentially significant environmental consequences of the proposed project, pursuant to CEQA and NEPA. With regards to water rights, see Master Response 3.

8.7.13 Responses to Comments from Jane Haines

- Haines-1 Master Response 11, CalAm Test Slant Well, explains that the test slant well was installed and operated in order to test the feasibility of slant well technology at the CEMEX site, and describes the results of that testing. See also Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM).
- Haines-2 See Master Response 3, Water Rights.
- Haines-3 See Master Response 11, Section 8.2.11.8 regarding the Dana Point test slant well. The information in the OC Register article cited in the comment is not relevant to this project or EIR/EIS. See EIR/EIS Section 4.20, Socioeconomics and Environmental Justice, which addresses the potential impacts of rate increases on low-income ratepayers and low-income ratepayer assistance programs (Draft EIR/EIS pages 4.20-17 and 4.20-18).

8.7.14 Responses to Comments from Clifton Herrmann

- Herrmann-1 As described in Section 2.2, Background, State Water Resources Control Board (SWRCB) Order 95-10 directed CalAm to implement conservation measures to offset 20 percent of demand while it pursued an alternative water supply, and Order 2009-0060 directed CalAm to reduce diversions from the Carmel River by an additional 5 percent, starting in October 2009, with additional annual reductions starting in October 2011. Table K-1 in Appendix K summarizes key CalAm and Monterey Peninsula Water Management District (MPWMD) conservation programs and estimated water savings for those that are quantifiable, for years 2010 through 2015. As stated on page K-4, these programs have contributed to the Monterey Peninsula having among the lowest residential per capita water use rates in the state. The potential reductions in demand from continued implementation of these programs is described in EIR/EIS Section 5.4.2.3. The only identified additional feasible conservation measures are those included in the MPWMD's 2016 Monterey Peninsula Water Conservation and Rationing Plan, which as explained in Section 5.4.2.3 would be triggered by severely supply-constrained conditions that could occur as a result of the No Project Alternative, and are not considered to be reasonable or feasible elective conservation measures.
- Herrmann-2 San Clemente Dam, from its construction in 1921 to its deconstruction in 2015, is described in EIR/EIS Section 2.2.2.1. The issue of ratepayer liability is outside the scope of CEQA and NEPA requirements; however, as described in EIR/EIS Section 1.5.4.1, the CPUC decision to grant or deny a Certificate of Public Convenience and Necessity for the project (i.e., project approval) would follow a process after certification of the EIR during which the Commission will consider any other issues that have been established in the record of the proceeding, including but not limited to economic issues, social impacts, specific routing and alignments, and the need for the project. Therefore, comments regarding ratepayer liability are relevant to and will be considered as part of that proceeding.
- Herrmann-3 Power demands of the proposed project are described in EIR/EIS Section 3.4.5 and impacts of the proposed project related to energy use and conservation are presented in Section 4.18. The electrical power facilities required for the proposed project are described in EIR/EIS Section 3.2.5 and evaluated by resource area in Chapter 4. As described on Draft EIR/EIS page 4.18-17, PG&E has indicated that it has adequate capacity and infrastructure to support the proposed project; therefore, no expansion of energy infrastructure would be necessary, other than that described in Section 3.2.5 for the proposed project.
- Herrmann-4 EIR/EIS Section 4.11 specifically addresses issues related to greenhouse gas (GHG) emissions (including carbon dioxide) resulting from implementation of the proposed project. The section presents an overview of climate change, describes the various GHGs that have been identified as a source of climate change, and

analyzes the potential GHG impacts associated with implementation of the proposed project.

- Herrmann-5 The SWRCB Division of Drinking Water regulates public water systems and requires permits for water treatment facilities to ensure public health and safety. CalAm must secure a Permit to Operate a Public Water System, consistent with California Public Health and Safety Code Section 116525, before operating the project (see Draft EIR/EIS Table 3-8). The California Public Health and Safety Code regulates contaminants in drinking water, and does not require the presence of minerals or other materials in drinking water (such as those that reverse osmosis treatment may remove). Furthermore, as shown in Table 2-4 in Section 2.4, desalinated water from the MPWSP would make up only 44 to 66 percent of total supply in CalAm's Monterey District.
- Herrmann-6 In preparing the Draft EIR/EIS, the brine plume was modeled under various flow scenarios which are described in Draft EIR/EIS Section 4.3.5.2 (Table 4.3-10) for the proposed project, and in Section 5.5.3 for the alternatives; see also Appendix D1. As explained therein, dilution model results indicate the brine discharge would meet the Ocean Plan objective of less than 2 parts per thousand above ambient salinity at the point of regulation. How the plume would move across the seafloor is described on Draft EIR/EIS page 4.3-82. The plume would not run down the canyon as a dense stream.
- Herrmann-7 EIR/EIS Section 4.2 addresses potential impacts of the proposed project on geology, soils, and seismicity and considers whether or not the brine discharge would cause erosion on the seafloor. Table 4.2-8 on Draft EIR/EIS page 4.2-71 compares ambient ocean currents at depth with the estimated current velocities of the jet plume, and concludes the impact would be less than significant.
- Herrmann-8 The comment has been noted and the Lead Agencies will consider all comments in their decisions on the project. The need for the project is presented in Draft EIR/EIS Section 1.3.

8.7.15 Responses to Comments from Juli Hofmann

- Hofmann-1 See Master Response 3, Water Rights, Section 8.2.3.2.
- Hofmann-2 See Master Response 3, Water Rights, Sections 8.2.3.5 and 8.2.3.7.
- Hofmann-3 The discussion in the EIR/EIS on water rights (Section 2.6) relies upon the July 2013 SWRCB Final Report (EIR/EIS Appendix B2) concerning the facts that could establish CalAm’s water rights for the project and that Report uses the words noted in the comment. See also Master Response 3, Water Rights, Sections 8.2.3.3 and 8.2.3.5.
- Hofmann-4 See Master Response 3, Water Rights, Sections 8.2.3.5 through 8.2.3.7.
- Hofmann-5 The text cited in the comment is from the EIR/EIS Executive Summary, Section ES.7.1, Key Differences Between Alternatives. EIR/EIS Executive Summary Section ES.5.2 presents a summary of potential impacts and mitigation measures for the proposed project and explains that, “significant impacts may occur relative to: geology and soils; surface water hydrology and water quality; groundwater resources . . . [a]ll impacts would be reduced to less than-significant levels. . .”. See also EIR/EIS Table ES-1.
- EIR/EIS Section 4.4.5 addresses the direct and indirect effects of the proposed project on groundwater resources; see Table 4.4-9. Section 4.4.5.1 presents the construction-related impacts and Section 4.4.5.2 presents the operational-related impacts. Alternatives 2, 3, and 4 would use screened open water intakes and the impacts of these alternatives on groundwater resources and marine biological resources, and a comparison to the proposed project’s impacts on the same resources, are addressed in EIR/EIS Section 5.5.
- Hofmann-6 EIR/EIS Section 4.4, Groundwater Resources, presents a complete description of the background, current baseline conditions, groundwater modeling, and the analysis of proposed project impacts on groundwater levels and quality, including impacts on the Dune Sand, 180-Foot, 400-Foot and Deep aquifers; see EIR/EIS Figures 4.4-14, 4.4-15 and 4.4-16, and response to comment Hofmann-5. As stated therein, the proposed project would have less-than-significant impacts on groundwater levels and quality. See also Appendix E2 for the groundwater modeling analysis.
- Hofmann-7 See response to comment Hofmann-6. The significant and unavoidable impacts on terrestrial or marine biological resources that the comment refers to would occur only under Alternatives 1 and 5b, which would locate the slant wells at Potrero Road. There would be no such significant and unavoidable impact on terrestrial or marine biological resources resulting from lowering of groundwater levels under the proposed project (or Alternative 5a), which would locate the slant wells at the

CEMEX site and would not affect Elkhorn Slough (but would affect flows in the Salinas River and Tembladero Slough, that would have a less than significant impact on steelhead; see EIR/EIS Section 4.6.5.2, Impact 4.6-6). There would be no significant and unavoidable impacts of the proposed project (or Alternative 5a) related to a changes in groundwater levels, but there would be a significant and unavoidable impact at CEMEX related to compliance with the City of Marina's Local Coastal Land Use Plan; see EIR/EIS Table 4.6-5, Impact 4.6-4.

EIR/EIS Section 5.5.4 presents a description of the groundwater basin conditions for each alternative and the analyses of alternatives' impacts on groundwater resources. The effects are different in the two proposed locations because the stratigraphy is different. As explained in EIR/EIS Section 5.5.4.1, and as shown in Figure 4.4-2, the Dune Sands Aquifer transitions into a similar shallow aquifer underlying the Moss Landing Area to the north, referred to as the Perched-A Aquifer. The Perched-A Aquifer differs from the Dune Sand Aquifer in that it is underlain by a defined layer of less permeable, fine-grained sediments (clay) known as the Salinas Valley Aquitard. The Salinas Valley Aquitard is not present at the CEMEX site.

- Hofmann-8 See Master Response 4, Agency Act and Return Water, Sections 8.2.4.2 and 8.2.4.3.
- Hofmann-9 See Master Response 4, Agency Act and Return Water, Sections 8.2.4.2 and 8.2.4.3 for information on ocean water percentage of feedwater and Master Response 12, The North Marina Groundwater Model (v. 2016) for information regarding the reliability and use of the NMGWM²⁰¹⁶. A range of return water scenarios from 0 to 12 percent was tested in the groundwater modeling as explained in EIR/EIS Section 4.4.4.2.
- Hofmann-10 See Master Response 11, CalAm's Test Slant Well, Section 8.2.11.2 for a discussion of the CEQA and NEPA reviews completed for the test slant well. Master Response 11, Section 8.2.11.7 discusses the conversion of the test slant well to a permanent well. In order for the test slant well to operate past its original agreed upon timeline, CalAm would need to apply to the Coastal Commission for an extension of the Coastal Development Permit. There is no violation of CEQA or NEPA since the review of the proposed conversion is addressed throughout this EIR/EIS; see EIR/EIS Section 3.2.1.1.
- Hofmann-11 The data are not missing; the Salinas Valley Aquitard (SVA) is not present at the CEMEX site. As explained in EIR/EIS Section 4.4.1.2, the SVA is a blue or yellow sandy clay formation up to 100 to 150 feet thick that lies mostly north of and generally parallel to the northwest-flowing Salinas River. The SVA thins and becomes discontinuous away from the centerline and at the Pacific Ocean, and was not observed in the exploratory borings at the CEMEX site.

Lawrence Berkeley National Laboratories (LBNL) performed a peer review of the version of the North Marina Groundwater Model (NMGWM) that was utilized for the April 2015 Draft EIR; that model is referred to as NMGWM²⁰¹⁵. LBNL noted in EIR/EIS Appendix E1, “the absence of the Fort Ord-Salinas Valley Aquitard (FO-SVA), which hydraulically separates the Dune Sand and 180-foot equivalent (180-FTE) aquifers from greater than about 2 km east of the proposed extraction site.” As explained in EIR/EIS Appendix E2, Section 3, Table 3.1, HydroFocus added the FO-SVA and transition zone to the NMGWM, and adjusted the horizontal and vertical conductivity values based on reported aquifer tests and modeling studies to improve comparisons between measured and model-calculated water levels. The modeling conducted for this EIR/EIS included all the revisions recommended by LBNL and that model is referred to as NMGWM²⁰¹⁶. See EIR/EIS Appendix E2, and Master Response 12, The North Marina Groundwater Model (v. 2016).

Hofmann-12 The discussion of baseline conditions in EIR/EIS Section 4.1.3 acknowledges that since the CPUC issued its NOP in 2012, the Lead Agencies have developed or received new data on some of the resource areas, so the baseline data have been updated as appropriate. This document notes those updates in its discussions of the Setting/Affected Environment for the various resource areas and applies them in the pertinent analyses. For instance, in Section 4.6, Terrestrial Biological Resources, updates to survey information for biological resources are described in Section 4.6.1.2, Information Sources and Survey Methodology. As another example, the conceptual model of the Salinas Valley Groundwater Basin was improved with the borehole data obtained when the monitoring wells were drilled in 2015 and 2016, and the groundwater model was revised using data from those monitoring wells that were generated during the test slant well pump test.

However, a drought would not have an effect on the groundwater modeling and would not affect the results. As explained in EIR/EIS Section 4.4.4.2, Groundwater Modeling, using the method of superposition solves only for the groundwater changes that would be due solely to the proposed project pumping. These changes would be independent of the effects from the other stresses on the basin such as drought, seasonal climate and agricultural pumping trends, other pumping wells, injection wells, land use, or contributions from rivers. See Master Response 12, The North Marina Groundwater Model (v. 2016), for additional information on superposition.

Hofmann-13 The LBNL text quoted from EIR/EIS Appendix E1 does not indicate that data from 2012 were “incomplete.” See response to comment Hofmann-11; the modeling conducted for this EIR/EIS included all the revisions recommended by LBNL. See also Master Response 1, EIR/EIS Authorship; CalAm did not prepare the model.

The question marks placed on EIR/EIS Figure 4.4-13, Project Area Hydrogeologic Cross Section, indicate where the geologic contact must be considered approximate between well borings. This is standard convention for developing cross sections in geology when the stratigraphic data is available from only a select number of well borings over a given distance. The depth and location of geologic contacts that extend a considerable distance between well borings and localized, discontinuous features (e.g., lenses of clay) that can end or pinch out between wells are typically indicated by question marks and dashed lines. This does not necessarily mean lithologic data necessary to represent a geologic unit is non-existent; rather, it means that the available lithologic data (from well borings) must be interpreted and in some cases, extrapolated at locations where actual soil samples or down-hole geophysical data are not available.

The NMGWM²⁰¹⁶ was constructed using hydrogeologic data from several sources (i.e., monitoring well logs, existing production well logs, geophysical data) that, when combined, yield a reasonably accurate portrayal of the depth and location of aquifers and aquitards in the project area. The approximations of geologic contacts represented on Figure 4.4-3 do not affect the overall accuracy of the groundwater model and its capability to project the regional groundwater response from the MPWSP slant well pumping.

Hofmann-14 As explained in EIR/EIS Section 4.2.4.5, the rate of coastal retreat was modeled through the year 2100 to identify the anticipated time by which coastal retreat would reach, and potentially expose the slant wells. This analysis included consideration of storm events and their effect on coastal erosion. Impact 4.2-10 describes the anticipated effect of coastal erosion with respect to exposing slant well infrastructure. Mitigation Measure 4.2-10 requires monitoring of the actual rate of coastal retreat and implementation of well abandonment procedures prior to well exposure. In addition, as shown on EIR/EIS Figure 3-5a, the brine discharge pipeline from the desalination plant would connect to the outfall pipeline at the Monterey Regional Water Pollution Control Agency (MRWPCA) Regional Wastewater Treatment Plant, located about 2 miles inland and well outside of the extent of coastal retreat anticipated to occur over the project lifetime.

Hofmann-15 The outfall pipeline and concrete pad beneath the beach structure are existing facilities that are owned and operated by the MRWPCA; the MPWSP would not change these structures. See response to comment MRWPCA-4 in Section 8.5.9 regarding the separate and independent project to address the previously exposed beach structures.

Hofmann-16 The operations of the CEMEX sand mining facility are not related to the MPWSP and are therefore, not the subject of this EIR/EIS. See Master Response 14,

CEMEX Settlement Agreement, which addresses the relationship between the settlement agreement and the MPWSP.

Hofmann-17 EIR/EIS Figure 4.2-5 indicates that the areas where the well heads of the slant wells would be constructed on the CEMEX site would be in an area of moderate liquefaction potential. The potential impacts from seismically induced liquefaction are analyzed in Impact 4.2-4. The risks from liquefaction are high in sandy areas with shallow groundwater. The well heads are set back from the beach behind the sand dunes, where the depth to groundwater would be deeper (approximately 30 feet below ground surface), thus reducing the risk. In addition, as discussed in EIR/EIS Section 4.2.3, Approach to Analysis, the proposed project components would undergo a final geotechnical investigation and CalAm would implement all geotechnical recommendations in design and construction of the project to resist damage from seismic shaking.

Hofmann-18 EIR/EIS Section 4.3 addresses surface water hydrology and water quality, while Section 4.4 addresses groundwater quality; Impacts 4.4-2 and 4.4-4 address the project's potential to degrade groundwater quality. California's anti-degradation policy (Resolution 68-18), as it applies to groundwater quality, is described in EIR/EIS Section 4.4.2.2.

Hofmann-19 The Terrace Deposits at the CEMEX site are not connected to the Salinas Valley Aquitard (SVA). As explained in response to comment Hofmann-11, the SVA does not extend beneath the CEMEX site. The EIR/EIS text cited in the comment is in reference to the similarities between the sediments of the inland 180-Foot Aquifer and the near-coast Terrace Deposits. The EIR/EIS text goes on to state that because of the similar physical characteristics between the coastal Terrace Deposits and 180-Foot Aquifer, the Terrace Deposits underlying the CEMEX site are referred to as the 180-Foot Equivalent Aquifer or in shorthand, 180-FTE Aquifer. See EIR/EIS Section 4.4.1.2 for the complete explanation of the 180-FTE Aquifer. The SVA and the Fort Ord Aquitard (FO-SVA) are two distinct units.

The peer review by LBNL was conducted on the NMGWM²⁰¹⁵, which both LBNL and HydroFocus determined to be deficient in the simulation of the Fort Ord area and the Dune Sand aquifer. As part of the HydroFocus NMGWM²⁰¹⁶ review and revision, available geologic reports from the area were reviewed. HydroFocus determined the need to include the A-Aquifer and the FO-SVA independent of the LBNL review. See Master Response 12 for more information.

Hofmann-20 See EIR/EIS Section 4.4.1.1, Terminology and Concepts. As shown in EIR/EIS Figure 4.4-3 and described in Section 4.4.1.2, the slant wells would draw water from the Dune Sand Aquifer and the 180-FTE Aquifer. The slant wells would not extend vertically, beyond the bottom of the 180-FTE Aquifer, and would not therefore, extend into the 180/400 Foot Aquitard. It should be noted that Draft

EIR/EIS Figure 4.4-3 incorrectly labels the “180/400-Foot Aquitard” as the “180/400-Foot Aquifer.” This has been corrected in Final EIR/EIS Figure 4.4-3.

- Hofmann-21 See Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM).
- Hofmann-22 A discussion of the impact analysis and modeling data regarding MPWSP effects on seawater intrusion is provided in Impact 4.4-4. See also response to comment MCWD-187, and Master Response 8, Source Water and Seawater Intrusion, Section 8.2.8.4.
- Hofmann-23 The EIR/EIS does not conclude that the return water would retard seawater intrusion. Impact 4.4-3 concludes that return water would improve groundwater conditions in the 400-Foot Aquifer underlying the CSIP, CCSD, and adjacent areas as water levels increase. See Impact 4.4-4, and Section 5.4 of Appendix E2 which discuss the project’s effect on seawater intrusion.
- Hofmann-24 There are several required steps and many sources of key input data necessary to construct, calibrate, and run the NMGWM²⁰¹⁶ so that an accurate projection of project effects can be obtained. The modeling did not use a single well and it is not clear from the comment what is meant by the data being incomplete. EIR/EIS Appendix E2 provides a description of the efforts made to develop a reliable modeling tool and Master Response 12, The North Marina Groundwater Model (v. 2016), Section 8.2.12.3 further clarifies the use of the NMGWM²⁰¹⁶.
- Hofmann-25 See Master Response 3, Water Rights, Section 8.2.3.5.
- Hofmann-26 See Master Response 12, The North Marina Groundwater Model (v. 2016), Sections 8.2.12.2 and 8.2.12.4.
- Hofmann-27 See Master Response 4, The Agency Act and Return Water. See also Master Response 3 regarding water rights.
- Hofmann-28 See Master Response 4, Section 8.2.4.3, for a description of the how the ocean water percentage (OWP) of the feedwater was calculated and applied. See also Master Response 2, Source Water Components Defined.
- Hofmann-29 Under most scenarios, the projected cone of depression from the MPWSP pumping extends into the city limits of Marina, as shown in EIR/EIS Figures 4.4-14, 4.4-15, and 4.4-16. See Master Response 8, Source Water and Seawater Intrusion, for a description of the difference between the cone of depression and the capture zone.
- Hofmann-30 Slant well pumping would retard seawater intrusion because the slant wells would intercept seawater that would otherwise migrate inland; see Impact 4.4-4, Figure 4.4-17, and response to comment MCWD-187. See also EIR/EIS

Appendix E2, Section 5.4 and Figure 5.7, and Master Response 8, Project Source Water and Seawater Intrusion.

The modeling did not use a single well; see response to comment Hofmann-24.

- Hofmann-31 As described in Master Response 12, The North Marina Groundwater Model (v. 2016), Section 8.2.12.4, monitoring well data collected during test slant well pumping at CEMEX was available and utilized to adjust aquifer parameter zones and parameter values in the NMGWM²⁰¹⁶ model layers (see also EIR/EIS Appendix E-2, Section 3.2, Aquifer Parameter Zones). As described in EIR/EIS Section 4.4.4.2 and Appendix E-2, as well as Master Response 8, Section 8.2.1.1, the NMGWM²⁰¹⁶ used forward particle tracking to simulate the movement of the seawater intrusion front as a result of proposed project slant well pumping.
- Hofmann-32 See response to comment Hofmann-19.
- Hofmann-33 See response to comment Hofmann-31.
- Hofmann-34 The EIR/EIS presents the proposed project's inconsistency with the City of Marina's LCLUP in Impact 4.6-4 and concludes this would be a significant and unavoidable impact. Mitigation recommended for significant impacts on terrestrial biological resources in Impacts 4.6-1 through 4.6-3 would apply to this impact as well; see Impact 4.6-4 discussion for applicable mitigation measures. See also response to comment MCWD-150 in Section 8.5.2.
- Hofmann-35 EIR/EIS Section 6.3.5.4 considers the potential growth-inducing impact (i.e., the potential to remove an obstacle to growth) of delivering Salinas Valley Groundwater Basin (SVGB) return water to Castroville. Section 6.3 as a whole evaluates the growth-inducing impact of water supply provided by the project. The area that would receive project water primarily consists of CalAm's service area; however, the potential for SVGB return water and associated infrastructure to induce growth in the Castroville area was also considered. Because the City of Marina is outside the CalAm service area and would not receive water supply or SVGB return water, project water supply would not remove an obstacle to growth in Marina. The impacts of project construction and operation, including impacts on groundwater supplies, are evaluated in Chapter 4 of the EIR/EIS. See also Master Response 3, Water Rights, Section 8.2.3.7, Effect on Marina Coast Water District.
- Hofmann-36 See Master Response 13, Demand (Project Need) and Growth.
- Hofmann-37 As explained in EIR/EIS Section 6.3.6.1, the impacts of growth within the service area jurisdictions have been analyzed in the jurisdictions' general plan CEQA documents; these are the impacts of growth that would be supported, to some degree, by the proposed project, as described in EIR/EIS Section 6.3.

As stated in the response to comment Hofmann-35, the growth-inducing impacts of project water supply would occur in the area served by project water. Both Marina and the Potrero Road area are outside CalAm's service area.

- Hofmann-38 Subsurface intakes are preferred, not promoted. EIR/EIS Section 5.3.1 presents regulatory considerations in the development and screening of alternatives; Section 5.3.1.2 presents the MBNMS Guidelines for Desalination Plants. These non-regulatory guidelines are meant to ensure that future desalination plants in the sanctuary are properly sited and designed, and are operated in a manner that results in minimal impacts on the marine environment. To that end, the Guidelines emphasize that the feasibility of using subsurface intakes as an alternative to open water intakes should be investigated. Where feasible and beneficial, subsurface intakes should be used. Where subsurface intakes are not feasible, open-ocean intakes should be sited with existing pipelines of acceptable structural integrity. If new pipelines are necessary, sub-seafloor placement should be evaluated to minimize disturbances to biological resources and to recreational and commercial activities. Questions about the contents of NOAA's Desalination Guidelines, which were prepared by MBNMS staff in collaboration with staff from the California Coastal Commission, the Central Coast Regional Water Quality Control Board, and NOAA's National Marine Fisheries Service in 2010, are outside the scope of this EIR/EIS.
- Hofmann-39 The comment is correct; but pipes (like the existing MRWPCA outfall) have been in the ground along the coast for decades, and until they are exposed, they do not cause, contribute to, or exacerbate coastal erosion. The analysis of potential impacts of the proposed project from, and on coastal erosion is addressed in Impact 4.2-10, and is supported by substantial evidence (including facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts) that is presented in EIR/EIS Section 4.2 and in the Coastal Retreat Study cited in Section 4.2.4.5. See also response to comment Hofmann-14.
- Hofmann-40 See response to comment Hofman-39. It is unclear what is meant by "repair issues," however, Impact 4.2-10 addresses the potential need to abandon slant wells before coastal retreat migrates the beach inland, and exposes the subsurface slant wells. Issues related to project operational costs are outside of the scope of this EIR/EIS.
- Hofmann-41 See Master Response 11, CalAm Test Slant Well, Section 8.2.11.8, regarding the use of subsurface slant wells as a "new technology." No intake option, nor any other component of the proposed project or an alternative, has yet been adopted. See response to comment MCWD-170 regarding the EIR/EIS approach to alternatives. Alternatives 2, 3, and 4 would each use screened open water intakes (referred to in the comment as "straight intake desal"), and are analyzed in detail in EIR/EIS Section 5.5.

Hofmann-42 The term “harm,” as used in this EIR/EIS, is specific to water rights and is addressed in Master Response 3. Comments regarding the adequacy and accuracy of the EIR/EIS analysis have been addressed above, where the comment provided enough specificity to allow a substantive response.

8.7.16 Responses to Comments from Thomas Moore

Moore-1 The information presented in the comment does not substantiate the claim that the Draft EIR/EIS has “proven that the operation of the test slant well on the CEMEX site has increased seawater intrusion” in the aquifers in which it is screened. See Master Response 11, CalAm Test Slant Well, Section 8.2.11.5, which describes the seasonal salinity trends observed during the long-term pump test using the monitoring wells. See also Master Response 8, Project Source Water and Seawater Intrusion, Sections 8.2.8.1 and 8.2.8.2. The proposed MPWSP slant wells would draw feedwater from a capture zone, which is located at the coast in an area heavily intruded with brackish groundwater. It is expected that the concentrations of total dissolved solids (TDS, a measure of salinity) within the capture zone would increase over time with pumping because seawater would recharge the capture zone, replacing the ambient brackish water that was initially in the coastal Terrace Deposits. However, as shown in Master Response 8, Section 8.2.18.1, the capture zone of the slant wells does not extend inland and would not exacerbate existing seawater intrusion in areas of the basin outside of the capture zone.

Moore-2 Figure 3 from Geoscience 2014b, as cited in EIR/EIS Appendix G2, presents modeled results of the anticipated salinity at the test slant well over time and therefore in the capture zone; it does not illustrate observed results of the test slant well, nor does it provide evidence of increased seawater intrusion. The graph shows how many days are expected to elapse, from the start of pumping, before the test slant well would capture 96 percent seawater. It is not accurate to consider this evidence of seawater intrusion in the 180 and 400-Foot Aquifers. In addition, the test well was not operating until 2015, after the release of the referenced Geoscience 2014 report. As stated in response to comment Moore-1, as the highly brackish, ambient groundwater would be extracted by the slant wells, seawater would recharge the capture zone and the percentage of seawater would increase. The slant wells would capture seawater that would otherwise flow inland, thereby reducing the potential for seawater intrusion inland of the capture zone. See Master Response 8, Section 8.2.8.1 for a description of the hydrogeologic characteristics of the feedwater capture zone. No significant impact on groundwater quality has been observed as a result of test slant well operation.

Moore-3 See Master Response 3, Water Rights, Section 8.2.3.5.

8.7.17 Responses to Comments from Hebard Olsen

- Olsen-1 The proposed slant wells would extract brackish groundwater and seawater from the Dune Sands Aquifer and the 180-Foot Aquifer in a capture zone at the coast and the proposed slant well pumping would not influence groundwater in the deep aquifers. See Master Response 7, The Deeper Aquifers of the Salinas Valley Groundwater Basin and Master Response 8, Project Source Water and Seawater Intrusion.
- Olsen-2 See Master Response 4, The Agency Act and Return Water, for information on compliance with the Agency Act and the details concerning return water.
- Olsen-3 The data collected during the operation of the test slant well (see Master Response 11, CalAm Test Slant Well), indicated that groundwater levels increased and decreased as a result of regional pumping, regardless of whether the test slant well was pumping or not, particularly at Monitoring Well-4, the compliance point for Special Condition 11 of the Coastal Development Permit. See Impact 4.4-3 and Master Response 8, for an analysis of the groundwater impacts from groundwater pumping proposed under the MPWSP. See Master Response 3, Water Rights, for additional details regarding the potential for the MPWSP to cause harm to other users in the basin.
- Olsen-4 The discussion of environmental impacts relied on in an EIR/EIS must reasonably set forth sufficient information to foster informed public participation and to enable the decision makers to consider the environmental factors necessary to make a reasoned decision. The reliability of the groundwater model for simulating drawdown from slant well pumping was assessed using test slant well pumping data; there is generally good agreement between the 2016 version of the North Marina Groundwater Model (NMGWM²⁰¹⁶)-calculated and the measured groundwater levels. See EIR/EIS Appendix E2, Section 4.2, and Master Response 12, The North Marina Groundwater Model (v. 2016).
- Olsen-5 The science behind the groundwater modeling conducted for the EIR/EIS is described in EIR/EIS Section 4.4.4.2. Groundwater models are computer simulations that represent water flow in the environment using mathematical equations to simplify complex conditions. The “model” is a mathematical model, meaning that groundwater flow is simulated by solving a governing mathematical equation that represents the physical processes that occur in a groundwater system. See Master Response 12, which provides detailed information about the groundwater modeling approach, methods, and software used.

8.7.18 Responses to Comments from Larry Parrish

Parrish-1 The proposed project would extract groundwater from a localized coastal-adjacent capture zone, which has been verified by water quality testing to contain groundwater with an elevated concentration of TDS and chloride from decades of legacy seawater intrusion. EIR/EIS Section 4.4.1.2 explains that water quality of the Dune Sand Aquifer is directly influenced and controlled by seawater, and the quality of water in the 180-FTE Aquifer is directly influenced by seawater; this influence extends for miles inland. Seasonal rainfall recharges the Dune Sand Aquifer but the larger volume of water comes from the ocean due to the immediate proximity and hydraulic connection.

The slant wells would initially extract this ambient brackish water from the ground and, over time, the feed water supplied by (removed from) the capture zone would be replaced by seawater. As stated in Impact 4.4-3 and as discussed in Master Response 8, Project Source Water and Seawater Intrusion, the predominant majority of the water pumped by the slant wells would be from the ocean. While EIR/EIS Section 4.4.5.2 considered the source water could range from 88 percent to 100 percent ocean water, Master Response 4, The Agency Act and Return Water, Section 8.2.4.3 explains that the ocean water percentage would rise to about 90 percent within 90 days and would reach 95 percent within five years since as explained above, the Dune Sand Aquifer and the 180-FTE Aquifer are both recharged by seawater that has historically and is continuing to intrude the aquifers.

EIR/EIS Impact 4.2-8 addresses the potential for the proposed project to expose people or structures to substantial adverse effects related to land subsidence. The analysis of potential subsidence determined that no impact would occur. Subsidence of the land surface would not occur around the slant wells because of the predominantly granular nature of the subsurface materials and because the close proximity to the ocean would provide an essentially limitless source of water to refill the pores between grains. As explained above, since the predominant majority of the source water would be from the ocean, an essentially infinite source, it would continually refill the capture zone and subsidence would not occur anywhere in the cone of depression as a result of the MPWSP. For these reasons, land masses would not subside, and shoreline land masses would not become more vulnerable to increased wave action and erosion as a result of the proposed project.

Parrish-2 As discussed in Section 4.2.4.4, numerous soil samples were collected from soil borings and monitoring wells installed within the area of the cone of depression. The data is available in EIR/EIS Appendix C3.

Parrish-3 As explained in Impact 4.2-8 and in response to comment Parrish-1, subsidence would not occur as a result of the MPWSP. While land surface elevation monitoring has not been conducted specifically for the EIR/EIS, the Coastal Retreat Study (see EIR/EIS Section 4.2.4.5) used high-resolution coastal elevation data sets from the

CA Coastal Mapping Program for the topography at CEMEX. The 2010 data was collected using LiDAR, a state-of-the-art remote sensing technology in conjunction with high resolution aerial photography; see EIR/EIS Appendix C2, Table 3.

