APPENDIX H

COMMENTS

COMMENT LOG

CHINO DESALTER PHASE 3 COMPREHENSIVE PREDESIGN REPORT, FIRST DRAFT, AUGUST 2009

Log No.	Source	Source No.	Date	Report Ref.	Comment
1	RBF	1	10/20/09	Table 1.1	The existing Chino II Desalter nameplate capacity identified at 10 mgd is not reflective of the Desalter's actual nameplate capacity per its DHS permit. Suggest modifying nameplate capacity.
Response We will add text discussing the CDPH permit nameplate capacity.					
2	RBF	2	10/20/09	Table 1.1	Are Desalter Efficiencies identified in the report reflective of actual or design efficiencies? Given that Chino I is operating at less than its rated capacity and Chino II is operating at greater than its rated capacity, I assume "Desalter Efficiencies" are based upon "rated" efficiencies, and should be noted as such.
Response The desalter efficiency is defined in footnote c as Product Water/Raw Water. This definition is independent of actual or nameplate capacity. The CDA uses 88 percent as the desalter efficiency for both Chino I and Chino II. If 100 gallons of raw water go in the front door then 88 gallons of product water come out the back door. Obviously, the actual efficiency will vary from Chino I to Chino II and from day to day depending upon which wells are operating, the raw water quality, the RO performance, the IX performance, etc. However, in practice 88 percent is a reasonably reliable and conservative value for overall desalter efficiency and one that is familiar to CDA members.					
3	RBF	3	10/20/09	Table 1.1	Is Desalter Operation Factor reflective of actual or "nameplate" ? The heading or footer should clarify this.
Response We will delete the column referring to the Desalter Operation Factor.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
4	RBF	4	10/20/09	Table 1.1	The volumes and capacities shown in Table 1.1 appear to only reflect rated or nameplate or design capacities, efficiencies, and operation factors. Suggest modifying Table 1.1 to include actual capacities, efficiencies, and operation factors so that Phase 3 capacity increases are based upon actual and not theoretical or design capacities. Also Chino II Desalter is rated for a capacity higher than 10 mgd. Why is 10 mgd being used as its nameplate capacity?
Response This is a valid point and we considered deleting the table altogether. However, we believe that the Table 1.1 has value as a historical document in describing the expected configuration of the desalters up to this point. For example, there is some value in documenting that Chino I has been expected to operate at 14.2 mgd in order to produce 14,200 AF/yr of product water from 16,140 AF/yr of raw water. These are numbers that everyone is familiar with and which have appeared in past documents and CDA spreadsheets. We will add text to clarify the historical nature of Table 1.1. We will also add text and footnotes regarding the CDPH permit capacity of Chino II (15 mgd).					
5	RBF	5	10/20/09	General Comment	It would be helpful to the reader if both groundwater production and groundwater quality were discussed in Section 2, rather than discussing groundwater quality separately in Section 4.
Response We included the majority of water quality discussion in Section 4 because water quality is an issue directly related to treatment process discussion. For the record, no other readers expressed this opinion—it does not appear to be an issue of general concern.					
6	RBF	6	10/20/09	General Comment	GEOSCIENCE prepared a report for CDA dated February 4, 2002 that predicted migration of the Stringfellow perchlorate plume into areas of the Chino II wellfield by 2011. Has perchlorate been detected in any of the Chino II Desalter wells? Where is the Stringfellow perchlorate plume now with respect to the Chino II Desalter wells?
Response The GEOSCIENCE report presented a prediction of Stringfellow plume movement based on conditions known at that time. We have no records indicating the detection of perchlorate in any of the Chino II wells. WEI (Mark Wildermuth) says that an water quality update (under contract to Chino Basin Watermaster) is now in progress and will be available shortly that will include the Stringfellow plume.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
7	RBF	7	10/20/09	Pg. 2-2	Recent ENSAR data may suggest potential subsidence in the area at or near the westerly Chino I wellfield and proposed CCWFA. Has recent ENSAR data been considered for proposed CCWFA configuration?
Response Interferometric Synthetic Aperture Radar (InSAR) information has not been considered in the development of the proposed CCWFA configuration.					
8	RBF	8	10/20/09	Table 2.1	Have actual well capacities been estimated based upon Edison tests for each well?
Response We will use the most recent Southern California Edison capacity test (from “Chino Desalter Well Field Info” spreadsheet provided by Tom O’Neil on 11/13/09) and add columns to represent the current well capacity and TDH.					
9	RBF	9	10/20/09	Pg. 2-6	Scenarios 2 and 3 described in this section do not match Figures 2.3 and 2.4, respectively. Geoscience exhibits show a reduced existing Chino I wellfield capacity by an amount equal to the proposed CCWF wellfield to maintain a target total Chino I wellfield production rate of 16,100 af/year.
Response We will add text to page 2-6 to clarify that production of existing Chino I wells is reduced by the amount of CCWF production in Scenarios 2 and 3. We will also correct errors in Figures 2.3 and 2.4 so that the well field production values match those given in Table 2.2. The values presented in Table 2.2 are correct.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
10	RBF	10	10/20/09	Pg. 2-7	Have impacts (both production and water quality) to other groundwater pumpers been evaluated? Have potential cost impacts to CDA and/or the Sponsor group been evaluated?

Response

The CDA has established procedures for monitoring and mitigating the effects of CDA operation on non-CDA wells, as documented in "Chino I and Chino II Desalter Projects Ground Water Monitoring and Mitigation Plan," GEOSCIENCE, June 29, 2005. To date, there has been one case of mitigation; in July 2007 the CDA Board authorized expenditure of $8,820.74 to lower the pump in the Vernola Ranch Well #1, located south of Bellegrave Ave. between Wineville Ave. and I-15. An investigation conducted by GEOSCIENCE for the CDA concluded that the operation of CDA may have resulted in 6 feet of drawdown in the Vernola Ranch well. The pump setting was lowered by 60 feet.

As part of the Vernola Ranch well interference analysis, GEOSCIENCE recommended updating the Chino Desalter groundwater flow model with additional data in order to "reevaluate potential long-term ground water drawdown associated with Chino Desalter pumping." The updated model evaluation was authorized by the CDA and published as the "Chino Desalter Ground Water Flow Model Update," GEOSCIENCE, September 15, 2008. This report (GEOSCIENCE, 2008), which includes the Phase 3 expansion scenarios, is the source of the GEOSCIENCE modeling data presented in the Phase 3 PDR, including PDR Figures 2.2, 2.3, and 2.4. The GEOSCIENCE flow model update includes the following statement related to non-CDA groundwater users:

> "Additional drawdown associated with Chino Desalter pumping may impact existing agricultural pumpers in the immediate vicinity of the Chino Desalter well field area. All potential impacts will need to be addressed on a case by case basis in accordance with CDA's Ground Water Monitoring and Mitigation Plan."

(GEOSCIENCE, 2008, page 33)

Log No.	Source	Source No.	Date	Report Ref.	Comment
11	RBF	11	10/20/09	Pg. 2-10	Suggest that Geoscience's model runs be updated to incorporate three primary factors: 1). CCWFA wells pumping primarily from aquifer Layer 1 instead of Layer 2; 2). Maximizing production from existing CDA wells by transferring Wells I-13, 14, and 15 from the Chino I well system to the Chino II well system; and 3). modeling existing CDA well production based upon operational data (i.e. Edison tests), rather than a well operating factor.

Response

GEOSCIENCE has agreed to rerun their model.

We should note that GEOSCIENCE completed this modeling study under a contract directly with CDA and that the referenced report (GEOSCIENCE 2008) was published before work on the Phase 3 PDR began.

Log No.	Source	Source No.	Date	Report Ref.	Comment
12	RBF	12	10/20/09	Pg. 2-10	The well field operation factor does not distinguish between wells being offline/ or operating at reduced capacity due to redundant well supply, water quality or mechanical issues versus loss of well specific capacity. Suggest evaluating existing CDA wells to determine if design capacities need to be re-rated and determine how these re-rated capacities influence the number of new wells required to achieve 40,000 af/year pumping.
Response We will use the most recent Southern California Edison capacity test (from "Chino Desalter Well Field Info" spreadsheet provided by Tom O'Neil on 11/13/09) to represent the current well capacity.					
13	RBF	13	10/20/09	Pg. 2-10 to 2-11	Using original well design capacities to calculate well operation factors leads the reader to believe there is significant excess capacity in the CDA wellfield. If wells were evaluated and those with reduced specific capacity re-rated, what would be the overall wellfield operation factor? I think that would give a more accurate portrayal of the CDA's wellfield.
Response We will use the most recent Southern California Edison capacity test (from "Chino Desalter Well Field Info" spreadsheet provided by Tom O'Neil on 11/13/09) to represent the current well capacity.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
14	RBF	14	10/20/09	Table 2.2;	The large disparity between Wildermuth's and Geoscience's modeled rates appear to be leading to different recommendations and should be reconciled. If Geoscience's modeled rates for existing CDA wells are used, assuming Wells I-13, 14, and 15 are transferred to Chino II wellfield, and if Wildermuth's projected rates for the CCWFA wells are used, the total Chino I wellfield production would be 11,319 af/year. If Geoscience's proposed CCWFA rates are used, total proposed Chino I wellfield production would be 11,573 af/year. Both numbers fall short of the 16,100 af/year existing wellfield rated capacity for Chino I. Geoscience also appears to be under-rating CDA wells II-7, 8, and 9A due to their low operating factor. It is recommended that CDA wells be re-rated based upon their actual specific capacities, water quality, and other constraints, rather than an operating factor.

Response

Table 2.2 shows that the WEI model provides 16,140 AF/yr raw water to Chino I, which is the correct raw water requirement to deliver 14,200 AF/yr of product water at 88 percent overall desalter efficiency. Likewise, the GEOSCIENCE model raw water delivery of 16,111 AF/yr to Chino I is adequate (although 29 AF/yr low). These are the numbers in Table 2.2 but they are not the numbers cited in the comment. We don't follow your arithmetic.

The WEI and GEOSCIENCE models are not based on specific operating factors for the individual wells. The operating factor is calculated and presented for each well in Table 2.2 so that the reviewer can see what percent of current well capacity results from the well production used by the models. We will revise the table to use the most recent SCE performance tests for calculating the operating factor for each well.

It is true that WEI and GEOSCIENCE modeling are based on different approaches. As discussed in the PDR text, the WEI model is based on transferring Wells CDA I-13, 14, and 15 to the Chino II raw water supply; the GEOSCIENCE model is based on leaving Wells CDA I-13, 14, and 15 in the Chino I raw water supply and drilling new wells for Chino II. The PDR recommends adopting the WEI approach rather than drilling new Chino II wells at the present time.

Log No.	Source	Source No.	Date	Report Ref.	Comment
15	RBF	15	10/20/09	Table 2.2;	What would Geoscience's design capacities and water quality predictions for the CCWFA wells be if they were pumping from Layer 1 per CBWM's recommendation? How would these revised values affect proposed Chino I Desalter improvements?
Response GEOSCIENCE did not provide water quality projections that were used in configuring the proposed Chino I process modifications. Therefore, the Chino I recommended improvements are independent of GEOSCIENCE's modeling. The CCWF well capacity and water quality will be better understood after the initial two production wells are constructed and tested. Final configuration of the CCWF well field and the Chino I modifications can be confirmed at that time. Costs in the PDR assume that two additional RO trains are required at Chino I in order to reach nameplate capacity. This will allow production of nameplate capacity at RO/IX well TDS levels of up to 1,400 mg/L (see Figure 4.12), which is a conservative assumption. GEOSCIENCE reports that the TDS levels in wells near the CCWF range from 176 to 1,350 mg/L (see Appendix A.4, page 9).					
16	RBF	16	10/20/09	Pg. 2-14	What are the impacts to existing well capacities for those wells predicted to have dewatered screens? Impacts to well capacities due to dewatered screens should also factored into determining realistic wellfield capacities.
Response It is assumed in the modeling that well pump settings are lowered, pump head increased, and pump motors upsized as necessary in order to maintain capacity.					
17	RBF	17	10/20/09	Pg. 2-14	Have the impacts of air entrainment been considered with respect to 1). The potential for increase in corrosion of the well; and 2). Impacts to water quality and treatment?
Response One of the significant conclusions of this section is that "the modeling shows that the greatest impact on the Chino Desalter well fields is the current, baseline operation. The Phase 3 expansion has a relatively small impact." Impacts due to declining water levels will occur without the Phase 3 expansion and any actions taken to resolve such impacts are not costs associated with the Phase 3 expansion. Such impacts will be dealt with by the CDA, if and when they occur.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
18	RBF	18	10/20/09	2-14	Have clearances between the inside well casing and submersible motor been review to ensure that baffling is feasible?
Response We will delete the reference to baffling.					
19	RBF	19	10/20/09	Table 2.3;	There's a significant disparity between Geoscience's pumping groundwater levels and Wildermuth's. These differences have a large impact on predicting costs for well pump and motor modifications and loss of wellfield capacity. Suggest that actual water level data be collected from all CDA wells to help reconcile some of the differences.
Response Actual water level data and well pumping rates are presented in Appendix A.3. In addition, we will add the entire CDA history of annual SCE well performance test data (including pumping water levels) in Appendix B.1.					
20	RBF	20	10/20/09	Pg. 2-16	Does the new Phase 3 project grandfather into CDA's existing Groundwater Monitoring and Mitigation Plan?
Response The “Chino I and Chino II Desalter Projects Ground Water Monitoring and Mitigation Plan,” GEOSCIENCE, June 29, 2005 describes up to 15 wells for Chino I and up to 11 wells for Chino II. The document makes no reference to well capacities or groundwater withdrawal rates nor does it describe the Chino Creek Well Field.					
21	RBF	21	10/20/09	Pg. 2-17	Refer to separate sheet of comments for Procurement Specification for Submersible Style VTP and Motor
Response As directed by the Sponsors, the PDR will be rewritten around line-shaft pumps instead of submersible pumps for the new wells. We will delete the pump and motor specification in Appendix B.1.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
22	RBF	22	10/20/09	Pg. 2-18	Recommend specifying stainless steel submersible check valves.
Response As directed by the Sponsors, the PDR will be rewritten around line-shaft pumps instead of submersible pumps for the new wells. We will delete subsection 2.4.2.3—Downhole Appurtenances because it is not applicable to a line-shaft pump.					
23	RBF	23	10/20/09	Pg. 2-19	Recommend restrained joints in lieu of thrust blocks when in streets due to high potential for existing utility interferences in Bellgrave.
Response We will modify the text to include this comment.					
24	RBF	24	10/20/09		Figure 2.6 is missing from Report.
Response Figure 2.6 does not exist. We will delete the text reference.					
25	RBF	25	10/20/09	Pg. 2-21	FYI, Chino II wells were designed for addition of future generators.
Response We will add text with this information and recommending the same practice for wells added as part of the Phase 3 expansion.					
26	RBF	26	10/20/09	Pg. 2-22	Apparent typo in 4th description from top of page. Should read, "After a set period of time the pumped waste valve will begin to close; simultaneously, the ***discharge valve*** will begin to open." (instead of pump-to-waste valve).
Response We will correct the text.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
27	RBF	27	10/20/09	General Comment	There should be a discussion in this Section regarding the Regional Board's requirements for pumping to waste, both for well construction and for operation. The discussion should indicate how the Sponsor group intends to comply with the Basin Plan Objective with respect to discharging elevated levels of TDS and nitrate.
Response It is the stated position of the Regional Water Quality Control Board that the overall benefit of the Phase 3 expansion in providing additional salt and nitrate removal from the basin and in promoting Watermaster's hydraulic control objectives over discharge to the Santa Ana River outweigh the minor effects of infrequent discharge of water with elevated levels of TDS and nitrates during well construction or pump-to-waste during well startup.					
28	RBF	28	10/20/09	Pg. 3-1	Are VOC's anticipated from the CCWF?
Response Yes, VOCs are anticipated from the CCWF. The projected VOC levels in the individual CCWF wells and proposed treatment alternatives are discussed in Section 4 as a treatment issue.					
29	RBF	29	10/20/09	Pg. 3-2	With CCWF raw water from Layer 1 discharging into CDA's existing RO/IX raw water line, what are the predicted impacts to Chino I Desalter's baseline water quality?
Response Costs in the PDR assume that two additional RO trains are required at Chino I in order to reach nameplate capacity. This will allow production of nameplate capacity at RO/IX well TDS levels of up to 1,400 mg/L (see Figure 4.12), which is a conservative assumption. GEOSCIENCE reports that the TDS levels in wells near the CCWF range from 176 to 1,350 mg/L (see Appendix A.4, page 9). The CCWF well capacity and water quality will be better understood after the initial two production wells are constructed and tested. Final configuration of the CCWF well field and the Chino I modifications can be confirmed at that time. We will add text to clarify the raw water quality assumptions.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
30	RBF	30	10/20/09	Figure 3.2	Where is the breakdown of capital costs for Options 1 through 4 in the report? How many linear feet and what diameter pipe are in each Option? Figure 3.2 does not appear to have a scale, so lengths could not be estimated. Pipe diameters should be shown.
Response We will add this information to Figure 3.2.					
31	RBF	31	10/20/09	Pg. 3-5	Do not understand the sentence at the top of the page, "In addition, they require use of well sites CDA II-13 and 14, for which there are limited undeveloped parcels available for a well site." What are well sites CDA II-13 and 14 needed for Options 2 and 3? How did that factor into the ranking criteria? What, specifically, is the ranking criteria for the options? Is it purely cost?
Response The objective is to pick a route for the intertie pipeline that allows the flexibility of constructing three additional Chino II wells (i.e., from among CDA II-10 through 14). Pipeline cost is the most significant issue, both initial cost and future cost (if any of CDA II-10 through 14 are constructed in the future), these costs are tabulated in Figure 3.2.. Aside from the cost criteria, Options 2 and 3 require CDA II-13 and 14 to satisfy the “the three additional well” criteria. In the paragraph that you referenced, we are pointing out that the property adjacent to the Option 2 and 3 pipeline route is essentially completely built up with the exception of two park properties, where CDA II-13 and 14 have been provisionally located. There are no other sites for these wells. Refer to the Well Field PDR which states: “Five potential well sites were originally selected for expansion of the Chino II Desalter wellfield based on the results of recent ground water modeling…Three of those five potential well sites (designated II-10, II-11, and II-12) were selected as favorable for installation of production wells. This selection was based on evaluation of several criteria such as anticipated geohydrologic conditions, potential for ground water level interference, and proximity to the Chino II Desalter facility.” (Appendix D.4, page 3)					

Log No.	Source	Source No.	Date	Report Ref.	Comment
32	RBF	32	10/20/09	Pg. 3-5	What are water quality impacts to Chino II Desalter wellfield by transferring CDA Wells I-13, 14, and 15?
Response The water quality impacts to Chino II are discussed in Section 4.4.1. See Figure 4.14 and accompanying text for water quality impact on TDS, which is the limiting constituent for bypass operation. The issue of the extremely impaired status with respect to nitrates is discussed in Section 3.4.1.					
33	RBF	33	10/20/09	Pg. 3-6	The capital cost estimate shown $2,270,000 does not match the cost estimate on Table 8.5, which is $2,870,000 (without contingency, engineering, etc.)
Response We will replace the $2.27M value with $2.87M in the Section 3 text.					
34	RBF	34	10/20/09	Figure 3.3	Where is the potential nitrate removal treatment facility described? Is the purpose of this facility to reduce nitrates from Wells I-13, 14, and 15 to avoid permitting restrictions from DPH due to these wells' designation as extremely impaired water sources?
Response Your statement on the purpose of nitrate removal pretreatment is correct. This is described more fully as Option 3 (page 3-13) and in Table 3.1. We are not recommending nitrate removal pretreatment and so we will delete this from Figure 3.3 to avoid confusion.					
35	RBF	35	10/20/09	Figure 3.4	Does the property dimensions shown on this exhibit account for the potential of adding an IX plant in the future, as shown in Figure 3.3?
Response No. We are not recommending IX pre-treatment as part of the intertie facilities and the site is not sized for it. We will delete the “potential IX” from the schematic in Figure 3.3 to avoid confusion on this point.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
36	RBF	36	10/20/09	Pg. 3-10	What are new velocities in raw water pipelines with the addition of CDA Wells I-13, 14, and 15? What if future Wells II-10, 11, and 12 are added?