- Parrish-4 EIR/EIS Section 4.2.4.5 presents the Coastal Retreat Study, with supporting studies presented in Appendices C1 and C2; historic beach erosion was one of the considerations in the analysis. As described in response to comment Parrish-1, no subsidence would occur and therefore, subsidence-induced coastal erosion would also not occur. The potential for the proposed project to accelerate and/or exacerbate natural rates of coastal erosion, scour, or dune retreat is analyzed in Impact 4.2-10, which concludes the impact would be less than significant with mitigation. Mitigation Measure 4.2-9 would require CalAm to monitor the rate of coastal retreat and require CalAm to remove the slant well prior to exposure on the beach to avoid the potential impact from occurring at all.
- Parrish-5 See response to comment Parrish-4.
- Parrish-6 Since the EIR/EIS concluded that the proposed project would not accelerate and/or exacerbate natural rates of coastal erosion, scour, or dune retreat (see response to comment Parrish-4), no additional beach and dune erosion would result that could cause seawater intrusion into the underlying aquifers. Section 4.4.5.2 and Impacts 4.4-3 and 4.4-4 considered sea level rise in assessing the impacts of the proposed slant well pumping and the potential for the project to contribute to seawater intrusion, and concluded the impact would be less than significant; therefore, no mitigation is required. Master Response 8 provides a supplemental discussion on the hydrogeologic characteristics of the capture zone and cone of depression.
- Parrish-7 EIR/EIS Section 4.1.7 explains that cumulative impacts in an EIR/EIS refer to two or more individual affects that, when taken together, are “considerable,” or that compound or increase other environmental impacts. In the CEQA and NEPA analyses, cumulative impacts refer to the combined effects of two or more separate projects (that otherwise may not be considered in combination). In the case of the MPWSP, the project-level analysis in the EIR/EIS addressed the collective “whole of the action,” which includes the conversion of the test slant well to a production well as well as all the other new production wells. As part of the same project, this group of production wells is analyzed as a whole within the project-level analysis. As explained in EIR/EIS Section 4.4.5.2, the pumping of the production wells would create only one capture zone for the whole of the project; see Figure E-8 and Figure 5.6 in EIR/EIS Appendix E2. See also Master Response 8. Responses to comments Parrish-1 through Parrish-6 address the impacts of the whole of the MPWSP action.

The EIR/EIS concluded that the proposed project would not accelerate and/or exacerbate natural rates of coastal erosion, scour, or dune retreat (see response to comment Parrish-4) and therefore, would not contribute to a cumulative impact. Due to the potential exposure of the test well as a result of ongoing coastal retreat,

Mitigation Measure 4.2-9 would require CalAm to monitor the rate of coastal retreat and require CalAm to remove the slant well prior to exposure on the beach to avoid the potential impact from occurring at all.

Parrish-8 See responses to comments Parrish-1 through Parrish-7. A lead agency is required to recirculate an EIR when significant new information is added after the release of the draft, but prior to certification. Nothing in these comments or the associated responses has raised issues or presented data so as to cause the Lead Agencies to conclude that the Draft EIR/EIS is fundamentally flawed and in need of revision and recirculation, per CEQA Guidelines Section 15088.5.

8.7.19 Responses to Comments from Paula Pelot

- Pelot-1 As explained in Table 4.2-3 in Section 4.2, Geology, Soils, and Seismicity, the Reliz-Rinconada fault zone, which includes the Blanco section, is not mapped as active by the State of California because these faults do not display evidence of recent displacement (the last 11,000 years). This fault underlies only the new Transmission Main, as stated in Table 4.2-3; no other project components would be affected. As explained in Impact 4.2-2, while it is possible that an older age Quaternary fault (i.e., displacement between 1.6 million years ago to 11,000 years ago or older) could reactivate and generate an earthquake and rupture at the surface, the potential for such an occurrence to expose people or structures to substantial adverse effects related to fault rupture is low because the fault is concealed beneath sediments and the project component is a pipeline transmitting drinking water. In the unlikely event that the Reliz Fault did generate an earthquake and cause surface rupture, the rupture area would be localized, resulting in a minor offset associated with low-level groundshaking. Damage could include localized pipeline leaks that would be immediately repaired.
- Pelot-2 As listed in Table 4.2-3 and shown on Figure 4.2-4, there are no known active faults that pass beneath the Brine Discharge Pipeline; therefore, as concluded in Impact 4.2-2, the Brine Discharge Pipeline would not be vulnerable to fault rupture and no impact from fault rupture would occur.
- Pelot-3 As explained in Impact 4.2-8, subsidence would not occur as a result of the MPWSP because the materials at and above the slant wells are predominantly composed of sand and gravel. Geologic units composed of sands and gravels are less prone to subsidence because the granular structure is better able to support the overlying weight of soil. In addition, because the subsurface slant wells would draw water from the Dune Sand and 180-Foot-Equivalent Aquifers, seawater would replace the water pumped from the slant wells, as discussed in Section 4.4, Groundwater Resources, keeping the pore spaces between the grains filled with water, further supporting the granular structure.
- Pelot-4 This comment was addressed above in the responses to comments Pelot-1, Pelot-2, and Pelot-3. As discussed on Draft EIR/EIS pages 4.2-16 to 4.2-21 in Section 4.2.1.2, Seismicity and Faults, the Working Group on California Earthquake Probabilities has modeled the faults in the project area for the potential for seismic activity and the results of their modeling was included for the various faults in the area.

8.7.20 Responses to Comments from Carol Reeb

- Reeb-1 As described in detail in EIR/EIS Sections 4.3.5 and 5.5.3, salinity levels would not exceed 2 parts per thousand (ppt) above ambient salinity at the edge of the Brine Mixing Zone (BMZ; measured as 100 meters or 328 feet from the diffuser), the regulatory compliance point for salinity discharges from desalination plants that is prescribed in the California Ocean Plan. For all discharge scenarios assessed, including scenarios with no and low wastewater flows, operational discharges are projected to be below the 2 ppt salinity standard at a maximum distance of 54 feet from the diffuser, well within the BMZ. These findings are supported with the assessment of additional discharge flow scenarios that were analyzed subsequent to the publication of the Draft EIR/EIS to provide higher resolution dilution analyses to support NPDES permitting for the Pure Water Monterey Groundwater Replenishment (GWR) Project by the Monterey Regional Water Pollution Control Agency (see response to comment MRWPCA-9 in Section 8.5.9). Consistent with Ocean Plan requirements, and reflected in the detailed and comprehensive dilution modeling performed to assess salinity impacts (see EIR/EIS Appendix D1), the proposed project would include commingling brine with MRWPCA wastewater, when it's available, as well as the use of an existing multiport diffuser for brine disposal.
- Reeb-2 As noted in Mitigation Measure 4.3-5, flow augmentation with water that has densities closer to freshwater could be a potential component of mitigation to increase the dilution of the brine, if necessary. Since the availability of wastewater for dilution is limited by season (very limited in the irrigation season, see response to comment Reeb-5) and since the MRWPCA anticipates using some of the wastewater as source water for the Pure Water Monterey GWR Project, the availability of wastewater cannot be relied upon for dilution.
- Reeb-3 Retrofitting the diffuser port angle is included as a corrective action in Mitigation Measure 4.3-5 in order to meet water quality objectives established in the NPDES permit for constituents other than salinity; see response to comment Reeb-1. EIR/EIS Table ES-2 (Draft EIR/EIS p. ES-32) summarizes the impact conclusions and associated mitigation measures for the proposed project. Impacts 4.3-4 and 4.3-5 assess water quality impacts related to operational discharges and, based on these analyses, two mitigation measures are required, as summarized in Table ES-2 and discussed in detail in EIR/EIS Section 4.3. Mitigation Measure 4.3-4 involves operational discharge monitoring, analysis, and compliance reporting to ensure operational discharges do not exceed water quality or biological resource regulatory standards, as defined in an NPDES permit. Mitigation Measure 4.3-4 establishes that if the monitoring indicates deleterious effects on receiving water quality or marine biological resources from MPWSP operational discharges do occur, corrective actions detailed in Mitigation Measure 4.3-5 must be implemented. Mitigation Measure 4.3-5 provides for the implementation of additional design features (e.g. treatment with Granular Activated Carbon), engineering solutions (e.g. inclined jets), and/or operational measures (e.g.

flow augmentation) to reduce the concentration of water quality constituents in the operational discharges such that they conform with regulatory standards and NPDES permit requirements. Included in Mitigation Measure 4.3-5 is the protocol for retrofitting the outfall diffuser with inclined jets as a corrective action to increase dilution and mixing (see also response to comment MRWPCA-20 in Section 8.5.9). Retrofitting the outfall diffuser with inclined jets prior to implementation of the project may be premature, since a physical solution, and therefore, the associated temporary impacts to the marine environment, may not be necessary to reduce the concentration of water quality constituents in the operational discharges. The need for such a reduction would be determined based on the monitoring and assessments required under Mitigation Measures 4.3-4 and 4.3-5. See response to comment Reeb-2 for additional discussion of wastewater availability.

Reeb-4 The identification of monitoring roles and responsibilities will be defined in the mitigation monitoring and reporting program (MMRP). An MMRP must be prepared and adopted at the time a lead agency makes findings in preparation for approving a project (CEQA §21081.6; CEQA Guidelines §§15091(d) and 15097; see response to comment Marina-1 in Section 8.5.1 for additional details). Each lead and responsible agency has the discretion to define its own approach for monitoring and/or reporting and the release of any associated monitoring data will be at the discretion of the lead and responsible agencies. Data associated with permit monitoring and compliance, such as NPDES discharges permits, are available publicly (see response to comment USARMY-12 in Section 8.3.2). Decisions related to who shall conduct mitigation monitoring (e.g., agency staff, consultants, researchers, etc.) have not yet been made. However, the lead agencies would typically contract with third-party independent consultants to undertake monitoring of the MMRP.

Reeb-5 The MRWPCA discharges secondary (not tertiary) treated wastewater into Monterey Bay in the winter months. During the irrigation season, almost all of the available wastewater is tertiary treated and delivered to agricultural users within the area served by the Castroville Seawater Intrusion Project and the ocean discharge is negligible. The Pure Water Monterey GWR Project is an indirect potable reuse project that proposes to treat a variety of source waters to produce 3,500 afy of potable water that would be injected or percolated into the Seaside Groundwater Basin for later extraction and use by CalAm. The GWR Project would include improvements that would enable more of the municipal wastewater to be recycled than is possible today; thus, less municipal wastewater would be discharged through the ocean outfall in the future. Furthermore, the MRWPCA has observed that municipal wastewater flows to the Regional Treatment Plant have been decreasing for the past several years due to aggressive water conservation efforts by MRWPCA member agencies, and flows are projected to continue to decrease over the next decade. If winter wastewater that is currently discharged into Monterey Bay were to be treated for potable use, the water would need to be stored and retained in the Seaside Groundwater Basin to ensure a treatment “polishing” in compliance with SWRCB Division of Drinking Water requirements (i.e., response retention time) prior to extraction and use by CalAm. To the point, however, a

portion of the winter wastewater flows that are currently discharged into Monterey Bay is proposed to be made available for treatment, storage, and use by CalAm, in lieu of desalinated water as part of the already-approved GWR project (see Alternatives 5a and 5b in EIR/EIS Sections 5.4.7 and 5.4.8). Therefore, 6,000 afy of winter wastewater flows will not be available in the future to solve the water supply shortage on the Monterey Peninsula because of the declining wastewater flows as a result of conservation and the GWR project. See also response to comment Reeb-6.

- Reeb-6 EIR/EIS Section 5.2.6 discusses the Pure Water Monterey GWR Project as an alternative to the MPWSP, and concludes it would not produce enough water to meet the basic project objective of the MPWSP. The MRWPCA certified the GWR Final EIR and approved the GWR Project in October 2015; the GWR Project is described in EIR/EIS Section 4.1, and is one of the projects included in the cumulative scenarios. EIR/EIS Section 5.4 describes Alternative 5a, which would meet all of the MPWSP objectives by combining a reduced-capacity desalination plant (6.4 mgd) with a water purchase agreement for 3,500 acre-feet per year (afy) of product water from the Pure Water Monterey GWR Project; Alternative 5a is evaluated in EIR/EIS Section 5.5. Although implementation and/or expansion of the GWR project could possibly result in the need for an even smaller than 6.4 mgd desalination facility (or none at all), there is currently no formal proposal to do so. Until such time as an expanded GWR project is proposed by MRWPCA, and unless environmental documentation is prepared and the CEQA process completed, the alternative is not reasonably foreseeable and is considered speculative at this time. See also Master Response 13, Demand (Project Need) and Growth, concerning demand and supply assumptions. The Lead Agencies will consider all evidence in the record concerning demand and supply prior to acting upon the project, and may conclude that a smaller desalination plant (or some other alternative) would indeed satisfy the basic objectives of the project.

Also note that Alternative 5a was developed by CalAm in cooperation with the MRWPCA. The Monterey Peninsula Regional Water Authority, composed of the mayors representing the Peninsula cities, and no less than 25 other parties continue to actively participate in the ongoing proceeding before the CPUC. In addition, the MBNMS Desalination Guideline that “Desalination plant proponents should pursue collaborations with other water suppliers and agencies currently considering water supply options in the area to evaluate the potential for an integrated regional water supply project,” is listed on page 6-47 of the Draft EIR/EIS, and has been determined to be addressed by the scope of the overall EIR/EIS analysis.

- Reeb-7 Impact 4.5-4 assesses the potential impacts of elevated salinity from operational discharges on marine biological resources. The analysis presents evidence that operational discharges from the MPWSP would not increase salinity levels in a manner that violates Ocean Plan water quality objectives or waste discharge requirements that are protective of marine organisms, or otherwise degrades the quality of receiving waters in Monterey Bay and MBNMS, and concludes that impacts on Sanctuary marine biological resources would be less than significant. The Ocean Plan establishes an

allowable salinity increase of less than 2 ppt above ambient conditions at the BMZ boundary; this is comparable to other international regulatory guidelines (see EIR/EIS Table 4.5-11). This incremental salinity increase limit, however, is a conservative threshold for marine organisms, as none of the studies reviewed as part of the impact assessment (see below) found adverse effects on survival, growth, or behavior at salinities as low as the Ocean Plan objective.

The impact conclusion for market squid is not based on the referenced study by Vidal and Boletzky (2014) that recommends a salinity range of 34 to 38 ppt for successful laboratory culture of the market squid, nor on a salinity threshold of 38 ppt. Impact 4.5-4 presents, in part, the results of a comprehensive literature review related to the salinity tolerances of relevant marine organisms (see EIR/EIS Table 4.5-9). A study of salinity effects based on approved marine organism toxicity test protocols (Phillips et al., 2012) reported median effect concentrations (EC50) ranging from 36.8 ppt to 61.9 ppt on various physiological processes (see EIR/EIS Table 4.5-10). Impact 4.5-4 assessed salinity levels both within the zone of initial dilution (ZID; i.e., 3 to 11.9 meters or 10 to 39 feet from the diffuser) and the BMZ, as well as at the edge of these zones for potential impacts on marine biological resources. In assessing a conservative worst-case scenario, the highest anticipated ambient salinity of 33.89 ppt is expected to occur during the upwelling oceanic season. This peak ambient salinity would also coincide with the proposed project's maximum concentrated brine discharge stream, when the brine would not be combined with treated wastewater effluent from the MRWPCA regional wastewater treatment plant, resulting in the maximum salinity at the edge of the ZID of any discharge scenario analyzed. As discussed in detail in Section 4.5.5, except for the limited area immediately adjacent to the discharge ports above the ocean floor, the predicted salinity increase at the edge of the ZID due to the MPWSP would be less than 2 ppt above ambient. Under this brine-only discharge scenario, the maximum increase in salinity at the edge of the ZID would be 1.6 ppt above ambient (see Scenario 2 in EIR/EIS Table 4.5-12). The assessed maximum anticipated salinity at the edge of the ZID and BMZ due to the brine discharge therefore, would be 35.45 and 35.19 ppt respectively, and would not exceed the lowest mean effective salinity reported by Phillips et al. (i.e., 36.8 ppt). Mitigation Measure 4.3-4 involves operational discharge monitoring, analysis and compliance reporting to ensure operational discharges do not exceed water quality or biological resource regulatory standards and includes provisions for monitoring benthic community health, aquatic life toxicity, and hypoxia, throughout the water column within the ZID. Sublethal salinity impacts will be determined through the monitoring of aquatic life toxicity.

Reeb-8 See Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM), Sections 8.2.9.1 and 8.2.9.3.

Reeb-9 The fact that subsurface intakes are not affected by algal blooms is noted in a footnote in EIR/EIS Section 3.4.1.

References

Phillips, B.M., B. S. Anderson, K. Siegler, J.P. Voorhees, S. Katz, L. Jennings, and R.S. Tjeerdema, 2012. Hyper-Salinity Toxicity Thresholds for Nine California Ocean Plan Toxicity Test Protocols. Report Prepared for: California State Water Resources control board.

Vidal, É.A.G and S. von Boletzky, 2014. *Loligo vulgaris* and *Doryteuthis opalescens*. In: Cephalopod Culture. Dordrecht: Springer Netherlands; p. 271–313.

8.7.21 Responses to Comments from Dick Rotter

- Rotter-1 The pipeline segment referenced in the comment is referred to as the “new Monterey Pipeline.” As explained in EIR/EIS Executive Summary Section ES.8, Areas of Controversy and Issues to be Resolved, the new Monterey Pipeline was evaluated as an alternative route in the April 2015 Draft EIR, and in the October 2015 Pure Water Monterey Groundwater Replenishment (GWR) Project Final EIR, which was certified in January 2016, prior to publication of the MPWSP Draft EIR/EIS. Since the CPUC approved the new Monterey Pipeline and ASR Pump Station in September 2016, along with the Water Purchase Agreement for the GWR Project, the new Monterey Pipeline is not a component of the MPWSP. As an approved project with utility independent from the proposed MPWSP, the new Monterey Pipeline and ASR Pump Station are evaluated as cumulative projects in this EIR/EIS since they are no longer a part of the proposed project. See also EIR/EIS Section 1.4.4 (Items 3 and 4), Project 60 on the last page of Table 4.1-2 in Section 4.1.7.2, and Section 5.2.6.
- Rotter-2 CEQA and NEPA do not require an EIR or EIS to evaluate costs. CEQA Guidelines Section 21082.2(a) explains that lead agencies shall determine whether a project may have a significant effect on the environment based on substantial evidence. But CEQA Guidelines Section 21082.2(c) further explains that economic impacts which do not contribute to, or are caused by physical impacts on the environment, are not substantial evidence. Furthermore, as noted in response to comment Rotter-1, this pipeline is no longer part of the proposed project.
- Rotter-3 See response to comment Rotter-1. No component of the proposed project would cross Highway 68.
- Rotter-4 EIR/EIS Section 4.2.1.2 addresses seismicity and faults. Table 4.2-3 lists the Monterey Bay - Tularcitos Fault Zone, which includes the Navy Fault, as a late Quaternary fault zone with evidence of Holocene activity (Potentially Active) that crosses beneath the proposed Main System–Hidden Hills Interconnection Improvements (see Figure 4.2-4). The Sylvan Thrust Fault is a branch off of the Monterey Bay - Tularcitos Fault Zone that does not cross any of the project components, and therefore, is not discussed in the EIR/EIS.

Other mapped faults intersect the proposed new Transmission Main and the Ryan Ranch-Bishop Interconnection Improvements. As discussed in Impact 4.2-2, (see Draft EIR/EIS pages 4.2-56 through 4.2-58), past studies have identified that certain segments of these faults do exhibit Holocene-age displacement leading to the conclusion that certain segments could be considered active. Impact 4.2-2 explains that damage to the new Transmission Main and the Ryan Ranch-Bishop Interconnection Improvements pipelines could include localized pipeline leaks that would be immediately repaired. This impact is considered less than significant for these facilities. For all other components of the proposed project, no impact would result because mapped faults do not occur at or near to the locations of the other components.

Rotter-5 The October 2015 letter from Caltrans to CalAm was relevant to permits associated with the new Monterey Pipeline. See response to comment Rotter-1.

EIR/EIS Table 3-8, Anticipated Permits and Approvals, lists the California Department of Transportation Encroachment Permit (Cal. Streets and Highway Code §660 et seq.) for encroachments in, under, or over any portion of a State highway right-of-way, including Highway 1, as a permit that would likely be required to build, operate, and maintain the proposed project. While the Lead Agencies anticipate that CalAm would begin the process of securing such permits if the project or an alternative is approved, preparing the permit applications is the responsibility of CalAm and is related to, but separate from this EIR/EIS process.

8.7.22 Responses to Comments from Nancy Selfridge– Letters 1 through 3

8.7.22.1 Responses to Comments from Nancy Selfridge – Letter 1

Selfridge1-1 See Master Response 15, which explains the extent of contact between the People’s Project applicant and Lead Agencies during preparation of the Draft EIR/EIS.

Selfridge1-2 See Master Response 15, regarding the status of other proposed desalination projects. Given the status of the People’s Project application to MBNMS, it is unclear if or when a joint document may be prepared.

In response to this comment, the EIR/EIS preparers reviewed the conclusion that Alternative 4 would have a significant and unavoidable contribution to significant cumulative impacts related to energy consumption and found that this conclusion statement was inadvertently included, despite the preceding text explaining that Alternative 4 would *not* have a considerable contribution to this cumulative impact. Text in the last paragraph of Section 5.5.18.7 has been revised as follows:

For the same reasons described for Alternative 1, Alternative 4 would not have a considerable contribution to a significant cumulative impact associated with the unnecessary, wasteful, or inefficient use of energy, or with energy supply, either at a local or regional level, during operation and maintenance. Overall, Alternative 4 would result in ~~an **increased impact conclusion** compared to the proposed project, significant and unavoidable~~ the **same impact conclusion** as the proposed project, less than significant with mitigation.

The comparison of alternatives in Executive Summary Section ES.7 (Draft EIR/EIS page ES-12), the summary of impacts in Table ES-1 (Draft EIR/EIS page ES-28), and the discussion of the Environmentally Superior Alternative/ Preferred Alternative in Section 5.6 (Draft EIR/EIS page 5.6-5) and Table 5.6-1 (Draft EIR/EIS page 5.6-18) treated this impact as less than significant with mitigation. Therefore, the above revision does not affect the consideration of Alternative 4 compared to the proposed project and other alternatives.

Selfridge1-3 As described in Draft EIR/EIS Section 5.5.18.7 on page 5.5-332 (which also was attached to the comment letter), construction of Alternative 4 would require the use of construction equipment that would cause an increase in gasoline and diesel fuel use compared to the proposed project. Similarly, as described on the same page, long-term operations of the People’s Project would produce approximately 25 percent more product water that would require an approximately 25 percent increase in energy demand compared to the proposed project. Therefore, although the significance conclusion is the same as the proposed project for these

impacts (less than significant with mitigation for Impact 4.18-1 during construction, less than significant for Impacts 4.18-2 and 4.18-3 for operation), the magnitude of each impact is increased as a result of the associated increase in energy consumption.

- Selfridge1-4 See Master Response 15, Section 5.2.15.2, for a discussion of the use of solar panels for Alternative 4. The two pages attached to the comment letter that appear to pertain to a potential solar project at the People’s Project site do not provide sufficient information to justify revising the approach used in the EIR/EIS.
- Selfridge1-5 See Master Response 15, Section 8.2.15.2 regarding the consideration of solar panels for Alternative 4 in this EIR/EIS.
- Selfridge1-6 The comment letter describes no “significant unmitigated adverse impacts” that are not identified in the Draft EIR/EIS. Regarding alleged deficiencies, Master Response 15, Section 8.2.15.2 explains the assumptions around project components and available studies for the People’s Project. Revisions in response to this comment letter are minor and do not require recirculation of the Draft EIR/EIS.

Regarding notification requirements under CEQA, see response to comment ALT1-5 in Section 8.6.1, which explains that the CPUC exceeded CEQA notification requirements, including mailing Notices of Availability of the Draft EIR/EIS.

8.7.22.2 Responses to Comments from Nancy Selfridge– Letter 2

- Selfridge2-1 The People’s Project Desalination Facility would be located at the former National Refractories Facility at the Moss Landing Commercial Park at Dolan Road and Highway 1. The 16.5-acre parcel would be located within the approximately 200-acre parcel that is currently developed, and as discussed in Section 5.5.2.1, the ground consists of an intermediate mix of fill material and underlying native sandy loam soil. Therefore, no loss of topsoil would result at this site during construction. Section 5.5.2.7 has been revised to reflect this information.
- Selfridge2-2 Draft EIR/EIS Section 5.5.2.2 presents a summary of the direct and indirect effects of the proposed project on geology, soils and seismicity that are fully described in Section 4.2.5. Impact 4.2-10 is presented in its entirety for the proposed project on page 4.2-68 and is summarized on page 5.5-9: “The anticipated future presence of this slant well on the beach due to coastal retreat could result in a significant impact. Mitigation Measure 4.2-9 (Slant Well Abandonment Plan) would reduce the impact to a less-than-significant level by requiring CalAm to monitor coastal retreat rates and initiate well decommissioning if coastal retreat threatens the slant wells.”

Section 5.5.2.7 presents the direct and indirect effects of Project Alternative 4, The People’s Project, on geology, soils and seismicity. Page 5.5-23 explains how the existing caisson is already being subjected to coastal erosion, and the continued use of the caisson on the beach could result in accelerated erosion, could alter the existing landforms along the coast and could expose adjacent properties to coastal flooding. The application of shoreline protective measures that would be necessary to protect the existing caisson could result in accelerated erosion, could alter the existing landforms along the coast, and could expose adjacent properties to coastal flooding, and that while mitigation may be proposed to reduce such impacts, the details of any proposed mitigation are unknown and therefore, their efficacy cannot be determined at this time.

See also Appendix C1, Coastal Water Elevations and Sea Level Rise Scenarios, and Appendix C2, Analysis of Historic and Future Coastal Erosion with Sea Level Rise.

Selfridge2-3 Impact 4.2-11 responds to a significance criterion that is specific to geologic resources and oceanographic processes. Draft EIR/EIS explains on page 4.2-54, that this evaluation criterion is not relevant to the proposed project because the proposed project would not affect onshore or offshore geologic resources and would not alter oceanographic processes. As noted in EIR/EIS Section 3.2.1.1 on page 3-7, the subsurface slant wells would be located in the retired mining area of the CEMEX sand mining facility and not within a “pristine beach.”

Alternative 4 (the People’s Project) is described in EIR/EIS Section 5.4.6 and the use of existing infrastructure is acknowledged, including the existing caisson and the existing 51-inch diameter discharge pipeline. But as noted on page 5.4-40 of the Draft EIR/EIS, the previous intake pipeline was removed and does not currently exist. Therefore, the existing caisson structure would be rehabilitated to include a new 40-inch diameter intake pipe that would extend approximately 1,400 feet out from the existing caisson into MBNMS. The near shore portion of the pipe (the first 300 feet) would be drilled under the seafloor and the remaining 1,100 feet would be laid on the seafloor and covered with riprap armoring.

Due to the age and condition of the existing 51-inch diameter outfall pipeline (see Draft EIR/EIS page 5.4-40), a new 36-inch-diameter pipeline would be slip-lined within the existing pipeline and extended approximately 700 feet on the seafloor to a water depth of approximately 120 feet at the edge of the submarine canyon.

As noted in EIR/EIS Section 5.5.2.7, because the open-water intake and brine disposal structures in Monterey Bay would be anchored on the slopes of the Monterey Submarine Canyon in MBNMS, the potential for future slope instability and underwater landslide would be increased compared to the proposed project. Also, placement of an open water intake and brine disposal

system on the seabed of MBNMS could affect seabed substrate and alter oceanographic processes such as sediment transport in the vicinity of Monterey Submarine Canyon.

Selfridge2-4 Draft EIR/EIS Section 5.5.3.2 presents a summary of the direct and indirect effects of the proposed project on surface water hydrology and water quality that are fully described in Section 4.3.5. Impact 4.3-1 is presented in its entirety for the proposed project on page 4.3-58 and is summarized on page 5.5-31 of the Draft EIR/EIS: “Soil disturbing activities could result in soil erosion and the migration of soil and sediment in stormwater runoff to downgradient water bodies and storm drains. Mandatory compliance with NPDES Construction General Permit requirements would involve implementation of erosion and stormwater and water quality control measures, which would prevent substantial adverse effects on water quality during construction.”

Section 5.5.3.7 presents the direct and indirect effects of Alternative 4, The People’s Project, on surface water hydrology and water quality. Draft EIR/EIS page 5.5-54 explains that components unique to Alternative 4 would have a reduced land-based disturbance area compared to the proposed project and therefore, construction of Alternative 4 would have a reduced potential for soil erosion and risk of inadvertent releases of hazardous chemicals during general construction activities.

However, as identified on the same page in Section 5.5.3.7, Alternative 4 would result in an increased level of impact on offshore water quality from construction activities compared to the proposed project which proposes no construction on the seafloor. Offshore in MBNMS, Alternative 4 would result in approximately 43,200 square feet (approximately 1 acre) of disturbance on the seafloor from installation of the open ocean intake, outfall pipeline and diffuser, and laying of 1,100 feet of intake pipeline and 700 feet of brine discharge pipeline on the seafloor, ballasted with concrete collars and protected with riprap armoring. The conclusion of significant and unavoidable impacts on water quality during construction of Alternative 4 is due to the substantially increased size of the Alternative 4 in-water construction area and the lack of available details regarding construction techniques designed to avoid or minimize the degradation of water quality within MBNMS.

Selfridge2-5 The analysis supporting the conclusion that the proposed project would have a less-than-significant impact on impedance or redirection of flood flows (Impact 4.3-9) was provided on Draft EIR/EIS pages 4.3-116 and 4.3-117 and is summarized in Section 5.5.3.2 on page 5.5-35. The analysis supporting the conclusion that Alternative 4 would have a significant and unavoidable impact on impedance or redirection of flood flows was provided in Draft EIR/EIS Section 5.5.3.7 on page 5.5-57. This impact does not concern the potential impacts of flood flows on the project’s or an alternative’s facilities. Rather, it concerns whether the facilities

would impede or redirect flood flows. For the proposed project, only the subsurface slant wells and portions of the Source Water Pipeline, Castroville Pipeline, and new Transmission Main would be constructed in a 100-year flood hazard area. These underground facilities would not impede or redirect flood flows after they have been constructed. Based on the limited information available at this time regarding project design and flood hazard mitigation, the placement of the Alternative 4 desalination plant above ground within the 100-year flood hazard area could impede or redirect flood flows at this location.

Selfridge2-6 Draft EIR/EIS Section 5.5.3.2 presents a summary of the direct and indirect effects of the proposed project on surface water hydrology and water quality that are fully described in Section 4.3.5. Impact 4.3-10 is presented in its entirety for the proposed project on page 4.3-117 which explains tsunami damage is typically confined to low-lying coastal areas, and under the proposed project, only the subsurface slant wells and the Castroville Pipeline in unincorporated Monterey County would be located in areas subject to flooding from a tsunami. These facilities and associated mechanical vaults and electrical enclosures would be located underground and/or designed to withstand inundation as a result of a tsunami. The impact of the proposed project is summarized on page 5.5-35 of the Draft EIR/EIS: “The subsurface slant wells at CEMEX, and the Castroville Pipeline would be located in areas subject to flooding from a tsunami. Because the presence of onsite personnel would be minimal, operation of the subsurface slant wells and pipeline operations and maintenance would not expose personnel or structures to significant risks from flooding in the event of a tsunami.”

EIR/EIS Section 5.5.3.7 presents the direct and indirect effects of Alternative 4, The People’s Project, on surface water hydrology and water quality. Draft EIR/EIS explains page 5.5-57 that the Alternative 4 desalination plant would be located in a flood hazard area that has been designated as Zone A by FEMA, indicating the base flood elevations have not been determined. Based on limited project design and flood hazard mitigation information, the Draft EIR/EIS concluded that the risk of exposure of people or structures to loss, injury, or death from flooding due to a tsunami at the Alternative 4 desalination plant would be significant. See Master Response 15 regarding the Lead Agencies’ coordination with the People’s Project proponent to obtain project information.

Impact assessment for tsunami damage does not rely on historical data of past tsunami occurrence, but instead relies on projections from government agencies that assess potential community exposure to tsunami hazards. Whether a tsunami has occurred in the past 100 years is irrelevant to the assessment.

Selfridge2-7 Draft EIR/EIS Section 5.5.3.2 presents a summary of the direct and indirect effects of the proposed project on surface water hydrology and water quality that are fully described in Section 4.3.5. Impact 4.3-11 is presented in its entirety for the proposed project on page 4.3-118 and is summarized on page 5.5-35:

“Portions of the Source Water Pipeline, new Transmission Main, and Castroville Pipeline would be constructed in a 100-year flood hazard area. However, these facilities would be placed underground and would not impede or redirect flood flows. The electrical control cabinet at the slant wells would divert flood flows to the sandy areas immediately surrounding the cabinet, still within the CEMEX active mining area, and would not affect other properties or structures.”

Section 5.5.3.7 presents the direct and indirect effects of Alternative 4, The People’s Project, on surface water hydrology and water quality. Pages 5.5-57 and 5.5-58 of the Draft EIR/EIS explain how a new pump house on the existing caisson, as proposed by this alternative, would require the caisson to remain in place, potentially exposing adjacent properties to flooding from sea level rise. Mitigation would be required to address the flooding, including a coastal retreat strategy or a plan to armor the caisson, and in so doing, the applicant must demonstrate that flooding will not occur. However, while the applicant may propose such measures or provide model analyses to demonstrate compliance with Coastal Act requirements related to armoring, erosion, and sea level rise resilience, there is insufficient project design and flood hazard mitigation information available for Alternative 4 at this time to conclude that the risk of exposure of people or structures to loss, injury, or death from flooding due to sea level rise would not be significant. See Master Response 15 regarding the Lead Agencies’ coordination with the People’s Project proponent to obtain project information.

Regarding potential impacts of the proposed project with respect to flooding due to sea level rise, see response to comment PTA-6 in Section 8.6.16.

- Selfridge2-8 See Master Response 15 regarding the status of alternative desalination projects; in particular, see Section 8.2.15.2 regarding the availability of cultural resources surveys or studies for the People’s Project.
- Selfridge2-9 See Master Response 15 and response to comment Selfridge2-8. If cultural resource surveys or studies have been or would be performed for Alternative 4, they may satisfy the requirements of Mitigation Measure ALT-CUL-1 (conduct subsurface investigation). However, because no such reports have been made available to the Lead Agencies for review, they cannot conclude at this time that this mitigation measure would not be required to reduce impacts of Alternative 4 to a less-than-significant level.
- Selfridge2-10 The Lead Agencies relied not solely on the impact summary in Table 5.6-1, but on the extensive analysis in Chapter 4, Section 5.5, the Draft EIR/EIS appendices, and the referenced materials to make the preliminary determination in Section 5.6 that Alternative 5a is the environmentally superior/preferred alternative. See Master Response 15, Section 8.2.15.2 regarding the Lead

Agencies' coordination with the People's Project proponent to obtain project information.

Selfridge2-11 See response to comment Selfridge1-6.

8.7.22.3 Responses to Comments from Nancy Selfridge– Letter 3

Selfridge3-1 Master Response 3, Water Rights, Section 8.2.3.2 describes the sequence of approvals vis-a-vis water rights: The substance of CalAm's legal claim to water rights is addressed in EIR/EIS Section 2.6, and in Master Response 3, Section 8.2.3.4. Since under the legal construct, an appropriate right to developed water is a right that exists based upon the facts at hand, and need not be formally established in advance, there is no possibility for the Lead Agencies to insist that CalAm obtain or perfect water rights prior to project approval. See also Master Response 8, Project Source Water and Seawater Intrusion.

The issue of ratepayer liability is outside the scope of the CEQA and NEPA; however, as described in EIR/EIS Section 1.5.4.1, the CPUC decision to grant or deny a Certificate of Public Convenience and Necessity for the project (i.e., project approval) would follow a process after certification of the EIR during which the Commission will consider any other issues that have been established in the record of the proceeding, including but not limited to economic issues, social impacts, specific routing and alignments, and the need for the project. Therefore, comments regarding ratepayer liability are relevant to and will be considered as part of that proceeding.

Selfridge3-2 See Master Response 11 regarding the test slant well. Draft EIR/EIS Section 3.2.11 explains that the test slant well was drilled at 19 degrees below horizontal, is 724 feet long, and is screened for 450 linear feet at depths corresponding to both the Dune Sand Aquifer and the underlying 180-Foot-Equivalent Aquifer of the Salinas Valley Groundwater Basin. The same EIR/EIS section explains that "The nine new permanent slant wells would be approximately 900 to 1,000 feet long and drilled at approximately 14 degrees below horizontal to extend offshore to a distance of 161 to 356 feet seaward of the MHW line (except #8, which would not extend past the MHW line) and to a depth of 190 to 210 feet beneath the seafloor." The test slant well is screened in the Dune Sands and 180-FTE Aquifers – the same aquifers the proposed slant wells would be screened in. Therefore, the proposed slant wells would not be "hundreds of feet deeper" than the test slant well. See also Master Response 12, The North Marina Groundwater Model (v. 2016), which provides clarification on the groundwater modeling data that is the basis for the EIR/EIS conclusions on groundwater impacts.

Selfridge3-3 See Master Response 3, Water Rights, Section 8.2.3.5.

Selfridge3-4 See Master Response 11, CalAm Test Slant Well, Section 8.2.11.4.

- Selfridge3-5 See Master Response 3, Water Rights, Section 8.2.3.5.
- Selfridge3-6 This comment addresses the operation of the test slant well pursuant to its existing permits that were issued by the CA Coastal Commission, and is outside the scope of this EIR/EIS. For more details about the permitting and operation of test slant well, see Master Response 11, CalAm Test Slant Well, Sections 8.2.11.1, 8.2.11.2 and 8.2.11.3. Regarding beneficial uses of water, see Master Response 3, Water Rights, Section 8.2.3.5. Master Response 8, Project Source Water and Seawater Intrusion, explains the slant wells at CEMEX would initially extract the water that is held in the surrounding sediments (ambient groundwater) and as pumping continues, the wells would extract increasing proportions of infiltrating recharge from the ocean and the ocean recharge would gradually replace the ambient groundwater within the capture zone. The capture zone is defined as a localized area at the coast. The impacts of the proposed project on the Ag Land Trust wells are described in Draft EIR/EIS Section 4.4.5.2 and in Table 4.4-10.
- Selfridge3-7 The Final EIR/EIS has not been altered in such a way as a result of this comment or other comments on the Draft EIR/EIS that identify new or substantially more severe significant environmental impacts that were not previously identified in the Draft EIR/EIS. Nor has the Final EIR/EIS identified new feasible mitigation measures or project alternatives to reduce significant impacts, or new mitigation measures that the project proponent refuses to incorporate into the project. Furthermore, the comments on the Draft EIR/EIS have not raised issues or presented data so as to cause the Lead Agencies to conclude that the Draft EIR/EIS was fundamentally flawed. For these reasons, the EIR/EIS need not be recirculated for further public review.

8.7.23 Responses to Comments from Jan Shriner

- Shriner-1 See Master Response 11, CalAm Test Slant Well, Sections 8.2.11.2, 8.2.11.3, and 8.2.11.7, and EIR/EIS Section 3.2.1.1.
- Shriner-2 Table 1 in the Coastal Retreat Study (EIR/EIS Appendix C2) presents the erosion rate data sources that were included when the consultants to the Lead Agencies established historic shoreline change trends that were used in the development of dune erosion profiles. The erosion profiles were developed by the consultants as described in Appendix C2, and not by CalAm; CalAm provided the locations of proposed project infrastructure where pipes or outfalls would cross the erosion profiles as explained in the text on page 7 of EIR/EIS Appendix C2.
- Shriner-3 The average annual erosion rates cited in the comment were not used in the EIR/EIS because the natural system is too complicated to rely on a single number. The annual rates were calculated by the commenter by taking the results of the year 2060 horizontal dune erosion profile presented in Appendix C2 on page 7, and dividing it by 46 years (from 2014 to 2060). The methodology for projecting future vertical and horizontal erosion profiles that is used in the EIR/EIS is described in Section 3 of Appendix C2. The analysis considered localized erosion (rip currents), long-term erosion, and sea level rise to develop the erosion profiles.
- Shriner-4 The Coastal Retreat Study (Appendix C2) is described in EIR/EIS Section 4.2.4.5 and Figures 4.2-7 and 4.2-8 present the erosion profiles and envelopes for the test slant well and the production wells, respectively. The wellhead of the test slant well is shown in Figure 4.2-7 to be at 30 feet (NAVD) above mean sea level and behind (inland) of the “2040, 100-Year Storm Event” line. Note 4 on Figure 4.2-7 explains the test slant well location is based on a “geologic cross section” that was ground-truthed and provided in GIS format. The blue pipe in the panorama photo provided by the commenter is the discharge pipe that connects the test slant well to the outfall; the test slant well is aligned perpendicular to the discharge pipe just off to the left. The yellow posts in the foreground of the photo are protecting the monitoring wells (MW-1), which are located about 170 feet inland from the surf zone, and 230 feet closer to the beach than the discharge pipe; the test slant well is therefore, located about 400 feet inland from the surf zone and the other nine wells are proposed to be located approximately 500 feet further inland. Mitigation Measure 4.2-9 is a Slant Well Abandonment Plan in the event coastal erosion threatens to expose the slant well.

The current situation is not flatter and closer than the EIR/EIS states because the location was ground-truthed and provided in GIS format and not assumed from an unscaled photo; therefore, the test slant well is not at eminent risk of exposure from coastal erosion that would require the well to be removed before the snowy plover season. As noted by Special Condition 3(b) of the CDP that was issued by the CCC for the test slant well, project-related construction including site preparation,

equipment staging, and installation or removal of equipment or wells, shall not occur between February 28 and October 1 of any year (to protect nesting snowy plover). If the test slant well cannot be removed by February 28, 2018, and it has not been approved to be converted to a permanent well, CalAm, will need to apply to the CCC for an extension of the CDP.

Shriner-5 The vertical to horizontal scale in Figures 4.2-7 and 4.2-8 is 1:6 as shown on the x and y axes, and is not intended to be misleading. Rather, this is a standard practice that enables the entire section to be printed on one page and, more importantly, it better visually illustrates the subsurface details. For example, the preliminary AEM data that was presented at the August 7, 2017 Regular MCWD Board Meeting and Joint Board/Groundwater Sustainability Agency Meeting utilized a vertical exaggeration of 1:15. If printed at a 1:1 scale, the vertical view section would be compressed and the details of the subsurface would not be visible. The comment is correct regarding the test slant well elevation; the test slant well wellhead is shown in Figure 4.2-7 to be at 30 feet (NAVD) above sea level and behind (inland) of the 2040, 100-Year Storm Event line as of January 7, 2016.

Shriner-6 The paragraphs quoted in the comment are from EIR/EIS Section 4.2, Geology, Soils, and Seismicity, and are addressing Impact 4.2-10: Accelerate and/or exacerbate natural rates of coastal erosion, scour, or dune retreat, resulting in damage to adjoining properties or a substantial change in the natural coastal environment. As explained in EIR/EIS Section 3.2.1.1, the slant wells would be located on a retired portion of the CEMEX property and would not affect the existing sand mining operations. CalAm has coordinated with CEMEX on the locations of the proposed slant wells and associated infrastructure so as to not interfere with the existing sand mining operations.

Many people in the community, especially the City of Marina, believe the CEMEX sand mining operation should be shut down, and it will be, effective 2020; see Master Response 14, CEMEX Settlement Agreement. The text cited in the comment from page 147 is in EIR/EIS Section 3.2.1.1 (project description) and “page 374” is on page 7 of EIR/EIS Appendix C2 (Analysis of Historic and Future Coastal Erosion with Sea Level Rise). Page 374 reads as follows: “It is important to note that actual sea level rise and the effects are not known, and that relatively high values were used in this study. Also, interventions may change shore recession.” The intervention may well be the closure of the sand mining operation.

The ongoing erosion at CEMEX is not a cumulative project (see EIR/EIS Section 4.1.7); it is a baseline condition against which the impacts of the proposed project are evaluated, and as noted in EIR/EIS Section 4.2.4.5, the Coastal Retreat Study considered historic erosion and assumed there would be no changes to existing sand mining practices. The proposed project slant wells would not contribute to coastal erosion because they would be removed prior to exposure and therefore, prior to it having an influence on coastal erosion “resulting in damage to adjoining

properties or a substantial change in the natural coastal environment.” The conclusion for Impact 4.2-10 is therefore, determined to be less than significant. See also Master Response 14, Section 8.2.14.1, which addresses anticipated changes to existing sand mining practices at CEMEX, and the resulting effect on coastal erosion.

Figure 5.1 is in EIR/EIS Appendix E2 and presents the North Marina Groundwater Model cells that would be “flooded” as a result of sea level rise in 2073, while EIR/EIS Figure 3-3a presents the slant well locations at CEMEX (Figure 3-13, referenced by the comment, is a map of the Castroville Pipeline Optional Alignment and is not relevant to this comment). Appendix E2 Figure 5.1 and EIR/EIS Figure 3-3a serve different purposes, and sea level rise is only one component used in the development of the vertical and horizontal erosion profiles (see response to comment Shriner-3). The erosion hazard zones at the CEMEX site and at the Potrero Road site are presented side by side in Figure 3 in Appendix C2 and the comment is correct – the slant well locations at the CEMEX site would be impacted before and more severely than slant wells at the alternative location at Potrero Road. However, as shown on EIR/EIS Figures 4.2-7 (profile), the test slant well at CEMEX is located behind (inland of) the 2040, 100-Year Storm Event line and would be abandoned if necessary, prior to exposure to coastal erosion, as discussed in the response to comment CEMEX-8. The remaining proposed slant wells at CEMEX would be located behind (inland of) the 2060, 100-year Storm Event line, as shown on Figure 4.2-8. (The erosion profile for the Potrero Road site is shown on Figure 7 in EIR/EIS Appendix C2.)

EIR/EIS Figures 4.2-7 and 4.2-8 present both vertical and horizontal retreat profiles at CEMEX, including new corresponding bottom contours and depths in the sand of the intake pipes. Note 1 explains these envelopes of erosion consider seasonal changes in beach width, localized erosion (rip currents), long-term erosion, and accelerated erosion caused by sea level rise, and each of these factors is important in defining the profile shape and location at a given time; see EIR/EIS Section 4.2.4.5. For this reason, the analysis identified a projected future profile and an extremely eroded profile (lower envelope) for each future time horizon: years 2010, 2040 and 2060. The future profile is the current profile eroded at the historic rate, with added erosion caused by sea level rise. The lower profile envelope represents a highly eroded condition, which could occur from a combination of localized erosion (rip currents), a large winter storm, and seasonal changes. The purpose of these figures is to identify if and when coastal retreat is anticipated to occur independent of the MPWSP, and the analysis indicates the slant wells would not impact, accelerate, or exacerbate the rate of coastal erosion, because they would be removed prior to exposure and therefore, prior to it having an influence on coastal erosion as explained in Section 4.2, Impact 4.2-10 (see Draft EIR/EIS pages 4.2-68 through 4.2-72). No change has been made to the EIR/EIS in response to this comment.

The MPWSP would not contribute to any ongoing impact caused by the CEMEX ponds as explained in Section 4.4, Impact 4.4-3 (Draft EIR/EIS pages 4.4-70 through

4.4-72). The impacts relative to the MRWPCA outfall are discussed in Section 4.3, Impacts 4.3-4 and 4.3-5.

- Shriner-7 The Monterey Downs project has been removed from the list of cumulative projects in EIR/EIS Table 4.1-2.
- Shriner-8 The Notice of Availability (NOA) of the Draft EIR/EIS was published on January 13, 2017, and included an announcement that “[t]he open house/public meetings will include a brief presentation on the contents and conclusions of the Draft EIR/EIS and interested parties will be provided an opportunity to interact with technical staff and preparers of the Draft EIR/EIS.” The Lead Agencies’ consultant staff was directed to help reviewers of the Draft EIR/EIS to navigate the document in order to facilitate the review of the lengthy and complicated document. As noted in response to comment Shriner-3, the EIR/EIS did not use a single erosion rate because the natural system is too complicated to rely on a single number. Regardless, the reported behavior of the Applicant’s Project Manager towards the commenter at a Lead Agency-hosted public meeting on the Draft EIR/EIS is unfortunate. The Lead Agencies and their consultants work independently from the Applicant, and is not monitored or otherwise influenced by employees of CalAm.
- Shriner-9 It is not clear what this comment is referring to, or what was said on February 15, 2017. Master Response 8, Project Source Water and Seawater Intrusion, may respond to the concerns raised in this comment. See also responses to comments MCWD-Hopkins Groundwater Consultants (HGC) in Section 8.5.2.2.
- Shriner-10 At the request of several agencies and members of the public, the Lead Agencies extended the comment period by an additional 30 days, and written comments on the Draft EIR/EIS were accepted from January 13 through March 29, 2017, for a total review period of 75 days.
- Shriner-11 The comment does not provide any specifics on how or why the EIR/EIS alternatives analysis is inadequate. CEQA Guidelines Section 15126.6(d) and the NEPA Regulations (40 CFR § 1502.14) emphasize the selection of a reasonable range of alternatives that meet the objectives of and/or purpose and need for the project, and the comparative assessment of the impacts of the alternatives to allow for public disclosure and informed decision-making. EIR/EIS Chapter 5 provides a thorough and comprehensive analysis of alternative project components (see Sections 5.1 through 5.3) and project alternatives (see Sections 5.4 and 5.5), including the No Project/No Action alternative, consistent with the provisions of CEQA and NEPA.
- Shriner-12 The comment does not provide any specifics on what peer-reviewed science may have been inadequately addressed. The CPUC engaged the Lawrence Berkeley National Laboratories to peer review the 2015 version of the North Marina Groundwater Model (NMGWM²⁰¹⁵) performed by Geoscience for the April 2015 MPWSP Draft EIR (see EIR/EIS Appendix E1); the Monterey Peninsula Regional Water Authority (aka the Mayors’ Authority) engaged GeoSyntec to peer review the

2016 version of the North Marina Groundwater Model (NMGWM²⁰¹⁶) performed by HydroFocus and the brine discharge modeling performed by Dr. Phil Roberts; Trussell Technologies, on behalf of the MRWPCA, engaged in a peer review of the CEQA/NEPA brine discharge modeling. Consultants to the Lead Agencies have collaborated with the Hydrogeologic Working Group (HWG) as explained in Master Response 5, The Role of Hydrogeologic Working Group and its Relationship to the EIR/EIS, and have reviewed and considered the results of the MCWD-sponsored ERT study performed by the Stanford University post-graduate program (see Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetic (AEM)).

8.7.24 Responses to Comments from Roy Thomas

Thomas-1 Potential beneficial impacts on terrestrial biological resources dependent on the Carmel River are discussed in Section 5.5.6.3. The need for the proposed project is predicated on State Water Resources Control Board (SWRCB) Order 95-10, which requires CalAm to reduce and terminate surface water diversions from the Carmel River in excess of its legal entitlement of 3,376 acre-feet per year (afy) (see EIR/EIS Section 1.3). Section 2.2.3 further explains SWRCB Order 95-10 and how it directed CalAm to obtain appropriative rights to the Carmel River water that was being unlawfully diverted, obtain water from other sources and make one-for-one reductions of the unlawful diversions, and/or contract with other agencies that had appropriative rights to divert and use water from the Carmel River. The proposed project represents one possible method of achieving the requirements of SWRCB Order 95-10; the alternatives, including the No Project Alternative, represent other options. Regardless of which alternative ultimately is selected, CalAm's surface water diversions from the Carmel River in excess of its legal entitlement will be reduced and terminated in compliance with SWRCB Order 95-10. The beneficial impacts of implementation of SWRCB Order 95-10 are analyzed in the Order.

However, as explained in EIR/EIS Section 5.5.3.3 and 5.5.6.3, the No Project alternative would result in a more beneficial impact on Carmel River resources as compared to the proposed project or another action alternative, because in the event that the Cease and Desist Order (CDO) milestones are not met, diversions from the Carmel River would be curtailed sooner than if milestones are met through project or another action alternative approval and implementation. This analysis is provided to address the difference in intensity of impacts between the No Project Alternative and an action alternative.

Thomas-2 As discussed in EIR/EIS Section 3.2.4, the ASR-5 and ASR-6 wells would be used to provide additional injection/extraction capacity for both desalinated product water and Carmel River supplies, and to increase system reliability: "These improvements would not affect CalAm's maximum allowable surface water diversions from the Carmel River for injection into the groundwater basin." Consequently, there would be no change in effect on the Carmel River from the implementation of ASR-5 or ASR-6.

Thomas-3 Water flowing in the Carmel River channel is the surface expression of groundwater that flows through the water-bearing river alluvium known as the Carmel River Aquifer. The aquifer is underlain and bordered by non-water bearing bedrock that creates the river bed and bank. The groundwater that occupies and is transmitted through the river alluvium is referred to as underflow, some of which is extracted by CalAm's groundwater production wells. As noted in SWRCB Order 95-10 (SWRCB, 1995) Section 3.3, depth to water in the wells ranges from 3 to 30 feet. Therefore, CalAm's diversion wells on the Carmel River are not deep wells; they extract

underflow which is in direct contact with the surface flows and recharge time is minimal. Water Rights Permits 20808A and 20808C include conditions that establish limits on diversions to the ASR system, including a requirement that minimum mean daily instream flows in the Carmel River be maintained for the protection of fisheries, wildlife, and other instream uses.

- Thomas-4 Final EIR/EIS Section 3.2.3.5 (was formerly Draft EIR/EIS Section 3.2.3.6) and Table 3-1, explain that the proposed Carmel Valley Pump Station (CVPS) would provide the additional pressure needed to pump water already within the system, through the existing Segunda Pipeline to fill the Segunda Reservoir via a 100 hp pump. See also response to comment Beech2-17 in Section 8.7.2.2. The CVPS would not affect CalAm's maximum allowable surface water diversions from the Carmel River; see response to comment Thomas-2, Thomas-3 and Thomas-6.
- Thomas-5 As explained in EIR/EIS Section 3.4.2, CalAm proposes to use the ASR system to store water during wet periods. As noted in Table 3-6, the Subsurface Intake System and MPWSP Desalination Plant would operate 24 hours per day, 365 days per year. Injection of desalinated product water and Carmel River supplies into the ASR system would occur during the wet season, typically from December through April or May. Water would be extracted from the ASR system typically from May through November.
- Thomas-6 See response to comment Thomas-1. As a result of compliance with SWRCB Order 95-10, CalAm's surface water diversions from the Carmel River will be held to a legal limit of 3,376 afy. Compliance with the Order would restore the spring, summer and fall flows on the Carmel River.
- Thomas-7 As was described in Draft EIR/EIS Section 3.2.3.5, Terminal Reservoir would have stored potable water supplies from a variety of sources, including Carmel River supplies, desalinated product water, and ASR product water from the Seaside Groundwater Basin. However, Terminal Reservoir has been removed from the proposed project (see Final EIR/EIS Section 1.6); therefore, the EIR/EIS analysis reflects this change.
- Thomas-8 As noted in EIR/EIS Section 1.3.1, the primary objectives of the proposed project are to develop water supplies for the CalAm Monterey District service area to replace existing Carmel River diversions in excess of legal entitlement (see Section 2.2.3), to reduce pumping from the Seaside Groundwater Basin and to allow CalAm to meet its obligation to pay back the Seaside Groundwater Basin (see Section 2.2.4), to meet peak month demand of CalAm's Monterey District service area customers (see Sections 2.3.1 and 2.3.2), to serve existing vacant legal lots of record (see Section 2.3.2.2, formerly Draft EIR/EIS Section 2.3.3.3), and to accommodate tourism demand under recovered economic conditions (see

Section 2.3.2.1, formerly Draft EIR/EIS Section 2.3.3.2). Construction is expected to be complete in June 2020 and operations would begin immediately thereafter.

Thomas-9 EIR/EIS Section 4.6.2 presents the regulatory framework for terrestrial biological resources and draws conclusions about the proposed project's consistency with these regulatory requirements. The Federal Endangered Species Act (FESA) is discussed in Section 4.6.2.1.

EIR/EIS Section 4.5.2 presents the regulatory framework for marine biological resources; consistency with the Magnuson-Stevens Fishery Conservation and Management Act is discussed in Section 4.5.2.1. MBNMS, a Lead Agency for the EIR/EIS, is also in consultation with the National Marine Fisheries Service and U.S. Fish and Wildlife in compliance with the FESA and the Magnuson-Stevens Act; see EIR/EIS Section 7.1. See also response to comment Thomas-1.

Thomas-10 As explained in EIR/EIS Section 2.4.2, CalAm's total adjudicated right to Seaside Groundwater Basin groundwater will be 1,474 afy. Repayment of the water that CalAm has pumped from the Seaside Basin in excess of its adjudicated right would occur over 25-years as agreed to between CalAm and the Seaside Basin Watermaster; payback would start when CalAm secures additional supplies. The payback would occur as "in-lieu" replenishment, which means CalAm would pump only 774 afy during the 25-year repayment period, leaving the 700 afy balance of their 1,474 afy adjudicated right in the ground to replenish the basin. EIR/EIS Table 2-4 presents assumed quantities provided by CalAm's water supply sources with and without the GWR project and during and after the Seaside Groundwater Basin replenishment period. The desalination plant was sized assuming only 774 afy would be available from the Seaside Groundwater Basin for 25 years. As shown, the amount of supply available from the Carmel River would be the same during and after the replenishment period.

Thomas-11 See response to comment Thomas-3. During the winter months, CalAm is allowed under Water Rights Permits 20808A and 20808C to extract water for diversion to ASR, and the water is diverted from the underflow of the Carmel River, not from deep wells. The difference in the flows between the gages is more likely due to the permitted diversion of flows to ASR, than to restoring the groundwater. For example, as reported to the MPWMP Board of Directors on April 19, 2017, since the start of Water Year 2017 (October 2016) through March 2017, runoff was 325 percent of average, and 1,510 acre-feet had been diverted from the Carmel River for injection and storage in the Seaside Basin ASR (MPWMD, 2017).

Thomas-12 The proposed project would allow CalAm to be in compliance with its water rights on the Carmel River. EIR/EIS Section 2.4.3 discusses the volume and timing of diversions from the Carmel River to the ASR system.

Thomas-13 As presented in EIR/EIS Table 3-1 and Section 3.2.3.9, the Ryan Ranch-Bishop and Hidden Hills Interconnection Improvements would allow CalAm to convey

MPWSP water supplies to the Ryan Ranch, Bishop, and Hidden Hills satellite water systems by constructing new pipelines that would connect to existing booster stations, and by making improvements to existing booster stations. Since Carmel River water and MPWSP desalinated product water would be injected into the ASR system, it is possible that these communities could receive Carmel River ASR water as part of their water supply. As CalAm ratepayers, these communities would contribute to CalAm's operating expenses in some fashion via the rate structure. See EIR/EIS Section 1.5.4 for an explanation of how the decision-makers would address cost issues.

Thomas-14 See response to comment Thomas-1.

References

Monterey Peninsula Water Management District, 2017. Special Meeting of the Board of Directors, Item 24b. April 19.

State Water Resources Control Board (State Water Board), 1995. Order No. WR 95-10: Order on Four Complaints Files Against The California-American Water Company, Carmel River, Monterey County. July 6, 1995.

8.8 Form Letters and Responses

- 8.8.1 Form Letter 1
- 8.8.2 Form Letter 2

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8.8.1 Form Letter 1

March 8, 2017

Attn: Mary Jo Borak
California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800, San Francisco, CA 94108

Monterey Bay National Marine Sanctuary
c/o Karen Grimmer, NEPA Lead
99 Pacific Avenue, Building 455a, Monterey, CA 93940

Re: Monterey Peninsula Water Supply Project (MPWSP) (A1204019)

Dear CPUC Commissioners and Sanctuary Agency Officials:

The two most alarming deficiencies in California American Water Company's proposed desal project are 1) poor science around the 'first of its kind' slant well ocean intake; and 2) lack of water rights.

These signed requests were collected after the DEIR/EIS was released. I am transmitting them widely so that more public officials become aware of these shortcomings. It is urgent that at least two very specific issues are clarified:

1. There have been NO successful, completed slant wells for subsurface ocean desalination anywhere in the U.S. or the world. There was only one attempted project at Dana Point, CA. State agencies require a feasibility study of this new technology. With an untested and experimental design, the *highest standard of scientific testing* must be made. There is a more accurate method of mapping the saltwater intrusion in the Salinas Valley Groundwater Basin (called Electrical Resistivity Tomography--ERT) but this method is NOT used in the DEIR environmental review of impacts. ERT imaging will be completed in mid-2017. Such scientific data and observations must be included in the DEIR evaluation of impacts and the question of 'no harm' from the project.

2. Cal-Am has no water rights in the Salinas Groundwater Basin but they intend to pump another water district's groundwater. The fundamental determination of legal water rights must be made now before further infrastructure investment and before more project approvals.

Additional concerns include possible litigation and delay, lack of contingency planning, and continued pressure from the State Cease and Desist Order.

Ratepayers are facing huge new costs, regardless of success, delay or failure. I and other signers request your support in pursuing these issues. Sooner, rather than later.

Thank you for your attention.

Sincerely,

Michael Baer
560 Madison St.
Monterey Ca, 93940



cc: CPUC Public Advisor, NOAA Sanctuary Advisory Council, California Coastal Commission, State Water Resources Control Board, CPUC Office of Ratepayer Advocacy, Monterey County Supervisors, Monterey County Water Resources Agency (MCWRA), Monterey Peninsula Water Management District (MPWMD), Fort Ord Reuse Authority (FORA), Peninsula Mayors' Water Authority, Marina Coast Water District (MCWD), Seaside Groundwater Basin WaterMaster, City Councils of Seaside, Monterey, Marina, Pacific Grove, Carmel, Del Rey Oaks, Sand City

FORM1-1

FORM1-2

FORM1-3

FORM1-4

California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

Date: 2/14/17

Monterey Bay National Marine Sanctuary
c/o Karen Grimmer, NEPA Lead
99 Pacific Avenue, Building 455a
Monterey, CA 93940

Re: Monterey Peninsula Water Supply Project (MPWSP)

Dear Commissioners and Agency Officials:

I request the CPUC deny approval of the draft Environmental Impact Report (DEIR) and deny certification for the Monterey Peninsula Water Supply Project (MPWSP) until at least two very specific issues are clarified:

- There have been NO successful, completed slant wells for subsurface ocean desalination anywhere in the U.S. or the world. There was only one attempted project at Dana Point, CA. State agencies require a feasibility study of this new technology. With an untested and experimental design, the *highest standard* of scientific testing must be made. There is a more accurate method of mapping the saltwater intrusion in the Salinas Valley Groundwater Basin (called Electrical Resistivity Tomography-ERT) but this method is NOT used in the DEIR environmental review of impacts. ERT imaging will be completed in mid-2017. Such scientific data and observations must be included in the DEIR evaluation of impacts and the question of 'no harm' from the project.
- Cal-Am has no water rights in the Salinas Groundwater Basin but they intend to pump another water district's groundwater. The fundamental determination of legal water rights must be made now before further infrastructure investment and before more project approvals.

Additional comments: PLEASE MAKE THE WATER RIGHTS DETERMINATION WITH GREAT URGENCY. IT IS ONLY COMMON SENSE TO DO THIS BEFORE INCURRING EVEN MORE POTENTIALLY STRANDED COSTS TO BE BORNE BY RATEPAYERS.

Sincerely,

(Signature)



(Print name and address)

DAVID BEECH
1450 MANOR RD
MONTEREY CA 93940

FORM1-5

cc: NOAA Sanctuary Advisory Council, California Coastal Commission, State Water Resources Control Board, CPUC Office of Ratepayer Advocacy, Monterey County Supervisors, Monterey County Water Resources Agency (MCWRA), Monterey Peninsula Water Management District (MPWMD), Fort Ord Reuse Authority (FORA), Peninsula Mayors' Water Authority, Marina Coast Water District (MCWD), City Councils of Seaside, Monterey, Marina, Pacific Grove, Carmel, Del Rey Oaks, Sand City

California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

Date: Feb 2nd, 2017

Monterey Bay National Marine Sanctuary
c/o Karen Grimmer, NEPA Lead
99 Pacific Avenue, Building 455a
Monterey, CA 93940

Re: Monterey Peninsula Water Supply Project (MPWSP)

Dear Commissioners and Agency Officials:

I request the CPUC deny approval of the draft Environmental Impact Report (DEIR) and deny certification for the Monterey Peninsula Water Supply Project (MPWSP) until at least two very specific issues are clarified:

- There have been NO successful, completed slant wells for subsurface ocean desalination anywhere in the U.S. or the world. There was only one attempted project at Dana Point, CA. State agencies require a feasibility study of this new technology. With an untested and experimental design, the *highest standard* of scientific testing must be made. There is a more accurate method of mapping the saltwater intrusion in the Salinas Valley Groundwater Basin (called Electrical Resistivity Tomography-ERT) but this method is NOT used in the DEIR environmental review of impacts. ERT imaging will be completed in mid-2017. Such scientific data and observations must be included in the DEIR evaluation of impacts and the question of 'no harm' from the project.
- Cal-Am has no water rights in the Salinas Groundwater Basin but they intend to pump another water district's groundwater. The fundamental determination of legal water rights must be made now before further infrastructure investment and before more project approvals.

- Additional comments: *site is most prone to coastal erosion, would consume large amounts of fossil fuel/energy, further ensures Cal-Am economic predation upon residents.*

Thank you for your attention to this matter.

Sincerely,

(Signature) W Eckel

(Print name and address) 1025 DELMISTED AVE
PACIFIC GROVE, CA 93950

cc: NOAA Sanctuary Advisory Council, California Coastal Commission, State Water Resources Control Board, CPUC Office of Ratepayer Advocacy, Monterey County Supervisors, Monterey County Water Resources Agency (MCWRA), Monterey Peninsula Water Management District (MPWMD), Fort Ord Reuse Authority (FORA), Peninsula Mayors' Water Authority, Marina Coast Water District (MCWD), City Councils of Seaside, Monterey, Marina, Pacific Grove, Carmel, Del Rey Oaks, Sand City

FORM1-6

California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

February 16, 2017

Monterey Bay National Marine Sanctuary
c/o Karen Grimmer, NEPA Lead
99 Pacific Avenue, Building 455a
Monterey, CA 93940

Re: Monterey Peninsula Water Supply Project (MPWSP)

Dear Commissioners and Agency Officials:

I request the CPUC deny approval of the draft Environmental Impact Report (DEIR) and deny certification for the Monterey Peninsula Water Supply Project (MPWSP) until at least two very specific issues are clarified:

- There have been NO successful, completed slant wells for subsurface ocean desalination anywhere in the U.S. or the world. There was only one attempted project at Dana Point, CA. State agencies require a feasibility study of this new technology. With an untested and experimental design, the *highest standard* of scientific testing must be made. There is a more accurate method of mapping the saltwater intrusion in the Salinas Valley Groundwater Basin (called Electrical Resistivity Tomography-ERT) but this method is NOT used in the DEIR environmental review of impacts. ERT imaging will be completed in mid-2017. Such scientific data and observations must be included in the DEIR evaluation of impacts and the question of 'no harm' from the project.
- Cal-Am has no water rights in the Salinas Groundwater Basin but they intend to pump another water district's groundwater. The fundamental determination of legal water rights must be made now before further infrastructure investment and before more project approvals.
- If the CPUC, for reasons which those ratepayers who have been following this process closely do not accept, Cal Am's desal pumping operation will continue to hasten seawater intrusion into the Salinas Valley aquifer. The results will be irreversible.