Response

Using the scenario shown in Appendix B.4 calculations (CDA I-13, 14, 15 operating at 90 percent of design capacity and CDA II-8, 9A off) the raw water pipeline velocities range from 3.3 – 3.9 fps from 65th Street to Hamner Ave., where we stopped parallel pipe construction (see Figure 3.5). Velocity in the existing 30-inch pipeline from Hamner (Well II-4) to Wineville Ave. (Well II-6) is 5.9 fps. Velocity in the existing 30-inch pipeline from Wineville to Day Creek Channel is 7.4 fps. Velocity in the existing 36-inch pipeline along Day Creek Channel is 5.1 fps. These velocities are all shown in the Appendix B.4 calculations.

In the Appendix B.4 scenario, the combined flow from wells west of Hamner Ave is 15.6 mgd. If future wells CDA II-10, 11, and 12 are added then the parallel pipe sections we are proposing along Bellegrave Ave. from Haven Ave (CDA II-1) to Hamner Ave. (CDA II-4) will carry an additional 4.3 mgd, a 27 percent increase, without exceeding the 5 fps criteria for new pipelines. This means that CDA can add 3,000 gpm of well capacity from future wells without exceeding 5 fps.

37	RBF	37	10/20/09	Figure 3.6	What is the new HGL if future Wells II-10, 11, and 12 are added?

Response

The pipeline headloss between Chino II and CDA II-1 (the westernmost existing well) is 80 feet under the scenario shown in Appendix B.4 calculations. If an additional 3,000 gpm of flow is added from new Chino II wells located west of Well II-1 then the pipeline headloss at CDA II-1 increases by to 98 feet. In other words, existing CDA II-1 would see an 18 foot increase in TDH. The TDH increase would decrease moving to the east across the existing Chino II well field. We have assumed in this case that the 3,000 gpm capacity added at new Chino II wells would be subtracted from the easternmost wells (worst case scenario).

38	RBF	38	10/20/09	Pg. 3-12	What are the impacts to the existing Chino II Desalter well pumps with the ***combined*** influence of declining water levels and increased discharge pressure?

Response

In the case of CDA II-1, which sees the highest pipeline headloss because it is the most westerly Chino II well the increase in TDH due to the additional Chino II expansion pipeline headloss is 40 feet (approximately 10 percent increase in TDH).

The additional TDH at the same well due to drawdown (from 2008 to 2017 under GEOSCIENCE's baseline conditions) is 43 feet. The GEOSCIENCE Scenario 3 with Chino II expansion adds another 7 feet of drawdown (see Table 2.3).

Log No.	Source	Source No.	Date	Report Ref.	Comment
39	RBF	39	10/20/09	Pg. 3-13	Option 4: Who determined that this option has a "high risk of failure?" Did Geoscience and/or Wildermuth provide information from which this conclusion was drawn? Also, extracting from Layer 1 is important to CBWM for the CCWF, because that is where hydraulic control is required. It is not a requirement for ALL CDA wells. As an example, Chino I Wells !-13, 14, and 15 and all of the Chino II Desalter wells are screened in both the upper and lower aquifers. CDA wells in the easterly most area do not have a clearly discernable upper and lower aquifer, as these two layers tend to "merge" together as one moves from west to east. Agree that from a cost standpoint, this Option is not highly favored; however, it should also be looked at as a backup in the event DPH does not end up allowing bypass at Chino II due to extremely impaired source, or it turns out that the Chino I Desalter still requires capacity from some or all of Wells I-13, 14, and 15, due to reduced actual capacity of the Chino I Desalter wellfield.

Response

Wildermuth and GEOSCIENCE both agree with the comment that the influence of confining layers separating Layer 1 (upper) and Layer 2 (lower) aquifers diminishes as one moves from west to east. They also agree that this increases the likelihood increasing TDS and nitrates over time as water moves vertically from the upper aquifer system in response to pumping the higher quality Layer 2 aquifer zones.

We believe that increasing TDS and nitrates can be seen in Wells I-13, 14, and 15 and some Chino II wells, all of which are screened in both the upper and lower zones. The effect is most pronounced in Well 9A, the most eastern Chino II well where the effect of confining layers between Layers 1 and 2 is minimum and drawdown is maximum. Well 9A is currently extremely impaired with respect to nitrates.

We agree that the option of drilling additional Chino II wells is not favorable from a cost standpoint. We also agree that additional Chino II wells may be required in the future.

Log No.	Source	Source No.	Date	Report Ref.	Comment
40	RBF	40	10/20/09	Table 3.1	Option 2: Cost for Option 2 should also include the cost to increase capacity at Chino I Desalter equal to the loss of water at Chino II Desalter currently made available by bypassing. Since CDA members' water entitlements are not tied to a specified desalter, CDA entitlements are being met by the current higher capacity of Chino II.
Response We will add text to describe a recommended option that provides sufficient capacity to meet CDA entitlements without the cost of modifying Chino I to achieve 14.2 mgd nameplate capacity. Under this option the bypass capacity is not required to meet CDA entitlements; it can be used to reduce the operating cost of Chino II, in which case Table 3.1 is still valid.					
41	RBF	41	10/20/09	Pg. 3-16	Typos. Please correct. AWWA C-900 is for pipelines 12-inches or smaller. C-905 is for pipelines 14-inch to 48-inches.
Response We will correct the text.					
42	RBF	42	10/20/09	Pg. 4-1	Why is the bypass capacity not included in Chino II Desalter's existing capacity? Why is Chino II Desalter not being expanded by to a capacity greater than 20.5 mgd, to retain existing bypass capacity for CDA members, and avoiding improvement costs at Chino I Desalter?
Response We will modify the text to include discussion of the historical Chino II raw water bypass capacity as part of the nameplate capacity including possible ramifications.					
43	RBF	43	10/20/09	Pg. 4-2	FYI, At the time Chino I Desalter expansion was designed, nitrate levels in Wells I-1, 2, 3, and 4, averaged 21, 17, 19, and 78 ppm, respectively.
Response We will revise text to read that Well I-4 is “currently” extremely impaired for nitrates.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
44	RBF	44	10/20/09	Pg. 4-2	Chino II Ro/IX/Bypass Supply Wells were screened by both the shallow and deep alluvial aquifer. As stated previously, the shallow and deep alluvial layers tend to dissipate as one moves farther east.
Response We will add text stating that these wells are screened in both the upper and lower aquifer zones.					
45	RBF	45	10/20/09	Pg. 4-3	Who provided Table C.2 in the Appendix? Was this data used in the treatment modeling, or was other predictive water quality used?
Response The data in Appendix C.2 were furnished by WEI and represent an extraction from the State groundwater quality database of all reported water quality data for all wells within a 10-year travel time of the proposed CCWF wells. We included the data as a matter of due diligence disclosure but we did not use the Appendix C.2 data in any projections or modeling.					
46	RBF	46	10/20/09	Pg. 4-3	In last paragraph, I believe the writer intended to say, " The graphic presents the wells in a generally **west** (left) to **east** (right) alignment.
Response We will correct the text by transposing west and east.					
47	RBF	47	10/20/09	Pg. 4-7	Wording of first bullet in bottom third of the page is puzzling. Since 2 of the 4 VOC wells have detected VOC's, haven't VOC's been detected? Same comment for the third bullet with respect to TCE and fourth bullet (on page 4-8) with respect to TCP.
Response We will revise the text to (hopefully) clarify the intent.					
48	RBF	48	10/20/09	Pg. 4-9	Typo, second paragraph. Replace 400,000 acre-feet with 40,000 acre-feet.
Response The text is a quote from an e-mail received 6/15/09 from Tom McCarthy (WEI), with the Figure 4.3 file attached. Referring to Figure 4.3, Tom defined re-operation as “the dewatering of 400,000 acre-ft from storage.” We believe that the definition is correct.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
49	RBF	49	10/20/09	Figure 4.3	What is the makeup of the Chino and Ontario contaminant plumes. Are they the same (i.e. mainly TCE and TCP)?
Response We will include Figure 4.3b from the 2008 State of the Basin Report, WEI, which indicates that both the Chino Airport and Ontario International Airport plumes are almost entirely trichloroethene (TCE) with a trace of cis-1,2-dichloroethene. See Appendix A.4, page 12, for further discussion of plume constituents).					
50	RBF	50	10/20/09	Figure 4.3	According to Figure 4.3, by 2035, 9 CDA wells, including two CCWF wells, will be within the OIA contaminant plume, and 4 CDA wells, including two VOC bypass wells and two CCWF wells, will be within the Chino Airport plume. If up to 13 wells are at risk, is Option 3 still the recommended alternative?
Response One of the stated conclusions in the text is that options are preferred that defer decisions until water quality and regulatory objectives are better defined in the future. This rules out Option 2, which would require construction of parallel raw water pipelines now as part of the Phase 3 project, using modeled water quality data as the basis for selecting which pipelines to extend to which wells. After eliminating Option 2, we are left with either Option 1 or 2 as viable strategies for dealing with VOC treatment at Chino I. Our recommendation to obtain well sites that are large enough to support wellhead treatment does not preclude future selection of Option 1 (commingled treatment at Chino I) but it allows the flexibility of Option 3 (wellhead treatment).					
51	RBF	51	10/20/09	Figure 4.4	It appears that TCP levels are rising in Well I-2, starting mid-2007 and continue to rise. It appears that TCP levels are tapering off in Well I-3, but not necessarily declining.
Response Could be. Time will tell.					
52	RBF	52	10/20/09	Pg. 4-15	Typo. Third paragraph. Replace CDA I-13 with CDA I-3.
Response We will correct this.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
53	RBF	53	10/20/09	Pg. 4-18	Appendix C.2 appears to contain proposed water quality for Chino Creek wellfield. Is this what was modeled for the Chino I Desalter?
Response No. The data in Appendix C.2 were furnished by WEI and represent an extraction of data from the State groundwater quality database of all reported water quality data for all wells within a 10-year travel time of the proposed CCWF wells. We included the data as a matter of due diligence disclosure but we did not use the Appendix C.2 data in any projections or modeling.					
54	RBF	54	10/20/09	Pg. 4-23	First paragraph and second bullet. IX process does marginally affect TDS (i.e. increases TDS) as compared with raw water TDS. Therefore, RO/IX raw water TDS should not be assumed to be the same as the IX effluent TDS.
Response Typically, a slight reduction in TDS is expected across a nitrate removal IX system as NO_3^- (equivalent weight = 62.0) is replaced with Cl^- (equivalent weight = 35.5) but at Chino I there is an increase in TDS across the IX system. Tom O'Neil pointed this out also and says the TDS increase at Chino I is 10 - 15 percent. We will modify the text to read "Because the IX process removes nitrate but not TDS…" We will revise the bullet to read "IX effluent TDS = RO/IX raw water x 1.1" and we will revise Figures 4.9, 4.11 and 4.12 accordingly.					
55	RBF	55	10/20/09	Pg. 4-27	Given the high treatment cost needed to bring Chino I Desalter up to nameplate capacity, isn't it worth considering expanding Chino II Desalter to a capacity >20.5 mgd and move capacity from Chino I to Chino II?
Response We will add a discussion of this option.					
56	RBF	56	10/20/09	Pg. 4-31	Were other alternatives considered, such as re-allocating capacities as described in Comment No. 54?
Response We will add a discussion of this option.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
57	RBF	57	10/20/09	Pg. 4-32	Chino II Desalter is rated for capacity higher than 10 mgd. Why isn't bypass considered as part of nameplate capacity?

Response

CDPH approved the following capacity in the Chino II operating permit:

> "The Chino II Desalter is approved for a design capacity of 6 MGD of reverse osmosis permeate flow, a design capacity of 4 MGD of ion exchange treated flow, and up to 5 MGD of by-pass blend flow to meet the treatment target. The Desalter shall not be operated at a daily flow in excess of these capacities without approval from the Department."

(Permit No. 05-20-06P-005, page 5).

The "treatment target" referred to is the blended product water TDS or nitrate goal. The actual capacity of the Chino II bypass flow is constrained by both the performance of the RO and IX processes and the quality of the raw water, which is dependent upon the wells being operated on a given day and changes in groundwater TDS and nitrates over time.

In other words, the capacity of the raw water bypass at Chino II is limited by water quality under the terms of the CDPH permit. Because of the CDPH water quality limitation the Chino II bypass has never operated at the allowable maximum rate of 5 mgd. The historical average Chino II bypass capacity is about 2 mgd and the 90th percentile bypass capacity is less than 3 mgd (see Figure 4.13).

We will modify the text to include discussion of considering the historical Chino II raw water bypass capacity as part of the nameplate capacity including possible ramifications.

58	RBF	58	10/20/09	Pg. 4-32	Cannot reconcile Figure 4.13 with last paragraph on Page 4-32.

Response

Figure 4.13 is incorrect and will be replaced (see Log No. 59 response).

59	RBF	59	10/20/09	Pg. 4-34	Is Chino II Desalter RO and IX trains operating at less than nameplate capacity as frequently as stated. Figure 4.13 appears to show operation at nameplate capacity at least 90% of the time for both RO and IX.

Response

The values in the text were taken directly from the numeric data analysis and are correct. Unfortunately, the lines in Figure 4.13 morphed slightly during the preparation of the graphic. We will replace Figure 4.13 with a corrected version.

Log No.	Source	Source No.	Date	Report Ref.	Comment
60	RBF	60	10/20/09	Pg. 4-34	Second paragraph. As long as CDA water quality objectives are being met, what are the negative ramifications of using the bypass?
Response Lower TDS and nitrate levels delivered to the member agencies allow greater flexibility in use of local supplies through blending. Ultimately, it's a matter of CDA policy as to the tradeoff between operating cost and any water quality benefits for member agencies.					
61	RBF	61	10/20/09	General Comment	A process flow diagram of both Chino I and Chino II, under existing and proposed conditions, would be helpful.
Response A process flow diagram for Chino II is included in the Addendum No. 1 D.3 insert.					
62	RBF	62	10/20/09	Table 5.2	Under Treatment Process Flows, please reconcile IX capacity existing, versus total. Is a reduction in IX capacity being recommended? If so, under modified capacity, a negative number would be appropriate.
Response We agree that the table is misleading as it now stands. We will clarify the table by deleting the "Total" capacity row under the "Treatment Process Flows" heading and by changing the 4.2 mgd to 4.9 mgd in the "Total" column.					
63	RBF	63	10/20/09	Table 5.2	Under SARI Flows Under Conservative Criteria, please review values with projected recoveries.
Response Conservative criteria for RO recovery is 78 percent. This correction was made in Addendum No. 1.					
64	RBF	64	10/20/09	Pg. 5-3	Second paragraph. Why weren't SARI meter readings used to determine historical daily SARI discharges from Chino I?
Response We will replace Figure 5.1 with a version based upon SARI discharge meter readings and modify the text accordingly.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
65	RBF	65	10/20/09	Table 5.3	Note several discrepancies: Under Historical Waste Flows, IX Brine Waste Flow at 98% recovery = 0.08. Total Max = 1.58. Under SARI Flows Under Conservative Criteria: IX Brine Waste @ 97.5% recovery for expansion = 0.10, with total = 0.20 and overall Total = 1.60 existing, 1.73 expansion and 3.33 Total.
Response These errors were corrected by reissuing Table 5.3 with Addendum No. 1.					
66	RBF	66	10/20/09	Table 5.3	Is the cost for increasing discharges to JCSD's SARI lateral in Etiwanda included in the project cost estimate?
Response The potential costs for additional capacity in the JCSD SARI laterals in Etiwanda and Wineville Avenues are not available at the present time. We will include a placeholder value representing the cost of a parallel pipeline from Chino II to SARI Reach IVD for options requiring additional SARI capacity at Chino II. The concentrate reduction project at Chino II will eliminate the need for any additional brine pipeline capacity from Chino II, either from JCSD or parallel pipeline construction.					
67	RBF	67	10/20/09	Pg. 6-3	What is the "blended" water quality coming from JCSD's 1110 zone? My recollection is that the water quality from JCSD's wells in their 1110 zone were as good or better than desalter water.
Response Option B requires transportation of WMWD water through the JCSD 870 zone, either to the Riverside-Corona Feeder (long-term operation) or to the Arlington pipeline (short-term operation). In preparing the referenced memo, we took water quality data for the JCSD 870 zone from the District's 2008 Consumer Confidence Report, which gives nitrate levels for the area influenced by the IX plant as 27 to 32 mg/L as NO_3 with an average of 30 mg/L. WMWD is obligated by contract to deliver water to Norco at less than 25 mg/L as NO_3. For the record, your recollection is correct on the JCSD 1110 zone water quality. The 2008 CCR reports nitrate levels in this zone as 10 to 23 mg/L as NO_3, with an average of 22 mg/L.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
68	RBF	68	10/20/09	Pg. 6-9	Is Norco no longer requiring seasonal peaking capacity, or is seasonal peaking intended to come from the Arlington Desalter, with deliveries from Chino II Desalter being a baseline delivery?
Response This issue has been discussed in project workshops and WMWD is aware that CDA entitlements are baseline “take-or-pay” deliveries.					
69	RBF	69	10/20/09	Pg. 6-15	Can Norco's 1,000 af/year delivery by made through JCSD's 870 zone, instead of increasing the diameter of the Hamner pipeline between Riverside Drive south to Schliesman Road?
Response Norco can continue to take its 1,000 AF/yr entitlement by delivery through the JCSD system. A decision on increasing the size of the Hamner pipeline will be a policy matter for WMWD.					
70	RBF	70	10/20/09	Pg. 7-1	When Wells I-13, 14, and 15 were added to the Chino I Desalter wellfield, San Bernardino DPH office required a public hearing because of their designation as an extremely impaired source. Since these wells are being shifted to Chino II Desalter, will another public hearing be required?
Response We do not know the answer at this time.					
71	RBF	71	10/20/09	Pg. 7-2	Have required ERCs for the VOC air stripper been estimated and included in the cost estimate section?
Response It is our opinion that Emission Reduction Credits (ERCs) are not required for continued operation of the VOC air strippers. We are not recommending or anticipating the enlargement or expansion of the air stripper operation.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
72	RBF	72	10/20/09	Pg. 7-3	VOC's are not the only concern. Nitrate and TDS levels above the Basin Plan Objective need to be dealt with. Previous well drilling used the "offset" method to comply with the Basin Plan.