FORM1-7

Thank you for your attention to this matter.

Sincerely,



(Print name and address) Roland Martin
269 Del Mesa Carmel, Carmel, Ca. 93923

California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

Date: 2/26/17

Monterey Bay National Marine Sanctuary
c/o Karen Grimmer, NEPA Lead
99 Pacific Avenue, Building 455a
Monterey, CA 93940

Re: Monterey Peninsula Water Supply Project (MPWSP)

Dear Commissioners and Agency Officials:

I request the CPUC deny approval of the draft Environmental Impact Report (DEIR) and deny certification for the Monterey Peninsula Water Supply Project (MPWSP) until at least two very specific issues are **clarified**:

- There have been NO successful, completed slant wells for subsurface ocean desalination anywhere in the U.S. or the world. There was only one attempted project at Dana Point, CA. State agencies require a feasibility study of this new technology. With an untested and experimental design, the *highest standard* of scientific testing must be made. There is a more accurate method of mapping the saltwater intrusion in the Salinas Valley Groundwater Basin (called Electrical Resistivity Tomography-ERT) but this method is NOT used in the DEIR environmental review of impacts. ERT imaging will be completed in mid-2017. Such scientific data and observations must be included in the DEIR evaluation of impacts and the question of 'no harm' from the project.
- Cal-Am has no water rights in the Salinas Groundwater Basin but they intend to pump another water district's groundwater. The fundamental determination of legal water rights must be made now before further infrastructure investment and before more project approvals.

- Additional comments:

Cal-Am is out for profit and not the consumer good.

FORM1-8

Thank you for your attention to this matter.

Sincerely,

(Signature) Marilyn Mason

(Print name and address) Marilyn Mason

915 Tono Ct.

Seaside, CA. 93955

cc: NOAA Sanctuary Advisory Council, California Coastal Commission, State Water Resources Control Board, CPUC Office of Ratepayer Advocacy, Monterey County Supervisors, Monterey County Water Resources Agency (MCWRA), Monterey Peninsula Water Management District (MPWMD), Fort Ord Reuse Authority (FORA), Peninsula Mayors' Water Authority, Marina Coast Water District (MCWD), City Councils of Seaside, Monterey, Marina, Pacific Grove, Carmel, Del Rey Oaks, Sand City

California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

Date: 2-24-2017

Monterey Bay National Marine Sanctuary
c/o Karen Grimmer, NEPA Lead
99 Pacific Avenue, Building 455a
Monterey, CA 93940

Re: Monterey Peninsula Water Supply Project (MPWSP)

Dear Commissioners and Agency Officials:

I request the CPUC deny approval of the draft Environmental Impact Report (DEIR) and deny certification for the Monterey Peninsula Water Supply Project (MPWSP) until at least two very specific issues are clarified:

- There have been NO successful, completed slant wells for subsurface ocean desalination anywhere in the U.S. or the world. There was only one attempted project at Dana Point, CA. State agencies require a feasibility study of this new technology. With an untested and experimental design, the *highest standard* of scientific testing must be made. There is a more accurate method of mapping the saltwater intrusion in the Salinas Valley Groundwater Basin (called Electrical Resistivity Tomography-ERT) but this method is NOT used in the DEIR environmental review of impacts. ERT imaging will be completed in mid-2017. Such scientific data and observations must be included in the DEIR evaluation of impacts and the question of 'no harm' from the project.
- Cal-Am has no water rights in the Salinas Groundwater Basin but they intend to pump another water district's groundwater. The fundamental determination of legal water rights must be made now before further infrastructure investment and before more project approvals.

- Additional comments: *I do not want to get from my faucet water stolen from*
Marine

FORM1-9

Thank you for your attention to this matter.

Sincerely,
(Signature) Hebard R. Olson
(Print name and address) Hebard R Olson

cc: NOAA Sanctuary Advisory Council, California Coastal Commission, State Water Resources Control Board, CPUC Office of Ratepayer Advocacy, Monterey County Supervisors, Monterey County Water Resources Agency (MCWRA), Monterey Peninsula Water Management District (MPWMD), Fort Ord Reuse Authority (FORA), Peninsula Mayors' Water Authority, Marina Coast Water District (MCWD), City Councils of Seaside, Monterey, Marina, Pacific Grove, Carmel, Del Rey Oaks, Sand City

Date: Feb 13, 2017

c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

Monterey Bay National Marine Sanctuary
c/o Karen Grimmer, NEPA Lead
99 Pacific Avenue, Building 455a
Monterey, CA 93940

Re: Monterey Peninsula Water Supply Project (MPWSP)

Dear Commissioners and Agency Officials:

I request the CPUC deny approval of the draft Environmental Impact Report (DEIR) and deny certification for the Monterey Peninsula Water Supply Project (MPWSP) until at least two very specific issues are clarified:

- There have been NO successful, completed slant wells for subsurface ocean desalination anywhere in the U.S. or the world. There was only one attempted project at Dana Point, CA. State agencies require a feasibility study of this new technology. With an untested and experimental design, the *highest standard* of scientific testing must be made. There is a more accurate method of mapping the saltwater intrusion in the Salinas Valley Groundwater Basin (called Electrical Resistivity Tomography-ERT) but this method is NOT used in the DEIR environmental review of impacts. ERT imaging will be completed in mid-2017. Such scientific data and observations must be included in the DEIR evaluation of impacts and the question of 'no harm' from the project.
- Cal-Am has no water rights in the Salinas Groundwater Basin but they intend to pump another water district's groundwater. The fundamental determination of legal water rights must be made now before further infrastructure investment and before more project approvals.

- Additional comments: *Legal water rights must be made NOW!*

FORM1-10

Thank you for your attention to this matter.

Sincerely,
 (Signature) *DeAnna Yaterman*
 (Print name and address) *DeAnna Yaterman
 Carmelo # 11th Carmel, CA 93921*

cc: NOAA Sanctuary Advisory Council, California Coastal Commission, State Water Resources Control Board, CPUC Office of Ratepayer Advocacy, Monterey County Supervisors, Monterey County Water Resources Agency (MCWRA), Monterey Peninsula Water Management District

8.8.2 Form Letter 2

Juli Hofmann
3201 Martin Circle
Marina CA 93933
February 23, 2017

ATTEN: Paul Michel
Monterey Bay Marine Sanctuary
99 Pacific St., Blg 455A
Monterey, CA 93940

Dear Commissioners:

Attached is a CD containing 791 scanned letters signed by individual Monterey Bay citizens, like me, who wish to express concerns regarding the Cal-Am Slant Well project (MPWSP). These letters are signed by unaffiliated, private citizens, mostly from the City of Marina and Ord Communities, and are NOT specifically related to the DEIR public comments. However, the issues are vital to us as well as to other area interests. I hope you will review them to understand our concerns.

I would appreciate confirmation of receipt of these CDs at jhofmann@redshift.com when they have been distributed to your commissioners.

FORM2-1

Thank you very much,

Juli Hofmann

Juli Hofmann

Your Address: 360 Everett Dr
MARINA CA

Date: 2-21-17

California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

Karen Grimmer, NEPA Lead
Monterey Bay National Marine Sanctuary
99 Pacific Avenue, Building 455a
Monterey, CA 93940

Re: Monterey Peninsula Water Supply Project (MPWSP)

Dear Commissioners:

I request the CPUC deny approval of the draft Environmental Impact Report (DEIR) and deny certification for the Monterey Peninsula Water Supply Project (MPWSP) for the following reasons:

- Cal-Am has no water rights in the Salinas Valley Groundwater Basin (SVGB) but they intend to pump water from this district to their Peninsula customers; the SVGB water district already has serious concerns of the adequacy of its aquifers to meet the needs for current and future water. This is not considered in the environmental review! FORM2-2
- Cal-Am's project represents an *environmental injustice* that blatantly ignores the rights and welfare of Marina, a small city of 21,000 with a working class and diverse population. FORM2-3
- Cal-Am's project assumes that compromising the Salinas Valley Groundwater Basin is inconsequential over the needs of a wealthier, more politically influential jurisdiction. FORM2-4

Additional Comments:

Thank you for your kind attention to this matter.

Sincerely,

Ed Mearns (Print Name)

Ed Mearns (Signature)

cc: Marina City Council, Monterey County Supervisors, NOAA Sanctuary Advisory Council, California Coastal Commission, Monterey County Water Resources Agency (MCWRA), Monterey Peninsula Water Management District (MPWMD), State Water Resources Control Board, Fort Ord Reuse Authority (FORA), Marina Coast Water District (MCWD), Mayors' Water Authority Group.

Your Address: 3128 Crescent Ave. #67
Marina, CA
Date: 2.14.11

California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

Karen Grimmer, NEPA Lead
Monterey Bay National Marine Sanctuary
99 Pacific Avenue, Building 455a
Monterey, CA 93940

Re: Monterey Peninsula Water Supply Project (MPWSP)

Dear Commissioners:

I request the CPUC deny approval of the draft Environmental Impact Report (DEIR) and deny certification for the Monterey Peninsula Water Supply Project (MPWSP) for the following reasons:

- Cal-Am's project proposes pumping millions of gallons of water per day from our already over-drafted Salinas Groundwater Basin...much more per day than Marina Coast Water District currently pumps! FORM2-5
- No considerations are given to our own region's fragile and limited groundwater resources! FORM2-6
- The 180' and 400' aquifers are already over-drafted. The 900' aquifer is currently a primary water source but due to its small storage and/or recharging rates, this last aquifer may be at risk. Cal-Am has failed to prove that the region's water sources will not be harmed by their massive pumping! FORM2-7

Additional Comments:

Thank you for your kind attention to this matter.

Sincerely,

Fannie Aurora (Print Name)
Fannie Aurora (Signature) *POA Claudia*

cc: Marina City Council, Monterey County Supervisors, NOAA Sanctuary Advisory Council, California Coastal Commission, Monterey County Water Resources Agency (MCWRA), Monterey Peninsula Water Management District (MPWMD), State Water Resources Control Board, Fort Ord Reuse Authority (FORA), Marina Coast Water District (MCWD), Mayors' Water Authority Group.

Your Address: 420 Reservation Rd Apt 29

Marina Ca 93973

Date: 2-22-17

California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

Karen Grimmer, NEPA Lead
Monterey Bay National Marine Sanctuary
99 Pacific Avenue, Building 455a
Monterey, CA 93940

Re: Monterey Peninsula Water Supply Project (MPWSP)

Dear Commissioners:

I request the CPUC deny approval of the draft Environmental Impact Report (DEIR) and deny certification for the Monterey Peninsula Water Supply Project (MPWSP) for the following reasons:

- Saltwater intrusion is a real threat to the region's water supplies: there will be enormous amounts of water pumped by Cal-Am and pumping causes seawater intrusion.
- There is a much more accurate method of mapping the saltwater intrusion in the Salinas Valley Groundwater Basin (called Electrical Resistivity Tomography-ERT) but this method is NOT used in Cal-Am's environmental review!
- This information is needed to prove Cal-Am will do "no harm" to our groundwater sources.
- Until such ERT imaging is completed, we request a delay in approval of the environmental review.

FORM2-8
FORM2-9

Additional Comments:

Thank you for your kind attention to this matter.

Sincerely,

[Signature] (Signature)

Val Valdez (Print Name)

cc: Marina City Council, Monterey County Supervisors, NOAA Sanctuary Advisory Council, California Coastal Commission, Monterey County Water Resources Agency (MCWRA), Monterey Peninsula Water Management District (MPWMD), State Water Resources Control Board, Fort Ord Reuse Authority (FORA), Marina Coast Water District (MCWD), Mayors' Water Authority Group.

Your Address: 1966 CHENNAULT CT
MARINA CA 93933
Date: 2/17/17

California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

Karen Grimmer, NEPA Lead
Monterey Bay National Marine Sanctuary
99 Pacific Avenue, Building 455a
Monterey, CA 93940

Re: Monterey Peninsula Water Supply Project (MPWSP)

Dear Commissioners:

I request the CPUC deny approval of the draft Environmental Impact Report (DEIR) and deny certification for the Monterey Peninsula Water Supply Project (MPWSP) for the following reasons:

- There have been NO successful, completed slant wells for subsurface ocean desalination anywhere in the U.S. or the world; there is only one attempted project at Dana Point, CA.
- With an untested, experimental design the *highest standard* of scientific testing must be made; Cal-Am has used "sloppy science" and created unproven "theories" to minimize the impact on saltwater intrusion in the region.
- Serious questions are being raised about Cal-Am's models and the data coming out of their test slant well; with the high risk to the Salinas Valley Groundwater Basin, no approvals should be made without first having all the facts!

FORM2-10
FORM2-11

Additional Comments:

Thank you for your kind attention to this matter.

Sincerely,

EVAN HAUGE (Print Name)

Evan Hauge (Signature)

cc: Marina City Council, Monterey County Supervisors, NOAA Sanctuary Advisory Council, California Coastal Commission, Monterey County Water Resources Agency (MCWRA), Monterey Peninsula Water Management District (MPWMD), State Water Resources Control Board, Fort Ord Reuse Authority (FORA), Marina Coast Water District (MCWD), Mayors' Water Authority Group.

Your Address: 346-B Watson St
Monterey CA 93940
Date: 2/21/17

California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

Karen Grimmer, NEPA Lead
Monterey Bay National Marine Sanctuary
99 Pacific Avenue, Building 455a
Monterey, CA 93940

Re: Monterey Peninsula Water Supply Project (MPWSP)

Dear Commissioners:

I request the CPUC deny approval of the draft Environmental Impact Report (DEIR) and deny certification for the Monterey Peninsula Water Supply Project (MPWSP) for the following reasons:

- Cal-Am has not proven with any high levels of certainty that their project will not damage or cause injury to the Salinas Groundwater Basin...the "life blood" of this region's groundwater source. FORM2-12
- Even with significant saltwater intrusion, the region has responsibly managed its water sources. Water remains affordable, and Marina Coast Water District has embarked on alternative projects to secure water in the future; Cal-Am will undermine all such plans! FORM2-13
- Cal-Am must give written assurances for monetary compensation to Salinas Groundwater Basin ratepayers should their project damage the regional water supply. Without this, Cal-Am will be allowed to gamble with another's districts water supply without contemplating paying damages in the future to injured parties! FORM2-14

Additional Comments:

Thank you for your kind attention to this matter.

Sincerely,

Peter R. Clark (Print Name)
Peter R. Clark (Signature)

cc: Marina City Council, Monterey County Supervisors, NOAA Sanctuary Advisory Council, California Coastal Commission, Monterey County Water Resources Agency (MCWRA), Monterey Peninsula Water Management District (MPWMD), State Water Resources Control Board, Fort Ord Reuse Authority (FORA), Marina Coast Water District (MCWD), Mayors' Water Authority Group,

Your Address: 307 Whitney
Marina, California, 93933
Date: FEB. 14, 17

California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

Karen Grimmer, NEPA Lead
Monterey Bay National Marine Sanctuary
99 Pacific Avenue, Building 455a
Monterey, CA 93940

Re: Monterey Peninsula Water Supply Project (MPWSP)

Dear Commissioners:

I request the CPUC deny approval of the draft Environmental Impact Report (DEIR) and deny certification for the Monterey Peninsula Water Supply Project (MPWSP) for the following reasons:

- Cal-Am has no water rights in the Salinas Groundwater Basin but they intend to pump another district's groundwater and transport this water to their Peninsula customers. The fundamental determination of legal water rights must be made now before any further project approvals! FORM2-15
- Cal Am plans to extract high volumes of water from one source (Marina) and return a small portion of this water to another area (Castroville). This goes against ordinances that prohibit groundwater extraction and exportation and there is no scientific proof that there is any direct benefit to the groundwater of Marina and the Ord community by such action. FORM2-16
- Groundwater from Marina and Ord communities must stay in and be used for Marina and the Ord communities! FORM2-17

Additional Comments:

Thank you for your kind attention to this matter.

Sincerely,

Johanna Podel (Print Name)

Johanna Podel (Signature)

cc: Marina City Council, Monterey County Supervisors, NOAA Sanctuary Advisory Council, California Coastal Commission, Monterey County Water Resources Agency (MCWRA), Monterey Peninsula Water Management District (MPWMD), State Water Resources Control Board, Fort Ord Reuse Authority (FORA), Marina Coast Water District (MCWD), Mayors' Water Authority Group.

Your Address: 13805 Sherman Blvd
East Garrison, CA 93933
Date: 2/10/17

California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

Karen Grimmer, NEPA Lead
Monterey Bay National Marine Sanctuary
99 Pacific Avenue, Building 455a
Monterey, CA 93940

Re: Monterey Peninsula Water Supply Project (MPWSP)

Dear Commissioners:

I request the CPUC deny approval of the draft Environmental Impact Report (DEIR) and deny certification for the Monterey Peninsula Water Supply Project (MPWSP) for the following reasons:

- Cal-Am has failed to prove, as required by law, "no harm" to our local groundwater. | FORM2-18
- Cal-Am failed to establish accurate and comprehensive baseline information before installing the test slant well. The model that Cal-Am uses to predict "harm" uses this inaccurate and incomplete information! | FORM2-19
- Cal-Am's test slant well is showing that less seawater and more aquifer water than expected is being pumped. This means that Cal-Am expects to pump a larger portion of fresh water from the 180 foot aquifer and there is miscalculation of important predictions...this not acceptable science! | FORM2-20

Additional Comments:

Thank you for your kind attention to this matter.

Sincerely,

DIANA NEPTUNE (Print Name)
Diana Neptune (Signature)

cc: Marina City Council, Monterey County Supervisors, NOAA Sanctuary Advisory Council, California Coastal Commission, Monterey County Water Resources Agency (MCWRA), Monterey Peninsula Water Management District (MPWMD), State Water Resources Control Board, Fort Ord Reuse Authority (FORA), Marina Coast Water District (MCWD), Mayors' Water Authority Group.

Your Address: 3338 Michael Dr

Marina, CA

Date: 2/10/2017

California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

Karen Grimmer, NEPA Lead
Monterey Bay National Marine Sanctuary
99 Pacific Avenue, Building 455a
Monterey, CA 93940

Re: Monterey Peninsula Water Supply Project (MPWSP)

Dear Commissioners:

I request the CPUC deny approval of the draft Environmental Impact Report (DEIR) and deny certification for the Monterey Peninsula Water Supply Project (MPWSP) for the following reasons:

- Cal-Am's slant well project is **not** just ocean intake as they have promoted to the public. Cal-Am's slant wells will absolutely be in the 180' aquifer, a source of water for our region, and they have clouded this critical fact! FORM2-21
- Current test slant well results show greater than predicted groundwater, rather than ocean water, has been drawn from the test slant well. This is taking precious water from aquifers that belong to the Salinas Valley Groundwater Basin! FORM2-22
- Saltwater intrusion has degraded the quality of our aquifer water; we need to know precisely where all leakages of saltwater could occur to lower aquifers and the "ERT" imaging can provide this much needed information. The approvals of the environmental review should **not** be done until we have this ERT study completed! FORM2-23

Additional Comments:

Thank you for your kind attention to this matter.

Sincerely,

Gavinell Johnson (Signature)

Gavinell Johnson (Print Name)

cc: Marina City Council, Monterey County Supervisors, NOAA Sanctuary Advisory Council, California Coastal Commission, Monterey County Water Resources Agency (MCWRA), Monterey Peninsula Water Management District (MPWMD), State Water Resources Control Board, Fort Ord Reuse Authority (FORA), Marina Coast Water District (MCWD), Mayors' Water Authority Group.

Your Address: 230 Michael Dr.
Marina, Ca. 93933

Date: 2-14-17

California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

Karen Grimmer, NEPA Lead
Monterey Bay National Marine Sanctuary
99 Pacific Avenue, Building 455a
Monterey, CA 93940

Re: Monterey Peninsula Water Supply Project (MPWSP)

Dear Commissioners:

I request the CPUC deny approval of the draft Environmental Impact Report (DEIR) and deny certification for the Monterey Peninsula Water Supply Project (MPWSP) for the following reasons:

- There have been NO successful, completed slant wells for subsurface ocean desalination anywhere in the U.S. or the world; there is only one attempted project at Dana Point, CA. There has been no serious evaluation of the Dana Point project included in the environmental review. "Those who do not know the past, are doomed to repeat it". FORM2-24
- Cal-Am's test slant well itself produced results that did not meet the projected targets and the pumping during the testing had to be stopped multiple times for unexpected occurrences; this is truly sloppy science! FORM2-25
- For such an untested, experimental design, the highest standards of scientific testing must be applied; Cal-Am is simply not doing this! FORM2-26

Additional Comments:

Thank you for your kind attention to this matter.

Sincerely,

Louis Aurja (Print Name)

Jamie Aurja (Signature)

cc: Marina City Council, Monterey County Supervisors, NOAA Sanctuary Advisory Council, California Coastal Commission, Monterey County Water Resources Agency (MCWRA), Monterey Peninsula Water Management District (MPWMD), State Water Resources Control Board, Fort Ord Reuse Authority (FORA), Marina Coast Water District (MCWD), Mayors' Water Authority Group.

Your Address: 3154 Crescent Ave.
Marina, CA 93933
Date: 2/14/17

California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

Karen Grimmer, NEPA Lead
Monterey Bay National Marine Sanctuary
99 Pacific Avenue, Building 455a
Monterey, CA 93940

Re: Monterey Peninsula Water Supply Project (MPWSP)

Dear Commissioners:

I request the CPUC deny approval of the draft Environmental Impact Report (DEIR) and deny certification for the Monterey Peninsula Water Supply Project (MPWSP) for the following reasons:

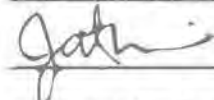
- Even with significant saltwater intrusion, the Salinas Valley Groundwater Basin region has responsibly managed its water sources, and has embarked on alternative projects to secure water in the future; Cal-Am will undermine all such plans! This *is* regional harm! FORM2-27
- Marina Coast Water District provides 33,000 people in the Marina and Ord communities with affordable, potable water and this legal obligation must be met now and the future without intrusion by Cal-Am. Cal-Am has no water rights in this Basin! FORM2-28
- Cal-Am must give written assurances for monetary compensation to Salinas Groundwater Basin ratepayers should their project damage the regional water supply. Without this, Cal-Am will be allowed to gamble with another's district's water supply without contemplating paying damages in the future to injured parties!

Additional Comments:

Thank you for your kind attention to this matter.

Sincerely,

Janet Feamside (Print Name)

 (Signature)

cc: Marina City Council, Monterey County Supervisors, NOAA Sanctuary Advisory Council, California Coastal Commission, Monterey County Water Resources Agency (MCWRA), Monterey Peninsula Water Management District (MPWMD), State Water Resources Control Board, Fort Ord Reuse Authority (FORA), Marina Coast Water District (MCWD), Mayors' Water Authority Group.

Your Address: 560 Madison St
Monterey CA 93940
Date: 2/17/17

California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

Karen Grimmer, NEPA Lead
Monterey Bay National Marine Sanctuary
99 Pacific Avenue, Building 455a
Monterey, CA 93940

Re: Monterey Peninsula Water Supply Project (MPWSP)

Dear Commissioners:

I request the CPUC deny approval of the draft Environmental Impact Report (DEIR) and deny certification for the Monterey Peninsula Water Supply Project (MPWSP) for the following reasons:

- Cal-Am has failed to prove, as required by law, "no harm" to our local groundwater.
- Cal-Am failed to establish accurate and comprehensive baseline information before installing the test slant well. The model that Cal-Am uses to predict "harm" uses this inaccurate and incomplete information! //
OG
- Cal-Am's test slant well is showing that less seawater and more aquifer water than expected is being pumped. This means that Cal-Am expects to pump a larger portion of fresh water from the 180 foot aquifer and there is miscalculation of important predictions...this not acceptable science!

Additional Comments:

There is also no established baseline for regional & seasonal trends.

FORM2-29

Thank you for your kind attention to this matter.

Sincerely,

Michael Baer (Print Name)
[Signature] (Signature)

cc: Marina City Council, Monterey County Supervisors, NOAA Sanctuary Advisory Council, California Coastal Commission, Monterey County Water Resources Agency (MCWRA), Monterey Peninsula Water Management District (MPWMD), State Water Resources Control Board, Fort Ord Reuse Authority (FORA), Marina Coast Water District (MCWD), Mayors' Water Authority Group.

Your Address: 3137-2 Seacrest Ave
Marina, CA 93933

Date: 22 Feb 2017

California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

Karen Grimmer, NEPA Lead
Monterey Bay National Marine Sanctuary
99 Pacific Avenue, Building 455a
Monterey, CA 93940

Re: Monterey Peninsula Water Supply Project (MPWSP)

Dear Commissioners:

I request the CPUC deny approval of the draft Environmental Impact Report (DEIR) and deny certification for the Monterey Peninsula Water Supply Project (MPWSP) for the following reasons:

- Cal-Am has not proven with any high levels of certainty that their project will not damage or cause injury to the Salinas Groundwater Basin...the "life blood" of this region's groundwater source.
- Even with significant saltwater intrusion, the region has responsibly managed its water sources. Water remains affordable, and Marina Coast Water District has embarked on alternative projects to secure water in the future; Cal-Am will undermine all such plans!
- Cal-Am must give written assurances for monetary compensation to Salinas Groundwater Basin ratepayers should their project damage the regional water supply. Without this, Cal-Am will be allowed to gamble with another's districts water supply without contemplating paying damages in the future to injured parties!

Additional Comments: *we need evidence on this. ^{The} Cal Am is not trust worthy - I need proof. See my water.*

FORM2-30

Thank you for your kind attention to this matter.

Sincerely,

Moira LaMountain (Print Name)

Moira LaMountain (Signature)

cc: Marina City Council, Monterey County Supervisors, NOAA Sanctuary Advisory Council, California Coastal Commission, Monterey County Water Resources Agency (MCWRA), Monterey Peninsula Water Management District (MPWMD), State Water Resources Control Board, Fort Ord Reuse Authority (FORA), Marina Coast Water District (MCWD), Mayors' Water Authority Group.

Your Address: 3137-2 Seacrest Ave
Marina, CA 93933

Date: 22 Feb 2017

California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

Karen Grimmer, NEPA Lead
Monterey Bay National Marine Sanctuary
99 Pacific Avenue, Building 455a
Monterey, CA 93940

Re: Monterey Peninsula Water Supply Project (MPWSP)

Dear Commissioners:

I request the CPUC deny approval of the draft Environmental Impact Report (DEIR) and deny certification for the Monterey Peninsula Water Supply Project (MPWSP) for the following reasons:

- There have been NO successful, completed slant wells for subsurface ocean desalination anywhere in the U.S. or the world; there is only one attempted project at Dana Point, CA.
- With an untested, experimental design the *highest standard* of scientific testing must be made; Cal-Am has used "sloppy science" and created unproven "theories" to minimize the impact on saltwater intrusion in the region.
- Serious questions are being raised about Cal-Am's models and the data coming out of their test slant well; with the high risk to the Salinas Valley Groundwater Basin, no approvals should be made without first having all the facts!

Additional Comments:

We need evidence. Cal Am is not trustworthy!

Thank you for your kind attention to this matter.

Sincerely,

Maria LaMontana (Print Name)

Maria LaMontana (Signature)

cc: Marina City Council, Monterey County Supervisors, NOAA Sanctuary Advisory Council, California Coastal Commission, Monterey County Water Resources Agency (MCWRA), Monterey Peninsula Water Management District (MPWMD), State Water Resources Control Board, Fort Ord Reuse Authority (FORA), Marina Coast Water District (MCWD), Mayors' Water Authority Group.

Your Address: 3137-2 Seacrest Ave
Marina CA 93933

Date: 22 Feb 2017

California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

Karen Grimmer, NEPA Lead
Monterey Bay National Marine Sanctuary
99 Pacific Avenue, Building 455a
Monterey, CA 93940

Re: Monterey Peninsula Water Supply Project (MPWSP)

Dear Commissioners:

I request the CPUC deny approval of the draft Environmental Impact Report (DEIR) and deny certification for the Monterey Peninsula Water Supply Project (MPWSP) for the following reasons:

- Cal-Am's project proposes pumping millions of gallons of water per day from our already over-drafted Salinas Groundwater Basin...much more per day than Marina Coast Water District currently pumps!
- No considerations are given to our own region's fragile and limited groundwater resources!
- The 180' and 400' aquifers are already over-drafted. The 900' aquifer is currently a primary water source but due to its small storage and/or recharging rates, this last aquifer may be at risk. Cal-Am has failed to prove that the region's water sources will not be harmed by their massive pumping!

Additional Comments: Please do the right thing. We need evidence. Cal Am's not trustworthy.
DM

Thank you for your kind attention to this matter.

Sincerely,

Maria LaMontana (Print Name)
Maria LaMontana (Signature)

cc: Marina City Council, Monterey County Supervisors, NOAA Sanctuary Advisory Council, California Coastal Commission, Monterey County Water Resources Agency (MCWRA), Monterey Peninsula Water Management District (MPWMD), State Water Resources Control Board, Fort Ord Reuse Authority (FORA), Marina Coast Water District (MCWD), Mayors' Water Authority Group.

Your Address: 3064 BAYER DRIVE
MARINA, CA. 93933
Date: 2/20/2017

California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

Karen Grimmer, NEPA Lead
Monterey Bay National Marine Sanctuary
99 Pacific Avenue, Building 455a
Monterey, CA 93940

Re: Monterey Peninsula Water Supply Project (MPWSP)

Dear Commissioners:

I request the CPUC deny approval of the draft Environmental Impact Report (DEIR) and deny certification for the Monterey Peninsula Water Supply Project (MPWSP) for the following reasons:

- Cal-Am has failed to prove, as required by law, "no harm" to our local groundwater.
- Cal-Am failed to establish accurate and comprehensive baseline information before installing the test slant well. The model that Cal-Am uses to predict "harm" uses this inaccurate and incomplete information!
- Cal-Am's test slant well is showing that less seawater and more aquifer water than expected is being pumped. This means that Cal-Am expects to pump a larger portion of fresh water from the 180 foot aquifer and there is miscalculation of important predictions...this not acceptable science!

Additional Comments: *IT IS WELL PAST TIME TO STOP THE ASSAULT ON MARINA'S WATER SUPPLY BY THE THREE PIECE SUIT PARASITES AT CALAM!*

Thank you for your kind attention to this matter.

CONGLOMERATE.

Sincerely,

B. NOLAN (Print Name)

B. Nolan (Signature)

cc: Marina City Council, Monterey County Supervisors, NOAA Sanctuary Advisory Council, California Coastal Commission, Monterey County Water Resources Agency (MCWRA), Monterey Peninsula Water Management District (MPWMD), State Water Resources Control Board, Fort Ord Reuse Authority (FORA), Marina Coast Water District (MCWD), Mayors' Water Authority Group.

FORM2-31

Your Address: 128 Cypress Grove Ct
Marina CA 93933

Date: 02-15-17

California Public Utilities Commission
c/o Environmental Science Associates
550 Kearny Street, Suite 800
San Francisco, CA 94108

Karen Grimmer, NEPA Lead
Monterey Bay National Marine Sanctuary
99 Pacific Avenue, Building 455a
Monterey, CA 93940

Re: Monterey Peninsula Water Supply Project (MPWSP)

Dear Commissioners:

I request the CPUC deny approval of the draft Environmental Impact Report (DEIR) and deny certification for the Monterey Peninsula Water Supply Project (MPWSP) for the following reasons:

- Cal-Am's project proposes pumping millions of gallons of water per day from our already over-drafted Salinas Groundwater Basin...much more per day than Marina Coast Water District currently pumps!
- No considerations are given to our own region's fragile and limited groundwater resources!
- The 180' and 400' aquifers are already over-drafted. The 900' aquifer is currently a primary water source but due to its small storage and/or recharging rates, this last aquifer may be at risk. Cal-Am has failed to prove that the region's water sources will not be harmed by their massive pumping!

Additional Comments:

Cal-Am's project is hostile to the rights of residents of Marina.

FORM2-32

Thank you for your kind attention to this matter.

Sincerely,

Barbara Svetlik (Print Name)

B. Svetlik (Signature)

cc: Marina City Council, Monterey County Supervisors, NOAA Sanctuary Advisory Council, California Coastal Commission, Monterey County Water Resources Agency (MCWRA), Monterey Peninsula Water Management District (MPWMD), State Water Resources Control Board, Fort Ord Reuse Authority (FORA), Marina Coast Water District (MCWD), Mayors' Water Authority Group.

8.8.1 Responses to Comments from Form Letter 1

Form Letter 1 consists of 149 one-page letters, received as a package and consisting of several common statements as well as hand-written comments added by individual signers. All unique comments have been identified and addressed in responses below.

- Form1-1 The Lead Agencies acknowledge receipt of the letters and provide responses below where comments included enough specificity to allow for a substantive response.
- Form1-2 Master Response 11, CalAm Test Slant Well, Section 8.2.11.8 discusses the new and evolving slant well technology and specifically addresses the test well at Dana Point. EIR/EIS Section 4.4.1.4 presents ERT and the work of Dr. Rosemary Knight; Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM), presents supplemental information on ERT/AEM and clarifies its use as a method to help characterize water quality and seawater intrusion along the coast of Monterey Bay. Master Response 3, Water Rights, Section 8.2.3.5 further addresses the issue of harm and injury.
- Form1-3 EIR/EIS Section 2.6 addresses water rights. See also Master Response 3, Section 8.2.3.2 for a discussion of the sequence of approvals vis-à-vis water rights, and Section 8.2.3.7 for an explanation of the proposed project's potential effects on water supplies used by the Marina Coast Water District.
- Form1-4 Possible litigation is outside of the scope of this CEQA and NEPA analysis. The comment does not provide sufficient explanation of what is meant by contingency planning to permit a response. EIR/EIS Section 2.2.3 describes the SWRCB Order 95-10 and the associated Cease and Desist Order. See also Master Response 3, Water Rights. Regarding ratepayer issues, see response to comment PWN2-22 in Section 8.6.17.
- Form1-5 See Master Response 3, Section 8.2.3.2 for a discussion of the sequence of approvals vis-à-vis water rights. Regarding ratepayer issues, see response to comment PWN2-22 in Section 8.6.17.
- Form1-6 EIR/EIS Section 4.2.4.5 describes the Coastal Retreat Study (Appendix C2); see also responses to comments Shriner-4 in Section 8.7.23 and PTA-6 in Section 8.6.16. EIR/EIS Section 4.18 evaluates energy conservation and Section 4.11 addresses greenhouse gas emissions. Regarding ratepayer issues, see response to comment PWN2-22 in Section 8.6.17.
- Form1-7 EIR/EIS Section 4.4.5.2 addresses the proposed project's impact on seawater intrusion in the Salinas Valley Groundwater Basin. See also Master Response 8, Project Source Water and Seawater Intrusion.

Form1-8 Thank you for your comment. This comment does not concern the adequacy of the environmental review included in the EIR/EIS, but will be considered by decisionmakers, as discussed in Section 1.5.

Form1-9 Master Response 3, Section 8.2.3.7 addresses the proposed project's potential effects on water supplies used by the Marina Coast Water District.

Form1-10 Master Response 3, Section 8.2.3.2 provides a discussion of the sequence of approvals vis-à-vis water rights.

8.8.2 Responses to Comments from Form Letter 2

Form Letter 2 consists of 791 one- or two-page letters, received as a package and consisting of several common statements as well as hand-written comments added by individual signers. All unique comments have been identified and addressed in responses below.

- Form 2-1 The Lead Agencies acknowledge receipt of 791 form letters reflecting the concerns of certain citizens from the City of Marina and Ord communities.
- Form 2-2 EIR/EIS Section 2.6 addresses the issue of water rights as one of project feasibility. See also Master Response 3, Water Rights, Section 8.2.3.2 for a discussion of the sequence of approvals vis-à-vis water rights and Section 8.2.3.7 for an explanation of the proposed project's potential effects on water supplies used by MCWD.
- Form 2-3 Environmental justice, including potential disproportionately high and adverse impacts on minority and low-income populations, is addressed in EIR/EIS Section 4.20, Socioeconomics and Environmental Justice. See also responses to comments Marina-5 through 10, 36, 37, 39, 45 through 83, 132 and 133 in Section 8.5.1 for specific discussions of environmental justice concerns in the City of Marina.
- Form 2-4 EIR/EIS Section 4.4.5.2 presents the analysis of potential impacts of the proposed project on groundwater resources in the Salinas Valley Groundwater Basin, regardless of jurisdictional boundaries, and concludes that impacts would be less than significant.
- Form 2-5 The proposed project would involve more slant well pumping per day than is currently being pumped by the Marina Coast Water District. The water pumped by the proposed project would be brackish, and the project proposes to return to the groundwater basin the freshwater component that originated in the basin. As such, the EIR/EIS concludes that the proposed project would not significantly impact the Salinas Valley Groundwater Basin. As described in EIR/EIS Section 3.2.1.1, the proposed slant wells at CEMEX would pump 24.1 million gallons per day (mgd), or approximately 27,000 acre feet per year (afy). EIR/EIS Section 5.6.2 explains that the Lead Agencies found Alternative 5a to be the environmentally superior alternative; it would pump 15.5 mgd or approximately 17,500 afy (see EIR/EIS Section 5.4.7.2). The water drawn by the wells is expected to be close to 95 percent ocean water and whatever portion of the water that originated in the groundwater basin (five percent) would be returned to the groundwater basin as desalinated water (see EIR/EIS Sections 2.6.2 and 4.4.2.2 and Master Response 4, The Agency Act and Return Water). In comparison, MCWD pumped 4,200 afy of potable water in 2015 (MCWD, 2016).
- Form 2-6 See response to comment Form2-4 and Master Response 7, The Deeper Aquifers of the Salinas Valley Groundwater Basin.

- Form 2-7 See response to comment Form2-4 and Master Response 7, The Deeper Aquifers of the Salinas Valley Groundwater Basin.
- Form 2-8 See response to comment Form2-4. See also Master Response 7, The Deeper Aquifers of the Salinas Valley Groundwater Basin and Master Response 8, Project Source Water and Seawater Intrusion.
- Form 2-9 EIR/EIS Section 4.4.1.4 presents Electrical Resistivity Tomography (ERT) and the work of Dr. Rosemary Knight; Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM), presents supplemental information on ERT/AEM and clarifies its use as a method to help characterize water quality and seawater intrusion along the coast of Monterey Bay. Master Response 3, Water Rights, Section 8.2.3.5 further addresses the issue of harm and injury.
- Form2-10 Master Response 11, Section 8.2.11.8, discusses the new and evolving slant well technology and specifically addresses the test well at Dana Point. EIR/EIS Section 4.4.4 presents the approach to analysis of potential impacts on groundwater resources.
- Form2-11 EIR/EIS Appendix E2 explains that the groundwater model used in the EIR/EIS to evaluate impacts on groundwater resources was prepared by the CEQA/NEPA team, and it is not a CalAm model. See Master Response 12, The North Marina Groundwater Model (v.2016), and Master Response 11, CalAm's Test Slant Well. The CPUC decision-making process is explained in EIR/EIS Section 1.5.4. EIR/EIS Section 4.4.5.2 presents the analysis of potential impacts of the proposed project on groundwater resources in the Salinas Valley Groundwater Basin, and concludes that impacts would be less than significant.
- Form2-12 EIR/EIS Section 4.4.4 presents the approach to analysis of potential impacts on groundwater resources and Section 4.4.5.2 presents the analysis of potential impacts of the proposed project on groundwater resources in the Salinas Valley Groundwater Basin, and concludes that impacts would be less than significant. See also Master Response 3, Water Rights, Section 8.2.3.5 for a discussion of harm or injury.
- Form2-13 Master Response 3, Water Rights, Section 8.2.3.7, presents an explanation of the proposed project's potential effects on water supplies used by MCWD.
- Form2-14 EIR/EIS Section 4.4.5.2 presents Applicant Proposed Measure 4.4-3, Groundwater Monitoring and Avoidance of Damage. This measure is not required to reduce a potential impact to less than significant, but would ensure that CalAm would monitor changes in the groundwater surface elevations caused by the proposed pumping at the slant wells through a voluntary program and use of new groundwater monitoring wells. If it is determined that a nearby active groundwater well has been damaged or otherwise negatively affected by the project pumping of the slant wells, the project applicant shall coordinate with the well owner to arrange for an interim water supply

and begin developing a mutually agreed upon course of action to repair or deepen the existing well, restore groundwater yield by improving well efficiency, provide long term replacement of water supply, or construct a new well.

- Form2-15 EIR/EIS Section 2.6 addresses water rights. See also Master Response 3, Water Rights, Section 8.2.3.2 for a discussion of the sequence of approvals vis-à-vis water rights, and Section 8.2.3.7 for an explanation of the proposed project’s potential effects on water supplies used by the Marina Coast Water District.
- Form2-16 See response to comment Form2-4, Master Response 2 Master Response 3, Master Response 4 and Master Response 8.
- Form2-17 Master Response 11, Section 8.2.11.8 discusses the new and evolving slant well technology and specifically addresses the test well at Dana Point. EIR/EIS Section 4.4.4 presents the approach to analysis of potential impacts on groundwater resources. EIR/EIS Section 4.4.1.4 presents ERT and the work of Dr. Rosemary Knight; Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM) presents supplemental information on ERT/AEM and clarifies its use as a method to help characterize water quality and seawater intrusion along the coast of Monterey Bay. Master Response 3, Water Rights, Section 8.2.3.5 further addresses the issue of harm and injury.
- Form2-18 EIR/EIS Section 4.4.5.2 presents the analysis of potential impacts of the proposed project on groundwater resources. See also EIR/EIS Section 2.6 and Master Response 3, Water Rights, for a discussion of “harm”.
- Form2-19 The reporting of test slant well baseline data is described in Master Response 11, CalAm Test Slant Well, Section 8.2.11.4, and how the test slant well data were used in the groundwater modeling is described in Master Response 12, The North Marina Groundwater Model (v. 2016), Section 8.2.12.2. See also EIR/EIS Appendix E2, Section 4.2, Test Slant Well Pumping, for an example where real-world monitoring data is utilized to compare measured drawdown with the drawdown calculated with the superposition model. EIR/EIS Appendix E2 explains the groundwater model used in the EIR/EIS and demonstrates why this model consists of the best available information.
- Form2-20 Master Response 11, CalAm Test Slant Well, Section 8.2.11.5, presents the results of the test slant well pump test; see also EIR/EIS Appendix E3. EIR/EIS Section 4.4.5.2 evaluates impacts of the proposed project on the Salinas Valley Groundwater Basin and considers the portion of source water that might have originated in the groundwater basin to be between zero and 12 percent. The actual percentage of water that would be returned to the Basin would be determined annually based on measured values in the production wells. See also Master Response 3 and Master Response 8.

- Form2-21 The EIR/EIS is explicit about where the wells would be located in the groundwater basin. Section 3.2.1.1, specifically Table 3-1 explains, the slant wells would draw water from groundwater aquifers that extend beneath the ocean floor (the Dune Sand Aquifer and the 180-Foot-Equivalent Aquifer of the Salinas Valley Groundwater Basin) for use as source water for the MPWSP Desalination Plant. Impact 4.2-8 explains that the slant wells would be screened at depths corresponding to both the Dune Sand Aquifer and the underlying 180-Foot-Equivalent Aquifer of the Salinas Valley Groundwater Basin. Impact 4.2-10 explains the wells would extend to the west beneath the seafloor and be screened in the Dune Sand Aquifer and the 180-Foot Equivalent Aquifer. See also Figure 4.4-3 for a hydrogeologic cross section that shows the test slant well penetrating the Dune Sand and 180-Foot-Equivalent aquifers. See also Master Response 8.
- Form2-22 See response to comment Form2-20, and Master Response 3, Water Rights.
- Form2-23 See responses to comments Form2-8 and Form 2-9
- Form2-24 Slant well technology is discussed in Master Response 11, CalAm Test Slant Well.
- Form2-25 See Master Response 11, which explains why the testing was stopped.
- Form2-26 See Master Response 11.
- Form2-27 Master Response 3, Water Rights, Section 8.2.3.7 presents an explanation of the proposed project's potential effects on water supplies used by MCWD.
- Form2-28 See Master Response 3.
- Form2-29 See Master Response 11. Also see Chapter 4.4.1.2 for the baseline discussions of local and regional hydrogeology, including seasonal variations.
- Form2-30 The EIR/EIS analysis relies on the best available information and was prepared by the CPUC and MBNMS as the CEQA and NEPA Lead Agencies.
- Form2-31 Master Response 3, Water Rights, Section 8.2.3.7 presents an explanation of the proposed project's potential effects on water supplies used by MCWD.
- Form2-32 Master Response 3, Water Rights, Section 8.2.3.7 presents an explanation of the proposed project's potential effects on water supplies used by MCWD.

8.9 Draft EIR/EIS Public Meeting Verbal Comments

Public Meeting Verbal Comments Transcript
Responses to Public Meeting Verbal Comments

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8.9.1 Public Meeting Verbal Comments Transcript

CAL AM MONTEREY PENINSULA
WATER SUPPLY PROJECT A.12-04-019
SUNSET COMMUNITY CENTER, CARPENTER HALL
CARMEL-BY-THE-SEA, CALIFORNIA
FEBRUARY 16, 2017, 4:00 P.M.

TRANSCRIPT OF PUBLIC COMMENTS

SPEAKERS

Gary Cursio

Margaret Ann Coppernoll

John Tilley

Elisabeth Billingsley

Harvey Biala

Kathy Biala

Hebard Olsen

Tom McMahon

Peter Mounteer

Brian Leneve

Rene Poskoff

Jody Hansen

Michael Baer

Jan Shriner

Herbert Cortez

Julie Hofmann

George Riley

PUBLIC COMMENTS:

(Time noted: 4:22 p.m.)

GARY CURSIO: My name is Gary Cursio, and I am here representing the Coalition of Peninsula Businesses as well as the Monterey County Hospitality Association. I would like to thank the Commission for all they have done along the process, keeping us moving forward, helping us get an extension to the CDO, speaking on our behalf. It is all very much appreciated and noted. Thank you for that.

The Monterey County Hospitality Association is made up of 250 members and over 25,000 hospitality employees, and we are their trade association.

The reason all of us fought so hard to extend the CDO was to allow time for this EIR process to run its course and conclude. The EIR findings, which are largely the same as the DEIR released in 2015, show that this project, which is made up of 6.4 million gallons per day, along with the groundwater recharge project, to be environmentally sensitive and feasible. Therefore, the Coalition of Peninsula Businesses and the Monterey County Hospitality Association ask that you please move forward with approvals so that we can solve our water supply shortage and stay within the new deadlines set by the CDO.

Thank you.

CHARLES GARDNER: Thank you. Okay. Margaret Ann is next, followed by John Tilley, and then Elizabeth Billingsley.

MARGARET ANN COPPERNOLL: Wow. Quite an introduction.

Good afternoon, and thank you so much for inviting us to come here today. My name is Margaret Ann Coppernoll. I'm a Marina resident.

I'm here today to plead with the CPUC to deny the certification of the MPWSP and to deny approval of this Draft EIR. The reason is that this desal project is infeasible and irreparable harm is being done and will be done. Cal Am has no groundwater rights, making its project, from the start, infeasible. None of the arguments presented qualify Cal Am with groundwater rights. Those water rights belong to the jurisdiction that has lead responsibility. That jurisdiction is Marina Coast Water District, a publicly-owned water purveyor that has a decades-long golden track record of providing fresh potable water to its customers at affordable prices and rewards them with incentives for their water conservation efforts.

Cal Am has inserted its test slant well into Marina Coast Water District's freshwater aquifer, the perched dune sand aquifer. This aquifer provides a natural barrier against seawater intrusion. As science shows, overpumping causes seawater intrusion. The DEIR report states that Cal Am is currently drawing from this aquifer, not the subsurface out in the ocean as the project design depicted. The EIR tells us that the desal project intends to continue drawing from the dune sand aquifer once its other nine slant wells are constructed.

Transcript-1
(Cursio)

Transcript-2
(Coppernoll)

This project is in violation of the City of Marina's Coastal Land Use Plan, as the DEIR points out. The project is in violation of the CEQA Chapter 9.2 requirement to prove it will do no irreparable harm. It's already doing irreparable harm by taking water that it has no right to take and diminishing Marina's water supply.

The dune sand aquifer is a perched freshwater aquifer that naturally prevents saltwater intrusion. Field research studies have scientifically demonstrated through electrical resistivity tomography, or ERT, that freshwater exists along with saltwater-intruded water in the various geologic, stratigraphic layers of the subsurface areas of the Salinas Valley groundwater basin aquifers.

Marina Coast Water has done a first-class job in restoring fresh water through sustainable groundwater management plans and programs. Per the report, the desal project is undermining those efforts by pumping 2,100 gallons of water per minute out of the dune sand aquifer, water that ends up back in the bay. This squandering action is unlawful.

The project's goal to construct pipelines that will extract Salinas Valley groundwater basin water out of its jurisdiction and transport it to another area is also unlawful. Providing another water source to the Peninsula is an honorable objective, but it is not honorable to usurp another jurisdiction's water rights in the process.

I plead with you to be fair, to do the morally right thing, to protect Marina's lawful groundwater jurisdiction from this invasion into its water supply system. Please, please deny certification and approval until authentic scientific data can be obtained and any irreparable harm to Marina's water supply system could be averted.

The United Nations has declared water to be a basic human right. California supports this policy that every human being has a basic right to affordable water for drinking, sanitary, and cooking needs. Water is God's gift to mankind and should not be viewed as a for-profit commodity for investors.

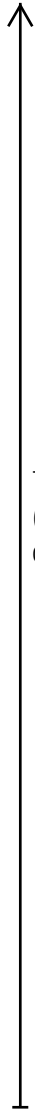
Thank you, and God bless all of you and our communities.

CHARLES GARDNER: So John Tilley, followed by Elizabeth Billingsley, and Harvey Biala.

JOHN TILLEY: Hello. My name is John Tilley. I'm with the Peninsula Coalition of Businesses also, and I'm also involved with the Monterey Commercial Property Owners Association.

I'm really pleased about the EIR coming through to see that this progress has been made. It's very important to know that the projects that are in place have been blessed in this manner. I was very thrilled to see the portfolio of water projects that were part of our application are being well-viewed and that the CDO was extended. And thank you very much for any help you offered in that regard.

I have two main reasons why I'm very supportive of this proposed water project. One is this thing about the community, which means the people that are employed where Cal Am



Transcript-2
(Coppernoll)
cont.

Transcript-3
(Tilley)

serves. And when I see the number of people coming to this Peninsula every day to work and I think about what would happen if the water supply project was not available, it really concerns me that so many lives would be affected in such a negative way.

Another way I think about this as a very, very positive step forward is as an environmentalist, which I am deeply involved with the environmental projects in the area and very supportive of the health of the Carmel River. The idea that we can limit the amount of the water coming off the river through these projects thrills me. The fact that we can restore the natural course of the river, the volume of water there, the habitat for the many animals that survive there is such a great thing to have. We're blessed in this area with abundant, natural beauty, and I am really thankful that these projects are in place to protect our environment and also to protect our community.

Thank you very much.

CHARLES GARDNER: Thank you.

Okay. Elizabeth Billingsley, Harvey Biala followed by Kathy Biala.

ELIZABETH BILLINGSLEY: Hello, everybody. I'm Elizabeth Billingsley, a Peninsula resident for 55 years, but now I'm upset about this EIR. How could the California Public Utilities Commission listen to all of Cal Am's sob stories about the current plight of no water when they did nothing to responsibly renew their own water sources? Now you will allow them to destroy Marina Coast Water District's only water source that 33,000 people are dependent on? Really?

In your environmental review there is no mention about the Salinas Valley groundwater basin needs for our people. We have more undeveloped land than anybody here in the Peninsula, and Cal Am just takes -- talks about the Peninsula needs. Does Cal Am care if we cannot meet our own future water needs and we do not [sic] have the legal rights to this water?

Cal Am has no right to our water, period. You will end up having yet another destroyed water source left by Cal Am if you allow them to take our water illegally. Add us to the Cal Am's list of Carmel River and Seaside groundwater basin of destroyed water resources that Cal Am has brought upon their ratepayers. Marina says "No" to Cal Am.

Thank you.

CHARLES GARDNER: Thank you very much.

So Harvey Biala, Kathy Biala, and then Hebard Olsen.

HARVEY BIALA: My name is Harvey Biala, and I'm a resident of Marina.

Cal Am describes a proposed project as an ocean intake system with subsurface slant wells extending offshore, leading us to believe Cal Am will be taking ocean water for the desalination

↑
Transcript-3
(Tilley)
cont.

↑
Transcript-4
(Billingsley)

↓
Transcript-5
(H. Biala)

project. There is a diagram explained at public meetings, and it seems to depict this and imply that the slant wells will be pumping water safely out from under the ocean floor. This is completely misleading and we are outraged that this is put before the public in this deceptive manner.

In the DEIR there is a diagram that clearly shows the slant well is in the 180-foot aquifer. How dare Cal Am suggest otherwise. Our aquifers are connected to the ocean across the entire region. Cal Am cannot illegally take 27,000 acre feet per year from our water sources and claim no harm will be done to an already over-drafted and fragile groundwater system.

By the way, Marina Coast Water District is currently managing 4,000 acre feet per year, which is one-seventh of what the Cal Am project is proposing to be pumping.

Cal Am has not bothered to understand Marina and Ord communities' future needs for our water. The DEIR lists pages of the Peninsula's needs for single-family affordable housing and commercial needs, but there is absolutely no mention of what we are struggling with to accommodate our future growth and water needs in Marina. We have a university expecting to grow to 12,000 students. We have, as yet, an unopened flagship medical veterans facility. We have commitments to build in excess of 2,000 more homes and so much more. And we are wondering how to provide water for all this development without the water grab from Cal Am. Where is this considered in the DEIR? Why does Cal Am's Peninsula needs -- why does Cal Am's Peninsula needs take precedence over ours when we have water rights and they do not?

This is truly an example of environmental injustice in which a powerful and predatory mega-corporation is allowed to dominate a small, economically challenged, and diverse community to meet the needs of a wealthier, more politically influential population.

Thank you.

CHARLES GARDNER: Kathy Biala, Hebard Olsen, and then Tom McMahon.

KATHY BIALA: My name is Kathy Biala, and I'm a resident of Marina.

First, I want to stress that Cal Am has no legal water rights in the Salinas Valley groundwater basin. The issue of groundwater rights must be determined before any further project approvals.

Secondly, because this specific type of slant well technology is experimental, a high level of scientific scrutiny is required. But basic scientific methodology has been breached in the Cal Am project. Among these are:

Cal Am's assumption that the 180-foot aquifer contains only unusable brackish water is a falsehood on two counts. Brackish water is valuable in a desalination process because it contains a portion of fresh water by definition and, hence, has great value to the local water purveyor, Marina Coast Water District.



Transcript-5
(H. Biala)
cont.

Transcript-6
(K. Biala)

Further, an MCWD hydrogeologist has discovered a perched fresh water aquifer on the Armstrong property not addressed in Cal Am's assertion of no harm. How can Cal Am's model predict no harm to our basin without an accurate baseline of where the freshwater is?

Cal Am has shown a complete disregard for the electrical resistivity tomography, the ERT for shorthand, that can image very large portions of the groundwater basin up to depths below the 900-foot aquifer in a 3D mapping. By contrast, Cal Am, who knew about the ERT at least two years ago, is obtaining data from only nine vertical monitoring wells, builds a model from this limited data, and then claims no harm to our basin.

The test well study has not been completed, and yet still this DEIR is to be approved? This is very absurd. Any Cal Am claims of no harm are mere conjecture at this point until the test is completed.

Large numbers of pumping stoppages have occurred with significant lapses in data collection, and yet no questions have been raised as to whether this is a valid study under such conditions.

Two major data variances in the test slant well have already occurred. One, exceeding the acceptable water drawdown level of more than one foot that was later explained away by the impact of agricultural pumping; two, not reaching a projected salinity level of 96 percent in the threshold well, meaning that currently 93 percent salinity is 7 percent aquifer water being pumped.

This model is highly faulty as it did not factor in, before the testing began, the impacts of the agricultural pumping nor identify levels of uncertainty for unexpected results. This is shoddy science.

MCWD will initiate the ERT in May. If you approve this project without the benefits of an ERT study, you will likely face compelling legal challenges based on the facts revealed by the ERT. Do not approve this project until an ERT is completed and the data applied to the existing model. What is at stake is an entire regional water supply.

Thank you.

CHARLES GARDNER: Thank you.

Hebard Olsen, then Tom McMahon, and then Peter Munteer.

HEBARD OLSEN: I'm Hebard Olsen and I live in Monterey.

And since Cal Am does not have rights to the water that they are putting in the system, I'm going to be turning the tap on and getting stolen water.

Now the question is how can I cure that problem? That's getting rather difficult. When they did their test well, they had water drawn from a mile or so away from the well on the land.



Transcript-6
(K. Biala)
cont.

Transcript-7
(Olsen)

I would like to not have the project approved until they can serve me water that they actually own, not water that they have stolen from Marina and whoever else is out in that area.

Second, I would like to know if they have got in their budget sufficient money to pay for the damage to Marina after they get -- run their well for a while.

It seems to me that the original EIR should not be approved and that one of the alternatives that takes water from Moss Landing should be the one that's considered, not any of the ones that take water from Marina.

CHARLES GARDNER: Thank you. Tom McMahon, Peter Munteer, and then Brian Leneve.

TOM McMAHON: Good afternoon. My name is Tom McMahon. I am with the Pacific Grove Downtown Business Improvement District. I'm also a Pacific Grove representative with the Coalition of Peninsula Businesses, and I'm the owner and general manager of Monterey Bay Laundry.

I don't want to come here tonight and speak about hypotheticals. I want to speak about the reality of what we face in the business community and as a resident on the Monterey Peninsula. It was no more than about 90 days ago that we were facing the termination or the effective date of the CDO which threatened to completely shut off -- or virtually completely shut off the water supply to the Monterey Peninsula. Now, I think we all sat at that time and said, "Well, it's unlikely. I don't think they are going to do that." And we hoped and worked very hard in order to get that CDO date pushed out, and we were effective in doing that.

But, in the meantime, it's important for people to realize that, particularly from the business community, if you look at the business community in Pacific Grove, we need investment. Our business community is anemic. We need investment. But we cannot get investment when we have a huge question mark associated with whether or not water is going to be available to these businesses.

At a very personal level, I can tell you that we shut down two operations -- two laundry operations, one in Pacific Grove and one in Monterey, due exclusively to the fact of the question mark associated with whether or not we were going to have water available. We were looking at the need to invest significantly in the business, and the question mark introduced too much of a risk for us to be able to make that investment, given the fact that we were unsure of what our water supply would be.

This is not hypothetical. This is happening now. There are businesses now that either cannot operate within our community or cannot invest in our community or can't perform what -- the duties or what they're attempting to do as a business because of that question mark with the water.

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Transcript-7
(Olsen)
cont.

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Transcript-8
(McMahon)

I really urge you to approve the EIR so we can solve our water supply issue and allow the community of Pacific Grove, Monterey, Carmel to be able to grow and thrive. Right now we can't do that.

↑ Transcript-8
(McMahon)
| cont.

Thank you.

CHARLES GARDNER: Thank you.

So we have Peter Munteer, Brian Leneve, and then Rene Poskoff.

PETER MOUNTEER: Good afternoon. My name is Peter Munteer. I am the marketing and events manager at the Pacific Grove Chamber of Commerce, and I'm here today on behalf of that organization and its membership.

We represent over 400 businesses and individuals, many of whom who have a strong interest and a sound water supply solution for the Monterey Peninsula area. We ask that you please move forward with approvals to the environmental impact report so that we can solve our water supply shortage and stay within the new deadlines set by the Cease and Desist Order.

The groundwater impacts are shown to be less than significant. The modeling has been peer-reviewed and undergone intense testing to confirm its accuracy. Subsurface intakes conform to state policy on desal plants. They avoid harm to the environment and they are a feasible technology, given the geology of the Cemex site. Solving this problem is of urgent importance to our community and health of the Carmel River.

Transcript-9
(Munteer)

The environmental impact report shows that the collaboration that has taken place between Cal Am, the cities, the Monterey Regional Water Pollution Control Agency, the Monterey Peninsula Water Management District, environmental groups, and other stakeholders has arrived at a suite of projects that provides a sustainable, reliable water supply and protects the water and river environment of the Monterey Peninsula.

Thank you.

CHARLES GARDNER: So Brian Leneve and then Rene Poskoff.

BRIAN LENEVE: Good evening. Thanks for this opportunity to talk. I don't have any prepared statements, so I may be stumbling through this a little bit.

I am Brian Leneve. I'm a resident of Carmel. I'm a ratepayer of Cal Am, and I'm also the president of the Carmel Steelhead Association, and I'm also an environmentalist.

I believe this is a good project. We have worked to support it since the beginning. Since 1995, steelhead in the Carmel River have been waiting for some sort of a break to get more water into the river. This is the closest they have come to it. Without this project, the steelhead will continue to suffer, they will continue to decline, and they become extinct.

Transcript-10
(Leneve)

As an environmentalist, I like the slant well intakes. I believe it's an environmentally superior way of taking water from the ocean. Two speakers from me talked about the hypothetical. There's a lot of people here from Marina tonight talking about hypothetically how this may affect the groundwater. In Marina, however, that's hypothetical. They don't want to listen to the studies or read the studies in the EIR. But we support this EIR. We believe it's a way forward for the environment and statistically the steelhead.

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Transcript-10
(Leneve)
cont.

Thank you.

CHARLES GARDNER: Rene Poskoff.

RENE POSKOFF: Good afternoon. I'm representing the Coalition of Peninsula Businesses as well as the Monterey County Hospitality Association and the 22,000 people that it employs. And the Coalition of Peninsula Businesses and MCHA have been working very diligently over the past -- I lost track of the number of years, as I'm sure maybe you have, on this project, but I won't repeat all the great reasons that already have been stated. But we're very much in support of it. We think it's needed, and we urge you to move forward.

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Transcript-11
(Poskoff)

Our community -- and when I say "community," I really talk about both. We're residents, all 22,000 people that work in the hospitality industry and our business people, but they are residents and business people. And we need this project. We urge you to move forward.

And the only other statement really I would make is that I know there's a lot of conversation about the cost of water, and we all understand that. But there's one thing which is scarier than expensive water, and that is not having water at all. Because without it, as an individual, as a resident, or a business, we can't -- we can't support our industry, and we need it. So we urge you to move forward.

Thank you for your time.

CHARLES GARDNER: Thank you. That's the conclusion of the list that I have. Is there anybody else who would like to provide comments who hasn't signed up already? Okay. Is there anyone who has additional -- has commented but they have additional comments?

HEBARD OLSEN: Yes, I do. Here.

CHARLES GARDNER: If you could just repeat your name for the court reporter, that would be great.

HEBARD OLSEN: I'm Hebard Olsen again. And I forgot to mention the fact that Marina's water is from a non- -- a temporary system. The Army, when they turned the system over, they determined that the system, the water source, is not -- should not be a permanent water source. So we have a problem that's brewing, and this Cal Am project will add to that problem and make its fruition more likely.

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Transcript-12
(Olsen)

Marina actually has some desalination and they might have to turn to totally desalinated water, moving an expense to them from our -- from the project of Cal Am. So that's not fair to them.

And, again, I said that I would be drawing on -- water that I'm getting from my tap would be stolen water, and how do I feel about that.

CHARLES GARDNER: Okay. Thank you. Anyone else have additional comments?

Okay. I think what we'll do is go off the record.

(Time noted: 4:44 p.m.)

(Time noted: 5:26 p.m.)

CHARLES GARDNER: Okay. So we have a couple of people who have come and want to provide comments, so we're going to go back on the record to receive those comments. We have Jody Hansen and then Michael Baer. So we've asked people to stick to three minutes, but there's only two of you, so -- but you might lose us after five or so.

So, Jody, would you like to provide some comments?

JODY HANSEN: Thank you. My name is Jody Hansen. I'm the president and CEO of the Monterey Peninsula Chamber of Commerce. I'm here this evening representing the Coalition of Monterey Peninsula Businesses as well as the Chamber.

We are in strong support of this project. It's very important for our community. You're going to hear from a lot of different groups today and many of them saying that this EIR has problems. And there's no such thing as a perfect EIR. And having been at the last CPUC meeting where we knew that it may not have been the last, but where we heard that the EIR was going to take longer, it's going to take an additional year, and the staff was talking about making it bulletproof, well, we know that this project is not perfect. And it can't be made bulletproof when we have a community that is always looking for the problems with projects.

Solving this problem is of urgent importance to our community and the Carmel River. We saw that taking the dam down has been a huge difference for the Carmel River, and we're looking at getting the desal project finished so that we can allow that river to become healthy again.

The EIR shows that the collaboration that has taken place between Cal Am, the cities, MRWPCA, MPWMC, environmental groups, and other stakeholders has arrived at a suite of projects, this portfolio of projects that provides a sustainable, reliable water supply and protects the river and the wider environment of the Monterey Peninsula.

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Transcript-12
(Olsen)
cont.

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Transcript-13
(Hansen)

We, as a coalition of Peninsula businesses, represent the business community that actually provides a lot of economic stability for this area, and without water we're in a world of hurt and we go into a real possible economic downfall again.

So I think this is where we have to look at ways to mitigate the EIR and be creative, if we need to be. The PUC has been extremely diligent and thorough in its study of the environmental impacts of the MPWSP. The end analysis is extremely important, which is demonstrated by its comprehensiveness and depth. We're glad to see this level of study, glad this milestone has been reached, and we're looking forward to a speedy decision on the project.

Thank you very much.