Response

It is the stated position of the Regional Water Quality Control Board that the overall benefit of the Phase 3 expansion in providing additional salt and nitrate removal from the basin and in promoting Watermaster's hydraulic control objective over discharge to the Santa Ana River outweigh the minor effects of infrequent discharge of water with elevated levels of TDS and nitrates during well construction or pump-to-waste during well startup. This stated position will be confirmed in writing for well construction and operation.

The fall-back option is to use offsets for nitrate and TDS levels in excess of the De Minimus permit levels. This is the method adopted for the Chino I well field expansion and Chino II well drilling and operation.

Log No.	Source	Source No.	Date	Report Ref.	Comment
73	RBF	73	10/20/09	Pg. 8-11	Typo. Replace 400,000 in second paragraph with 40,000.

Response

We believe the 400,000 AF value cited in the text is correct. The OBMP objective is to withdraw 40,000 AF of groundwater annually for treatment at the desalters and to create a total storage withdrawal of 400,000 AF before replenishment is required. See re-operation discussion in our response to Comment Log No. 48.

Log No.	Source	Source No.	Date	Report Ref.	Comment
74	RBF	74	10/20/09	Table 8.9	Wells CCWFA-1, 2, 3, 4, 5, and 6 + Monitoring Wells at $17,640,000 does not match Appendix G.2 cost of $13,228,600.

Response

The inflation adjusted capital cost estimates shown in Table 8.9 are not intended to match the current dollar construction cost estimates in Appendix G. The construction costs from Appendix G are rounded off and transferred to Table 8.5 where agreed-upon multipliers are added for engineering, contingency and legal/administrative costs. The capital costs are then adjusted for inflation to the projected mid-construction point. These adjusted capital costs are then transferred to Table 8.9.

We checked the figures and find that we made an $90,000 error in transferring the construction cost of well CCWFA-6 from Appendix G to Table 8.5. We will revise Tables 8.5, 8.9 and 8.10 to correct this error.

Log No.	Source	Source No.	Date	Report Ref.	Comment
75	RBF	75	10/20/09	Table 8.9	Raw water pipeline from Well CCWFA-6 to Chino I at $1,940,000 does not match Appendix G.3. cost estimate of $1,354,000
Response See response to Comment Log No. 74. We checked and have not identified any errors.					
76	RBF	76	10/20/09	Table 8.9	Raw water intertie pipeline cost estimate at $5,940,000 does not match Appendix G.3. cost estimate of $4,513,000.
Response See response to Comment Log No. 74. We checked and have not identified any errors.					
77	RBF	77	10/20/09	Table 8.9	Raw Water Intertie Pump Station Cost estimate at $3,770,000 does not match Appendix G.4 cost estimate of $2,871,000
Response See response to Comment Log No. 74. We checked and have not identified any errors.					
78	RBF	78	10/20/09	Table 8.9	Chino I Modifications to Nameplate Capacity (14.2 mgd) at $7,300,000 does not match Appendix G.5 cost estimate of $5,475,000
Response See response to Comment Log No. 74. We checked the figures and find that we made an $50,000 error in transferring the construction cost from Appendix G to Table 8.5. We will revise Tables 8.5, 8.9 and 8.10 to correct this error.					
79	RBF	79	10/20/09	Table 8.9	Where is detailed cost breakdown for Chino II Desalter Expansion?
Response We will include a detailed cost breakdown for the complete Chino II expansion in Appendix G.5.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
80	RBF	80	10/20/09	Table 8.9	Is bypass capacity value estimated? Bypass value could be viewed as avoidance cost for bringing Chino I Desalter up to nameplate capacity, including additional SARI purchase costs. Alternatively, bypass value could be calculated as cost savings realized by lowering upsizing of Chino II from 10.5 down to 7.25 mgd, based upon projected 16% bypass.
Response Bypass capacity value is included in the buy-in analysis, which is a separate document.					
81	RBF	81	10/20/09	Table 8.9	Why is approved grant funding distributed only among Sponsor Group, if non-sponsors now need to pay for certain upgrades that would not be performed if the Phase 3 project were not implemented.
Response We will revise Table 8.7 to apply grant funding to the Chino I modifications.					
82	Chino	1	10/27/09	General Comment	We understand it is recommended that intertie facilities would provide for the re-direction of raw water produced by Wells Nos. I-13, 14, and 15 from Chino I to Chino II. Consequently, the need for the construction of additional wells to supply water to the Chino II Expansion would be reduced. We also understand that Chino Creek Wells would be constructed and operated in order to attain hydraulic control of the Chino Basin. In our view the idea that production by the CCWF would serve as a satisfactory substitute for the re-direction of water produced by Wells Nos. I-13, 14, and 15 is flawed. Wells Nos. I-13, 14, and 15 provide some existing redundancy of raw water supply to Chino I. The performance of Wells Nos. I-13, 14 and 15 is known, whereas the performance of the CCWF is unknown. Further, it is suspected that the raw water quality that would be produced by the CCWF will be inferior to the water quality produced by the existing Wells Nos. I-13, 14, and 15, presenting additional new treatment challenges to the Chino I operators and posing additional risks with respect to maintaining a reliable uninterrupted treated water supply. We also understand that an intertie, in concept, may facilitate a “pump back” capability that would provide for enhanced reliability of water supply to CDA members that currently are able to receive water from only Chino I. Because of the serious reliability-

Log No.	Source	Source No.	Date	Report Ref.	Comment
					related concerns, the pump-back capability seems an essential piece of a plan that would allow for the re-direction of raw water production by Wells Nos. I-13, 14 and 15 to Chino II. The Buy-In, which is envisioned to provide for equity, is not available for review. Because it is not available for review we cannot know at this time whether or not it contains an equitable proposal associated with the intertie/pump back concepts. In our current view, establishing the pump back capability, which would be intended to address the reliability of Chino I water issue, allows for the re-direction of raw water produced by Wells Nos. I-13,14, and 15.
Response We understand this comment as stating the position that the connection of wells I-13, 14, and 15 to the Chino II raw water system is acceptable if the intertie facilities allow transfer of raw water from the Chino II raw water system to the Chino I raw water system (referred to as "pump-back" in this comment) but that the connection of wells I-13, 14, and 15 to the Chino II raw water system is unacceptable without the ability to transfer raw water from the Chino II raw water system to the Chino I raw water system. In our view, the Phase 3 expansion raw water facilities recommended in the PDR (i.e., intertie between the Chino I and Chino II raw water systems with the ability for transfer water from the Chino I hydraulic gradeline to the Chino II HGL and vice versa) provides an integrated raw water system that increases reliability for both desalters. We believe that this is an integral part of the concept of connecting wells I-13, 14, and 15 to the Chino II raw water system. It is understood that the CCWF wells must produce from the shallow aquifer in order to help Watermaster achieve hydraulic control.					
83	Chino	2	10/27/09	Pg. 1-4	The paragraph at the bottom of the page begins "Table 1.2 refers to the Desalter Operation Factor …". We believe "Table 1.2" should read "Table 1.1".
Response We have added text to Table 1.2 describing the Desalter Operation Factor and deleted the column referring to Desalter Operation Factor from Table 1.1.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
84	Chino	3	10/27/09	Section 2	Modeling work utilized well design capacities, yet actual operational history has demonstrated that Wells Nos. 1, 3, 6, and 7 do not produce their design capacity. It seems unwise to assume that all wells operate satisfactorily at design capacity in modeling work as it can potentially lead to misleading results.
Response We will use the most recent Southern California Edison capacity test (from "Chino Desalter Well Field Info" spreadsheet provided by Tom O'Neil on 11/13/09) to represent the current well capacity.					
85	Chino	4	10/27/09	Pg. 2-6	Chino Creek wells must produce from the shallow aquifer in order to hydraulic control. The model does not appear to consider this requirement. As such, the modeling results could be misleading with respect to predicting aquifer behavior and probability of attainment of hydraulic control.
Response GEOSCIENCE has agreed to rerun their model. We will include the revised results. We should note that GEOSCIENCE completed this modeling study under a contract directly with CDA and that the referenced report (GEOSCIENCE 2008) was published before work on the Phase 3 PDR began. It is understood that the CCWF wells must produce from the shallow aquifer in order to help Watermaster achieve hydraulic control.					
86	Chino	5	10/27/09	Pg. 2-6	Does the modeling of Scenario 1 (i.e. nameplate capacity) consider the additional amount of raw water that is lost as a result of the treatment processes (e.g. brine waste)?
Response Yes, the modeling considers raw water requirements that include brine waste.					
87	Chino	6	10/27/09	Figure 2.2	The figure legend information is misleading; it characterizes the Baseline in terms of "existing wells". The legend should be refined to more properly characterize the Baseline in terms of well production equal to treatment plant nameplate capacity.
Response We have revised the legend to correct the raw water production from the existing Chino I and Chino II well fields as modeled by GEOSCIENCE in Scenario 1.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
88	Chino	7	10/27/09	Figure 2.3	If the desalter wells are producing from layer 1 in order to accomplish hydraulic control, then why is layer 2 exhibiting such extensive drawndown? Please provide an explanation for the demonstrated relationship between layers 1 and 2.
Response The influence of confining layers separating Layer 1 (upper) and Layer 2 (lower) aquifers diminishes as one moves from west to east. In the vicinity of Chino II, where the separation of Layer 1 and 2 is minimal, the extensive drawdown is evident in both the upper and lower aquifers. Figure 2.3 indicates extensive drawdown in the Layer 2 aquifer due to operation of the CCWF near Chino I, where the hydraulic separation of Layers 1 and 2 is greatest. The Layer 2 drawdown is not duplicated in Layer 1, which is consistent with the significant effect of the confining layer separating the upper and lower aquifer zones in this location. However, GEOSCIENCE modeled the CCWF as withdrawing groundwater primarily from the Layer 2 aquifer, which would not have Wastermaster's desired effect of hydraulic control in this location. GEOSCIENCE has agreed to rerun their model.					
89	Chino	8	10/27/09	Pg. 2-14	The discussion appearing on this page describes declining water levels over time and an anticipated need for well/pump re-construction. How do the results describing water levels differ when production targeting the upper aquifer and applying actual production data (see comment pertaining to Section 2, above) is modeled? What is the anticipated re-construction cost?
Response GEOSCIENCE has agreed to rerun their model. We will include the revised results.					
90	Chino	9	10/27/09	Pg. 2-17	The discussion appearing on this page indicates specifications for submersible pump units have been prepared. CDA experience with submersible units has been problematic. We suggest that the pre-design effort should include an analysis that takes into account the CDA's experience with submersible units and the associated repair costs before any decisions are made regarding submersible or non-submersible pumping units.
Response As directed by the Sponsors, the PDR will be rewritten around line-shaft pumps instead of submersible pumps for the new wells.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
91	Chino	10	10/27/09	Pg. 2-18	The proposed use of “Boreline” flexible rising main for well construction represents potential installation, operation, and maintenance issues as noted in the Boreline Instructions For Use & Technical Information Document Issue No. 13, dated December 13, 2008. Based on our review of that document we have the following questions/comments related to the use of Boreline pipe: A) The reference document does not identify CDPH or AWWA product approvals; B) The break-off plug/drainer system for pump maintenance requires a special technique to dewater the pipe. Are local well maintenance companies capable of performing this procedure and what is their experience? Installation of this pipe (hose) requires skilled personnel; C) Disinfection of this pipe (hose) differs from the procedures used on typical pump equipment. In order to avoid pipe damage the pipe manufacturer recommends special procedures and chlorine concentration limits that may not be familiar to operators; D) The pipe requires excessive flushing before directing raw water to the treatment system; E) Particular care must be taken when installing the pipe to avoid snags or tears; F) Pipe documentation describes other reasons for concern associated with pump torque, grounding (“earth”) of the pump, pump non-return valve considerations, and pump movement at start-up.
Response					
As directed by the Sponsors, the PDR will be rewritten around line-shaft pumps instead of submersible pumps for the new wells. We will delete discussion of Boreline drop pipe because it is not applicable to a line-shaft pump.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
92	Chino	11	10/27/09	Pg. 2-21	"A localized power failure can be accommodated by the well redundancy within the well field". This is an over-generalization and also a premature and potentially misleading statement. It cannot be known whether or not a power failure could be accommodated without knowing the location and extent of the failure. The proposal to re-direct raw water produced by Wells Nos. I-13, 14, and 15 to Chino II may improve the accommodation at Chino II but would reduce the accommodation at Chino I. Localized power failures affecting Chino I have, in the past, impacted Wells Nos. 1-1, 2, 3, and 4 and the Chino I plant itself more than any of the other Chino I well facilities. It seems that the proposed Chino Creek Wells, based on their relatively close proximity to the Chino I Desalter and Wells Nos. I-1, 2, 3, and 4, would likely be powered on the same grid that, historically, has experienced the power failure problems.
Response We will delete the text referenced in this comment.					
93	Chino	12	10/27/09	Section 3.2	The discussion indicates the Chino Creek Well Field (CCWF) will produce water containing both nitrate and TDS. Is it not also expected that the CCWF will produce water containing VOC? What bearing does this anticipated condition have on raw water pipeline facilities needs?
Response We will add a sentence stating that the effect of VOCs on raw water pipeline facilities is discussed in Section 4 of the report and summarizing the conclusions of that discussion.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
94	Chino	13	10/27/09	Section 3.4	The "pre-design" of facilities (e.g. Raw Water Intertie) that enables the re-direction of raw water produced by Wells Nos. I-13, 14, and 15 from Chino I to Chino II should include a pre-design of the facilities that would, reciprocally, enable the "pump-back" of water from Chino II to Chino I. One feature should not proceed without the other, and an equal level of planning and design effort should be given to the transport of water in both directions.
Response We believe that both the intertie pump station (Chino I => Chino II) and the intertie flow/pressure control station (Chino I <= Chino II) are treated as equally important and developed to the same level in the PDR. Both are included in the schematic (Figure 3.3), both are included in the site layout (Figure 3.4), both are included in the estimated construction costs (Appendix G.4). We will add text stating that we recommend construction of both the intertie pump station and the intertie flow control station as part of the Phase 3 expansion project.					
95	Chino	14	10/27/09	Pg. 3-12	The nitrate MCL is 45 mg/l, not 44.3 mg/l as reported on this page and elsewhere throughout the report.
Response We will correct the text to show the State nitrate MCL as 45 mg/L (NO_3) and the extremely impaired threshold as 135 mg/L (NO_3) throughout the report.					
96	Chino	15	10/27/09	Pg. 4-1	Unfortunately, Chino I doesn't operate at its nameplate capacity. Fortunately Chino II is able to operate in excess of its contractual commitments and has made-up for the deficiency of Chino I in this regard. While not optimal, the sharing of capabilities between the two plants (i.e. Chino I and II) has enabled the CDA to operate and generally fulfill contractual commitments without additional cost burden to its members. If it is "necessary for Chino I to operate at its nameplate capacity", then what is the proposal to cause this to occur at no expense to the non-Sponsors?
Response We will delete the text that includes "it will be necessary for Chino I to operate at its nameplate capacity" and we will add text and options describing methods of meeting CDA contractual commitments without additional cost to the non-Sponsor CDA members.					
97	Chino	16	10/27/09	Pg. 4-3	Strike the 2nd to last sentence; it is incorrect and misleading.