CHARLES GARDNER: Thank you. Michael?

MICHAEL BAER: Hello. I'm Michael Baer. I'm a resident of Monterey Peninsula and I'm a ratepayer.

The level of distrust, I want to just -- that's kind of the theme. Well, first of all, you've got five years of history, at least, with this project, 4,000 pages of a document, and I'm supposed to say something in three minutes. So the idea is to take one thread as an example and, you know, not try and cover everything.

But the theme is distrust both of Cal Am and the PUC. And we've been talking about this for years and people complain. And I think the poor turnout is reflective of people -- of the distrust, not of the lack of interest of what's been doing on. And there's been letters to the editor, you know, all the time for years.

So I want to take this slant well as the theme, the thread, for which I want to talk about why there's such distrust. In 2014, Cal Am told us that they would run a test slant well continuously for up to two years for a cost of about \$4,000,000. In the original Coastal Commission permit it said that they would decommission that slant well, cap it and bury it. And because it was identified as a temporary experimental test, the CEQA regulations were waived. Now it is designated as a back-up production well. So it's a way for them to get around some CEQA regulations back in 2014.

The costs have grown to over \$12,000,000 at the last count, and the last count was several months ago. That fact falls between the cracks. I just want to highlight that. Like when we come to a ratepayer argument, we can't really say, "Oh, by the way, you tripled the costs on the slant well." And here we are at the EIR. We can't really talk about costs. But we paid that \$12,000,000, which was originally slated at \$4,000,000, and I'm sure it will be higher before this is all done.



Transcript-13
(Hansen)
cont.



Transcript-14
(Baer)
cont.

It was supposed to be continuous tests up to 24 months. But in those 24 months there have been three major stoppages, one of 14 weeks, one of 8 weeks, and, most recently, one of three weeks, and more than a dozen other stoppages from a couple of hours to several days.

The State Water Resources Control Board, when they agreed to this, were under the impression this would be a subsurface intake system -- subocean intake system. But the current slant well does not draw water from beyond the mean high tide line. It draws it out from the aquifer. And even though the other production wells are described as extending beyond the high tide to some extent, it raises the question: What did this test well actually test if this slant well is not representative of the other ones?

In the Executive Summary there's been some omissions. The EIR skips over the fact that Dennis Williams had conflicts of interest. He was the hydrogeologist doing some of the modeling in the original EIR, and he has an international patent on slant wells. So he gains -- if this is successful, he stands to gain a tremendous amount of money from that, and yet he remains on the hydrological working group collecting all the data that's being used in the model, and there's questions about whether or not that is accurate which I won't go into here.

The other thing that was omitted was that the Marina City Council denied the CDB permit for the slant well, finding that the prepared negative declaration for that project was insufficient and that a full EIR should be required for that -- an EIR should be required for that test slant well, which was subsequently overruled by the Coastal Commission.

So you can kind of get this idea where this distrust comes from. We're told one thing in the beginning. It doesn't turn out that way.

And just -- finally, I would just say that we have a hard time believing, many of us, that the impact on the groundwater will be insignificant as this EIR states. I'm talking 25,000,000 gallons a day coming out of the 180-foot aquifer for 40 years. The modeling is very impressive. It's hard to understand as a layman. You know, you have to rely on the experts. But given the level of distrust, we don't believe this is -- I don't believe -- and there's many like me who don't believe this is a sustainable source water.

I guess that's all I have for today.

THE COURT: All right. Thank you, Mike.

Okay. Anybody else arrive? Okay. So we'll go off the record again. Thanks.

(Time noted: 5:35 p.m.)

(Time noted: 6:37 p.m.)

THE COURT: So we have three more people that have arrived that would like to provide comments. So we're going back on the record.



Transcript-14
(Baer)
cont.

In order, we have Jan Shriner, Herbert Cortez, Julie Hofmann. So we've been asking people to keep it to three minutes, but there's certainly more time if you need. You don't have to keep it to that. So if you want to start?

JAN SHRINER: Thank you. Thank you for the opportunity. I need to say that I am on the board of the Marina Coast Water District. It's a volunteer elected position, but today I'm here speaking as a resident of Marina, not in that official capacity and in no way authorized by the board. I sit on other boards and collaborative working groups, but none of them have authorized me to speak on their behalf. So it's Jan Shriner as a Marina resident.

Some of the things that -- I was just looking over this really briefly, skimming through. I'm glad in some ways to see that this schematic of 3-13 shows that these intake lines are not actually going offshore and under the bay. But I read in the text on page 3.8 that they are actually going offshore under the bay. So it's confusing there. They say, in the paper, 161 feet to 356 feet, except for Number 8. On the schematic Number 8 is not labeled, but none of them appear to be any different than one another.

One of our biggest concerns in Marina is our erosion rate. On this site it is found to be the highest erosion rate of the continent. We have a scientist locally who estimates that up until two years ago the erosion rate was 220,000 cubic feet per year. Now he estimates, it's been in the paper, it's either 350- or 380,000 cubic feet per year. The State Parks uses an erosion rate of something like 7 feet per year as far as how far it's moving away from the water. I know when you go to the site at Reservation Road you will see the parking lot falling into the bay. I know the Marina Coast Water District beach office is falling into the bay.

When I run out to this site, I can see the low spot is this landfill. There is kelp already around the road of the sediment ponds. So it's very concerning to me about erosion.

We love our publicly water -- publicly owned water in Marina. Our community water rates are the lowest in the region. We appreciate an accessible, transparent process in Marina. A lot of us participate. And in this case, for the EIR, the online link is extremely difficult to locate. Some of us are lucky enough to have picked up disks.

But assumptions for models that were undisclosed until Friday, February 10th, and I was able to kind of ask some scientists last night about it, some of them don't know their assumptions off the top of their head. When you come to a public workshop, I would like them to be able to rattle off: What are the erosion rates that went into the model? What are the historical pumping data that went into the model? They were only able to say, "Try Appendix E2," or, you know, "Try Appendix C1," things like this, kind of like vague. It's not accessible for the public, and maybe we expect too much.

Recently, the previous Thursday, one week before today, I went to a DOGGR presentation. It's California State Department of Conservation, Division of Oil Gas Geothermal Resources. The presentation was for an aquifer exemption of untreated wastewater injection into the

Transcript-15
(Shriner)

Lombardi and Aurignac sands of the Salinas Valley groundwater basin. The public were told not to worry, that we would never be using these aquifers, the future of the Salinas Valley groundwater basin is rosy, and the cite -- the cited examples included locating a desal project in Moss Landing.

This is a state organization. This is our aquifer. We need better communication among the agencies. I told them I wanted to be in the room when they informed Cal Am that the desal project will be located in Moss Landing. Because this whole Draft EIR appears to me to be in Marina with an alternative explored, brusky, at Potrero Road and two or three other options in Moss Landing. The decision has not yet been made, but I would prefer to see it moved at least to Potrero Road, but then there is the problem with the groundwater rights, right? That's the first reason why it got located here, supposedly so slant wells could take seawater, but these intakes do not go offshore, not according to this schematic.

So please work on your process. Of course, we'll be reading some more of these things. And I appreciate the time that you gave us, or three minutes, to be here today.

CHARLES GARDNER: Thank you, Jan.

Herbert, are you ready? And then, Julie, you're up next.

HERBERT CORTEZ: So I would like the following concerns to be added to the record.

Before I begin, I do want to mention about the current violation that I see with the CPUC and this public hearing. It's violation of Resolution ALJ 252. According to the rules, the public should have had a chance to sign up to speak before 10:00 a.m., and that was not the case. I have documentation and screenshots about 8:30 in the morning trying to sign up for the public hearing. This is an official CPUC hearing, is my understanding, and so the rules should have been applied to this hearing. So I will present that at the end of my discussion.

So to begin with, I do want to say that the current draft environmental impact report, I want to address what Cal Am has said in the past three public hearings about super-positioning modeling. That's what it is, it's modeling. This super-position modeling which they speak of so highly does not address the deep aquifer of Marina Coast Water District.

And before I continue with this statement, I must say that I'm also a Marina Coast Water District board member. I do not speak on their behalf. I'm speaking as a concerned resident of Marina and Monterey County in that they did not authorize me to make any of these statements.

But I do want to add that I find it very interesting that if you're going to address the super-position modeling of being able to see how much groundwater is taken and put back, that you cannot address the big -- the deep aquifer, which is 900 feet, and I think that's crucial to this discussion. So they want to show you the 180- and the 400-foot aquifer because they think, according to their terms, it's not water that's of beneficial use. But they don't show you and

Transcript-15
(Shriner)
cont.

Transcript-16
(Cortez)

they don't tell you scientifically -- and it's proven and cited -- that there's leakage from the 180, 400, and deep aquifer. So if you're super-positioning focus on the 180 and 400, it should include the deep aquifer which is 900 feet, and that's not addressed. So that's my first concern about the Draft EIR.

My second concern about the Draft EIR is that they don't focus on the Hopkins groundwater analysis that was done in 2015 that finds freshwater in the 180-foot aquifer. So the reason why that's important is because the case that Cal Am is making to the public is that this is water that's not of beneficial use. Well, of course, if the public keeps hearing, "well, this is not in use and someone is going to come and make it better," well, that's great. The problem is this is fresh water, and that fresh water is used to help us support saltwater intrusion.

Now, if they develop slant wells and they continue putting in slant wells, well, guess what? That's more saltwater intrusion. And if you aren't going to do that, then you should put in your Draft EIR that's how the Hopkins groundwater analysis is proven wrong, or there is no fresh water there, and their super-position modeling is not addressed. And I think that's really important.

Okay. My third point about the Draft EIR is the following. It goes back to this conversation and this image and perception to the public regarding beneficial use of this area. Now, my understanding is that you had in the morning -- not in the morning -- but early afternoon you had constituents from pro business in Monterey, and, of course, they want that water. But you know who else needs that water? The people who live in Marina, the growing population that's about to increase in the next 20 to 30 years, which is forecasted by Fort Ord, by the Marina Coast Water District, and the Monterey Regional Water Pollution Control.

So if the issue is that the water is not of beneficial use, why would there be a memorandum of understanding between these agencies -- a state agency, a county agency and a federal agency -- about the long-term use of this water? That's not addressed in this Draft EIR. And this is public documentation in which they can see the analysis of use of what's needed -- freshwater, groundwater, brackish water -- and it's not addressed in the EIR.

And so this image and perception that has gone on for the past two weeks and possibly more about the fact that this water is not of beneficial use needs to be stopped. It should be on the record that if they are going to keep saying that, they should document it and make sure that it's available for all eyes.

Now, my final thing that I want to say before I leave is I was really concerned about not being able to sign up in public. And the reason why is because I live in Marina, yet we're here in Carmel. The reason why I found out that this was happening, it wasn't because of Cal Am's great public push to have public participation, it was because I went to the Marina City Council, and the Marina City Council probably asked Cal Am to come and make a presentation.



Transcript-16
(Cortez)
cont.

So I'm here today to say that I really want this resolution that I think there's a violation of ALJ 252 to be corrected, because this is a long-term activist concern that I have, because this is just a draft. This is a long-term project for Cal Am. There will be more people like me speaking up. There will be more knowledgeable people understanding exactly what a Draft EIR is and what false perceptions are from Cal Am. So I would like that corrected.

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Transcript-16
(Cortez)
cont.

So with that said, thank you very much.

CHARLES GARDNER: Julie Hofmann.

JULIE HOFMANN: Julie Hofmann, a Marina resident.

I think secure water is a good thing. And I like parts of this DEIR, you know, as far as recovering wastewater and some of the other groundwater replenishment.

But I think that if anyone has looked at a map and seen all of these straws that are in the Salinas Valley water basin, you have an idea of how much there are impacts already to that water supply. And Marina sits on the very end of that water supply. And now we have a Draft EIR that really disregards Marina's role in being at the end of that waterline.

There's a big do-no-harm requirement in this Draft EIR as I have read it, and I have a problem with some of the data. I understand this is going to use millions of gallons of water. The way I first heard about this was going to be a desal project, but yet the closer I read the DEIR, I understand that quite a bit of groundwater will be taken up. This is the way slant wells work. It helps desal the water a little bit before it gets there.

I think that we need better information before we go wading into this project. Maybe slow this train wreck down a little and start considering how Marina will be impacted by this. It's really interesting to me that the second location on Potrero Road has more information in the DEIR about impacts to the Elkhorn slough than there are for Marina.

I think that the biggest problem that I have with the slant wells is there just isn't any slant wells with any sort of reliability or historical evidence as working with desal. There aren't any in California, there aren't any in the United States, and there aren't in the world that I can find that provide drinking water to a tap of a paying customer. So we need to really look at that before we start putting 10 slant wells into the end of the Marina aquifer.

I have heard about this ERT data, and it's sort of like a CAT scan for the groundwater. And rather than relying on data from small wells poked around and modeling from the data pulled from those different places and interpreting -- interpolating, as I understand it, the difference between this point and this point and kind of making up a number here, we could have a much better idea of what's actually going on in our groundwater.

And I do understand that Marina Coast Water is paying to have this done. And I think that the CPUC should delay this project until we can see that modeling and see that data, and

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Transcript-17
(Hofmann)

maybe Cal Am should use that data to give us a complete picture of the groundwater before we sallie forth. So we need the complete data.

I'm very worried about the mitigation to going into a project like this that's using so much of the groundwater and doesn't seem to have much data to really tell us what's going on with the water. And we need to be really sure before we go into this, because this is a long-term issue. We're at the end of the line. There is increased water needs everywhere along the Salinas Valley. We could end up with saltwater intrusion simply from that alone, without the slant wells at the end of the water line here.

So let's be sure about these slant wells. I just see high costs and failure to provide water in the long-term, and I see harm to the Marina aquifer with the information as it's been provided so far.

Thank you.

THE COURT: Thank you.

Is there anybody else who has arrived?

Okay. Let's go of on the record again and we'll see if anyone else arrives.

(Time noted: 6:49 p.m.)

(Time noted: 7:27 p.m.)

CHARLES GARDNER: So we will go back on the record to receive further comments.

If you could state your name.

GEORGE RILEY: Yes, I will. George Riley from Monterey. I've been active in water issues in Monterey for ten years, at least. I have no idea what was said tonight, but I'm going to guess that they were concerned about the lack of water rights in the project. I know this is supposed to be on the EIR, and I don't know everything that might be related to the EIR exactly, I'm sure they were concerned about the fact that the project is located within another public agency, the water district. And I worry about invasion, and without water rights and without being invited, that's become a real issue.

I do think that the PUC structure for the public participation hearings restricts the comments that are made to you and the information that you get. Those who are residents here and those who are ratepayers here get the whole picture. We get the silo that comes from San Clemente Dam. We get the silo that comes from returned water or -- I don't know. It's 15,070.19, I think, of the 38 or 39 million dollars of money that Cal Am gets. It's a decision made by the PUC that supports Cal Am and doesn't support the ratepayers. We get the different silos altogether here because we pay the bills.

Transcript-17
(Hofmann)
cont.

Transcript-18
(Riley)

But we think that the general approach to public participation hearings is that you create a silo that some of the stuff that's said here doesn't apply. You're talking about an EIR, we're talking about the cost on the ratepayers, and that doesn't apply, or another case that doesn't apply.

So the dilemma that I think the ratepayers here feel and the public comment that I'm suspecting that you heard tonight represents an impact on ratepayers that is presented to you in silos, to us in the composite, and that's the dilemma we have.

And I feel like two things that are still outstanding on the EIR process and the project in general is the lack of water rights and poor science. I am convinced that the feasibility analysis that's required by the state for the slant well idea is based on very skimpy science and that we would like to advocate a more serious approach, a more expansive approach to science which includes the ERT -- you know what I'm talking about -- process and that's outside the schedule.

So we're -- as ratepayers, I think we're going to be advocating two things: One, figure out what the schedule is on how to determine the water rights issue; and, second, to figure out where a better approach to science can apply to the whole evaluation of the approach. Side issues are going to be invading another jurisdiction, seawater intrusion in general, maybe a few more, but you get my gist.

And I probably have run out of three minutes. Thank you very much.

CHARLES GARDNER: You can continue.

GEORGE RILEY: I don't know that there's a whole lot more to be said. But I do think the main thing I want to say is ratepayers here, whether it's commercial or residential, we represent residential -- I mean, I'm speaking on behalf of residential victims -- that there's a general unfairness between the commercial rates and the ratepayer rates. The commercial rates have no financial incentive to save money anymore after they changed the rate structure for them.

It's our position that once they have reached a certain category of installation of water-saving devices, once they have reached this level of that, then they can use all the water they want and have no financial incentive to save water. Just the opposite applies to residential. Just the opposite. And so we think there's an unfairness there. But that doesn't apply to the EIR. That's the dilemma. That's an example of the dilemma that I think we face.

And we keep paying the bills. And Cal Am has had several projects that have gone nowhere, and they incur costs, and they go to the PUC, and the PUC approves. And every example of this over the past ten years has been that Cal Am can go to the PUC: We have a failed project, but we were conscientious about what we were trying to do, we were within the objectives of what we were trying to accomplish, we were trying to get there, but we failed. Sorry we didn't deliver something. And then what happens to the extended costs? They come

Transcript-18
(Riley)
cont.

to the ratepayers. Not once has the PUC decided that there's somebody sharing that cost beyond stockholders. Not once. So that's a real rub to the ratepayers.

The San Clemente Dam example. I know I'm way over the basic topic. I appreciate that you're not going to call three minutes. The San Clemente Dam is another example where the ALJ recommended in the proposed decision a certain level of reimbursement to Cal Am. The commissioner assigned to that project reversed -- absolutely, totally reversed that decision and even added to it the benefit to Cal Am. And even Cal Am was surprised at how generous the PUC decision was. And the ratepayers pay all that bill.

So even when Cal Am -- even when the PUC gets all the facts, hears all the information, takes into account all of the evidence that's been submitted, comes to a conclusion that Cal Am did not deserve but a certain amount, then the Commission -- and this is why the Commission is in our cross-hairs as well. I mean, Cal Am is a problem to us; the PUC is also similar in the cross-hairs. A single commissioner, relatively brand new, and subject to nine -- if my memory is right, there are about 14 or 15 ex parte meetings in that process -- nine of them, if I remember right, was with this one commissioner -- documented in the ex parte reports -- and this one commissioner turns around and says, "We will reverse the proposed PUC decision, reverse it." And even Cal Am was saying hallelujah. And the ratepayers pay for it.

I mean, so we suffer from decisions that you make, Cal Am proposes, and Cal Am consistently represents to the public that the PUC demands this, the PUC ordered us to do this.

We know the process. Cal Am goes to the PUC, they ask for this, you approve this, and then they came back and say, "The PUC orders us to do this." They do not take responsibility for their own role in it. I mean, we know this. I mean, this is what we're up against.

And we would just like you to hopefully consider a little more -- you have got a bad history as far as ratepayers are concerned locally in the past ten years -- I've only been active about ten years -- and I'm amazed at how many decisions and opportunities I have had to be critical of Cal Am or the PUC and what decisions they have made, but somewhere in there there's got to be some attention given to the ratepayers, and I think they have been ignored, and I don't even know how that applies to the EIR. But, anyway, thank you for the time.

(Time noted: 7:35 p.m.)



Transcript-18
(Riley)
cont.

CERTIFICATE OF COURT REPORTER

The foregoing public hearing was held before me, KELLI A. RINAUDO, Certified Shorthand Reporter, License No. 6411, RMR, CRR, CCRR, and RDR, for the State of California.

The public comments were taken by me in machine shorthand at the time and place therein named, and thereafter, under my direction transcribed into longhand.

I further certify that I am not of counsel or attorney for either or any of the parties to said hearing, nor in any way interested in the outcome of the cause named in said caption, and that I am not related to any party thereto.

Dated March 2, 2017.

KELLI A. RINAUDO, CSR NO. 6411

RMR, CRR, CCRR, RDR

8.9.1 Responses to Public Meeting Verbal Comments

The verbal comments from the public hearing on February 16, 2017 were transcribed. The numbering in the response to comments includes the commenter's last name in parenthesis.

Transcript-1

(Cursio) This comment does not concern the adequacy of the environmental review included in the EIR/EIS, but will be considered by decisionmakers, as discussed in Section 1.5.

Transcript-2

(Coppernoll) The CPUC's consideration of the EIR/EIS and the proposed project is described in EIR/EIS Section 1.5.4.1. Water rights, the feasibility of the proposed project, the issue of harm, and effects on the Marina Coast Water District (MCWD) supply are addressed in Master Response 3, Water Rights. See also response to comment Coppernoll-1.

The existing test slant well currently draws water from the brackish Dune Sand Aquifer and the 180-Foot Equivalent (FTE) Aquifer, neither of which are perched at this location. Contrary to the comment, the water being drawn by the slant test well is not fresh. Sampling of the test slant well water reveals the salinity of the pumped water has varied over time, ranging from 25,400 mg/L of TDS at start-up in April 2015 (76 percent ocean water salinity) to 31,800 mg/L in November 2016 (95 percent ocean water salinity); see Master Response 11, CalAm Test Slant Well. As described in EIR/EIS Table 3-1, the proposed slant wells would draw water from groundwater aquifers that extend beneath the ocean floor (the Dune Sands Aquifer and the 180-Foot-Equivalent Aquifer of the Salinas Valley Groundwater Basin) for use as source water for the MPWSP. See Master Response 2, Source Water Components and Definitions.

The perched groundwater-bearing zone referred to in the comment is located inland of the proposed slant wells. Groundwater flows to the edge of this zone and "waterfalls" into the underlying Dune Sand or 180-Foot Aquifer formations. The edge of the perched layer occurs 1.5 miles inland from the capture zone of the proposed slant wells. There is no evidence that the groundwater in the perched zone is reversing seawater intrusion or providing "protection" against seawater intrusion. This is evident in the fact that there is documented seawater intrusion further inland, which has been occurring for decades and continues to occur today. See also response to MCWD-Hopkins Groundwater Consultants (HGC) Section 8.5.2.2.

EIR/EIS Section 4.4.5.2 presents the analysis of potential impacts of the proposed project on groundwater resources in the Salinas Valley Groundwater Basin, including the risk of seawater intrusion, and concludes that impacts would be less than significant. See also Master Response 8, Project Source Water and Seawater

Intrusion. The EIR/EIS acknowledges that components of the proposed project would be inconsistent with the City of Marina LCLUP. See Impact 4.6-4 in Section 4.6, Terrestrial Biological Resources. See also responses to comments Marina-94 and MCWD-150.

Master Response 3, addresses Marina's Water Rights.

Numerous resource protection programs throughout the SVGB (e.g. the Castroville Seawater Intrusion Project and the Salinas Valley Water project) have been developed by the Monterey County Water Resources Agency to promote groundwater recharge; EIR/EIS Section 4.4.1.3 describes these groundwater enhancement programs in the SVGB. The suggestion that groundwater quality has been restored through sustainable groundwater management plans and programs of the MCWD is inaccurate. Ceasing of groundwater pumping in the 180-Foot Aquifer and transferring MCWD pumping to the deeper aquifers was done out of necessity (see Master Response 7, the Deeper Aquifers of the SVGB, Section 8.2.7.1) and was not a deliberate effort by MCWD to restore that aquifer. See response to comment MCWD-HGC in Section 8.5.2.2. See also Master Response 6, Sustainable Groundwater Management Act and Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM).

Transcript-3

(Tilley)

This comment does not concern the adequacy of the environmental review included in the EIR/EIS, but will be considered by decisionmakers, as discussed in Section 1.5.

Transcript-4

(Billingsley)

EIR/EIS Section 1.1 explains that CalAm is proposing the MPWSP to develop water supplies for CalAm's Monterey District service area (Monterey District). Section 1.3 presents the need for the project: to replace existing water supplies that have been constrained by legal decisions affecting the Carmel River and Seaside Groundwater Basin water resources. Therefore, the focus of the analysis on water demand (EIR/EIS Section 2.3) is on CalAm's Monterey District and not on other areas that may or may not need water; see also response to comment Biala1-30. See Master Response 3, Water Rights, specifically, Section 8.2.3.7 regarding effects on MCWD's water supply. EIR/EIS Section 4.4.5.2 presents the analysis of potential impacts of the proposed project on groundwater resources in the Salinas Valley Groundwater Basin, and concludes that impacts would be less than significant.

Transcript-5

(H. Biala)

As described in EIR/EIS Table 3-1, the proposed slant wells would draw water from groundwater aquifers that extend beneath the ocean floor (the Dune Sands Aquifer and the 180-Foot-Equivalent Aquifer of the Salinas Valley Groundwater

Basin) for use as source water for the MPWSP. See also Master Response 2, Source Water Components Defined, and Master Response 3, Water Rights, regarding water rights, harm, and effects on MCWD's water supply.

See response to comment Biala1-30 regarding consideration of other service area's water needs. Consistent with NEPA and CEQA, the EIR/EIS analyzes the project as it was proposed by CalAm, the applicant; likewise, the project objectives within the EIR/EIS (see Section 1.3) reflect the purposes for which CalAm proposed the project. EIR/EIS Section 4.4, Groundwater Resources, analyzes the physical impacts of the proposed project on the quality and quantity of water in the regional aquifers that could be affected by the project, thus providing data as to whether and how the water sources of other water users could be affected.

Environmental Justice is addressed in EIR/EIS Section 4.20, Socioeconomics and Environmental Justice.

Transcript-6

(K. Biala) See Master Response 3, Water Rights, Section 8.2.3.2, Sequence of Approvals. See response to comment Marina-11 regarding slant well technology. See Master Response 2, Source Water Components and Definitions, and Master Response 3, Water Rights, Section 8.2.3.7 regarding the effects on MCWD's water supply.

The perched groundwater-bearing zone referred to in the comment is located inland of the proposed slant wells. Groundwater flows to the edge of this zone and "waterfalls" into the underlying Dune Sand or 180-Foot Aquifer formations. The edge of the perched layer occurs 1.5 miles inland from the capture zone of the proposed slant wells. There is no evidence that the groundwater in the perched zone is reversing seawater intrusion or providing "protection" against sea water intrusion. This is evident in the fact that there is documented seawater intrusion further inland, which has been occurring for decades and continues today.

EIR/EIS Section 4.4.5.2 presents the analysis of potential impacts of the proposed project on groundwater resources in the Salinas Valley Groundwater Basin, including the risk of seawater intrusion, and concludes that impacts would be less than significant. See also Master Response 8, Project Source Water and Seawater Intrusion, response to comment Transcript-2, and MCWD-HGC in Section 8.5.2.2. See Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM). Results of the test slant well are presented in Master Response 11, CalAm Test Slant Well, and EIR/EIS Appendix E3. See Master Response 12, The North Marina Groundwater Model (V. 2016), Section 8.2.12.1.

Transcript-7

(Olsen) See Master Response 3, Water Rights, Sections 8.2.3.5 and 8.2.3.7. EIR/EIS Impact 4.4-3 concludes that impacts associated with changes in groundwater levels during operation of the MPWSP would be less than significant. However, CalAm

has voluntarily proposed Applicant Measure 4.4-3. If it is determined that a nearby active groundwater well has been damaged or otherwise negatively affected by the project pumping of the slant wells, the project applicant shall coordinate with the well owner to arrange for an interim water supply and begin developing a mutually agreed upon course of action to repair or deepen the existing well, restore groundwater yield by improving well efficiency, provide long term replacement of water supply, or construct a new well. CalAm would be bound to implement this mitigation measure through the Mitigation Monitoring and Reporting Program (CEQA Guidelines Section 15097), which ensures that measures included in an EIR to mitigate or avoid significant environmental effects are implemented.

Alternative projects at Moss Landing are described in EIR/EIS Section 5.4 and evaluated in Section 5.5.

Transcript-8

(McMahon) This comment does not concern the adequacy of the environmental review included in the EIR/EIS, but will be considered by decisionmakers, as discussed in Section 1.5

Transcript-9

(Munteer) This comment does not concern the adequacy of the environmental review included in the EIR/EIS, but will be considered by decisionmakers, as discussed in Section 1.5.

Transcript-10

(Leneve) This comment does not concern the adequacy of the environmental review included in the EIR/EIS, but will be considered by decisionmakers, as discussed in Section 1.5.

Transcript-11

(Poskoff) This comment does not concern the adequacy of the environmental review included in the EIR/EIS, but will be considered by decisionmakers, as discussed in Section 1.5.

Transcript-12

(Olsen) See Master Response 3, Water Rights, regarding water rights, harm, and effects on MCWD's water supply. See also response to comment Transcript-7.

Transcript-13

(Hansen) This comment does not concern the adequacy of the environmental review included in the EIR/EIS, but will be considered by decisionmakers, as discussed in Section 1.5.

Transcript-14

(Baer) The EIR/EIS is based on the best available information. See Master Response 11, CalAm Test Slant Well, Sections 8.2.11.2 and 8.2.11.3, which summarize the Coastal Development Permit and CEQA and NEPA review processes for the test slant well; see also Section 8.2.11.5 which describes the long-term pump test and the outages. See also EIR/EIS Appendix E3.

In a letter dated September 26, 2012, the CPUC requested an opinion from the SWRCB on whether CalAm has a credible legal claim to extract feedwater for the proposed MPWSP in order to inform the CPUC's determination regarding the legal feasibility of the MPWSP; the CPUC did not request a water rights determination. The SWRCB acknowledged in their review that the information provided to the SWRCB does not allow staff to definitively address the issue of how the proposed project would affect water rights in the Basin since it was unknown at that time which aquifer(s) the wells will extract water from, and further complicating the analysis, the relationship of the aquifers in the well area to surrounding low-permeability aquitards was uncertain. The results of the test slant well long-term pump test, and the information sought by the SWRCB in their July 2013 Final Report, are summarized in EIR/EIS Appendix E3.

As described in EIR/EIS Table 3-1, the proposed slant wells would draw water from groundwater aquifers that extend beneath the ocean floor (the Dune Sands Aquifer and the 180-Foot-Equivalent Aquifer of the Salinas Valley Groundwater Basin) for use as source water for the MPWSP.

EIR/EIS Section ES.8 explains that the groundwater model and results presented in the April 2015 Draft EIR, which relied on the work of Dr. Williams, have been revised in response to public concerns about potential conflict of interest. See also Master Response 5, The Role of the Hydrogeologic Working Group and its Relationship to the EIR/EIS, Section 8.2.5.6.

Finally, EIR/EIS Section 4.4.5.2 concludes that the impacts of the proposed project pumping on groundwater resources would be less than significant (not "insignificant" as the comment states) according to specified significance criteria. While the proposed project would extract 24.1 mgd of source water from the Dune Sands Aquifer and 180-FTE Aquifer (see Master Response 8, Project Source Water and Seawater Intrusion), and the Environmentally Preferred Alternative (Alternative 5a) would extract 15.5 mgd of source water, it would be 90 percent ocean water in the first few months of project pumping and 95 percent ocean water within 5 years of project pumping; see Master Response 4, The Agency Act and Return Water, Section 8.2.4.3 as well as EIR/EIS Appendix E3. See Master Response 12, The North Marina Groundwater Model (v. 2016).

Transcript-15

(Shriner) EIR/EIS Table 3-1 explains that the proposed slant wells would draw water from groundwater aquifers that extend beneath the ocean floor (the Dune Sands Aquifer and the 180-Foot-Equivalent Aquifer of the Salinas Valley Groundwater Basin). The proposed location of the slant wells is shown on EIR/EIS Figure 3-3a, and lengths of permanent slant wells seaward of 2020 Mean High Water are shown in Table 3-2 and Figure 3-3b. The Coastal Retreat Study conducted for the EIR/EIS is included as Appendix C2, and is explained in EIR/EIS Section 4.2.1.3; see also response to comment Shriner-3 and PTA-6.

EIR/EIS Appendix A1 is the Draft EIR/EIS distribution list. In addition to the direct mailing of 392 CDs, a notice of availability (NOA) was mailed to all property owners and residences within 300-feet of any proposed or alternative facility; the NOA provided the web address containing the Draft EIR/EIS for download, and announced the locations of hard copies for public review. Announcements regarding the availability of the Draft EIR/EIS, with links to the document, were provided in a regional newspaper (the Monterey Herald), a local newspaper (the Carmel Pinecone) and in the Federal Register.

Assumptions for the groundwater model were disclosed and reviewed with the public approximately 4.5 months prior to the release of the Draft EIR/EIS. The September 1, 2016, CPUC-sponsored workshop at the Sunset Center in Carmel-by-the-Sea included a presentation and discussion on EIR/EIS Appendix E2, North Marina Groundwater Model Review, Revision, and Implementation for Slant Well Pumping Scenarios. Copies of the presentations that were made at the workshop continue to be available at: http://www.cpuc.ca.gov/Environment/info/esa/mpwsp/comms_n_docs.html.

The Draft EIR/EIS NOA that was published on January 13, 2017 included an announcement that “[t]he open house/public meetings will include a brief presentation on the contents and conclusions of the Draft EIR/EIS and interested parties will be provided an opportunity to interact with technical staff and preparers of the Draft EIR/EIS.” The Lead Agencies and consultant staff were directed to help reviewers navigate the Draft EIR/EIS in order to facilitate the public’s review of the lengthy and complicated document.

EIR/EIS Chapter 5 presents the alternatives’ analysis, including analysis of alternatives at Moss Landing and Potrero Road. A detailed screening of components was provided in EIR/EIS Section 5.1 through 5.3. EIR/EIS Section 5.4 describes a total of eight whole alternatives, including the proposed project, the No Project Alternative, and Alternatives 1 through 5b; the alternatives are evaluated in EIR/EIS Section 5.5. The environmentally superior/environmentally preferred alternative (Alternative 5a, Reduced Project 6.4-mgd Desalination Plant - Intake Slant Wells at CEMEX) is described in EIR/EIS Section 5.6.

Transcript-16

(Cortez) The Public Hearing on the Draft EIR/EIS was not a CPUC Commission Meeting. Therefore, rules described in CPUC Resolution ALJ 252 did not apply; see response to comment Cortez-1.

See Master Response 1, EIR/EIS Authorship: this EIR/EIS was prepared by the CPUC as the CEQA Lead Agency, by NOAA's MBNMS as the NEPA Lead Agency. Likewise, the Lead Agencies, and not CalAm, hosted the EIR/EIS public meetings.

Regarding superposition modeling, see Master Response 12, The North Marina Groundwater Model (v. 2016), particularly Section 8.2.12.3. The deeper aquifer is evaluated in EIR/EIS Section 4.4.5.2; see also Master Response 7, the Deeper Aquifers of the SVGB, particularly Section 8.2.7.2. Regarding freshwater in the 180-FTE Aquifer, see Master Response 2, Source Water Components and Definitions, as well as response to comment MCWD-HGC in Section 8.5.2.2. EIR/EIS Appendix E2 Section 5.3 explains that slant well pumping effects on the inland movement of saltwater were assessed using the 2016 version of the North Marina Groundwater Model (NMGWM²⁰¹⁶) and MODPATH. Without slant well pumping, the particles representing saltwater would continue to migrate inland. With slant well pumping, the movement of saltwater is in response to the regional background gradient and drawdown created by slant well pumping. The EIR/EIS therefore, utilized the superposition NMGWM²⁰¹⁶ without the regional gradient to isolate changes in saltwater movement due solely to slant well pumping.

See Master Response 3, Water Rights, regarding the beneficial uses of water, and specifically Section 8.2.3.7 regarding effects of the proposed project on MCWD's water supply. What MOU the comment is referring to between a state agency, a county agency and a federal agency is not clear, but may be referring to the three party planning agreement. EIR/EIS Table 4.2 identifies Project No. 31 as the MCWD RUWAP Desalination Element, and discusses the three-party planning effort involving Fort Ord, MCWD and MRWPCA: The three party planning (TPP) effort will explore the most cost effective and technically efficient mix of advanced treated water, conservation, desalination, groundwater recharge and recovery, and other water sources, options, and alternatives to provide the 973 afy of augmented water, and whether more or less than 1,427 afy of advanced treated water is necessary to serve the Ord Community. The FORA Board will utilize the TPP study in developing a preferred water augmentation mix and deciding which additional water augmentation project(s) should be developed by MCWD.

Transcript-17

(Hofmann) EIR/EIS Section 4.4.5.2 describes potential operational impacts of the proposed project on groundwater resources in the Salinas Valley Groundwater Basin. See also Master Response 3, Water Rights, Section 8.2.3.7 regarding the effects of the

proposed project on MCWD's water supply. See Master Response 11, CalAm Test Slant Well, and response to comment Marina-11, in Section 8.5.1, regarding slant well technology. See Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM) regarding the use of ERT data.

EIR/EIS Section 4.4.5.2 presents the technical analysis of impacts of the proposed project's operation on groundwater resources, and is supported by Appendices C3 Section 4.4.4 (regional geologic setting), Section 4.6.6 (hydrostratigraphy), Section 5.2 (groundwater quality, CEMEX area), as well as Appendix E2 (groundwater modeling), and Appendix E3, Section 1.2 (hydrogeologic conceptual model).

Transcript-18

(Riley)

See Master Response 3, Water Rights. See response to comment PWN2-22 regarding ratepayer issues. See Master Response 11, CalAm Test Slant Well, and response to comment Marina 11 in Section 8.5.1, regarding the feasibility of slant well technology. See also Master Response 9, Electrical Resistivity Tomography (ERT) and Airborne Electromagnetics (AEM), regarding the use of ERT data. The balance of these comments address process and ratemaking, and not the Draft EIR/EIS.

INDEX

adjudication, ES-3, ES-11, ES-16, 1-5, 1-6, 1-18, 2-1, 2-2, 2-5, 2-8, 2-9, 2-10, 3-61, 4.4-44, 4.4-112, 4.8-17, 4.8-24, 5.1-4, 5.1-5, 5.4-5, 5.4-8, 5.4-10, 5.4-11, 5.4-12, 5.4-52, 6-41, 6-55

Ag Land Trust, 2-38, 4.4-75, 4.4-78

Agency Act, 2-41, 2-42, 4.4-2, 4.4-43, 4.4-55, 4.4-110, 5.2-6

Aquitard, 4.4-1, 4.4-3, 4.4-6, 4.4-8, 4.4-10, 4.4-12, 4.4-13, 4.4-14, 4.4-19, 4.4-24, 4.4-54, 4.4-75, 4.4-108, 4.7-9, 4.7-10, 5.4-14, 5.5-83, 5.5-89, 5.5-90

Area of production foregone, 5.3-13

Benthic, ES-18, 4.3-2, 4.3-27, 4.3-34, 4.3-92, 4.3-93, 4.3-95, 4.3-109, 4.5-2, 4.5-5, 4.5-9, 4.5-10, 4.5-16, 4.5-25, 4.5-28, 4.5-54, 4.5-62, 4.5-65, 4.5-67, 4.5-68, 4.5-72, 4.5-76, 4.15-16, 4.15-50, 5.3-2, 5.5-110, 5.5-112, 5.5-115, 5.5-122, 5.5-124, 5.5-126, 5.5-131, 5.5-133, 6-60

bentonite, 3-50, 3-51, 4.2-12, 4.3-40, 4.3-63, 4.3-64, 4.4-7, 4.5-49, 4.6-150, 4.6-195, 4.6-204, 4.6-225, 4.7-27, 5.5-146, 5.5-152, 5.5-174

BMZ, 4.3-1, 4.3-27, 4.3-34, 4.3-57, 4.3-59, 4.3-68, 4.3-70, 4.3-73, 4.3-74, 4.3-75, 4.3-76, 4.3-77, 4.3-79, 4.3-81, 4.3-83, 4.3-84, 4.3-85, 4.3-87, 4.3-88, 4.3-89, 4.3-91, 4.3-93, 4.3-94, 4.3-95, 4.3-106, 4.3-126, 4.5-46, 4.5-55, 4.5-59, 4.5-62, 4.5-63, 4.5-71, 5.5-47, 5.5-48, 5.5-49, 5.5-52, 5.5-62, 5.5-63, 5.5-64, 5.5-71, 5.5-74, 5.5-117, 5.5-128, 5.5-135, 6-50, 6-57

Brine discharge, ES-1, ES-12, ES-13, ES-18, ES-22, ES-29, ES-34, ES-45, 1-7, 1-13, 3-29, 3-58, 3-65, 4.1-3, 4.1-4, 4.3-22, 4.3-26, 4.3-27, 4.3-28, 4.3-33, 4.3-37, 4.3-53, 4.3-59, 4.3-60, 4.3-68, 4.3-70, 4.3-71, 4.3-75, 4.3-76, 4.3-79, 4.3-83, 4.3-85, 4.3-92, 4.3-95, 4.3-108, 4.3-111, 4.3-112, 4.3-126, 4.3-127, 4.5-1, 4.5-2, 4.5-36, 4.5-43, 4.5-46, 4.5-59, 4.5-62, 4.5-65, 4.5-66, 4.5-67, 4.5-68, 4.5-69, 4.5-71, 4.5-72, 4.13-6, 4.13-15, 4.13-25, 4.13-26, 5.1-5, 5.2-5, 5.3-2, 5.3-5, 5.3-19, 5.3-20, 5.3-22, 5.3-23, 5.3-24, 5.3-25, 5.3-26, 5.3-38, 5.3-43, 5.4-1, 5.4-2, 5.4-3, 5.4-12, 5.4-17, 5.4-18, 5.4-22, 5.4-27, 5.4-29, 5.4-31, 5.4-37, 5.4-40, 5.4-49, 5.4-59, 5.5-10, 5.5-11, 5.5-13, 5.5-17, 5.5-20, 5.5-21, 5.5-31, 5.5-32, 5.5-37, 5.5-38, 5.5-40, 5.5-43, 5.5-44, 5.5-45, 5.5-46, 5.5-50, 5.5-53, 5.5-54, 5.5-56, 5.5-58, 5.5-64, 5.5-71, 5.5-88, 5.5-96, 5.5-98, 5.5-99, 5.5-100, 5.5-110, 5.5-115, 5.5-116, 5.5-118, 5.5-119, 5.5-120, 5.5-121, 5.5-123, 5.5-126, 5.5-127, 5.5-128, 5.5-129, 5.5-130, 5.5-131, 5.5-132, 5.5-134, 5.5-135, 5.5-136, 5.5-146, 5.5-152, 5.5-156, 5.5-157, 5.5-158, 5.5-160, 5.5-162, 5.5-163, 5.5-165, 5.5-176, 5.5-178, 5.5-180, 5.5-183, 5.5-191, 5.5-194, 5.5-195, 5.5-196, 5.5-197, 5.5-198, 5.5-205, 5.5-208, 5.5-209, 5.5-211, 5.5-212, 5.5-214, 5.5-220, 5.5-223, 5.5-225, 5.5-229, 5.5-237, 5.5-238, 5.5-239, 5.5-240, 5.5-241, 5.5-242, 5.5-249, 5.5-252, 5.5-255, 5.5-259, 5.5-267, 5.5-268, 5.5-270, 5.5-272, 5.5-273, 5.5-274, 5.5-276, 5.5-285, 5.5-287, 5.5-291, 5.5-295, 5.5-305, 5.5-306, 5.5-308, 5.5-310, 5.5-316, 5.5-318, 5.5-319, 5.5-320, 5.5-321, 5.5-322,

5.5-326, 5.5-327, 5.5-328, 5.5-329, 5.5-334, 5.5-335, 5.5-337, 5.5-339, 5.5-345, 5.5-346, 5.5-347, 5.5-349, 5.5-359, 5.5-361, 5.5-364, 5.5-366, 5.6-2, 5.6-10, 5.6-17, 6-48, 6-49, 6-52, 6-57

brine storage, ES-7, 1-10, 3-8, 3-11, 3-21, 3-29, 4.6-250, 4.6-270, 4.11-13, 4.13-24, 4.13-39, 5.4-51, 5.4-56, 5.5-142, 5.5-159, 5.5-164, 5.5-267

caisson, ES-15, 5.3-10, 5.3-12, 5.3-15, 5.3-18, 5.3-31, 5.3-32, 5.4-43, 5.4-48, 5.5-23, 5.5-57, 5.5-100, 5.5-131, 5.5-162, 5.5-164, 5.5-183, 5.5-189, 5.5-198, 5.5-199, 5.5-214, 5.5-229, 5.5-242, 5.5-275, 5.6-5

CalAm service area, 2-1, 2-10, 2-23, 2-30, 2-31, 4.20-18, 5.2-2, 5.4-12, 5.4-52, 5.5-373, 5.5-375, 5.5-376, 5.5-378, 5.5-379, 5.5-380, 5.5-381, 5.5-382, 5.5-383, 5.5-384, 5.5-386, 5.6-1, 6-6, 6-18, 6-20, 6-24, 6-25, 6-35, 6-38, 6-39, 6-41, 6-45, 6-46

California Ocean Plan, ES-18, 4.3-10, 4.3-22, 4.3-25, 4.3-26, 4.3-89, 4.3-93, 4.3-104, 4.3-105, 4.3-135, 4.5-35, 4.5-36, 4.5-41, 4.5-42, 4.5-79, 4.5-80, 5.3-1, 5.3-56, 5.5-82, 5.5-124, 5.5-137, 6-50, 6-60

Carmel River diversions, ES-3, ES-20, 1-5, 5.1-5, 5.5-36, 5.5-145

City of Marina, ES-7, ES-8, ES-15, ES-20, 1-6, 1-10, 1-18, 1-19, 2-42, 2-43, 2-46, 3-1, 3-2, 3-17, 3-34, 3-67, 3-68, 4.1-18, 4.1-19, 4.1-20, 4.1-21, 4-31, 4-32, 4.2-37, 4.2-42, 4.2-43, 4.2-55, 4.2-79, 4.3-47, 4.3-48, 4.3-56, 4.3-62, 4.3-104, 4.3-116, 4.3-131, 4.4-15, 4.4-45, 4.4-75, 4.6-3, 4.6-68, 4.6-74, 4.6-80, 4.6-87, 4.6-91, 4.6-105, 4.6-106, 4.6-107, 4.6-108, 4.6-109, 4.6-110, 4.6-124, 4.6-167, 4.6-197, 4.6-200, 4.6-202, 4.6-208, 4.6-213, 4.6-214, 4.6-230, 4.6-234, 4.6-235, 4.6-237, 4.6-238, 4.6-239, 4.6-240, 4.6-242, 4.6-253, 4.6-257, 4.6-258, 4.6-261, 4.6-266, 4.6-273, 4.6-274, 4.6-276, 4.6-279, 4.7-1, 4.7-21, 4.7-24, 4.7-29, 4.7-43, 4.8-3, 4.8-4, 4.8-20, 4.8-23, 4.8-24, 4.8-27, 4.8-29, 4.8-30, 4.8-40, 4.8-41, 4.9-9, 4.9-10, 4.9-39, 4.12-5, 4.12-11, 4.12-16, 4.12-21, 4.12-28, 4.12-29, 4.12-40, 4.12-41, 4.12-42, 4.12-46, 4.12-49, 4.12-54, 4.12-55, 4.12-60, 4.12-67, 4.13-2, 4.13-3, 4.13-5, 4.13-6, 4.13-11, 4.13-12, 4.13-41, 4.14-3, 4.14-4, 4.14-15, 4.14-23, 4.14-26, 4.14-48, 4.15-20, 4.15-21, 4.15-37, 4.15-40, 4.15-47, 4.15-54, 4.15-56, 4.17-2, 4.17-7, 4.17-8, 4.17-9, 4.17-14, 5.1-6, 5.3-22, 5.3-35, 5.3-54, 5.4-63, 5.5-6, 5.5-29, 5.5-84, 5.5-142, 5.5-143, 5.5-154, 5.5-158, 5.5-160, 5.5-163, 5.5-164, 5.5-168, 5.5-171, 5.5-174, 5.5-190, 5.5-203, 5.5-218, 5.5-235, 5.5-246, 5.5-247, 5.5-248, 5.5-263, 5.5-283, 5.5-303, 5.5-314, 5.5-343, 5.6-3, 5.6-7, 6-2, 6-3

coanda effect, 4.3-87, 4.3-91, 4.5-63

coastal act, ES-15, ES-20, 3-65, 3-67, 4.2-30, 4.2-71, 4.3-24, 4.3-25, 4.3-130, 4.5-33, 4.5-42, 4.5-43, 4.5-79, 4.6-6, 4.6-97, 4.6-101, 4.6-102, 4.6-199, 4.6-207, 4.6-209, 4.6-210, 4.6-211, 4.6-214, 4.6-218, 4.6-230, 4.6-236, 4.6-258, 4.6-261, 4.7-15, 4.8-2, 4.8-14, 4.8-16, 4.8-17, 4.8-23, 4.8-24, 4.8-26, 4.8-36, 4.9-6, 4.10-12, 4.13-8, 4.14-20, 4.14-21, 4.14-37, 4.14-42, 4.14-45, 4.15-35, 4.15-47, 4.16-9, 4.17-3, 4.18-5, 5.3-3, 5.3-54, 5.5-23, 5.5-57, 5.5-188, 5.5-189, 5.6-7, 6-26

coastal erosion, ES-15, ES-19, ES-21, ES-34, 4.2-2, 4.2-38, 4.2-40, 4.2-45, 4.2-46, 4.2-48, 4.2-49, 4.2-50, 4.2-53, 4.2-68, 4.2-69, 4.2-70, 4.2-71, 4.2-77, 4.3-2, 4.3-16, 4.3-62, 4.3-121, 4.8-17, 4.8-23, 4.8-33, 5.3-4, 5.3-30, 5.3-31, 5.5-5, 5.5-9, 5.5-12, 5.5-15, 5.5-16, 5.5-19, 5.5-20, 5.5-23, 5.5-24, 5.5-26, 5.5-27, 5.5-28, 5.5-57, 5.6-5, 5.6-9, 6-48, 6-54

Coastal Water Project, ES-2, 1-9, 1-10, 2-27, 2-48, 4.2-46, 4.2-81, 4.5-76, 4.6-7, 4.6-8, 4.6-276, 4.6-278, 4.15-19, 4.15-53, 4.15-55, 5.2-1, 5.2-3, 5.2-4, 5.2-5, 5.3-28, 5.3-54, 6-33, 6-35

cone of depression, 4.4-51, 4.4-58, 4.4-65, 4.4-76, 4.4-90, 4.4-92, 4.4-95, 4.4-100, 4.4-106, 5.5-89, 5.5-90, 5.5-102, 5.5-119

Conveyance capacity, ES-4, 1-6, 4.3-118, 5.1-5, 5.3-35, 5.5-29, 5.5-33, 5.5-38, 5.5-47, 5.5-51, 5.5-55, 5.5-57, 5.5-60

CPCN, ES-11, 4.1-20, 5.2-4, 5.2-5, 5.4-5, 5.4-9, 5.5-36, 5.5-145

CSLC, 3-66, 5.4-21, 5.4-63, 5.5-302

DeepWater Desal, ES-12, ES-14, ES-15, ES-19, 1-11, 1-13, 4.1-3, 4.1-4, 4.1-23, 4.1-24, 4.2-81, 4.3-123, 4.3-126, 4.3-127, 4.5-69, 4.5-71, 4.5-72, 4.5-81, 4.18-19, 5.1-6, 5.3-6, 5.3-11, 5.3-26, 5.3-37, 5.3-38, 5.3-47, 5.3-49, 5.3-54, 5.3-55, 5.4-1, 5.4-2, 5.4-3, 5.4-21, 5.4-34, 5.4-39, 5.5-4, 5.5-13, 5.5-16, 5.5-17, 5.5-24, 5.5-27, 5.5-44, 5.5-45, 5.5-47, 5.5-53, 5.5-58, 5.5-59, 5.5-82, 5.5-98, 5.5-117, 5.5-118, 5.5-125, 5.5-126, 5.5-127, 5.5-133, 5.5-136, 5.5-151, 5.5-156, 5.5-166, 5.5-178, 5.5-180, 5.5-184, 5.5-193, 5.5-195, 5.5-200, 5.5-211, 5.5-225, 5.5-239, 5.5-245, 5.5-252, 5.5-255, 5.5-262, 5.5-264, 5.5-270, 5.5-272, 5.5-276, 5.5-279, 5.5-290, 5.5-291, 5.5-298, 5.5-303, 5.5-306, 5.5-308, 5.5-309, 5.5-312, 5.5-313, 5.5-317, 5.5-319, 5.5-328, 5.5-333, 5.5-335, 5.5-337, 5.5-340, 5.5-342, 5.5-347, 5.5-361, 5.5-363, 5.5-364, 5.5-365, 5.5-369, 5.5-377, 5.5-378, 5.5-380, 5.5-381, 5.5-384, 5.5-385, 5.5-386, 5.6-1, 5.6-4, 5.6-5, 6-45

Demand management measures, 5.4-9

Desalination guidelines, 4.8-13, 6-1, 6-46, 6-48, 6-49

Desalination plant capacity, 5.5-182, 5.5-280

diffuser, ES-12, ES-29, ES-45, 3-11, 3-22, 3-30, 3-58, 3-66, 3-69, 4.1-3, 4.1-4, 4.2-2, 4.2-70, 4.3-1, 4.3-11, 4.3-12, 4.3-28, 4.3-34, 4.3-43, 4.3-59, 4.3-68, 4.3-69, 4.3-70, 4.3-73, 4.3-74, 4.3-75, 4.3-76, 4.3-77, 4.3-79, 4.3-81, 4.3-83, 4.3-84, 4.3-85, 4.3-87, 4.3-89, 4.3-91, 4.3-94, 4.3-106, 4.3-107, 4.3-108, 4.3-109, 4.3-113, 4.3-126, 4.3-132, 4.5-7, 4.5-25, 4.5-28, 4.5-43, 4.5-45, 4.5-46, 4.5-59, 4.5-62, 4.5-63, 4.5-66, 4.5-69, 4.5-71, 4.5-72, 4.6-277, 4.13-1, 4.13-6, 4.13-13, 4.13-22, 4.13-23, 4.13-24, 4.13-25, 4.13-26, 4.13-29, 4.13-38, 4.13-39, 5.3-19, 5.3-20, 5.3-21, 5.3-22, 5.3-23, 5.3-24, 5.3-25, 5.3-26, 5.3-30, 5.3-37, 5.3-38, 5.3-41, 5.3-49, 5.4-2, 5.4-3, 5.4-14, 5.4-26, 5.4-29, 5.4-35, 5.4-44, 5.4-47, 5.4-48, 5.4-52, 5.4-56, 5.5-12, 5.5-32, 5.5-37, 5.5-42, 5.5-47, 5.5-48, 5.5-49, 5.5-50, 5.5-54, 5.5-55, 5.5-56, 5.5-60, 5.5-62, 5.5-63, 5.5-64, 5.5-69, 5.5-71, 5.5-74, 5.5-88, 5.5-102, 5.5-115, 5.5-117, 5.5-118, 5.5-128, 5.5-132, 5.5-134, 5.5-265, 5.5-266, 5.5-267, 5.5-269, 5.5-271, 5.5-274, 5.5-275, 5.5-277, 5.5-278, 5.6-17, 6-48, 6-49, 6-50, 6-57, 6-58

drilling fluid, 3-50, 3-51, 3-53, 3-55, 4.3-40, 4.3-41, 4.5-43, 4.5-48, 4.5-49, 4.5-51, 4.5-70, 4.6-150, 4.7-27, 5.5-41, 5.5-46, 5.5-85, 5.5-88, 5.5-101, 5.5-114, 5.5-174

Economic recovery, 2-13, 2-14, 2-31, 4.8-17, 4.8-24, 5.4-12, 6-15, 6-16

energy, ES-3, ES-4, ES-8, ES-15, ES-16, ES-31, ES-47, 1-3, 1-6, 1-10, 1-11, 1-14, 2-35, 2-38, 3-27, 3-48, 3-62, 3-69, 4.1-5, 4.1-27, 4.2-13, 4.2-14, 4.2-22, 4.3-10, 4.3-41, 4.3-47, 4.3-64,

4.3-108, 4.3-111, 4.3-112, 4.3-134, 4.4-59, 4.5-6, 4.5-9, 4.5-28, 4.5-45, 4.6-105, 4.8-23, 4.11-4, 4.11-5, 4.11-7, 4.11-9, 4.11-12, 4.11-14, 4.11-17, 4.11-18, 4.11-19, 4.11-20, 4.11-21, 4.11-22, 4.11-23, 4.11-24, 4.11-25, 4.11-26, 4.12-2, 4.12-3, 4.13-7, 4.13-8, 4.13-12, 4.15-16, 4.18-1, 4.18-2, 4.18-3, 4.18-4, 4.18-5, 4.18-6, 4.18-7, 4.18-9, 4.18-11, 4.18-12, 4.18-13, 4.18-14, 4.18-15, 4.18-16, 4.18-17, 4.18-18, 4.18-19, 4.18-20, 4.18-21, 5.1-5, 5.3-36, 5.3-42, 5.3-46, 5.3-48, 5.3-51, 5.3-53, 5.4-27, 5.4-28, 5.4-31, 5.5-1, 5.5-82, 5.5-113, 5.5-137, 5.5-190, 5.5-235, 5.5-237, 5.5-238, 5.5-239, 5.5-240, 5.5-241, 5.5-242, 5.5-243, 5.5-244, 5.5-303, 5.5-332, 5.5-333, 5.5-334, 5.5-335, 5.5-336, 5.5-337, 5.5-338, 5.5-339, 5.5-340, 5.5-341, 5.5-342, 5.6-5, 5.6-6, 5.6-7, 5.6-8, 5.6-19, 6-4, 6-9, 6-21, 6-38, 6-51

Entrainment, ES-14, ES-15, 4.2-81, 4.3-28, 4.3-84, 4.3-88, 4.3-113, 4.5-17, 4.5-35, 4.5-52, 4.5-65, 4.5-67, 4.5-70, 4.5-72, 4.5-75, 4.5-81, 4.10-21, 5.3-3, 5.3-4, 5.3-10, 5.3-13, 5.3-15, 5.3-25, 5.3-30, 5.3-32, 5.3-47, 5.4-21, 5.4-39, 5.4-50, 5.5-82, 5.5-116, 5.5-118, 5.5-123, 5.5-124, 5.5-125, 5.5-126, 5.5-129, 5.5-130, 5.5-132, 5.5-133, 5.5-137, 5.6-2, 5.6-4, 5.6-6, 5.6-7, 6-48, 6-49, 6-56, 6-60, 6-61

Essential Fish Habitat, ES-23, ES-36, 3-64, 4.5-1, 4.5-24, 4.5-27, 4.5-31, 4.5-44, 4.5-47, 4.5-52, 5.5-114, 5.5-115, 5.6-11, 6-49, 6-57, 6-60

flood, ES-15, ES-22, ES-35, 2-41, 4.2-22, 4.2-30, 4.2-49, 4.3-1, 4.3-8, 4.3-12, 4.3-13, 4.3-15, 4.3-16, 4.3-24, 4.3-48, 4.3-49, 4.3-50, 4.3-52, 4.3-53, 4.3-54, 4.3-55, 4.3-57, 4.3-58, 4.3-60, 4.3-118, 4.3-119, 4.3-121, 4.3-122, 4.3-125, 4.3-129, 4.3-131, 4.5-55, 4.6-95, 4.6-120, 4.7-22, 4.9-9, 4.13-42, 5.2-5, 5.3-30, 5.3-31, 5.3-43, 5.3-49, 5.5-29, 5.5-30, 5.5-31, 5.5-33, 5.5-34, 5.5-36, 5.5-39, 5.5-43, 5.5-51, 5.5-57, 5.5-68, 5.5-81, 5.5-378, 5.6-5, 5.6-10, 6-40, 6-41, 6-45

Greenhouse gas emissions, ES-4, ES-19, ES-27, ES-43, 1-6, 4.1-5, 4.3-111, 4.3-112, 4.10-1, 4.10-35, 4.11-1, 4.11-3, 4.11-4, 4.11-8, 4.11-15, 4.11-19, 4.11-23, 4.11-25, 4.11-26, 4.18-2, 4.18-17, 4.18-18, 4.18-21, 5.1-5, 5.5-1, 5.5-235, 5.5-236, 5.5-238, 5.5-239, 5.5-241, 5.5-243, 5.5-245, 5.6-15, 6-4, 6-9, 6-38, 6-40, 6-43, 6-51

groundwater modeling, ES-17, 1-11, 1-14, 2-23, 2-36, 2-37, 2-39, 2-40, 4.2-48, 4.2-50, 4.4-43, 4.4-48, 4.4-50, 4.4-51, 4.4-56, 4.4-58, 4.4-59, 4.4-60, 5.5-95, 5.5-119, 5.5-376, 5.5-384, 6-18

GWR Project, ES-8, ES-16, ES-20, 1-3, 2-17, 2-18, 2-20, 2-26, 4.1-4, 4.1-23, 4.1-27, 4.20-20, 5.2-6, 5.2-7, 5.4-3, 5.4-8, 5.4-9, 5.4-12, 5.4-50, 5.4-52, 5.4-59, 5.5-4, 5.5-20, 5.5-26, 5.5-27, 5.5-36, 5.5-52, 5.5-69, 5.5-71, 5.5-76, 5.5-78, 5.5-80, 5.5-81, 5.5-87, 5.5-109, 5.5-135, 5.5-145, 5.5-170, 5.5-171, 5.5-186, 5.5-197, 5.5-201, 5.5-232, 5.5-234, 5.5-244, 5.5-245, 5.5-258, 5.5-264, 5.5-274, 5.5-276, 5.5-278, 5.5-279, 5.5-280, 5.5-300, 5.5-301, 5.5-310, 5.5-313, 5.5-323, 5.5-331, 5.5-338, 5.5-340, 5.5-341, 5.5-342, 5.5-351, 5.5-358, 5.5-370, 5.5-382, 5.5-385, 5.5-386, 5.6-2, 5.6-3, 5.6-7, 5.6-8, 6-22, 6-46, 6-51

Horizontal directional drilling, 3-32, 3-55, 4.1-4, 4.6-232, 4.6-272, 4.9-26, 4.12-27, 4.15-3, 4.15-42, 5.3-17, 5.4-3, 5.4-14, 5.4-48, 5.5-15, 5.5-41, 5.5-223

hospitality, 2-13, 2-14, 2-30, 2-47, 4.8-17, 4.8-24, 4.20-5, 4.20-15, 5.4-7, 5.4-12, 5.5-358, 5.5-373, 5.5-374, 6-13, 6-14, 6-15, 6-16, 6-18, 6-19, 6-20

Hypoxia, ES-18, 4.3-2, 4.3-9, 4.3-34, 4.3-59, 4.3-68, 4.3-69, 4.3-70, 4.3-85, 4.3-87, 4.3-88, 4.3-91, 4.3-92, 4.3-93, 4.5-2, 4.5-54, 4.5-62, 4.5-63, 4.5-67, 5.5-32, 5.5-38, 5.5-42, 5.5-47, 5.5-49, 5.5-55, 5.5-64, 5.5-115, 5.5-128