Log No.	Source	Source No.	Date	Report Ref.	Comment
Response If we are looking at the same sentence (explaining the depiction of flow capacity in Figure 4.1) we believe it to be correct and useful.					
98	Chino	17	10/27/09	Figure 4.3	Model results predict shifting migration of water quality anomalies over time. The graphic depiction of plumes indicates that some existing City of Chino well facilities (e.g. Chino Well No. 11) will be adversely impacted.
Response Comment noted.					
99	Chino	18	10/27/09	Pg. 4-11	If air stripping cannot occur as contemplated (perhaps due to evolving restrictive air quality regulations), then what is the recommended alternative and associated cost?
Response If required by future air quality standards, it would be possible to install air-phase GAC adsorbers to remove VOCs from the air stripping exhaust. The cost is dependent upon the future air quality standard. As an alternative, liquid-phase GAC adsorbers would eliminate the need for air stripping towers and VOC emissions. Costs for liquid-phase GAC adsorbers sized are included in the text for both wellhead and regional (commingled treatment at Chino I) options.					
100	Chino	19	10/27/09	Pg. 4-15	The discussion describes a TCP problem and appears to contain inaccurate information (e.g. Well No. I-3 is a 600 gpm facility and Well No. I-13 is a 2000 gpm facility). It is not clear which of these wells (or others) is the intended subject of the discussion.
Response The reference to Well I-13 is an error; it should be Well I-3. We will correct this.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
101	Chino	20	10/27/09	Section 4.3.3	This section identifies the addition of membrane trains and concentrate disposal facilities and further indicates these additional facilities are "required regardless of whether the CCWF is constructed…". Why would these facilities be required if the CCWF were not constructed?
Response We will delete the text that includes "required regardless of whether the CCWF is constructed…" and we will add text and options describing methods of meeting CDA contractual commitments without additional cost to the non-Sponsor CDA members.					
102	Chino	21	10/27/09	Pg. 4-32	It appears that the 3rd bullet statement mistakenly identifies Chino "I". Is it meant to identify Chino "II"?
Response You are correct. We will revise the text to refer to Chino II instead of Chino I.					
103	Chino	22	10/27/09	Pg. 4-34	Similar to the comment pertaining to page 4-32, it appears the discussion at the top of page 4-34 may mistakenly make reference to Chino I when it intended to refer to Chino II.
Response You are correct. We will revise the text to refer to Chino II instead of Chino I.					
104	Chino	23	10/27/09	Pg. 5-8	Regarding the discussion of SARI capacity in the last paragraph, since the subject SARI lateral is owned and operated by a CDA member agency (i.e. JCSD) it would seem that acquiring information with respect to current and planned flows should be possible and included in a revised analysis of SARI capacity needs, which at present (due to the absence of this information) seems inconclusive.
Response The potential costs for additional capacity in the JCSD SARI laterals in Etiwanda and Wineville Avenues are not available at the present time. We will include a placeholder value representing the cost of a parallel pipeline from Chino II to SARI Reach IVD for options requiring additional SARI capacity at Chino II. The concentrate reduction project at Chino II will eliminate the need for any additional brine pipeline capacity from Chino II, either from JCSD or parallel pipeline construction.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
105	Chino	24	10/27/09	Table 5.5	The tabulated data seems to describe time consumed by delivery activity, and not necessarily the time spent by plant operators directly linked to the deliveries; is this true?
Response The data indicate the time consumed by the delivery activity. We assumed that it also represents time spent by plant operators linked to the delivery activity. In other words, we took the conservative view that a plant operator would be present and completely occupied by the delivery activity. We will add a footnote to this effect.					
106	Chino	25	10/27/09	Table 5.7	Does footnote "b" mean that every secondary membrane is replaced every year? What is the number of secondary membranes? What is the number of primary membranes and when are they replaced? How does this compare to current CDA practice?
Response Yes, a conservative assumption is that each of the proposed 315 secondary RO elements required for the concentrate reduction process is replaced each year. The Chino II Desalter currently has 1,008 membrane elements (primary RO) and an additional 1,092 primary RO elements are being added with the Phase 3 expansion. The primary RO elements at Chino II are still original. Primary elements are typically replaced every 5 years. The proposed concentrate reduction process will not add primary RO elements and it will not affect the operation of the existing primary RO elements.					
107	Chino	26	10/27/09	Table 5.10	Why is Tier 1 considered an appropriate value to associate with new product water? Isn't the amount of Tier 1 water that is available to CDA members limited?
Response If Chino II produces additional water then CDA members can forego the purchase of MWD water. CDA members have different costs for water from MWD; some have no Tier 1 water, some have a combination of Tier 1 and Tier 2 rates, some purchase through a regional agency like WFA for a price higher than MWD rates. Using the Tier 1 cost is a conservative approach to estimating the value of the additional product water. On a case by case basis the replacement value of new product water would be higher for most CDA members.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
108	Chino	27	10/27/09	Table 5.10	What would the analysis demonstrate if the LRP funding associated with the Chino I Expansion and Chino II were discontinued or reduced in value?
Response Based on the stated assumptions, Table 5.10 shows a $220,000 net annual benefit for building and operating concentrate reduction facilities at Chino II. If the LRP funding is not available then there is a $330,000 net annual cost for concentrate reduction facilities at Chino II.					
109	Chino	28	10/27/09	Section 6	Do the proposed new 1010 Zone facilities alleviate the need for, or require the modification of, the existing Transportation Agreement?
Response It is our opinion that the proposed 1010 Zone facilities, which will be owned and operated by the CDA from the point of connection at Chino II, do not require modification of the existing Transportation Agreement. We also believe that the new 1010 Zone facilities do not alleviate the need for the Transportation Agreement. Ontario has a separate agreement with JCSD for use of storage capacity within the JCSD system that provides for some daily peaking as well as short term redundancy. Maintaining the flexibility for Ontario deliveries through the JCSD system in the future should be preserved and this requires a continuation of the existing Transportation Agreement.					
110	Chino	29	10/27/09	Section 7.16	There likely will be a need for an agreement with the City of Chino too.
Response We will add text to this effect in Sections 7.12 and 7.16.					
111	Chino	30	10/27/09	Section 8	The sequencing of the Buy-In Cost Analysis with respect to the pre-design report is problematic. The pre-design report describes recommendations for facilities and operations that have real cost implications and that are subject to the Buy-In. Until the Buy-In issue is resolved, a number of design features and decisions will remain undetermined.
Response Comment noted.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
112	Chino	31	10/27/09	Pg. 8-4	Since the existing Chino II Desalter currently operates without a need for any additional SARI treatment capacity, why should the "original" CDA members purchase the described 0.3 MGD "deficit"? If more capacity is needed to accommodate the proposed Expansion of Chino II, then why shouldn't the Sponsors pay for that needed additional capacity?
Response The existing 0.30 mgd SARI treatment capacity deficit at Chino II is discussed in Section 5.3. The CDA purchased 1.62 mgd of SARI pipeline capacity but only 1.30 mgd of SARI treatment capacity. The May 11, 2004 purchase agreement between CDA and IEUA allowed temporary usage of 0.32 mgd of IEUA's SARI treatment capacity until 2008, after which CDA agreed to purchase the SARI treatment capacity outright (see copy of agreement in Appendix E.2). Note that the original design deficit is 0.32 mgd but we are recommending a revised requirement of only 0.30 mgd. In fact, the CDA never purchased the missing 0.32 mgd of SARI treatment capacity and is currently operating Chino II by "borrowing" IEUA's capacity, which was intended to be a temporary measure expiring in 2008. The need to purchase the missing SARI treatment capacity for the operation of the existing Chino II is an obligation of the CDA dating from the May 11, 2004 agreement. The PDR assumes that the cost of the missing SARI treatment capacity should be shared by the CDA member agencies based upon the CDA entitlement volumes in effect at that time. We will add text to page 8-4 directing the reader's attention to Section 5.3 for a complete discussion of the 0.3 mgd SARI treatment capacity deficit at Chino II.					
113	Chino	32	10/27/09	Section 8.5.2	The discussion characterizing the status of the LRP funding is inaccurate. The analysis should consider the prospect of reduced LRP funding.
Response We will correct what we believe to be the inaccuracies in the text.					
114	Chino	33	10/27/09	Section 8.5.3	The future replenishment associated with desalter water production is an obligation of the Appropriative Pool and not necessarily an obligation of the CDA, alone. The analysis/report should be revised accordingly.
Response We will revise the text.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
115	Chino	34	10/27/09	Table 8.9	We do not entirely agree with the described distribution of costs. In particular, we have concerns with the distribution of costs pertaining to concentrate system and Chino I nameplate items.
Response We will add text and options describing methods of meeting CDA contractual commitments without additional cost to the non-Sponsor CDA members.					
116	Chino	35	10/27/09	A.1	How have the Watermaster's July 8, 2009 comments been addressed?
Response Watermaster's July 8, 2009 comments (Appendix A.1) were addressed by GEOSCIENCE in a revised draft Wellfield PDR dated September 1, 2009 (included in Addendum No. 1, inserted in Appendix A.4). Watermaster reviewed the revised September 2009 Wellfield PDR and provided a review letter dated October 13, 2009, which states: "Wildermuth Environmental, Inc. (WEI) has reviewed the *Preliminary Design Report for the Chino Creek Wellfield and Chino II Expansion Wellfield Chino Desalter Phase 3 Project, September 1 2009,* prepared by GEOSCIENCE Support Services (GSS) for the Chino Desalter Authority. GSS has incorporated the Watermaster's comments on the previous May 2009 draft PDR." The October 13, 2009 letter from Watermaster will be included in Appendix A.1 for reference.					
117	Chino	36	10/27/09	A.4	Discussions appear on pages 18 and 34 of the September 1, 2009 Geoscience report that deal with well design meetings and plan submittals for review. Chino, the local jurisdiction within which the wells are proposed to be located, should be included in the design meetings and plan review process.
Response We will add text to this effect to Section 7.12 (Permits/City of Chino).					

Log No.	Source	Source No.	Date	Report Ref.	Comment
118	Chino	37	10/27/09	A.4	Conceptual designs of well casing and screen (pages 19, 20, 21) describe screen perforations extending to the bottom of the well and likely below the upper aquifer. This may present potential for land subsidence and is contrary to the Chino Basin Watermaster's objective of producing water from the upper aquifer in order to accomplish hydraulic control. What is the reasoning for the proposed design and how does it accomplish hydraulic control and not enable the potential for occurrence of land subsidence?
Response GEOSCIENCE has provided the following response: "The designs included in the [Well Field] PDR are conceptual and will likely change based on the results of drilling and isolated aquifer zone testing. A final design meeting will be held with all parties to discuss and agree upon a final design before implementation."					
119	Chino	38	10/27/09	A.4	Figures 8 and 9 describe TDS and nitrate concentrations in water samples obtained from Monitoring Wells HCMP 1/1, HCMP 1/2, and HCMP 1/3. Where are these wells located?
Response Locations of these wells are shown on Figure 2 of the Well Field PDR (see Appendix A.4).					
120	Chino	39	10/27/09	B.3	Appendix material describing recommendations for operating submersible pumps is missing.
Response As directed by the Sponsors, the PDR will be rewritten around line-shaft pumps instead of submersible pumps for the new wells. We will delete references to submersible pumps.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
121	Chino	40	10/27/09	D.3	Table 3.5.1 describing RO design criteria indicates the permeate flow per train is greater for the expansion (2,257 gpm) than for the existing (1,389 gpm) condition. Similarly, Table 3.7.1 describing decarbonator design criteria, indicates the flow per decarbonator is greater for the expansion (2,893 gpm) than for the existing (2,083 gpm) condition. What is/are the reason(s) for the differences?
Response The existing three RO trains each have a capacity of 2 mgd (1,388 gpm) for a total capacity of 6 mgd RO permeate. The expansion adds an additional 6.5 mgd of total RO permeate capacity using only two trains, which results in a capacity of 3.25 mgd (2,255 gpm) per train. The new RO trains are larger than the existing RO trains. The expansion will increase the flow through the decarbonators from 2,083 gpm per unit to 2,893 gpm per unit. The higher rate is within the manufacturer's rating and the manufacturer has approved the higher capacity. We do not believe that this is an issue that CDPH will object to because the only purpose for the decarbonators is to strip carbon dioxide in order to reduce the caustic soda requirement.					
122	Chino	41	10/27/09	D.3	In Section 3.9.2 of the October 2009 Carollo report there is a statement, which indicates the ion exchange vessels are being re-rated for higher flowrates. What is the status of the re-rating and when/how did the CDA undertake the re-rating effort?
Response During design of the Chino II expansion the Chino II staff expressed interest in re-rating the existing IX vessels so that they could produce 4 mgd of IX effluent with only two of the four vessels in service (assuming one vessel in regeneration and one vessel out of service for repairs or maintenance). We do not know what actions, if any, the Chino II staff took in moving forward with the re-rating. The Chino II expansion does not require re-rating of the IX vessels. The expansion will add four more IX vessels, which will allow production of 8 mgd of IX effluent with six of the eight vessels in service without exceeding the current rating capacity. In other words, the Chino II expansion makes the re-rating a non-issue.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
123	Chino	42	10/27/09	D.3	Table 3.16.2 describes RO Process Building HVAC Requirements and indicates a sizeable deficiency. What is the proposed remedy including cost distribution?

Response

The HVAC improvements are intended to be constructed along with the Chino II product water pump station project. This is because there is no additional heat load imposed by the current RO and IX expansion work until there is additional product water pumping capacity to allow operation of the desalter at increased capacity.

Based upon the existing CDA cooling deficit (128,363 BTU/hr) and the additional cooling requirement of the Chino II expansion (207,251 BTU/hr), the cost sharing is CDA = 38 percent and Sponsors = 62 percent.

We will add the HVAC as an itemized cost and state the proposed cost sharing in the text.

124	Ontario	1	10/27/09	Pg. 2-10 & 11	Where are: Chino Creek Wellfield PDR, Chino II Expansion Wellfield PDR, and Concentrate Treatment Analysis?

Response

These documents were issued as part of Addendum No. 1, dated October 16, 2009.

- Chino Creek Wellfield and Chino II Expansion Wellfield PDR is Appendix A.4.
- The concentrate reduction option is Section 5, pages 5-8 through 5-26.

125	Ontario	2	10/27/09	Pg. 2-14	See minor edits throughout- shown in red.

Response

We will make corrections indicated by the red-lined edits from Tim Mim Mack's PDF dated 10/27/09.

126	Ontario	3	10/27/09	Table 2.2	Wellfield Operation factor is less than 65%- why? (30% of wellfield design capacity is unused. See table 2.2)

Response

We will use the most recent Southern California Edison capacity test (from "Chino Desalter Well Field Info" spreadsheet provided by Tom O'Neil on 11/13/09) to represent the current well capacity rather than design capacity. This increases the operating factor to 70 percent for the recommended well field configuration (i.e., construction of CCWF and construction of intertie facilities to allow use of Wells I-13, 14, and 15 in the Chino II raw water system).

Using the current well capacity the overall well field operation factor is 70 percent, which was the criteria for the original Chino II well field.

Log No.	Source	Source No.	Date	Report Ref.	Comment
127	Ontario	4	10/27/09	Pg. 2-17	Conclusions in 2.3.1.3 are expensive.
Response Comment noted.					
128	Ontario	5	10/27/09	Table 2.3	Problem wells are all near the County line- Why?
Response We don't know.					
129	Ontario	6	10/27/09	Pg. 2-19	Future pumping levels are lower- costs shared by all CDA- Why? Purchase of 9 new well sites- long lead time.
Response One of the significant conclusions of this section is that "the modeling shows that the greatest impact on the Chino Desalter well fields is the current, baseline operation. The Phase 3 expansion has a relatively small impact." This is why costs are not shared solely by the Sponsors as part of the Phase 3 expansion.					
130	Ontario	7	10/27/09	Pg. 2-20	Column pipe- Why aren't we using "boreline" on all wells?
Response As directed by the Sponsors, the PDR will be rewritten around line-shaft pumps instead of submersible pumps for the new wells. We will delete references to Boreline drop pipe because it is not applicable to a line-shaft pump.					
131	Ontario	8	10/27/09	Pg. 2-20	How do we break off plug?
Response As directed by the Sponsors, the PDR will be rewritten around line-shaft pumps instead of submersible pumps for the new wells. We will delete subsection 2.4.2.3—Downhole Appurtenances because it is not applicable to a line-shaft pump. For the record, you break off the plug by dropping a short piece of small diameter pipe down the column.					
132	Ontario	9	10/27/09	Pg. 2-21	Surge tanks- questions.
Response Surge tank criteria are an issue for detailed design, after the wells are drilled and capacities and discharge pressures are determined. We assumed 750 gallon capacity for cost estimates because that is what the majority of equivalent CDA wells use.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
133	Ontario	10	10/27/09	Pg. 2-22	SCE- will they be consulted for efficiency review?
Response We believe that efficiency review is an issue for detailed design and that SCE should be involved.					
134	Ontario	11	10/27/09	Pg. 2-23	INC- Antenna at Milliken- FAA permit?
Response We will add FAA permits for antennas as an item in Section 7—Permits					
135	Ontario	12	10/27/09	Pg. 3-1	Site Work- AC v. PCC
Response We believe that this is an issue for detailed design but we will include reference to Portland cement concrete in the text.					
136	Ontario	13	10/27/09		Security- motion detectors and cameras too?
Response We will add these items. IEUA also requested them in their comments.					
137	Ontario	14	10/27/09	Pg. 3-2	Shared pipeline? Size okay?
Response Yes, the pipeline is shared. The current size is acceptable because the flow in the existing pipeline will not increase above the original nameplate capacity criteria. In fact, because of the addition of CCWF wells that do not share the existing pipeline there will sometimes be lower velocity in the pipeline than at present but there will never be greater velocity than intended by the original design criteria.					
138	Ontario	15	10/27/09	Figure 3.1	Figure 3.1- CCWFA-3, new well- Why not connected to VOC treatment?
Response In order to achieve Watermaster's hydraulic control objective, well CCWFA-3 will withdraw groundwater from the shallow (Layer 1) aquifer, which has nitrate and TDS levels requiring treatment through either the RO or IX systems. The VOC wells are screened in the deeper (Layer 2) aquifer and do not require treatment through the RO and IX systems.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
139	Ontario	16	10/27/09	Pg. 3-6	Well site feasibility memorandum- Where is it?
Response This memo is available to assist in property procurement.					
140	Ontario	17	10/27/09		Raw water intertie- Why construct II-10, 11 and 12 later?
Response At the PDR Interim Workshop on June 10, 2009, Robert Tock suggested taking steps to allow construction of these wells in the future if required for redundancy or because of the failure of existing wells.					
141	Ontario	18	10/27/09	Pg. 3-12	Intertie pump station create greatest flexibility.
Response Comment noted.					
142	Ontario	19	10/27/09	Figure 3.4	Figure 3.4- chain link fence around booster station?
Response We will revise Figure 3.4 to indicate a block wall instead of the conventional chain link fence symbol.					
143	Ontario	20	10/27/09	Pg. 3-12	CDA I-1 pump- Do they mean II-1?
Response We believe that the well references on page 4-3 are correct.					
144	Ontario	21	10/27/09	Pg. 4-3	CCWF water quality unknown? No other city wells to check? Drilling first two wells in 2009?
Response As stated on page 4-3, we assume that the water quality is similar to wells CDA I-5 through 8 and we will add text stating the assumed water quality. We will revise the reference to drilling in 2009.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
145	Ontario	22	10/27/09	Pg. 4-3	Nitrate levels in excess of 133mg/L is impaired.
Response We have corrected text, tables, and figures throughout the report to indicate that the State MCL for nitrate is 45 mg/L as NO_3 and the extremely impaired threshold is 135 mg/L as NO_3.					
146	Ontario	23	10/27/09	Pg. 4-5	VOC's- CCWFA-3 is in the middle of other impaired wells not yet connected to VOC treatment.
Response We assume that well CCWFA-3 will require treatment for removal of nitrate and TDS. Therefore, it cannot be connected to the existing Chino I VOC well pipeline because the Chino I VOC wells receive only air stripping treatment. Section 4.2.6.2 contains a discussion and recommendations for VOC treatment of the new CCWF wells. This treatment is separate from the existing Chino I VOC treatment because of the additional requirement for nitrate and TDS treatment of the new wells.					
147	Ontario	24	10/27/09	Pg. 4-21	Footnote Cc- this would increase capacity at Chino I.
Response That is correct.					
148	Ontario	25	10/27/09	Pg. 4-36	Update grant funding statement.
Response We will revise the text on page 4-36 to reflect the actual schedule for rebidding and awarding the Chino II expansion contract.					
149	Ontario	26	10/27/09	Pg. 4-37	Table 4.6 numbers at bottom do not add up.
Response We will revise Table 4.6 to match the revised criteria in the Chino II expansion PDR (see Appendix D.3).					

Log No.	Source	Source No.	Date	Report Ref.	Comment
150	Ontario	27	10/27/09	Pg. 4-39	CDA/Sponsor percentage incorrect?

Response

The CDA/Sponsor percentages given in the first draft PDR were based on the Chino II Expansion PDR (Appendix D.3, Table 3.9.1.2, page 3-39). The cost of continued present method of IX blending is given as $532,500, of which $224,000 would be the costs to the CDA for continuing the present method and the balance would be the cost to the Sponsors for the expansion of the present method. These values result in the 42 percent CDA (224,000/532,500) and 58 percent Sponsor (308,500/532,500) cost sharing in the text.

However, the cost sharing agreement presented to the CDA TAC was based upon a ratio derived from the plant capacity: CDA share is 48.8 percent (10 mgd/20.5 mgd) and Sponsor share is 51.2 percent (10.5 mgd/20.5 mgd). We will revise the text to conform to the cost sharing agreement.

151	Ontario	28	10/27/09	Table 5.1	Table 5.1 treatment v. capacity 43%?

Response

The SARI pipeline system was constructed with a design capacity of 30 mgd and the entire capacity of the pipeline system was purchased by SAWPA member agencies.

Some of the capacity in the pipeline is not used at the present but is held by SAWPA member agencies for future use. Therefore, the capacity in the OCSD wastewater treatment facility does not equal the pipeline capacity. Treatment capacity is purchased when needed.

152	Ontario	29	10/27/09	Pg. 5-8	Capacity v. treatment problems at Chino II.

Response

The existing 0.30 mgd SARI treatment capacity deficit at Chino II is discussed in Section 5.3. The CDA purchased 1.62 mgd of SARI pipeline capacity but only 1.30 mgd of SARI treatment capacity. The May 11, 2004 purchase agreement between CDA and IEUA allowed temporary usage of 0.32 mgd of IEUA's SARI treatment capacity until 2008, after which CDA agreed to purchase the SARI treatment capacity outright (see copy of agreement in Appendix E.2). Note that the original design deficit is 0.32 mgd but we are recommending a revised requirement of only 0.30 mgd.

In fact, the CDA never purchased the missing 0.32 mgd of SARI treatment capacity and is currently operating Chino II by "borrowing" IEUA's capacity, which was intended to be a temporary measure expiring in 2008. The need to purchase the missing SARI treatment capacity for the operation of the existing Chino II is an obligation of the CDA dating from the May 11, 2004 agreement. The PDR assumes that the cost of the missing SARI treatment capacity should be shared by the CDA member agencies based upon the CDA entitlement volumes in effect at that time.

Log No.	Source	Source No.	Date	Report Ref.	Comment
153	Ontario	30	10/27/09	Pg. 6-6	CDA must purchase 0.3 mgd capacity.
Response We agree.					
154	Ontario	31	10/27/09	Pg. 6-9	No information on flows in 21" SARI lateral owned by JCSD? Why not ask?
Response The potential costs for additional capacity in the JCSD SARI laterals in Etiwanda and Wineville Avenues are not available at the present time. We will include a placeholder value representing the cost of a parallel pipeline from Chino II to SARI Reach IVD for options that require additional SARI capacity are Chino II. The concentrate reduction project at Chino II will eliminate the need for any additional brine pipeline capacity from Chino II, either from JCSD or parallel pipeline construction.					
155	Ontario	32	10/27/09	6-6	No new pump station expansion to deliver water to JCSD?
Response The PDR assumes that JCSD will deliver its new entitlement to the 870 zone using a new product water pump station with redundancy provided by a PRV from the existing 1110 zone pump station. The PDR also points out that JCSD can pump all of its existing and new entitlement to the 1110 zone through the existing pump station if Ontario transfers its existing entitlement pumping from the 1110 zone pump station to a new 1010 zone pump station, as is proposed.					
155	Ontario	33	10/27/09	6-9	Deliveries to Norco- Did the meeting happen?
Response No, the meeting did not happen and we will delete the heading. WMWD is responsible for deciding whether to upsize the 1010 zone Hamner pipeline to allow deliveries to Norco.					
156	Ontario	34	10/27/09		Figure 6.3- 60 freeway mislabeled.
Response We will move the label to the correct location.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
157	Ontario	35	10/27/09		Surge protection and intertie contain no description.
Response We will delete both headings.					
158	Ontario	36	10/27/09		Antennas near ONT- FAA permit needed?
Response We will add FAA permits for antennas as an item in Section 7—Permits					
159	Ontario	37	10/27/09	Pg. 7-3	NPDES linear excavation permit required?
Response We will add text about the State Water Resources Control Board requirements for issuing a Small Linear Under/Above Ground General Construction Permit (LUP).					
160	Ontario	38	10/27/09	Pg. 8-1	Why is Chino I Expansion a shared cost?
Response We will add text and options describing methods of meeting CDA contractual commitments without additional cost to the non-Sponsor CDA members.					
161	Ontario	39	10/27/09	Pg. 8-2 & 4	Why is Chino I SARI capacity a shared cost?
Response We will add text and options describing methods of meeting CDA contractual commitments without additional cost to the non-Sponsor CDA members.					
162	Ontario	40	10/27/09	Pg. 8-10	Grant funds not applied to Chino I nameplate modifications?
Response We will revise Table 8.7 to apply grant funding to the Chino I modifications.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
163	Ontario	41	10/27/09		Table 8.10- Add Ontario's debt service cost to the $310/AF.

Response

We received from Michael Chung (11/17/09) a debt service schedule for Ontario. Tom O'Neil provided information (11/17/09) that 44% of the debt is for CDA projects. For 2009-2010 this results in an Ontario annual debt service payment of $1,492,617.50. We will include this amount in Table 8.10.

164	IEUA	1	10/29/09	Pg. 1-3	Table 1.1, the existing Chino II Desalter nameplate capacity identified at 10 MGD, not 15 MGD. If we omitted the bypass, then Chino I nameplate should be 11.6 MGD.

Response

An attachment to this comment referred to the Chino II operating permit. CDPH approved the following capacity:

> "The Chino II Desalter is approved for a design capacity of 6 MGD of reverse osmosis permeate flow, a design capacity of 4 MGD of ion exchange treated flow, and up to 5 MGD of by-pass blend flow to meet the treatment target. The Desalter shall not be operated at a daily flow in excess of these capacities without approval from the Department."

(Permit No. 05-20-06P-005, page 5).

The "treatment target" referred to is the blended product water TDS or nitrate goal. The actual capacity of the Chino II bypass flow is constrained by both the performance of the RO and IX processes and the quality of the raw water, which is dependent upon the wells being operated on a given day and changes in groundwater TDS and nitrates over time.

In other words, the capacity of the raw water bypass at Chino II is limited by water quality under the terms of the CDPH permit. Because of the CDPH water quality limitation the Chino II bypass has never operated at the allowable maximum rate of 5 mgd. The historical average Chino II bypass capacity is about 2 mgd and the 90th percentile bypass capacity is less than 3 mgd (see Figure 4.13).

This is not the same situation as the VOC treatment flow at Chino I. Chino I capacity is TDS limited and the TDS of the VOC wells is below the treatment objective. The operation of the Chino I VOC treatment flow is not limited by water quality under the CDPH operating permit as is the Chino II raw water bypass. The Chino I VOC treatment flow may be limited by well performance or availability but that is a different matter than treatment plant nameplate capacity.

We will add the 15 mgd CDPH permit Chino II capacity to Table 1.1.

165	IEUA	2	10/29/09	Pg. 2-23	Security- motion detectors and cameras should be in all new wells.

Response

We will add these items.

Log No.	Source	Source No.	Date	Report Ref.	Comment
166	IEUA	3	10/29/09	Figure 3.1	Figure 3.1- Wells,CCWFA-1,2, and 3, in very close proximity to Wells I -3, 4 & 5.What about well interference?
Response Aside from Wells CCWFA-4 and 6, the proposed well locations are only approximate. It is possible that the locations of the other CCWF wells will change based on the results of drilling and testing of the first two production wells (CCWFA-4 and 6) and subsequent refinement and rerun of the ground water model.					
167	IEUA	4	10/29/09	Pg. 3-5	3.4 Chino I/II Raw Water Intertie: Chino I has reliability and redundancy in their Well field. This is not a benefit to Chino I. If Chino I needs redundancy, it should be for the RO system.
Response The PDR recommends adding RO capacity to Chino I.					
168	IEUA	5	10/29/09	Pg. 3-13	The assumption for Option 2 is misleading. CDPH already allows Well I-4, which is a highly impaired source of water, to be bypassed.
Response We stated this information on page 3-14. CDPH will likely take this into consideration when issuing a revised operating permit for an interconnected Chino I and Chino II raw water system.					
169	IEUA	6	10/29/09	Pg. 4-3	Nitrate levels in excess of 135mg/L is impaired, not 133.
Response We will correct the text to show the nitrate MCL as 45 mg/L (NO_3) and the extremely impaired threshold as 135 mg/L (NO_3) throughout the report.					
170	IEUA	7	10/29/09	Pg. 4-5	The location of Well CCWFA-3 is in-between Wells I -3 (high in VOC's) and I -4(a Highly Impaired well) . It should be located close to VOC's or close to the impaired Well, but not in the middle where there is a chance of having both contaminated at the same time.
Response Aside from Wells CCWFA-4 and 6, the proposed well locations are only approximate. It is possible that the locations of the other CCWF wells will change based on the results of drilling and testing of the first two production wells (CCWFA-4 and 6) and subsequent refinement and rerun of the ground water model.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
171	IEUA	8	10/29/09	Pg. 4-21	To increase the production in Chino I Desalter, we need 1 or 2 RO Trains. Chino I has the same arrangement for expansion as Chino II. The only difference is that Chino II RO building has already been built for the expansion, and for Chino I, the RO building needs to be extended.
Response The PDR recommends adding RO capacity to Chino I.					
172	JCSD	1	10/28/09	Section 1.2, Paragraph 2	Consider adding a definition for blended water that considers a blend of treated and raw water.
Response To avoid confusion we will change “treated water production” to “drinking water production.” This will eliminate the need for a separate category of blended water.					
173	JCSD	2	10/28/09	Section 1.2, Paragraph 6	Discussion on "normal design capacity" conflicts with the footnotes in Table 1.2 that tie this number to "entitlement" volumes
Response The lower half of Table 1.2 (i.e., the “Flow” portion) is an attempt to show the share of product water flow capacity (i.e., nominal capacity) of the desalters for CDA member agencies using the same ratio of member flow/total flow as the member entitlement/total entitlement. We trust that this is a valid analysis, at least it is consistent with the Chino I O&M Manual description of the treated water pumping facilities, which reads: “the installation was designed to deliver the annual contracted deliveries listed in Table 12.3-1 at a plant flow of 14.2 mgd” (Chino I Desalter Facility O&M Manual, Section 12.2.B Treated Water Deliveries). The “nominal” (i.e., the “named” or “nameplate) capacity of the desalter is the “designated or theoretical size that may vary from the actual’ (Merriam Webster’s Collegiate Dictionary, 10th Ed.). We will add this clarification to the text. In Table 1.2, footnote c states that “Total flow is the Desalter nominal (nameplate) capacity.” Footnote b states that “Flow share is proportional to entitlement volume;” we will modify footnote b to read: “Flow is the share of Total Flow proportional to entitlement volume.”					

Log No.	Source	Source No.	Date	Report Ref.	Comment
174	JCSD	3	10/28/09	Table 1.1	Additional clarification is needed on the terms. Isn't the entitlement a function of the blended water capacity post treatment after the treated water is blended with the raw water?
Response We will define product water as the “drinking water production” of the desalter. This eliminates the need to make a distinction between the treated and raw water bypass components of the product water. See comment Log No. 172.					
175	JCSD	4	10/28/09	Table 1.1	Terms "desalter efficiency: and desalter operation factor" are confusing as to their intent.
Response We will modify the text to clarify the intent.					
176	JCSD	5	10/28/09	Table 1.1	"Desalter Operation Factor" should reference footnote "d."
Response We will delete the column referring to Desalter Operation Factor from Table 1.1.					
177	JCSD	6	10/28/09	Table 1.2, Footnotes b and c	"Nameplate Capacity should be actual physical capacity of treatment trains and not tied to "entitlement"
Response The “nominal” or “nameplate” capacity of the desalter is the “designated or theoretical size that may vary from the actual’ (Merriam Webster’s Collegiate Dictionary, 10th Ed.). See response to Comment Log No. 173 for additional discussion. In the case of Chino I the nominal (nameplate) capacity is 14.2 mgd because that is the designated capacity stated in the O&M manual, even though the desalter has never actually achieved this capacity. Table 1.2 does not tie the nominal capacity (i.e., Total Flow) of the desalter to entitlements. It attempts to show the portion of Total Flow that is needed by the individual CDA member agencies in order to receive their annual volume deliveries (entitlement). It does this by allocating nominal capacity according to proportion of entitlement received by the individual CDA member agencies.					
178	JCSD	7	10/28/09	Table 1.2	Where in Table 1.2 is the reference to "Desalter Operation Factor"
Response We will add the missing text to Table 1.2.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
179	JCSD	8	10/28/09	Section 2.2.1	Consider amending CCWFA & CCWFB to CCWF-A & CCWF-B
Response We adopted the CCWFA and CCWFB nomenclature to be consistent with previous hydrogeologic reports.					
180	JCSD	9	10/28/09	Section 2.3.1.1	Change CDA II-10 to "Chino" II , there is only one CDA
Response For consistency with previous geohydrology studies, the report uses the same well identification procedure that has been adopted previously in hydrogeologic reports. “CDA” refers to the ownership of the well, not the name of the desalter. Thus, “CDA II-10” is owned by CDA and is the 10th well equipped to pump to the Chino II raw water system. If the well were designated as “Chino II-10” there is potential confusion if an unfamiliar reader assumes the well is owned by the City of Chino.					
181	JCSD	10	10/28/09	Table 2.2	Be consistent with well names. Wells should be either Chino I Desalter or Chino I & Chino II Desalter or Chino II. There is only one (1) CDA, not two (2)
Response See response to the previous comment (Log No. 180).					
182	JCSD	11	10/28/09	Table 2.2	Update Table 2.2 of 2.21 amendment is made CCWF-A
Response We didn’t understand the comment.					
183	JCSD	12	10/28/09	Section 2.3.1.3	See table 2.2 Comments
Response We didn’t understand the comment.					
184	JCSD	13	10/28/09	Table 2.3	See Comments from Table 2.2
Response We didn’t understand the comment.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
185	JCSD	14	10/28/09	Section 2.3.1.3	I still disagree with the data provided within, it looks like the existing wells will be drawn down too low and may need to be operated on and off for aquifer recovery. For redundancy I recommend 3 new wells
Response					
Modeling predicts the existing wells will experience issues related to drawdown. However, the modeling results indicate that the Phase 3 expansion has a relatively small effect on the drawdown. In other words, CDA must deal with the issues related to drawdown whether the Phase 3 expansion occurs or not. Therefore, whether or not additional wells are constructed is not a matter associated with the Phase 3 expansion (i.e., not a Sponsor decision or cost) but rather a matter for the entire CDA. The CDA can add additional wells now or in the future. We do not believe that the additional wells are required at the present time; however, they may be required in the future.					
186	JCSD	15	10/28/09	Section 2.4.2.1	No more submersible pumps, use vertical turbine line shaft with noise suppression instead, District has to many problems with submersibles
Response					
As directed by the Sponsors, the PDR will be rewritten around line-shaft pumps instead of submersible pumps for the new wells.					
187	JCSD	16	10/28/09	Section 2.4.2.5	2 stage - no oils into the air or water NSF - 61
Response					
We will add a notation stating “non-oil lubricated” after the surge tank compressor reference.					
188	JCSD	17	10/28/09	Section 2.4.2.6	ACS shall have filter DP gauges for proper maintenance
Response					
We will the filter differential pressure gauges in the text.					
189	JCSD	18	10/28/09	Section 2.4.2.6	Chino 1 wells do have Gen-Sets
Response					
We will add text stating that “existing Chino I wells have standby power (engine generator sets).”					

Log No.	Source	Source No.	Date	Report Ref.	Comment
190	JCSD	19	10/28/09	Section 2.4.2.7	Well Lubrication system for non-submersibles
Response We will add text recommending an open line-shaft with pre-lubrication using raw water.					
191	JCSD	20	10/28/09	Section 2.4.2.7	Check Valve
Response Yes, the well will have a non-slam check valve. The specific type is a matter for detailed design.					
192	JCSD	21	10/28/09	Section 2.4.2.7	Provide orifice size and operating back pressure in Table form
Response We believe that these are issues for detailed design, after the wells are drilled and capacities and line pressures are identified.					
193	JCSD	22	10/28/09	Section 2.4.2.7	Pressure Set point - or GPM, operator selected
Response We will modify the text to read “pressure or flow setpoint (as selected by the Operator).”					
194	JCSD	23	10/28/09	Section 2.4.2.7	Pumping system - inline check valve, non slam Pump to waste - CLA-Val with pilots, set to open, close slowly. No sequenced valves, i.e.. 2 clavals
Response We believe that the selection of a specific valve is a matter for detailed design.					
195	JCSD	24	10/28/09	Section 2.4.2.8	Recommend a walk gate two (2) gates total. Driveway - trucks should be able to pull in to get out of traffic before gate is opened. Why motorized? Not needed
Response We will add the appropriate text for a man-gate and vehicle pullout and delete the reference to motorized vehicle gates.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
196	JCSD	25	10/28/09	Section 2.4.2.8	Lighting Should be on photocell fail to "on"
Response We will delete the reference to motion detector activation of site lighting and add a reference to photocell control with fail to “on.”					
197	JCSD	26	10/28/09	Figure 3.1	Naming convention on both Chino I and Chino II is west to east, opposed to CCWF east to west, be consistent
Response The PDR uses the CCWF naming convention from the many previous hydrogeologic reports—to do otherwise would lead to a great deal of confusion. When the CCWF wells go to design and construction they should be identified using the appropriate CDA naming conventions.					
198	JCSD	27	10/28/09	Figure 3.2	What is the cost of the pipeline for optional, without north/south piping (connection two (2) wells fields)? Put money into the new wells Chino II - 11,12
Response The pipeline along Bellegrave between Haven and Archibald would have a capital cost of $2.4 M. In addition, it is necessary to parallel the existing 16-inch and 24-inch pipeline between Haven and Hamner for another $2.4 M (it’s the same length) because of the increased raw water flow to Chino II. Assume that drilling Wells II-10, 11, and 12 at a capital cost of $3 M each is another $9 M. The total capital cost of drilling three new Chino II wells and necessary pipeline along Bellegrave is approximately $13.8 M. The capital cost of interconnecting the Chino I and Chino II raw water systems to use Wells I-13, 14, and 15 at Chino II is $5.9 for the pipeline and $3.8 for the intertie pump station for a total of $9.7 M to provide the same capacity to Chino II as drilling three new wells. You could do it cheaper by re-equipping Wells I-13, 14, and 15 but you wouldn’t have as much flexibility. You still have the option of drilling the three new Chino II wells in the future, if needed. This option is $ 4.1 M less expensive than drilling three new wells and is the option recommended in the PDR.					
199	JCSD	28	10/28/09	Section. 3.4	Then When and at what cost?
Response If the comment refers to construction of addition Chino II wells then they can be added whenever they are deemed necessary by the CDA at a cost of approximately $3 M per well.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
200	JCSD	29	10/28/09	Section 3.4	Why does Chino I need more water with existing and CCWF? Has DPH approved in concept or other this idea?
Response Our recommendation (and the plan since 2006) is to expand Chino II and transfer Wells I-13, 14, and 15 to Chino II to furnish the majority of the water supply for the expansion. Some CDA members have objected to connecting these wells to the Chino II raw water system without providing some kind of backup raw water supply to Chino I. The intertie between the Chino I and Chino II raw water supplies furnishes this backup. CDPH will not provide any approval (in concept or otherwise) until after an application for a revised operating permit is submitted. This has not been done.					
201	JCSD	30	10/28/09	Section 3.4	What is the cost of this retro fitting? Put money into the new wells
Response See response to Comment Log No. 198.					
202	JCSD	31	10/28/09	Section 3.4	Does DPH Approve?
Response If the question is whether CDPH will approve of an intertie between the Chino I and Chino II raw water systems then the answer is that we won't know until after an application for a revised operating permit is submitted and approved. This issue is discussed further on pages 3-13 and 14.					
203	JCSD	32	10/28/09	Section 3.4	CDA -1 to Chino I
Response See response to the previous comment (Log No. 180).					
204	JCSD	33	10/28/09	Section 3.4	Taking Chino I wells to Chino II may change the DPH rating to a highly impaired water source. More Sampling? More treatment?
Response We agree that these are possibilities. Until CDPH issues a revised operating permit we will not know what monitoring or operating requirements may be imposed in order to intertie the Chino I and Chino II raw water systems.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
205	JCSD	34	10/28/09	Section 3.4	Submersibles giving problems at other sites, cost to repair?
Response As directed by the Sponsors, the PDR will be rewritten around line-shaft pumps instead of submersible pumps for the new wells.					
206	JCSD	35	10/28/09	Section 3.4	Increased in size from 30" to 36" diameter - paid for by JCSD
Response We are aware of the JCSD upsizing and repayment issues for the 36-inch pipeline along Day Creek Channel. We have a copy of the agreement. This matter will be included in the Buy-In Analysis, issued as a separate document.					
207	JCSD	36	10/28/09	Figure 3.5	36" (upsize paid for by JCSD)
Response See response to previous comment (Log No. 206).					
208	JCSD	37	10/28/09	Figure 3.5	Chino II / Well II - 9A not Well II - 9A, be consistent
Response We will change well identification to Well CDA II-9A to be consistent with the balance of the report. See response to the previous comment (Log No. 180).					
209	JCSD	38	10/28/09	Figure 3.5	Chino I / Well I- I is what I'm used to seeing, be consistent
Response We will change well identification to Well CDA I-1 to be consistent with the balance of the report. See response to the previous comment (Log No. 180).					
210	JCSD	39	10/28/09	Pg. 2-2 section 2.2	This can only happen if there is no recharge downstream of the extraction wells, is this the case?
Response Both the text and the figure (Fig. 2.1) were provided by WEI, who represent Watermaster in defining hydraulic control. We aren't sure we understand the comment.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
211	JCSD	40	10/28/09	Pg. 2-2 section 2.2	What if over drafting of this aquifer is occurring?
Response Causing drawdown to help Watermaster achieve hydraulic control is one of the objectives of the Chino desalters. Peace II requires removing a total of 400,000 AF from the basin storage volume. One of the anticipated effects of this planned overdraft is an increase in basin recharge from the Santa Ana River. The lower groundwater levels resulting from the overdraft will induce additional recharge until equilibrium is achieved.					
212	JCSD	41	10/28/09	Pg. 2-2 figure 2.1	Is this based on CCWFA? discussed below
Response Yes. The WEI modeling (Fig. 2.1) is based on the CCWFA alignment.					
213	JCSD	42	10/28/09	Table 2.1	Consider adding a column for current pumping capacity
Response We will use the most recent Southern California Edison capacity test (from "Chino Desalter Well Field Info" spreadsheet provided by Tom O'Neil on 11/13/09) and add columns represent the current well capacity and TDH.					
214	JCSD	43	10/28/09	Table 2.1	Design TDH - why N/A ?
Response Table 2.1 defines "NA" as "Not Available" (see footnote b). CDA has been unable to provide us with information on the design TDH of these well pumps.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
215	JCSD	44	10/28/09	Pg. 2-6 section 2.3.1.1	What is the basis of these scenarios? And how does this tie into the capacities in Table 1.1?
Response The basic model conditions are presented both in the text and in the figures. GEOSCIENCE developed these scenarios under contract to CDA in 2008. Well production values used in the models were developed jointly by GEOSCIENCE and CDA staff in 2008. We have revised Table 2.1 to include the most recent SCE performance tests for calculating the operating factor for each well. We have also revised Table 2.2 to show the modeled operating factor calculated from the current well capacity based on the most recent SCE performance tests.					
216	JCSD	45	10/28/09	Pg. 2-6 section 2.3.1.1	This statement is confusing, consider clarifying
Response We could not identify the source of the confusion.					
217	JCSD	46	10/28/09	Pg. 2-10 section 2.3.1.1	Then why did the model show Well drawings from layer 2?
Response GEOSCIENCE has agreed to rerun their model. We should note that GEOSCIENCE completed this modeling study under a contract directly with CDA and that the referenced report (GEOSCIENCE 2008) was published before work on the Phase 3 PDR began.					
218	JCSD	47	10/28/09	Pg. 2-10 section 2.3.1.1	It appears that there is potential to pull to the Ontario airport pump to these wells. What is the impact on Chino II
Response Water quality modeling provided by Wildermuth indicates that the Ontario International Airport plume will not travel east of Well I-11. Please see Figure 4-17a from the recent Wildermuth report titled “Administrative Draft of 2009 Production Optimization and Evaluation of the Peace II Project Description”).					