- Impingement**, ES-14, ES-15, 4.5-35, 4.5-44, 4.5-45, 4.5-52, 4.5-53, 4.5-54, 4.5-67, 4.5-68, 4.5-70, 5.3-3, 5.3-4, 5.3-10, 5.3-13, 5.3-15, 5.3-25, 5.3-30, 5.3-32, 5.3-47, 5.3-56, 5.4-21, 5.4-39, 5.4-50, 5.5-115, 5.5-120, 5.5-123, 5.5-124, 5.5-125, 5.5-126, 5.5-129, 5.5-130, 5.5-133, 5.5-137, 5.6-2, 5.6-4, 5.6-6, 5.6-7, 6-48, 6-49, 6-56, 6-60, 6-61
- landslide**, 4.2-1, 4.2-28, 4.2-29, 4.2-40, 4.2-41, 4.2-45, 4.2-62, 4.2-76, 4.3-15, 4.15-16, 5.5-14, 5.5-15, 5.5-17, 5.5-18, 5.5-19, 5.5-22, 5.5-23, 5.5-24
- local coastal plan**, ES-15, ES-20, 1-19, 4.6-3, 4.6-198, 4.6-203, 4.6-205, 4.6-213, 4.14-48, 4.17-7, 4.19-15, 5.5-189, 5.6-7
- Local Coastal Program**, ES-7, 1-18, 3-65, 3-67, 4.2-37, 4.2-55, 4.2-79, 4.3-48, 4.3-131, 4.6-80, 4.6-82, 4.6-84, 4.6-87, 4.6-101, 4.6-167, 4.6-200, 4.6-204, 4.6-208, 4.6-214, 4.6-230, 4.6-238, 4.6-239, 4.6-273, 4.7-21, 4.8-1, 4.8-16, 4.8-18, 4.8-21, 4.8-24, 4.8-29, 4.8-32, 4.8-34, 4.8-36, 4.8-40, 4.9-9, 4.13-8, 4.14-21, 4.14-42, 4.14-48, 4.15-47, 5.3-55, 5.5-140, 5.5-187, 5.5-188, 5.6-3, 6-39, 6-43, 6-55, 6-63
- Lots of record**, ES-4, ES-16, 1-6, 2-10, 2-13, 2-14, 2-15, 2-17, 2-28, 2-30, 4.3-51, 4.8-17, 4.8-24, 4.14-24, 5.1-5, 5.4-7, 5.4-12, 5.4-14, 5.4-52, 5.5-372, 5.5-377, 5.5-385, 6-6, 6-12, 6-16, 6-17, 6-18, 6-20, 6-26, 6-34, 6-35, 6-55
- Maintenance activities**, 3-59, 3-61, 4.2-53, 4.3-59, 4.3-114, 4.4-99, 4.6-234, 4.6-248, 4.6-257, 4.6-258, 4.6-260, 4.6-261, 4.6-263, 4.7-9, 4.9-1, 4.9-6, 4.9-13, 4.9-35, 4.12-56, 4.13-14, 4.17-1, 5.3-22, 5.3-23, 5.3-25, 5.3-44, 5.4-36, 5.4-38, 5.4-39, 5.4-49, 5.5-31, 5.5-33, 5.5-43, 5.5-45, 5.5-142, 5.5-143, 5.5-148, 5.5-149, 5.5-152, 5.5-157, 5.5-159, 5.5-162, 5.5-164, 5.5-168, 5.5-178, 5.5-180, 5.5-182, 5.5-184, 5.5-186, 5.5-208, 5.5-211, 5.5-213, 5.5-215, 5.5-216
- Marina Coast Water District**, 1-9, 2-27, 2-46, 4.1-25, 4-33, 4.2-80, 4.4-110, 4.8-32, 4.9-39, 4.13-3, 4.13-5, 4.13-6, 4.13-42, 4.16-23, 5.2-4, 5.2-6, 5.3-11, 5.3-18, 5.3-27, 5.3-28, 5.5-378, 6-26, 6-27, 6-45
- MBNMS**, ES-1, ES-3, ES-4, ES-7, ES-8, ES-11, ES-12, ES-14, ES-15, ES-16, ES-18, ES-20, 1-1, 1-2, 1-4, 1-6, 1-7, 1-8, 1-11, 1-12, 1-13, 1-14, 1-15, 1-18, 1-20, 3-1, 3-8, 3-9, 3-11, 3-17, 3-18, 3-22, 3-29, 3-49, 3-50, 3-63, 3-64, 4.1-2, 4.1-5, 4.1-8, 4.1-10, 4.1-20, 4.2-2, 4.2-8, 4.2-16, 4.3-2, 4.3-3, 4.3-4, 4.3-8, 4.3-20, 4.3-21, 4.3-22, 4.3-23, 4.3-26, 4.3-28, 4.3-35, 4.3-37, 4.3-63, 4.3-68, 4.3-69, 4.3-70, 4.3-71, 4.3-73, 4.3-76, 4.3-85, 4.3-91, 4.3-92, 4.3-93, 4.3-94, 4.3-95, 4.3-104, 4.3-105, 4.3-109, 4.3-132, 4.3-133, 4.5-1, 4.5-2, 4.5-5, 4.5-8, 4.5-9, 4.5-10, 4.5-12, 4.5-13, 4.5-14, 4.5-15, 4.5-19, 4.5-25, 4.5-26, 4.5-27, 4.5-28, 4.5-29, 4.5-30, 4.5-32, 4.5-33, 4.5-34, 4.5-36, 4.5-37, 4.5-38, 4.5-45, 4.5-46, 4.5-48, 4.5-49, 4.5-51, 4.5-54, 4.5-55, 4.5-63, 4.5-65, 4.5-67, 4.5-71, 4.5-77, 4.5-78, 4.5-81, 4.6-74, 4.6-130, 4.6-139, 4.6-142, 4.6-145, 4.6-149, 4.6-152, 4.6-154, 4.6-156, 4.6-159, 4.6-161, 4.6-163, 4.6-165, 4.6-197, 4.6-198, 4.6-200, 4.6-201, 4.6-203, 4.6-205, 4.6-206, 4.6-207, 4.6-209, 4.6-210, 4.6-211, 4.6-212, 4.6-221, 4.6-223, 4.6-224, 4.6-225, 4.6-226, 4.6-227, 4.6-228, 4.6-229, 4.6-230, 4.7-1, 4.8-2, 4.8-3, 4.8-9, 4.8-13, 4.9-1, 4.12-4, 4.13-18, 4.14-6, 4.14-19, 4.15-4, 4.15-18, 4.15-31, 4.15-47, 4.15-48, 4.15-49, 4.15-51, 4.16-1, 4.17-1, 4.17-3, 4.17-11, 4.18-2, 4.19-1, 4.20-5, 4.20-15, 5.1-5, 5.1-6, 5.3-1, 5.3-3, 5.3-4, 5.3-6, 5.3-13, 5.3-14, 5.3-19, 5.3-20, 5.3-21, 5.3-26, 5.3-30, 5.3-38, 5.3-49, 5.3-53, 5.4-5, 5.4-13, 5.4-14, 5.4-17, 5.4-21, 5.4-22, 5.4-29, 5.4-39, 5.4-40, 5.4-43, 5.4-51, 5.4-55, 5.4-56, 5.4-59, 5.4-63, 5.5-13, 5.5-15, 5.5-16, 5.5-17, 5.5-19, 5.5-20, 5.5-21, 5.5-23, 5.5-29, 5.5-31, 5.5-32, 5.5-38, 5.5-40, 5.5-41, 5.5-42, 5.5-43, 5.5-45, 5.5-46, 5.5-47, 5.5-51, 5.5-53, 5.5-54, 5.5-55, 5.5-58, 5.5-61, 5.5-68, 5.5-80, 5.5-89, 5.5-96, 5.5-98, 5.5-99, 5.5-110, 5.5-111, 5.5-114, 5.5-116, 5.5-119, 5.5-120, 5.5-122, 5.5-124, 5.5-125, 5.5-127, 5.5-128, 5.5-129,

5.5-130, 5.5-131, 5.5-132, 5.5-133, 5.5-134, 5.5-135, 5.5-152, 5.5-156, 5.5-162, 5.5-172, 5.5-178, 5.5-180, 5.5-183, 5.5-193, 5.5-194, 5.5-195, 5.5-196, 5.5-197, 5.5-201, 5.5-209, 5.5-211, 5.5-212, 5.5-214, 5.5-223, 5.5-225, 5.5-226, 5.5-229, 5.5-238, 5.5-239, 5.5-240, 5.5-241, 5.5-242, 5.5-252, 5.5-255, 5.5-259, 5.5-266, 5.5-270, 5.5-272, 5.5-274, 5.5-287, 5.5-291, 5.5-295, 5.5-302, 5.5-306, 5.5-308, 5.5-310, 5.5-311, 5.5-317, 5.5-319, 5.5-321, 5.5-326, 5.5-327, 5.5-328, 5.5-329, 5.5-335, 5.5-337, 5.5-339, 5.5-346, 5.5-347, 5.5-349, 5.5-361, 5.5-364, 5.5-366, 5.6-2, 5.6-4, 5.6-5, 5.6-6, 5.6-7, 5.6-8, 6-1, 6-21, 6-42, 6-46, 6-48, 6-49, 6-52, 6-53, 6-54, 6-56, 6-57, 6-58, 6-59, 6-60, 6-64

Monterey Canyon, 4.2-81, 4.3-7, 4.5-10, 4.5-14, 5.5-125

Monterey District, ES-1, ES-2, ES-3, ES-4, ES-11, ES-14, 1-1, 1-5, 1-6, 1-8, 1-9, 2-1, 2-2, 2-3, 2-5, 2-8, 2-10, 2-11, 2-16, 2-17, 2-18, 2-23, 2-25, 2-26, 2-27, 2-44, 3-1, 3-2, 3-3, 3-11, 3-62, 4.1-17, 4.1-24, 4.2-59, 4.3-12, 4.3-126, 4.5-69, 4.6-126, 4.8-32, 4.9-12, 4.9-13, 4.9-35, 4.10-29, 4.11-12, 4.12-56, 4.13-5, 4.13-15, 4.18-16, 4.18-17, 4.19-1, 4.19-2, 4.19-15, 4.20-2, 4.20-3, 4.20-4, 4.20-6, 4.20-7, 4.20-8, 4.20-13, 4.20-15, 4.20-16, 4.20-18, 4.20-20, 5.1-5, 5.2-4, 5.2-6, 5.4-5, 5.4-7, 5.4-8, 5.4-11, 5.4-12, 5.4-21, 5.4-39, 5.4-46, 5.4-50, 5.4-52, 5.4-59, 5.5-4, 5.5-36, 5.5-145, 5.5-240, 5.5-256, 5.5-276, 5.5-320, 5.5-333, 5.5-338, 5.5-339, 5.5-355, 5.5-356, 5.5-357, 5.5-358, 5.5-361, 5.5-363, 5.5-372, 5.6-3, 6-5, 6-10, 6-13, 6-14, 6-15, 6-35, 6-36, 6-62

Monterey submarine canyon, 4.2-11, 4.4-13, 5.3-11

Moss Landing, ES-2, ES-12, ES-14, ES-15, ES-19, ES-21, 1-9, 1-11, 4.1-3, 4.1-4, 4.1-24, 4.1-25, 4.1-26, 4-34, 4-36, 4.2-28, 4.2-81, 4.3-4, 4.3-7, 4.3-9, 4.3-10, 4.3-43, 4.3-124, 4.3-126, 4.3-134, 4.4-7, 4.4-8, 4.4-77, 4.4-103, 4.5-8, 4.5-10, 4.5-17, 4.5-25, 4.5-33, 4.5-68, 4.5-69, 4.5-78, 4.5-81, 4.6-8, 4.6-57, 4.6-61, 4.6-64, 4.6-65, 4.6-72, 4.6-73, 4.6-120, 4.6-268, 4.6-271, 4.6-273, 4.6-276, 4.8-18, 4.13-5, 4.13-6, 4.14-6, 4.15-4, 4.15-19, 4.15-23, 4.15-39, 4.20-5, 5.1-1, 5.2-2, 5.2-3, 5.2-4, 5.3-6, 5.3-8, 5.3-9, 5.3-10, 5.3-11, 5.3-13, 5.3-15, 5.3-16, 5.3-17, 5.3-20, 5.3-21, 5.3-23, 5.3-24, 5.3-25, 5.3-26, 5.3-27, 5.3-28, 5.3-30, 5.3-31, 5.3-32, 5.3-34, 5.3-37, 5.3-38, 5.3-43, 5.3-44, 5.3-49, 5.3-53, 5.3-54, 5.3-55, 5.3-56, 5.4-1, 5.4-2, 5.4-3, 5.4-13, 5.4-17, 5.4-18, 5.4-19, 5.4-22, 5.4-26, 5.4-34, 5.4-40, 5.4-41, 5.4-43, 5.4-44, 5.4-48, 5.4-49, 5.4-63, 5.5-2, 5.5-4, 5.5-5, 5.5-10, 5.5-13, 5.5-16, 5.5-20, 5.5-21, 5.5-23, 5.5-24, 5.5-27, 5.5-40, 5.5-53, 5.5-81, 5.5-82, 5.5-83, 5.5-96, 5.5-99, 5.5-110, 5.5-111, 5.5-112, 5.5-113, 5.5-116, 5.5-120, 5.5-124, 5.5-126, 5.5-130, 5.5-133, 5.5-136, 5.5-137, 5.5-151, 5.5-152, 5.5-155, 5.5-156, 5.5-157, 5.5-158, 5.5-160, 5.5-161, 5.5-162, 5.5-165, 5.5-166, 5.5-171, 5.5-172, 5.5-173, 5.5-178, 5.5-179, 5.5-180, 5.5-181, 5.5-182, 5.5-183, 5.5-184, 5.5-185, 5.5-186, 5.5-187, 5.5-188, 5.5-189, 5.5-190, 5.5-194, 5.5-195, 5.5-196, 5.5-197, 5.5-198, 5.5-199, 5.5-200, 5.5-202, 5.5-206, 5.5-209, 5.5-214, 5.5-217, 5.5-223, 5.5-229, 5.5-230, 5.5-238, 5.5-241, 5.5-246, 5.5-250, 5.5-252, 5.5-253, 5.5-256, 5.5-259, 5.5-260, 5.5-270, 5.5-274, 5.5-281, 5.5-282, 5.5-287, 5.5-290, 5.5-294, 5.5-295, 5.5-296, 5.5-297, 5.5-298, 5.5-302, 5.5-303, 5.5-306, 5.5-307, 5.5-309, 5.5-310, 5.5-311, 5.5-312, 5.5-313, 5.5-314, 5.5-317, 5.5-318, 5.5-319, 5.5-320, 5.5-321, 5.5-322, 5.5-327, 5.5-328, 5.5-329, 5.5-335, 5.5-339, 5.5-343, 5.5-346, 5.5-349, 5.5-352, 5.5-353, 5.5-354, 5.5-355, 5.5-359, 5.5-360, 5.5-361, 5.5-362, 5.5-363, 5.5-364, 5.5-365, 5.5-366, 5.5-367, 5.5-368, 5.5-371, 5.5-379, 5.5-382, 5.6-1, 5.6-4, 5.6-5, 5.6-6, 5.6-9

Ocean Plan, ES-15, ES-16, 1-13, 4.3-1, 4.3-9, 4.3-10, 4.3-22, 4.3-25, 4.3-26, 4.3-27, 4.3-28, 4.3-29, 4.3-30, 4.3-32, 4.3-33, 4.3-34, 4.3-37, 4.3-39, 4.3-43, 4.3-44, 4.3-53, 4.3-57, 4.3-59, 4.3-66, 4.3-68, 4.3-69, 4.3-73, 4.3-75, 4.3-76, 4.3-79, 4.3-83, 4.3-84, 4.3-88, 4.3-91, 4.3-92, 4.3-93, 4.3-94, 4.3-95, 4.3-96, 4.3-97, 4.3-98, 4.3-99, 4.3-100, 4.3-101, 4.3-102, 4.3-103, 4.3-104, 4.3-105, 4.3-107, 4.3-126, 4.3-127, 4.3-128, 4.5-36, 4.5-41, 4.5-43, 4.5-46, 4.5-49,

- 4.5-52, 4.5-55, 4.5-59, 4.5-62, 4.5-63, 4.5-64, 4.5-65, 4.5-67, 4.5-70, 4.5-71, 4.5-72, 4.13-22, 4.13-23, 4.13-25, 4.13-38, 4.13-43, 5.3-2, 5.3-19, 5.3-20, 5.3-21, 5.3-22, 5.3-23, 5.3-24, 5.3-38, 5.5-1, 5.5-29, 5.5-32, 5.5-35, 5.5-38, 5.5-39, 5.5-42, 5.5-44, 5.5-47, 5.5-48, 5.5-49, 5.5-50, 5.5-52, 5.5-53, 5.5-55, 5.5-56, 5.5-58, 5.5-60, 5.5-64, 5.5-67, 5.5-68, 5.5-74, 5.5-76, 5.5-77, 5.5-78, 5.5-79, 5.5-80, 5.5-81, 5.5-115, 5.5-116, 5.5-118, 5.5-123, 5.5-124, 5.5-125, 5.5-126, 5.5-129, 5.5-132, 5.5-133, 5.5-135, 5.5-266, 5.6-7, 5.6-8, 6-50, 6-60, 6-61
- outfall**, ES-4, ES-12, ES-13, ES-14, ES-15, ES-19, ES-29, ES-45, 1-6, 1-7, 3-11, 3-17, 3-19, 3-22, 3-29, 3-30, 3-50, 3-58, 3-66, 4.1-3, 4.1-4, 4.1-19, 4.2-2, 4.2-16, 4.2-22, 4.2-67, 4.2-70, 4.2-71, 4.2-77, 4.3-2, 4.3-11, 4.3-12, 4.3-21, 4.3-28, 4.3-35, 4.3-43, 4.3-44, 4.3-53, 4.3-63, 4.3-66, 4.3-68, 4.3-69, 4.3-70, 4.3-71, 4.3-73, 4.3-74, 4.3-75, 4.3-76, 4.3-84, 4.3-85, 4.3-87, 4.3-89, 4.3-91, 4.3-93, 4.3-94, 4.3-96, 4.3-97, 4.3-104, 4.3-105, 4.3-106, 4.3-107, 4.3-108, 4.3-109, 4.3-126, 4.3-127, 4.3-132, 4.5-1, 4.5-2, 4.5-7, 4.5-10, 4.5-25, 4.5-28, 4.5-34, 4.5-37, 4.5-42, 4.5-43, 4.5-44, 4.5-45, 4.5-46, 4.5-49, 4.5-54, 4.5-62, 4.5-63, 4.5-65, 4.5-66, 4.5-69, 4.5-70, 4.5-71, 4.5-72, 4.5-73, 4.5-79, 4.5-81, 4.6-124, 4.6-268, 4.6-271, 4.7-35, 4.8-3, 4.8-11, 4.8-13, 4.13-1, 4.13-6, 4.13-13, 4.13-15, 4.13-22, 4.13-23, 4.13-24, 4.13-25, 4.13-26, 4.13-27, 4.13-28, 4.13-29, 4.13-30, 4.13-38, 4.13-39, 4.13-40, 4.13-41, 4.13-43, 5.1-5, 5.2-1, 5.3-5, 5.3-6, 5.3-10, 5.3-19, 5.3-20, 5.3-21, 5.3-22, 5.3-23, 5.3-24, 5.3-25, 5.3-26, 5.3-27, 5.3-29, 5.3-37, 5.3-38, 5.3-39, 5.3-40, 5.3-41, 5.3-49, 5.3-50, 5.3-51, 5.3-53, 5.4-2, 5.4-3, 5.4-35, 5.4-43, 5.4-45, 5.4-47, 5.4-48, 5.4-52, 5.4-56, 5.4-63, 5.5-20, 5.5-23, 5.5-30, 5.5-31, 5.5-32, 5.5-35, 5.5-36, 5.5-44, 5.5-47, 5.5-48, 5.5-49, 5.5-50, 5.5-54, 5.5-55, 5.5-58, 5.5-60, 5.5-61, 5.5-62, 5.5-64, 5.5-69, 5.5-71, 5.5-74, 5.5-76, 5.5-113, 5.5-115, 5.5-117, 5.5-118, 5.5-119, 5.5-123, 5.5-128, 5.5-129, 5.5-135, 5.5-157, 5.5-158, 5.5-160, 5.5-164, 5.5-165, 5.5-196, 5.5-197, 5.5-198, 5.5-199, 5.5-213, 5.5-265, 5.5-266, 5.5-267, 5.5-268, 5.5-269, 5.5-270, 5.5-271, 5.5-272, 5.5-273, 5.5-274, 5.5-275, 5.5-276, 5.5-277, 5.5-278, 5.5-279, 5.5-280, 5.5-290, 5.5-292, 5.5-298, 5.5-320, 5.5-322, 5.5-337, 5.5-339, 5.6-5, 5.6-6, 5.6-7, 5.6-17, 6-48, 6-49, 6-51, 6-57, 6-58, 6-59, 6-60, 6-61
- ozone**, 4.10-3, 4.10-5, 4.10-6, 4.10-9, 4.10-10, 4.10-11, 4.10-12, 4.10-13, 4.10-17, 4.10-18, 4.10-23, 4.10-24, 4.10-26, 4.10-27, 4.10-32, 4.11-2, 4.11-4, 5.5-218, 5.5-220, 5.5-221, 5.5-222, 5.5-223, 5.5-224, 5.5-225, 5.5-226, 5.5-228, 5.5-229, 5.5-230, 5.5-231, 5.5-232, 5.5-233, 5.5-368, 5.6-3, 6-2, 6-40, 6-53
- Project objectives**, ES-1, ES-3, 1-1, 1-5, 5.1-3, 5.4-1, 5.4-8, 5.4-11, 5.4-12, 5.4-14, 5.4-21, 5.4-39, 5.4-50, 5.4-52, 5.4-59
- proposed action**, ES-1, ES-4, ES-21, ES-27, 1-2, 1-3, 1-6, 1-7, 1-13, 1-18, 3-1, 3-63, 4.1-11, 4.1-12, 4.2-36, 4.3-91, 4.4-1, 4.4-66, 4.4-71, 4.4-72, 4.4-73, 4.5-1, 4.10-1, 4.10-14, 4.11-22, 4.18-9, 5.1-2, 5.1-3, 5.1-5, 5.3-1, 5.5-50, 5.5-261, 5.5-340, 5.5-373, 5.6-9, 5.6-15, 6-1, 6-10, 6-12
- Purpose and Need**, ES-1, ES-3, ES-4, 1-1, 1-3, 1-5, 1-6, 5.1-2, 5.1-3, 5.1-4, 5.2-1, 5.3-1, 5.3-4, 5.3-49, 5.4-1, 5.4-34, 5.4-50, 5.6-1, 5.6-2, 5.6-3, 5.6-6, 5.6-7
- radius of influence**, 2-38, 2-39, 4.4-51, 4.4-52, 4.4-58, 4.4-92, 4.4-95
- Range of alternatives**, 1-15, 5.1-2, 5.1-6
- Salinas Valley Groundwater Basin**, ES-17, 2-2, 2-18, 2-23, 2-31, 2-32, 3-9, 3-17, 3-18, 3-37, 3-38, 4.1-18, 4.2-66, 4.4-1, 4.4-3, 4.4-4, 4.4-6, 4.4-17, 4.4-18, 4.4-19, 4.4-24, 4.4-31, 4.4-32, 4.4-33, 4.4-42, 4.4-107, 4.4-113, 4.13-5, 4.13-15, 5.3-9, 5.3-11, 5.3-12, 5.4-14, 5.5-8, 5.5-13,

- 5.5-15, 5.5-17, 5.5-19, 5.5-21, 5.5-22, 5.5-40, 5.5-45, 5.5-53, 5.5-83, 5.5-109, 5.5-121, 5.5-131, 5.5-152, 5.5-157, 5.5-162, 5.5-178, 5.5-181, 5.5-183, 5.5-194, 5.5-196, 5.5-198, 5.5-209, 5.5-212, 5.5-214, 5.5-223, 5.5-226, 5.5-229, 5.5-238, 5.5-240, 5.5-242, 5.5-252, 5.5-256, 5.5-259, 5.5-270, 5.5-272, 5.5-275, 5.5-288, 5.5-291, 5.5-295, 5.5-307, 5.5-309, 5.5-311, 5.5-318, 5.5-319, 5.5-321, 5.5-328, 5.5-329, 5.5-330, 5.5-336, 5.5-337, 5.5-339, 5.5-346, 5.5-347, 5.5-349, 5.5-356, 5.5-361, 5.5-364, 5.5-367, 5.5-374, 5.5-377, 5.5-385, 6-5, 6-12, 6-19, 6-36, 6-37
- salinity**, ES-15, ES-22, ES-34, 3-58, 4.3-2, 4.3-7, 4.3-8, 4.3-9, 4.3-10, 4.3-11, 4.3-22, 4.3-26, 4.3-27, 4.3-29, 4.3-33, 4.3-34, 4.3-57, 4.3-59, 4.3-60, 4.3-68, 4.3-69, 4.3-70, 4.3-71, 4.3-73, 4.3-74, 4.3-75, 4.3-76, 4.3-77, 4.3-78, 4.3-79, 4.3-83, 4.3-84, 4.3-85, 4.3-86, 4.3-87, 4.3-88, 4.3-89, 4.3-91, 4.3-92, 4.3-93, 4.3-94, 4.3-95, 4.3-96, 4.3-105, 4.3-126, 4.4-8, 4.4-27, 4.4-70, 4.4-106, 4.5-2, 4.5-6, 4.5-9, 4.5-17, 4.5-21, 4.5-43, 4.5-46, 4.5-52, 4.5-54, 4.5-55, 4.5-56, 4.5-57, 4.5-58, 4.5-59, 4.5-60, 4.5-62, 4.5-67, 4.5-68, 4.5-70, 4.5-71, 4.5-73, 4.5-77, 4.5-79, 4.5-80, 4.5-81, 4.6-73, 4.6-250, 4.13-26, 4.13-40, 4.20-18, 5.3-2, 5.4-45, 5.5-29, 5.5-31, 5.5-38, 5.5-42, 5.5-47, 5.5-48, 5.5-49, 5.5-50, 5.5-52, 5.5-53, 5.5-55, 5.5-60, 5.5-61, 5.5-62, 5.5-63, 5.5-64, 5.5-69, 5.5-71, 5.5-72, 5.5-74, 5.5-76, 5.5-81, 5.5-115, 5.5-117, 5.5-120, 5.5-123, 5.5-124, 5.5-126, 5.5-128, 5.5-129, 5.5-132, 5.5-133, 5.5-135, 5.5-269, 5.5-278, 5.6-5, 5.6-7, 5.6-10, 6-49, 6-50, 6-60
- Sea level rise**, ES-19, ES-22, ES-35, 3-19, 4.2-22, 4.2-23, 4.2-30, 4.2-37, 4.2-40, 4.2-46, 4.2-49, 4.2-50, 4.2-69, 4.2-77, 4.3-12, 4.3-16, 4.3-57, 4.3-60, 4.3-121, 4.3-122, 4.3-130, 4.4-55, 4.4-57, 4.4-58, 4.4-76, 4.4-77, 4.4-78, 4.4-80, 4.11-1, 4.11-2, 4.11-18, 5.3-31, 5.3-37, 5.3-43, 5.5-27, 5.5-29, 5.5-33, 5.5-34, 5.5-39, 5.5-43, 5.5-51, 5.5-57, 5.5-68, 5.5-89, 5.6-10, 6-54
- Seaside Groundwater Basin**, ES-1, ES-2, ES-3, ES-7, ES-11, ES-13, ES-16, 1-5, 1-6, 1-8, 1-9, 2-1, 2-2, 2-3, 2-4, 2-5, 2-7, 2-8, 2-9, 2-10, 2-17, 2-18, 2-19, 2-20, 2-25, 2-47, 2-48, 2-49, 3-2, 3-12, 3-28, 3-29, 3-45, 3-60, 3-61, 3-62, 3-67, 3-69, 3-70, 4.1-3, 4.1-4, 4.1-23, 4-35, 4.2-3, 4.2-66, 4.2-79, 4.2-80, 4.3-111, 4.3-112, 4.4-1, 4.4-3, 4.4-15, 4.4-23, 4.4-24, 4.4-27, 4.4-35, 4.4-43, 4.4-44, 4.4-58, 4.4-59, 4.4-81, 4.4-108, 4.4-109, 4.4-112, 4.4-113, 4.6-126, 4.6-268, 4.13-11, 4.13-15, 4.15-29, 4.18-16, 5.1-4, 5.1-5, 5.2-2, 5.2-4, 5.2-6, 5.2-7, 5.3-11, 5.4-2, 5.4-3, 5.4-5, 5.4-6, 5.4-7, 5.4-8, 5.4-10, 5.4-12, 5.4-50, 5.4-52, 5.4-57, 5.5-6, 5.5-8, 5.5-15, 5.5-19, 5.5-22, 5.5-30, 5.5-83, 5.5-113, 5.5-174, 5.5-190, 5.5-203, 5.5-218, 5.5-235, 5.5-246, 5.5-283, 5.5-303, 5.5-314, 5.5-343, 5.5-373, 5.5-374, 5.5-375, 5.5-376, 5.5-377, 5.5-379, 5.5-380, 5.5-381, 5.5-382, 5.5-383, 5.5-384, 5.5-385, 5.6-2, 6-5, 6-9, 6-13, 6-18, 6-19, 6-20, 6-36, 6-39, 6-41, 6-45, 6-55
- Seawater intrusion**, ES-17, 2-8, 2-34, 2-36, 2-37, 2-39, 2-42, 2-43, 4.1-18, 4.4-16, 4.4-19, 4.4-22, 4.4-24, 4.4-31, 4.4-34, 4.4-35, 4.4-43, 4.4-44, 4.4-47, 4.4-60, 4.4-63, 4.4-69, 4.4-70, 4.4-89, 4.4-90, 4.4-91, 4.4-105, 4.4-106, 5.5-84, 5.5-86, 5.5-87, 5.5-95, 5.5-97, 5.5-99, 5.5-101, 5.5-102, 5.5-375, 5.5-378, 6-39, 6-41, 6-45, 6-46, 6-48
- Squid**, 4.3-8, 4.5-2, 4.5-8, 4.5-10, 4.5-12, 4.5-15, 4.5-20, 4.5-21, 4.5-24, 4.5-25, 4.5-39, 4.5-41, 4.5-59, 4.5-68, 4.5-73, 4.5-74, 4.5-79, 5.3-38, 5.5-111
- SWRCB**, ES-2, ES-3, ES-11, ES-16, ES-17, ES-20, ES-49, 1-5, 1-8, 1-18, 1-19, 1-20, 2-33, 2-34, 2-40, 2-41, 2-44, 2-45, 3-10, 3-60, 3-70, 4.2-36, 4.3-8, 4.3-11, 4.3-19, 4.3-22, 4.3-25, 4.3-26, 4.3-27, 4.3-28, 4.3-29, 4.3-31, 4.3-34, 4.3-35, 4.3-36, 4.3-38, 4.3-41, 4.3-44, 4.3-59, 4.3-73, 4.3-75, 4.3-92, 4.3-99, 4.3-114, 4.3-128, 4.3-135, 4.4-38, 4.4-40, 4.4-41, 4.4-42, 4.4-48, 4.4-59, 4.4-60, 4.4-113, 4.5-33, 4.5-36, 4.5-41, 4.5-46, 4.5-52, 4.5-53, 4.5-55, 4.5-59, 4.5-65, 4.5-67, 4.5-72, 4.5-80, 4.6-126, 4.7-3, 4.8-17, 4.8-24, 5.1-4, 5.1-5, 5.2-1, 5.2-2, 5.3-1, 5.3-2, 5.3-10,

5.3-25, 5.3-30, 5.3-56, 5.4-5, 5.4-8, 5.4-9, 5.4-10, 5.4-63, 5.5-36, 5.5-39, 5.5-42, 5.5-49, 5.5-53, 5.5-55, 5.5-64, 5.5-82, 5.5-116, 5.5-118, 5.5-123, 5.5-126, 5.5-130, 5.5-133, 5.5-137, 5.5-145, 5.5-171, 5.5-358, 6-27, 6-39, 6-41, 6-43, 6-55, 6-58

SWRCB Order 95-10, ES-11, 1-5, 1-18, 5.1-4, 5.2-1, 5.2-2, 5.4-8, 5.5-145, 6-39, 6-41, 6-55

Test well, ES-8, ES-20, 1-12, 2-36, 3-2, 3-17, 4.1-20, 4.4-45, 4.4-49, 4.4-83, 4.6-136, 4.14-23, 5.5-25, 5.5-37, 5.5-59, 5.5-88, 5.5-101, 5.5-134, 5.5-166, 5.5-177, 5.5-185, 5.5-200, 5.5-215, 5.5-221, 5.5-231, 5.5-237, 5.5-243, 5.5-262, 5.5-277, 5.5-299, 5.5-303, 5.5-312, 5.5-322, 5.5-330, 5.5-340, 5.5-350, 5.5-369

Unconfined aquifer, 4.4-3

Waste discharge requirements, ES-22, ES-34, 3-65, 4.3-57, 4.3-58, 4.3-60, 4.3-68, 4.3-69, 4.3-84, 4.3-91, 4.3-95, 4.3-96, 4.3-104, 4.3-105, 4.4-38, 4.5-63, 4.6-100, 4.13-10, 5.3-1, 5.3-37, 5.3-43, 5.5-31, 5.5-32, 5.5-36, 5.5-38, 5.5-47, 5.5-55, 5.5-64, 5.5-67, 5.5-68, 5.5-69, 5.5-76, 5.5-80, 5.6-10, 6-44

Water demand, ES-2, 1-9, 1-19, 2-1, 2-2, 2-11, 2-12, 2-13, 2-14, 2-15, 2-16, 2-17, 2-23, 2-24, 2-26, 2-28, 2-30, 4.1-25, 4.13-5, 4.13-15, 4.20-18, 5.2-4, 5.4-7, 5.5-243, 5.5-373, 6-8, 6-12, 6-14, 6-15, 6-16, 6-17, 6-20, 6-29, 6-33, 6-35, 6-37, 6-41

Water rights, ES-17, 1-5, 1-19, 2-1, 2-2, 2-7, 2-8, 2-10, 2-31, 2-32, 2-33, 2-34, 2-35, 2-36, 2-37, 2-38, 2-39, 2-40, 2-41, 4.4-38, 4.4-41, 4.4-59, 4.13-15, 5.1-4, 5.2-2, 5.2-6, 6-27, 6-43

ZID, 4.3-29, 4.3-33, 4.3-34, 4.3-69, 4.3-75, 4.3-76, 4.3-77, 4.3-79, 4.3-87, 4.3-88, 4.3-89, 4.3-91, 4.3-93, 4.3-95, 4.3-96, 4.3-97, 4.3-98, 4.3-99, 4.3-100, 4.3-101, 4.3-102, 4.3-105, 4.3-106, 4.3-107, 4.3-108, 4.3-126, 4.3-127, 4.5-46, 4.5-59, 4.5-62, 4.5-63, 4.5-66, 4.5-67, 4.5-71, 4.13-23, 5.5-32, 5.5-43, 5.5-44, 5.5-50, 5.5-52, 5.5-56, 5.5-58, 5.5-62, 5.5-64, 5.5-67, 5.5-71, 5.5-74, 5.5-76, 5.5-78, 5.5-79, 5.5-80, 5.5-117, 5.5-129, 5.5-135, 6-50, 6-52, 6-60, 6-61

zoning, ES-30, ES-47, 3-67, 4.1-7, 4.1-8, 4.2-13, 4.2-19, 4.2-31, 4.2-38, 4.2-40, 4.2-45, 4.2-57, 4.2-78, 4.3-52, 4.6-237, 4.6-238, 4.6-239, 4.6-240, 4.6-241, 4.8-1, 4.8-17, 4.8-18, 4.8-19, 4.8-20, 4.8-21, 4.8-22, 4.8-29, 4.8-30, 4.8-31, 4.8-32, 4.8-34, 4.8-40, 4.12-12, 4.12-13, 4.13-31, 4.14-20, 4.14-24, 4.15-38, 4.15-39, 4.16-11, 4.16-13, 4.16-19, 4.16-20, 4.16-21, 4.16-23, 4.16-24, 5.3-23, 5.3-36, 5.3-42, 5.3-46, 5.4-13, 5.5-187, 5.5-188, 5.5-189, 5.5-190, 5.5-192, 5.5-194, 5.5-196, 5.5-197, 5.5-198, 5.5-200, 5.5-292, 5.5-293, 5.5-314, 5.5-315, 5.5-317, 5.5-318, 5.5-319, 5.5-321, 5.5-323, 5.5-324, 5.6-18, 6-5, 6-38, 6-41, 6-43, 6-63