Log No.	Source	Source No.	Date	Report Ref.	Comment
219	JCSD	48	10/28/09	Pg. 2-10 Section 2.3.1.2	Different pressure zone. What is the impact of water quality on Chino II
Response These issues are discussed in Section 3.4.					
220	JCSD	49	10/28/09	Pg. 2-10 Section 2.3.1.2	what is required well field capacity? Is this what is required for hydraulic control?
Response Total annual production from the CCWF is 5,000 to 7,700 AF/yr for hydraulic control (see Appendix A.4, page13).					
221	JCSD	50	10/28/09	Pg. 2-11 Section 2.3.1.2	is this because the well field cannot support the design capacity? Consider providing additional explanations
Response GEOSCIENCE modeling was performed in 2008 under the assumption that Wells I-13, 14, and 15 could not be connected to the Chino II raw water system because of redundancy issues in the Chino I raw water supply system. The development of the raw water intertie concept as part of the Phase 3 PDR, so that water can flow from the Chino II raw water system to Chino I, addressed those concerns and allows the connection of Wells I-13, 14, and 15 to the Chino II raw water system without the present need to construct additional Chino II wells.					
222	JCSD	51	10/28/09	Table 2.2	Are modeled rates based on actual pump rates? If not why not?
Response The basic model conditions are presented both in the text and in the figures. We have revised Table 2.2 to show the modeled operating factor calculated from the current well capacity based on the most recent SCE performance tests. The pumping rates for the Wildermuth Model (Alt 1C) in Table 2.2 are based on the historical data—specifically, the relative distribution of pumping for the Chino I and Chino II wells. The pumping rates assumed for the CCWF wells are based on the total pumping needed to achieve Watermaster's hydraulic control objective in this area. GEOSCIENCE developed their three model scenarios under contract to CDA in 2008. Well production values used in the model scenarios were developed jointly by GEOSCIENCE and CDA staff in 2008.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
223	JCSD	52	10/28/09	Table 2.2	Consider maintaining existing well naming protocol
Response See response to the previous comment log No. 180.					
224	JCSD	53	10/28/09	Table 2.2	What is the intent of red / blue shading? Consider a legend describing shading or add footnotes
Response We will add a legend stating that blue indicates Chino I raw water supply and red indicates Chino II raw water supply.					
225	JCSD	54	10/28/09	Pg. 2-14 section 2.3.1.3	True but this is why the pumps were lowered in the first place since the aquifer could not support the current pumping capacity
Response See response to Comment Log No. 211.					
226	JCSD	55	10/28/09	Pg. 2-14 Section 2.3.1.3	Which means the aquifer / well does not support current pumping capacities. Where is this addressed? Lowering pumps is not necessarily the best solution
Response See response to Comment Log No. 211.					
227	JCSD	56	10/28/09	Pg. 2-16 Section 2.3.1.3	Reducing pumping rate is not addressed and needs to be discussed. Especially, on wells where the water levels are significantly below screen intervals
Response See response to Comment Log No. 211.					
228	JCSD	57	10/28/09	Pg. 2-16 Section 2.3.1.3	what is the conclusion of the Wildermuth Model? Or is this for information only?
Response Drawdown levels projected by the Wildermuth modeling are shown in Table 2.3.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
229	JCSD	58	10/28/09	Pg. 2-17 Section 2.4.1	Provided exact title of document since it is referenced
Response We will add the exact title.					
230	JCSD	59	10/28/09	Pg. 2-17 section 2.4.2.1	Based on comments from CDA Members submersible pumps are not desired
Response As directed by the Sponsors, the PDR will be rewritten around line-shaft pumps instead of submersible pumps for the new wells.					
231	JCSD	60	10/28/09	Pg. 2-17 Section 2.4.2.1	Why a ventilated building? If out in an open, industrial area consider open site. Why add this cost?
Response It may be necessary to enclose the motor for sound control if property acquisition negotiations lead to this requirement. It may be desirable to enclose the motor for security. We have included the building in our cost estimates to be conservative at this level of planning.					
232	JCSD	61	10/28/09	Pg. 2-17 Section 2.4.2.1	Confirm with CDA Operators
Response We do not understand the comment.					
233	JCSD	62	10/28/09	Pg. 2-18 Section 2.4.2.2	at the proposed pump depths confirm that vibration will not be an issue
Response We believe that this is an issue for detailed design after the wells are drilled and key parameters (capacity, column size, screened interval elevations, and pump setting) are known.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
234	JCSD	63	10/28/09	Pg. 2-18 Section 2.4.2.2	Is this true for the sizes we are using?
Response We do not understand the comment.					
235	JCSD	64	10/28/09	Pg. 2-19 Section 2.4.2.3	Static water levels in the well will be same as aquifer which prevents a dry start. Confirm this cost is necessary
Response As directed by the Sponsors, the PDR will be rewritten around line-shaft pumps instead of submersible pumps for the new wells. We will delete subsection 2.4.2.3—Downhole Appurtenances because it is not applicable to a line-shaft pump. For the record, the issue of concern for a submersible pump is not a dry start, but rather a start without pressure on the discharge of the pump, which is necessary to properly seat the motor thrust bearings and provide proper bearing lubrication by the pumped fluid. If the water level in the submersible pump column is the same elevation as the water surface in the well casing then there is no pressure on the pump discharge at startup because the suction head and the discharge head are equal.					
236	JCSD	65	10/28/09	Pg. 2-19 Section 2.4.2.3	Why not just one foot valve on pump station?
Response As directed by the Sponsors, the PDR will be rewritten around line-shaft pumps instead of submersible pumps for the new wells. We will delete subsection 2.4.2.3—Downhole Appurtenances because it is not applicable to a line-shaft pump.					
237	JCSD	66	10/28/09	Pg. 2-19 Section 2.4.2.3	how does flexible column pipe respond to this kind of operation?
Response As directed by the Sponsors, the PDR will be rewritten around line-shaft pumps instead of submersible pumps for the new wells. We will delete subsection 2.4.2.3—Downhole Appurtenances because it is not applicable to a line-shaft pump.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
238	JCSD	67	10/28/09	Pg. 2-19 Section 2.4.2.4	address handling of pipe. Using carbon steel, tools, chains, etc,. can contaminate stainless compromising its properties
Response We agree that this is important and will add a sentence to that effect. However, this is an issue for detailed design because it is covered in the specifications.					
239	JCSD	68	10/28/09	Pg. 2-19 Section 2.4.2.4	What pipe schedule for stainless steel?
Response This is an issue for detailed design. For the record, the cost estimates assume schedule 40 316L stainless steel, which is conservative.					
240	JCSD	69	10/28/09	Pg. 2-19 Section 2.4.2.4	May consider field welding stainless if properly pickled and passivated
Response We believe that field welding stainless steel piping is not good practice; however, this is an issue for detailed design and we will delete the sentence to eliminate the need for further discussion on this point.					
241	JCSD	70	10/28/09	Pg. 2-19 Section 2.4.2.4	has HDPE been considered to reduce cost?
Response No.					
242	JCSD	71	10/28/09	Pg. 2-19 Section 2.4.2.4	Grooved couplings should not be used on thin wall stainless, confirm pipe schedule.
Response Connection details and pipe schedules are issues for detailed design.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
243	JCSD	72	10/28/09	Pg. 2-20 Section 2.4.2.5	the steel tanks will have an epoxy coated and lined tank. With all of the stainless used, is epoxy lining adequate?
Response We will add text to the effect that a decision on whether epoxy coating is adequate should be reserved until after the wells are drilled and tested and water quality is known. The tank manufacturer should provide assurance of coatings and materials resistance to known water quality parameters as part of the detailed design.					
244	JCSD	73	10/28/09	Pg. 2-20 Section 2.4.2.5	for the purpose of this PDR, it is assumed that 750 gallon bladder type surge tank will be required at each of the CCWF wells - Confirm
Response Confirmation will happen after wells are drilled and capacities are known. The assumed tank size (750 gallons) is based upon proposed CCWF well capacities and the size of the surge tanks installed at the majority of the existing CDA wells.					
245	JCSD	74	10/28/09	Pg. 2-20 Section 2.4.2.6	What NEMA rating? What material?
Response These are issues for detailed design.					
246	JCSD	75	10/28/09	Pg. 2-20 Section 2.4.2.6	Consider shades to protect panel from UV exposure
Response We will add text to the effect that exposed electrical panels will have sun screens.					
247	JCSD	76	10/28/09	Pg. 2-20 Section 2.4.2.6	Are panels secure to protect from vandalism? Especially at remote sites.
Response Yes.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
248	JCSD	77	10/28/09	Pg. 2-21 Section 2.4.2.6 last paragraph	is this true?
Response Todd Minten says that Chino I wells have standby power. Cindy Miller says that the Chino II wells are designed to allow installation of future standby power (engine generators). We will revise the text.					
249	JCSD	78	10/28/09	Pg. 2-22 Section 2.4.2.7	Well Start up- what if no VFD's
Response We are recommending VFDs for the new wells.					
250	JCSD	79	10/28/09	Pg. 2-22 Section 2.4.2.7	Shutdown- the pump to waste valve closes after the pump motor stops - why? It needs to open on the start anyway?
Response We believe that closing the valve to seal the well when out-of-service is good practice.					
251	JCSD	80	10/28/09	Pg. 3-2 section 3.2	CCWFA-1, 2, and 3 - consider keeping existing well naming protocol
Response All previous geohydrology documents, maps, and reports refer to the new wells by their “CCWF” designations; thus, in all previous documents the first CCWF (alignment A) well is referred to as CCWFA-1. In design, construction, and operation, the same well will be referred to as well I-16, using the current CDA naming protocol (or CDA I-16, if the ownership is included in the identification). Because the PDR incorporates many of the previous documents (which use the CCWF nomenclature) we elected to continue usage of the previous CCWF naming convention in order to reduce confusion. We recommend that when design documents are produced they should refer to the new wells under the appropriate CDA naming protocol (e.g., CCWFA-1 becomes CDA well I-16).					

Log No.	Source	Source No.	Date	Report Ref.	Comment
252	JCSD	81	10/28/09	Figure 3.1	CCWFA-6 - Consider maintaining current well naming protocol

Response

See response to previous comment (Log No. 251).

Log No.	Source	Source No.	Date	Report Ref.	Comment
253	JCSD	82	10/28/09	Pg. 3-5 Section 3.4	Potential for vocs. , how does this impact Chino II

Response

Neither Chino I nor Chino II have any provision for VOC treatment of raw water in the RO/IX pipeline, with the exception of whatever removal is achieved through air stripping in the decarbonator towers downstream of the RO trains. In other words, the issue of VOCs appearing in wells that are connected to the RO/IX raw water pipeline is the same for Chino I as for Chino II.

The recommendation of the PDR (see 4.2.6) is that if more treatment for VOCs is required than is provided by air stripping (through the Chino I/Chino II decarbonators or the Chino I VOC air stripping towers) then the most cost-effective solution is to provide wellhead treatment for the affected wells rather than treatment for the combined raw water flow at the desalter. Wellhead treatment allows RO/IX raw water to flow to either Chino I or Chino II without requiring additional VOC treatment of the RO/IX system at either.

Log No.	Source	Source No.	Date	Report Ref.	Comment
254	JCSD	83	10/28/09	Pg. 3-5 Section 3.4	Also need to consider head differences of going to two zones not addressed in well operation in chapter 2

Response

We do not understand the comment.

Log No.	Source	Source No.	Date	Report Ref.	Comment
255	JCSD	84	10/28/09	Pg. 3-5 Section 3.4	Sharing head costs money, consider how the wells will be operated under most conditions and evaluate

Response

The lowest energy cost option is the one that is recommended: leave Wells I-13, 14, and 15 equipped with pumps to meet the Chino I HGL requirement. Then, any water from these wells that is required for operation of the expanded Chino II is lifted to the Chino II HGL through the intertie pump station.

The flow control intertie station will waste energy if water is transferred to the Chino I raw water system from the Chino II raw water system. However, this should be a short-term (i.e., emergency) situation because the CCWF is added to the Chino I raw water supply and Wells I-13, 14, and 15 are still equipped to pump to the Chino I HGL so there is normally plenty of Chino I raw water capacity without wasting energy by dropping water from the Chino II raw water system to Chino I.

Log No.	Source	Source No.	Date	Report Ref.	Comment
256	JCSD	85	10/28/09	Pg. 3-5 Section 3.4	Impact of water quality on Chino II
Response The possible effects of the intertie on use of the Chino II raw water bypass are discussed in Section 3.4.1 and again in Section 4.4.1.					
257	JCSD	86	10/28/09	Pg. 3-6 Section 3.4	Either option needs to consider where these wells will be pumping to most of the time. A cost decision cannot be made if this is not factored in
Response The recommended option (intertie pump station) allows a portion of the Well I-13, 14, and 15 production to be used at Chino I and a portion to be used at Chino II without wasting any energy (i.e., only the portion needed at Chino II is lifted to the higher HGL through the intertie pump station). The amount of the portion pumped to either Chino I or Chino II is variable through use of the VFDs on the well pumps and the VFDs on the intertie booster pumps.					
258	JCSD	87	10/28/09	Pg. 3-6 Section 3.4	impact of different water quality on desalter needs to be considered. Also need to consider pit input
Response We do not understand the comment.					
259	JCSD	88	10/28/09	Pg. 3-9 Section 3.4	Consider surge analysis of system to confirm surge transients will not exceed factor of safety
Response The detailed design of the surge control facilities must ensure that surge transients are compatible with the existing pipeline.					
260	JCSD	89	10/28/09	Figure 3.5	What does the color coding represent? Consider using a legend or footnotes
Response We will add a legend stating that blue indicates Chino I raw water supply and red indicates Chino II raw water supply.					
261	JCSD	90	10/28/09	Figure 3.5	Add proposed raw water intertie pump station
Response We will show potential locations for the raw water intertie pump station and intertie flow control station.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
262	JCSD	91	10/28/09	Pg. 3-12 Section 3.4	should the total be 465? (425 +40=465)
Response We believe that the calculations in the report are correct. Assuming that the current pumping level in Well II-1 is 145 to 150 feet below ground surface (see Fig. A-15, Appendix A.3) and the well ground surface is 676 ft AMSL (see GEOSCIENCE Table 5, Appendix A.2) then the well pumping water level is elevation 521 to 526 ft AMSL. Figure 3.6 indicates an EGL at Well II-1 of 965 ft AMSL after the Chino II expansion. This is 37 feet (i.e., approximately 40 feet) higher than current equivalent conditions as shown on Figure 3.6. Pump TDH = discharge EGL minus well pumping level, or 444 to 439 feet (i.e., approximately 440 as stated in the report).					
263	JCSD	92	10/28/09	Pg. 3-12 Section 3.4.1	What about VOCs to Chino II?
Response Neither Chino I nor Chino II have any provision for VOC treatment of raw water in the RO/IX pipeline, with the exception of whatever removal is achieved through air stripping in the decarbonator towers downstream of the RO trains. In other words, the issue of VOCs appearing in wells that are connected to the RO/IX raw water pipeline is the same for Chino I as for Chino II. The recommendation of the PDR (see 4.2.6) is that if more treatment for VOCs is required than is provided by air stripping (through the Chino I/Chino II decarbonators or the Chino I VOC air stripping towers) then the most cost-effective solution is to provide wellhead treatment for the affected wells rather than treatment for the combined raw water flow at the desalter. Wellhead treatment allows RO/IX raw water to flow to either Chino I or Chino II without requiring additional VOC treatment of the RO/IX system at either.					
264	JCSD	93	10/28/09	Pg. 3-13 Section 3.4.1 Option 2	This option reduces flexibility of Chino II and potentially impacts the plant capacity
Response Option 2 would not affect the delivery of entitlements to the CDA members if Chino I is brought to nameplate capacity or if the concentrate reduction facilities at Chino II replace the raw water bypass capacity. If the raw water bypass capacity is required to meet entitlements then the Chino I and Chino II raw water systems should not be connected.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
265	JCSD	94	10/28/09	Pg. 3-13 Section 3.4.1 option 3	Also does not address VOCs
Response See response to comment log No. 263.					
266	JCSD	95	10/28/09	Pg. 4-1 Section 4.1	Contradictory…consider rewording
Response We will add text to clarify.					
267	JCSD	96	10/28/09	Pg. 4-2 Section 4.2	This needs to be a consideration of the proposed intertie with I-13, I-14 and I-15
Response If the consideration referred to in the comment is that fact that CDPH has already approved desalter operating permits that allow the bypass of raw water supplies that include wells that are extremely impaired with respect to nitrate levels, then that information is part of the discussion regarding the proposed intertie between Chino II and wells I-13, 14, and 15. See PDR page 3-14.					
268	JCSD	97	10/28/09	Pg. 4-7 Section 4.2.4	Reference Section 4.2.6.2 for discussion on treatment
Response We will add text referencing Section 4.2.6.1 (TCE treatment recommendations) and 4.2.6.2 (TCP treatment recommendations).					
269	JCSD	98	10/28/09	Pg. 4-11 Section 4.2.6	Consider discussion on any potential air permit issues resulting from air stripping
Response We are not recommending or anticipating the enlargement or expansion of the air stripper operation. Air quality permit issues could arise due to changes in air quality standards or regulations that may affect the operation of the existing strippers. If required by future air quality standards, it would be possible to install air-phase GAC adsorbers to remove VOCs from the air stripping exhaust. The cost is dependent upon the air quality standard. As an alternative, liquid-phase GAC adsorbers would eliminate the need for air stripping towers and VOC emissions. Costs for liquid-phase GAC adsorbers sized are included in the text for both wellhead and regional (commingled treatment at Chino I) options.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
270	JCSD	99	10/28/09	Pg. 4-11 Section 4.2.6.1	Consider adding a similar discussion for TCE
Response Section 4.2.6.1 is a discussion for TCE.					
271	JCSD	100	10/28/09	Pg. 4-20 Section 4.3	Why? Explain defficiencies
Response The balance of Section 4.3 supplies detailed information on the Chino I capacity deficiency—see pages 4-23, 24.					
272	JCSD	101	10/28/09	Pg. 4-21 Section 4.3.1 Table 4.4	If CDA is producing water with a lower TDS concentration than Colorado River water, is there relief from the CDA objective of 350 m/l?
Response Lower TDS and nitrate levels delivered to the member agencies allow greater flexibility in use of local supplies through blending. Basin salt management is enhanced by maximum treatment for removal of TDS and nitrate by RO and discharge of brine to the SARI line. WMWD has a contractual limit of 350 mg/L TDS for deliveries of water to some wholesale customers and might be adversely affected in the CDA objective is raised. Ultimately, it's a matter of CDA policy as to the tradeoffs between operating cost and water quality benefits for member agencies.					
273	JCSD	102	10/28/09	Pg. 4-26 Section 4.3.1	What is causing this? Decreased water levels in aquifier?
Response If you are referring to the operation of the Chino I VOC wells at less than nameplate capacity, this is not a function of decreased water levels (as far as we understand); Tom O'Neil says that these wells never operated at nameplate capacity. In other words, they were equipped with pumps having higher capacities than the yields of the wells.					
274	JCSD	103	10/28/09	Pg. 4-27 Section 4.3.2	What is the status of this work?
Response We will revise the text to read that the first two CCWF wells are scheduled for drilling in 2010.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
275	JCSD	104	10/28/09	Pg. 4-36 Section 4.4.2	Update this section based on the current status of the project.
Response We will update the text to reflect the bid opening and construction contract award for the Chino II expansion.					
276	JCSD	105	10/28/09	Section 8.4.2	What is the basis for electrical costs (i.e. the price of power)?
Response These electrical costs come directly from the CDA budget for FY 2009-10.					
277	JCSD	106	10/28/09	Table 8.7	There is a power cost for "additional pumping" shown in this table. How does this tie to the costs shown in Table 8.6?
Response The additional pumping cost represents energy cost of the increased head due to increased raw water flows to Chino II. Table 8.7 applies an incremental unit cost of $2.79/AF against all raw water pumped to Chino II. The $2.79/AF derives from the current budgeted cost of power for pumping the Chino II wells and the budgeted Chino II raw water volume shown in Table 8.6 (i.e., $779,424 divided by 13,980 AF multiplied by 5 percent equals $2.79/AF incremental cost of pumping against the additional head). However, in reviewing these calculations we uncovered an error. We used 5 percent for the additional pumping head, which represents the increase in energy grade line. The correct calculation should be based on the increase in total dynamic head (TDH) at the pump, which is approximately 10 percent under worst case conditions (i.e., 40 feet increased TDH divided by 400 feet current Well II-1 TDH; see page 3-12 and response to Log No. 262 comment). We will revise Table 8.7 to show an incremental power costs reflecting a 10 percent increase in pumping head.					
278	JCSD	107	10/28/09	App D.1, Sect. 4	Consider adding additional text describing in more detail the replacement units (i.e., describe the membranes that will be used and why they are selected)
Response Detailed criteria on new RO trains and proposed membranes for Chino I will be developed after the first two CCWF wells are drilled and water quality is identified.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
279	JCSD	108	10/28/09	App D.1, Sect. 5	Paragraph refers to upsizing existing pump. Confirm that the existing pump will be replaced with a new pump at the indicated flow and head.
Response We confirm that if Chino I is modified then the CIP pump will be replaced with a new pump at the indicated flow and head.					
280	JCSD	109	10/28/09	App D.1, Sect. 7	PDR references additional language on electrical to be provided.
Response We will delete the internal note.					
281	JCSD	110	10/28/09	App D.3	Consider a similar technical discussion on the plant expansion as provided in D.1. Need to address the potential for VOCs to be sent to Plant 1 considering the discussions from the PDR.
Response A detailed technical discussion was added to Appendix D.3 by Addendum No. 1, dated October 16, 2009.					
282	SARWC		10/27/09	General	It is recommended that two (2) additional RO units be installed at Chino I in order for Chino I to produce its nameplate capacity. Currently with Chino II producing more than its nameplate capacity the net results with both Chino I & II is that each member agency is receiving its entitlement. So why should any of the current users pay to upgrade Chino I to meet its nameplate capacity when we already receive our full entitlements.
Response We will add text and options describing methods of meeting CDA contractual commitments without additional cost to the non-Sponsor CDA members.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
283	SARWC		10/27/09	Table 8.9, Appendix G-1, Table 11	Shown in Appendix G-1, Table 11 is a credit of $609,861 for SARWC as a result of buy-in cost by WMWD. However shown on Table 8.9 under Adjusted Capital Costs allocated to SARWC as result of Chino Desalter Phase 3 is $1,214,879. This will result in annualized capital charge to SARWC of $80,000 per year for 30 years assuming a 5 percent interest rate. SARWC takes exception to a major portion of this charge listed in Table 8.9 allocated to SARWC, when SARWC will receive no benefit by this charge when it is already receiving it's entitlement as is all current members.
Response We will add text and options describing methods of meeting CDA contractual commitments without additional cost to the non-Sponsor CDA members. The material in Appendix G.1 should be removed and discarded. It was a provisional, work document that is outdated and should not have been included in your PDR copy.					
284	Ontario	1	11/9/09		The PDR is basing the well production on name plate and not on historical or acutuals.
Response We will use the most recent Southern California Edison capacity test (from "Chino Desalter Well Field Info" spreadsheet provided by Tom O'Neil on 11/13/09) to represent the current well capacity.					
285	Ontario	2	11/9/09		Add a discussion of the impacts of the Ontario Airport plume and cost to treat
Response Water quality effects of the Ontario International Airport plume and potential costs for treatment are discussed in Sections 4.2.4, 4.2.5, and 4.2.6.					
286	Ontario	3	11/9/09	Section 1.1.2	The CDA did not construct Phase I. Phase I was purchased from SWAPA. Also the City of Ontario was not involved in Phase I nor did it receive water from phase I.
Response We will revise the text accordingly.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
287	Ontario	4	11/9/09	Section 1, Table 1.2	This table needs an additional note to address the number of days in service as 5,000 AF does not equate to 5 Mgd.
Response We will add text to footnote b to clarify this point.					
288	Ontario	5	11/9/09	Section 1, Table 2.1	References the design capacity of the wells which is miss leading seeing that several of the wells are not producing these gpm's.
Response We will use the most recent Southern California Edison capacity test (from "Chino Desalter Well Field Info" spreadsheet provided by Tom O'Neil on 11/13/09) to represent the current well capacity.					
289	Ontario	6	11/9/09	Section1, Table 2.2	Same as previous comment.
Response We will use the most recent Southern California Edison capacity test (from "Chino Desalter Well Field Info" spreadsheet provided by Tom O'Neil on 11/13/09) to represent the current well capacity.					
290	Ontario	7	11/9/09	Section 2.3.1.3	References lowering of pumps with baffles. The Chino II wells are equipped with submersible pumps. There is not enough room to install baffles (shrouds) on these pumps, lowering them without the baffles would result in operational problems.
Response We will delete the reference to baffling.					
291	Ontario	8	11/9/09	Section 2.4.2.1	Calls out for submersible motors. The CDA is experiencing problems with existing submersible motors and it is recommended that submersible motors not be used.
Response As directed by the Sponsors, the PDR will be rewritten around line-shaft pumps instead of submersible pumps for the new wells.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
292	Ontario	9	11/9/09	Section 3.4	References a requirement to increase the motors to 400 HP using a vertical line shaft pump. When the properties were purchased for Wells 13, 14 and 15 it was presented that the motors would be submersible and without noise or a building. If changes are proposed an investigation should be done to see if there will be any issues with the adjacent property owners (property disclosures, etc.).
Response We will revise text to include this information.					
293	Ontario	10	11/9/09	Section 3.4	References the use of a pump stations providing the ability to pump Chino I well water to Chino II. Using Chino I well water at Chino II will eliminate the current practice of using the bypass.
Response This possibility is discussed in Section 3.4.1.					
294	Ontario	11	11/9/09	Section 4.3.1 Pg. 4-23	First paragraph – States “Because the IX process removes nitrate but does not significantly affect TDS”. This statement is questionable as the TDS levels in the IX effluent at Chino I actually increase by 10 to 15% above the influent quality as a result of the process. The original design provided for a small decrease in TDS through the process.
Response We will modify the text to read “Because the IX process removes nitrate but not TDS…” We will add the sentence “The Chino I Desalter reportedly experiences a 10 - 15 percent increase in TDS through the IX process.” We will revise the bullet to read “IX effluent TDS = RO/IX raw water x 1.1” and we will revise Figures 4.9, 4.11 and 4.12 accordingly.					
295	Ontario	12	11/9/09	Section 5.2 Pg. 5-3	References criteria used in Table 5.2 which is based on a calculation by subtracting the product water (IX & RO permeate) from the summation of the daily raw water flows from CDA I-5 through I-15. There is also a reference that there may be some inaccuracies present. There is no mention of the daily reads from the meter installed on the SARI discharge line.
Response We will replace Figure 5.1 with a version based upon SARI discharge meter readings and modify the text accordingly.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
296	Ontario	13	11/9/09	Section 5.3	Fails to note the IX waste to the SARI line which runs west on Harrel to Wineville then south to Bellegrave.
Response We will add text to describe the Harrel-Wineville sewer line, which is 8-inch diameter at the Chino II connection and increases to 24-inch diameter in Wineville at the connection the SARI Reach IVD in Bellegrave.					
297	Ontario	14	11/9/09	Section 5, Table 5.3	Lists the historical waste flows at 1.5 mgd. The facility has exceeded this amount at times.
Response We will replace the calculated values with maximum and minimum values from the historical database. The maximum SARI waste discharge in 2008-2009 was 1.61 mgd on September 11, 2008.					
298	Ontario	15	11/9/09	Section 5.3	Last paragraph – Refers to the capacity in the 21-inch in Etiwanda Avenue. Has anyone approached JCSD to get permission to use the pipeline for the additional flows? Also, there is not reference to a hydraulic analysis for the additional IX waste going through the Wineville sewer line.
Response The potential costs for additional capacity in the JCSD SARI laterals in Etiwanda and Wineville Avenues are not available at the present time. We will include a placeholder value representing the cost of a parallel pipeline from Chino II to SARI Reach IVD. The concentrate reduction project at Chino II will eliminate the need for any additional brine pipeline capacity from Chino II, either from JCSD or parallel pipeline construction.					

COMMENT LOG

CHINO DESALTER PHASE 3 COMPREHENSIVE PREDESIGN REPORT, SECOND DRAFT, DECEMBER 2009

(Comments are Numbered Sequentially in Continuation from the 1st Draft Log)

Log No.	Source	Source No.	Date	Report Ref.	Comment
299	Chino	1	12/23/09		It would be advisable to include an Executive Summary discussion that provides a clear and concise statement of recommendations along with a brief explanation of the basis for the recommendations.
Response It is has been our intention to provide an executive summary with the final document. We have held off preparing an executive summary until the review and revision of the draft documents is completed.					
300	Chino	2	12/23/09	Response 82	How does connecting Wells Nos. I – 13, 14, 15 to Chino II increase reliability of Chino I? The described intertie between Chino I and Chino II is limited to raw water. An intertie of raw water supply does not address the concern pertaining to increased reliability of treated water supply to the cities of Chino and Chino Hills.
Response Our response to the Log No. 82 comment included this statement: "In our view, the Phase 3 expansion raw water facilities recommended in the PDR (i.e., intertie between the Chino I and Chino II raw water systems with the ability for transfer of [raw] water from the Chino I hydraulic grade line to the Chino II HGL and vice versa) provides an integrated raw water system that increases reliability for both desalters." We believe this statement is reasonable. In the PDR we recommended that connecting Wells I-13, 14, and 15 to the Chino II raw water system is contingent upon integrating the raw water systems in order to mitigate any loss of raw water reliability to Chino I. We are not claiming that connecting Wells I-13, 14, and 15 to the Chino II system will increase the reliability in the Chino I raw water system but as a mitigation measure we are proposing an integrated raw water that we believe will increase raw water reliability (or at the least mitigate loss of reliability). On the issue of product water reliability for Chino and Chino Hills, we will add text to Section 6 describing options for delivering product water from Chino II to Chino I (see our response to the Log No. 309 comment).					

Log No.	Source	Source No.	Date	Report Ref.	Comment
301	Chino	3	12/23/09	Table 1.2	The Operation Factor would be more easily recognized if similar units (e.g. AF/Y) were used in both the top half (volume) and lower half (flow) portions of the table.
Response In our view, the primary value of the lower half (flow) portion of the table is to show how the historical, nameplate capacities of the desalters relate to the flows required for the delivery of the individual member entitlements. This value is best expressed using the flow capacities in mgd. In our view, the lower half of the table would lose its connection with past discussions, spreadsheets, and historical context if the flows were expressed in AF/year rather than mgd.					
302	Chino	4	12/23/09	Page 2-11	The last paragraph describes unused well capacity and the well operation factor. How is the unused well capacity considered in the draft analysis of Buy-In?
Response The draft buy-in analysis methodology previously submitted to the CDA TAC for review does not consider the unused well capacity directly. The draft buy-in analysis methodology determines the current value of the existing facilities that are used by both the current CDA entitlement-holders and the Phase 3 expansion entitlement-holders and allocates costs based upon the entitlements. The buy-in is the difference between the original cost to the entitlement-holder and the new allocation to the entitlement-holder. In other words, the draft buy-in methodology does not “sell” unused existing well capacity. It pro-rates all shared capacity between all users and allocates credits and buy-in costs accordingly.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
304	Chino	5	12/23/09	Response 88	We assume the revised modeling work by Geoscience described in the response is illustrated by the Addendum No. 2 set of figures (e.g. F2.2, F2.3, F2.4). Figure 2.3 exhibits significant groundwater level drawdown in the vicinity of Chino I for layer 1. Would this predicted condition increase, decrease, or have no effect on the potential risk of land subsidence in the vicinity, and why?

Response

Chino Basin Watermaster asked GEOSCIENCE for additional information regarding subsidence after reviewing the wellfield PDR ("Preliminary Design Report for the Chino Creek Wellfield and Chino II Expansion Wellfield, Chino Desalter Phase 3 Project," GEOSCIENCE May 2009), see July 8, 2009 letter from Watermaster to GEOSCIENCE in Appendix A.1, Chino Desalter Phase 3 Comprehensive Predesign Report, 2nd Draft. GEOSCIENCE added the following text to the revised Wellfield PDR under the heading "Potential for Land Subsidence:"

> "Land subsidence (due to non recoverable compaction in aquifer systems) has been identified in portions of the southwest Chino Basin since the late 1960s and has resulted in ground fissuring which has been observed in the vicinity of the California Institution for Men. Land subsidence is typically associated with ground water withdrawals and long term lowering of ground water levels in areas where aquifers are confined, little or no pre consolidation has occurred, and a significant portion of the subsurface lithology consists predominantly of fine-grained sediments. The Chino Basin Watermaster is currently monitoring and performing tests to better understand the factors and causes of subsidence in the southwest Chino Basin.
>
> Wells within the Chino Creek wellfield will be designed to produce water primarily from the unconfined shallow aquifer system. However, there may be some potential for land subsidence due to the likelihood of significant ground water level drawdown in an area known to have a high percentage of fine-grained sediments in the subsurface."

("Preliminary Design Report for the Chino Creek Wellfield and Chino II Expansion Wellfield, Chino Desalter Phase 3 Project," GEOSCIENCE September 2009, page 15, underlining added; see copy in Appendix A.4 Chino Desalter Phase 3 Comprehensive Predesign Report, 2nd Draft)

Based on these statements, the construction of the CCWF wells to withdraw water primarily from the unconfined shallow aquifer system will decrease the likelihood of land subsidence due to operation of the CCWF wells because subsidence is typically associated with groundwater withdrawals from confined aquifers.

Log No.	Source	Source No.	Date	Report Ref.	Comment
305	Chino	6	12/23/09	Table 2.2	Please explain how wells included in the tabulation can have operating factors equal to or greater than 100 percent, and what this means with respect to well operations activities/expenses. How do the tabulated well operation factors compare to originally adopted CDA well operation factors, and what, if any, impacts to existing well equipment are suggested by the modeled values? Table 2.2 co-mingles actual and assumed pumping capacities to develop well production rates, and the data representations vary between the two consultants, particularly for the CCWF facilities. What will be the design capacities of the CCWF facilities? Related to the CCWF, as we previously expressed (e.g. Log No. 82) we are not convinced the CCWF and raw water intertie represent a satisfactory future water supply scheme for Chino I. Obviously, there are many uncertainties (e.g. production capacity, efficiency, water quality, reliability) associated with the proposed CCWF.

Response

As part of Appendix 2, we reissued Table 2.2 using the most recent Southern California Edison (SCE) well pump capacity measurements as the "current capacity." Because some of the SCE capacities are lower than the pump design capacities we used in the 1st draft of Table 2.2. we recognized that the operating factors (the ratio between the modeled rate and the well capacity) would increase. The GEOSCIENCE modeled operating factor increased from 56 to 59 percent but none of the individual wells exceeded 100 percent. The WEI modeled operating factor increased from 65 to 70 percent and some of the individual wells exceeded 100 percent.

We do not expect wells to operate beyond their current capacities; in other words, we do not expect the individual well operating factors to exceed 100 percent. The fact that the overall operating factor for the entire well field is only 70 percent in the WEI modeling scenario indicates that there is underutilized well capacity within the well field and it is simply a matter of redistributing the modeled rates among the wells so that no individual well exceeds 100 percent. We have previously requested that WEI re-run their model with such a redistribution of well flows so as to keep all wells at less than 100 percent individual operating factors.

Because we are not expecting existing wells to operate at greater than current capacities we are not including any such additional costs for operation activities and expenses nor are there any capital improvement projects required to increase the capacities of existing wells.

The design capacities of the individual CCWF wells will be whatever they are determined to be after pump testing. The intent of the PDR is to establish an overall operating factor of 75 percent for the CCWF. It may be that more, or fewer, wells are required to meet this objective than are assumed at the present time, depending upon individual well capacities, as determined during drilling.

The overall objective of Table 2.2 is to demonstrate that connecting Wells I-13, 14, and 15 to the Chino II raw water system and constructing the CCWF with an overall operating factor of not greater than 75 percent will result in an overall well operation factor of close to (but not greater than) 70 percent, which is the same operation factor that was adopted by the CDA in the original Chino II well field construction (see discussion on page 2-14, 2nd draft PDR).

We agree that there will be uncertainties and unknowns until the CCWF wells are drilled and tested to establish capacity and water quality. Each CCWF that is drilled and tested will lessen the amount of uncertainty remaining.

Log No.	Source	Source No.	Date	Report Ref.	Comment
306	Chino	7	12/23/09	Section 2.3.1.3	What are the factors contributing to model-predicted declining groundwater levels that may result in reduced operational efficiencies and/or the need for re-equipping well facilities? For example, are the predicted reduced levels necessary in order to attain the Watermaster-prescribed hydraulic control of the groundwater basin? Presumably, these levels are different from the levels that were anticipated when the existing CDA wells were designed. Is this the case? If so, then what amount of decline (what amount of estimated re-equipping expense) can be attributed to attainment of hydraulic control?

Response

The GESCIENCE modeling allows a comparison between continued baseline operation of the existing system (Scenario 1) with operation of the full Phase 3 expansion including the CCWF (Scenario 3). The PDR includes the following observations of the reported results.

"The GEOSCIENCE Scenario 1 model predicts that by 2017 the baseline conditions (without the Phase 3 expansion) will result in an additional drawdown at the existing Chino Desalter Wells ranging from 10 to 60 feet…The GEOSCIENCE Scenario 3 model data predict that, with the exception of one well, the Phase 3 expansion will result in additional drawdown at the other existing Chino Desalter Wells of less than 20 feet…"

"When the same baseline condition model is projected to the year 2017…three wells have pumping levels within 10 feet of the pump setting…Under Scenario 3 one additional well will have a pumping level within 10 feet of the pump setting."

In addition, the baseline modeling predicts that ten of the existing wells will have dewatered screened intervals. The Scenario 3 modeling does not increase that number.

As a consequence of these observations from the GEOSCIENCE model, the PDR concludes that the greatest impact on the Chino Desalter well fields is not the Phase 3 expansion but the continued operation under the current, baseline conditions.

Log No.	Source	Source No.	Date	Report Ref.	Comment
307	Chino	8	12/23/09	Page 2-23	The first paragraph indicates that Chino I wells have standby power whereas Chino II wells were designed to allow for standby power in the future. The new text describing standby power for wells indicates “the same practice (design to allow future installation of standby power) should be followed with new wells constructed as part of the Phase 3 Expansion.” It is not clear to us whether or not it is being suggested the CCWF be designed to merely allow for future installation of standby power, or since the CCWF is proposed to be located in an area exhibiting a historical susceptibility to power outages and plumbed to Chino I (whose wells have standby power) that the CCWF would be constructed with standby power as part of the Phase 3 Expansion. Please clarify.
Response We will modify the text to make it clear that we are not recommending installation of standby power at the CCWF wells, although we recommend design of the facilities to allow future installation. We will include our reasons for this recommendation.					
308	Chino	9	12/23/09	Page 3-6	It appears the determination of construction cost for the described intertie pump station changed significantly from what was described in the earlier (pre-Addendum 2) version of the PDR. What effect does this change in estimated cost have on the recommendation(s) pertaining to the intertie? It appears the previously described recommendation to re-plumb Wells Nos. I - 13, 14, and 15 to Chino II in lieu of constructing additional new wells was based primarily on estimates of new well construction cost. Recently received bid information suggests the current economic conditions may offer an opportunity for favorable (i.e. lower than expected) construction costs.
Response Even though the cost estimate increased we are still recommending construction of the intertie pump station for the reasons stated in the PDR.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
309	Chino	10	12/23/09	Response 94	The concern pertaining to reliability of treated water deliveries from Chino I has not been fully addressed. While it is helpful to reinforce the raw supply to the desalters by constructing a two-way raw water intertie, such an intertie does not address the possibility of total loss of treated water deliveries to Chino and Chino Hills in the event of a failure at the Chino I Desalter. The expansion project should include features that allow for a "pump back" of treated water from the Chino II system to the Chino I system.

Response

We did not understand that the phrase "pump-back" used in the Log No. 94 comment referred to product water—we assumed it was a reference to the reciprocal operation of the raw water intertie and so we didn't respond correctly to the intent of the original comment.

The previous drafts of the Phase 3 PDR have not addressed a transfer of produce water from Chino II to Chino I because we did not identify a problem resulting from the Phase 3 expansion that would require such a transfer as a remedy. The PDR acknowledges that transferring the high capacity, relatively low TDS wells I-13, 14, and 15 to the Chino II raw water system could weaken the Chino I raw water supply so our recommendation is for a two-way raw water intertie that will reinforce the present Chino I raw water supply by making the entire Chino II well field available to back up the Chino I raw water system.

In our view, the two-way raw water intertie provides a remedy to mitigate any weakening of the Chino I raw water system caused by the construction of the CCWF wells and the connection of wells I-13, 14, and 15 to the Chino II raw water system. In this view, it is not necessary for the Sponsors to also provide a product water intertie as part of the Phase 3 expansion because such a facility would result in the betterment of the existing CDA system at the sole expense of the Sponsors and would not be a remedy to a problem caused by the Phase 3 project.

We acknowledge that this view (although reasonable to us) may be subject of further discussion and so we will add text to Section 6 describing options for delivering product water from Chino II to Chino I.

310	Chino	11	12/23/09	Page 4-1	In Section 4.1, text should be added that explicitly states that one alternative calls for the Chino II Desalter to continue to make-up for the Chino I Desalter deficit of treated water supply.

Response

We will add such text to Section 4.1.

Log No.	Source	Source No.	Date	Report Ref.	Comment
311	Chino	12	12/23/09	Response 97	Our previously submitted comment pertaining to the second to last sentence appearing on Page 4-3 of the pre-Addendum 2 version of the report identifies the same inaccuracy pointed out by RBF's comment (Log No. 46). The revisions described in response to the RBF comment are satisfactory to address the previous comment by Chino.
Response We understand that the error was satisfactorily resolved by the Addendum No. 2 correction.					
312	Chino	13	12/23/09	Page 4-8	The 1st bulleted item on the page refers to "Chino I VOC wells." We suggest the reference (here and throughout the report, e.g. also Page 4-32) should be revised to eliminate the "VOC wells" characterization and instead identify the wells by respective well number.
Response We will change the reference from "Chino I VOC Wells" to "Chino I VOC Air Stripper Supply Wells" when PDR text refers to the four wells as a group. This phrasing is compatible with the PDR references to the other wells as "Chino I RO/IX Supply Wells." In PDR text where there is no need for a group reference we will drop the VOC reference and refer to well numbers only.					
313	Chino	14	12/23/09	Page 4-17	The 1st sentence of the 2nd paragraph states "the major source of TCP in the existing CDA well fields is well CDA I – 3." This sentence should be revised to indicate that Well No. I – 3 is not the source of the TCP, but rather Well No. I – 3 is an impacted well facility that produces groundwater containing the contaminant in high concentration.
Response We will rephrase the sentence.					
314	Chino	15	12/23/09	Table 4.4	We suggest that table be revised to clearly indicate the applicable MCL for nitrate is 45 mg/l (see Response 95).
Response Our mistake. We only partially corrected Table 4.4. We will complete the correction by replacing the remaining 44.3 with 45. The revised Table 4.4 will match the corrected Table 4.5.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
315	Chino	16	12/23/09	Page 4-26	No. 2 text added to the 1st paragraph states “reportedly, the Chino I Desalter experiences a 10 – 15 percent increase in TDS through the IX process.” This circumstance should be explained in the report.

Response

The reported increase in TDS has been present for four years, since the start up of IX process at Chino I. We have confirmed the increase is still on-going from current water quality records and incorporated the effects of the increase into the Phase 3 PDR analysis and report text and graphics. We do not consider it to be our responsibility to identify and report the reasons for the increase as part of the PDR, which will carry our engineering stamp.

However, we would note that the measurement of TDS by the evaporative method requires heating the sample to 180° C (*Standard Methods for Examination of Water and Wastewater,* 2540 C), which results in the conversion of bicarbonate to carbonate through the loss of water of hydration and CO_2—the loss represents 51 percent of the initial bicarbonate, by weight. In our RO process calculations of TDS by summation of ions we account for this effect in TDS measurement by assuming that only 49 percent of bicarbonate is measured as TDS.

The practical effect of this is that when an IX process treats a high TDS water (typically containing significant bicarbonate) the bicarbonate is partially removed by the IX process, particularly just after regeneration when almost all the anions in the IX effluent are chloride. The lab measurement of TDS (using evaporation) can thus show that IX effluent TDS is higher than raw water TDS because a greater weight of water of hydration and CO_2 is lost (by heating) from the raw water sample (where the bicarbonate is higher) and not accounted for as TDS.

The effect of increasing TDS across the IX process can be more pronounced as raw water TDS increases, or more precisely, as bicarbonate increases relative to nitrate, because the increasing loss of water of hydration and CO_2 due to the evaporative measurement masks the expected decrease in TDS due to replacement of nitrate (equivalent weight=62) with chloride (equivalent weight=35.5).

316	Chino	17	12/23/09	Response 101	The Addendum 2 deletion of text that appeared in Section 4.3.3 is clearly distinguishable. However, the additional “text and options describing methods of meeting CDA contractual commitments” is not so evident. Where, specifically, is the additional text located?

Response

With Addendum No. 2 we added a discussion of “three different options for expansion of Chino II without impairing the delivery of current entitlements”(Addendum No. 2, page 8-5) to the Section 8 text; see Section 8.3 with subsections 8.3.1 through 8.3.3. We will add text to Section 4.3.3 directing the reader to Section 8 for a discussion of Option A (increasing Chino I to nameplate capacity of 14.2 mgd), Option B (expanding Chino II to 22.7 mgd including 2.2. mgd raw water bypass), and Option C (expanding Chino II to 22.7 mgd including concentrate reduction).

Log No.	Source	Source No.	Date	Report Ref.	Comment
317	Chino	18	12/23/09	Page 5-9	In the 1st sentence of the new text, what is meant, specifically, by “gravity trench drainage”?
Response The Chino II RO building has piping trenches with gravity drains. These drains are too low to discharge to the 15-inch sewer line to Etiwanda and so they are combined with the IX brine waste and connected to the 8-inch diameter Vineyard sewer line in order to avoid the need for a sump pump system. Sample panels and analytical instruments discharge to the piping trench drains so there is a continuous flow to the drains. As an aside, the instrument discharge appears to be a couple of gallons per minute. The annual SARI volume charge for the instrument discharge is approximately $500/gpm (i.e., at the 2009-10 SARI volumetric rate of $0.000850/gal—see Table 8.3). The discharge is a result of the side-stream analyzers used on the existing Chino II RO trains. The new RO equipment being added to Chino II uses process stream insertion probes so there is no discharge to drain. This eliminates both the cost of SARI disposal and the unsightly precipitate build-up at the drains for the new facilities.					
318	Chino	19	12/23/09	Section 5	Information should be presented to illustrate a side-by-side comparison of existing (Chino I and Chino II) operations and maintenance expenses versus after Phase 3 Expansion both with and without concentrate reduction.
Response We believe that Table 5.10 illustrates the O&M costs with and without concentrate reduction.					
319	Chino	20	12/23/09	Response 107	We suggest incorporation of the response into the report text and/or expanded footnote.
Response We believe that the current footnote in Table 5.10 adequately states the assumption.					
320	Chino	21	12/23/09	Page 6-26	Addendum No. 2 deletes Sections 6.3.3 (Surge Protection) and 6.4 (Chino I – Chino II Product Water Intertie). Why are these sections deleted? Have the pertinent discussions of these important subjects been merged with other discussions located elsewhere in the document?
Response We will reinstate these headings and provide text.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
321	Chino	22	12/23/09	Response 109	Preservation of flexibility that would allow for Ontario to receive CDA water deliveries via the JCSD system (for example as a contingency method of delivery) may be sufficient reason to maintain some form of a Transportation Agreement between JCSD and the CDA, but it still would seem that the changed circumstances (i.e. contingency method rather than primary method of delivery) warrant a review of, and likely revision to, the existing Transportation Agreement.
Response We believe that this comment has legal and administrative implications that go beyond the scope of the PDR and exceed our mandate as consulting engineers. It should be added to the agenda for discussion by the parties involved in the development of the agreements required under Amendment No. 2 to the CDA JPA.					
322	Chino	23	12/23/09	Section 8	The discussion appearing on Page 8-10 states that Option C is the recommended option based on lower estimated capital cost than either Options A or B. The report describes O&M cost estimates for only the recommended Option C. The discussion should include a complete presentation of O&M costs associated with Options A and B in addition to Option C.
Response We will include comparable cost estimates for Options A and B.					
323	Chino	24	12/23/09	Response 111	Our previous comment (Log No. 111) regarding the availability of the Buy-In analysis describes a growing concern that has not been addressed. We reserve right to provide further comments pertaining to the information described in the PDR once we have had an opportunity to review and provide comments on the Buy-In analysis.
Response Comment noted.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
324	Chino	25	12/23/09	Section 8.5.2	The 1st paragraph of this section is somewhat misleading in that it states conclusively that "all Chino Desalter product water" receives a MWD LRP rebate. Technically speaking, this statement is inaccurate (it is our understanding that the MWD subsidy funding associated with the expansion of the Chino I Desalter and the construction of the Chino II Desalter (i.e. Phase 2) is not LRP funding but is actually funding from another MWD program). Additionally, given the current (i.e. suspended) state of subsidy funding for Phase 2, the existing text silently assumes a certain outcome to a current issue that is not resolved.
Response We believe that the best solution is to delete any reference in the PDR to LRP funding for the existing Chino Desalter facilities (i.e., Phases 1 and 2).					
325	Chino	26	12/23/09	Page 8-20	The replenishment obligation for desalter production is currently an obligation of the Chino Basin Appropriative Pool, not the CDA. Current replenishment water cost includes multiple cost factors. The MWD replenishment water price is just one (albeit the most significant) of those factors. All of the factors should be identified.
Response We requested a breakdown of current costs allocatable to the Desalters from Chino Basin Watermaster and received the following as the "most current costs" for the 2008-09 fiscal year (e-mail dated 1/6/10). Administrative Assessment: $7.19 per AF. OBMP Assessment (and special costs): $44.02 per AF. Replenishment Water (MWD): $380.00 per AF. Total: $431.21 per AF. We will add the missing items to the Section 8 text.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
326	JCSD	1	01/22/10		**Blending Constraints at Chino II:** The blending plan at Chino II is allowed because the water quality issues are limited to nitrate and TDS removal only. The impact of sending VOC contaminated water to Chino II needs to be considered as this may impact the ability to continue blending. Preliminary discussions with DPH should be considered before a final plan is developed.
Response Agreed. We will add a recommendation (to Section 3) that CDA submit a draft application for an amended operating permit to CDPH as soon as the PDR is accepted by the CDA Board.					
327	JCSD	2	01/22/10	Page 5-9 Section 5.3	**Sewer Constraints:** Additional pipeline capacity in the Etiwanda and Harrel pipelines beyond the purchased SARI capacity for these facilities cannot be guaranteed. Furthermore, a portion of the brine pipeline along Harrel, between Chino II and extending east drainage channel, is capacity limited because of the channel crossing? The hydraulic capacity of this pipeline will need to be addressed and improvements made to this pipeline as necessary.
Response The recommended option for implementation of the Chino Desalter Phase 3 expansion (Option C with concentrate reduction at Chino II) allows a reduction in the current required SARI capacity at Chino II, thus alleviating and avoiding capacity issues with the brine pipeline.					
328	JCSD	3	01/22/10		**Coordination with JCSD Facilities:** The CDA work will potentially share common easements with master-planned JCSD facilities. In the Pre-Design Report, it should be noted that during final design coordination with JCSD master-planned facilities will occur to minimize the impact to our facilities, which have already underwent significant design consideration.
Response Agreed. We will add text to that effect in Section 6 and Section 7.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
329	JCSD	4	01/22/10		Please confirm that the revised hydraulic model considers current and/or proposed pumping rates from the wells.
Response The only connection between the modeled well flows and the current well capacities is that the modeled flow of any given well should not exceed the current capacity of that well, where the current capacity is defined as the most recent Southern California Edison well capacity measurement. If all of the wells were operated at their current well capacities they would produce a greater total volume of water on an annual basis than is required to operate the Chino desalters. The modeled well flows are the annual average flows required to produce the volume of water required by the desalters in order to deliver the product water entitlements.					
330	JCSD	5	01/22/10		The goals to achieve recharge from the Santa Ana River are understood; However, is there a long term impact of overstressing the aquifers by continuing to lower pumps and over draft.
Response One of the stated objectives of the Chino Desalter Phase 3 expansion is to increase the groundwater withdrawal rate to approximately 40,000 AF/yr. The recommended option for implementation of Phase 3 (Option C with concentrate reduction at Chino II) allows the opportunity to decrease the raw water requirement while still producing 10,600 AF/yr additional product water—another objective of Phase 3. We are open to further suggestions on how to meet the objectives of Phase 3 to satisfy the OBMP and Peace agreements while reducing the long term impact on the aquifer.					
331	JCSD (TM)	6	01/22/10	1-6	Chino II has never been able to achieve 15 MGD nameplate capacity - This is because of the lack of source water
Response On paper, the current capacity (i.e., the most recent Southern California Edison Well capacity measurements) of the Chino II well field totals 21 mgd, which is more than enough to operate Chino II at 15 mgd. We understand that well pumps have failed and made some wells unavailable for service over extended periods of time, which can constrain both the quantity and quality of the raw water. Nevertheless, we believe that we are justified in stating that the use of the raw water bypass has, on occasion, been less than the CDPH-approved 5 mgd capacity because of water quality constraints. The long-term average product water TDS at Chino II is 322 mg/L which is 8 percent below the CDA limit of 350 mg/L.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
332	JCSD (TM)	7	01/22/10	1-7	"The Chino II Desalter is approved for a design capacity of 6 MGD of reverse osmosis permeate flow…" - Be consistent with MGD and mgd

Response

Standard style guides typically advocate lower case abbreviations for engineering units except when a unit derives from a proper name. Thus, “kilowatt hour” is abbreviated as “kWh” but “million gallons per day” is abbreviated as “mgd” in the PDR.

The “MGD” referred to in this comment is part of a direct quote from the CDPH document cited. As a quote (enclosed in quotation marks), we left the abbreviated unit in upper case, as it appears in the original document.

Log No.	Source	Source No.	Date	Report Ref.	Comment
333	JCSD (TM)	8	01/22/10	1-7	Because of the CDPH water quality limitation the Chino II bypass has never operated at the allowable maximum rate of 5 MGD - This is due in part to a limitation of reduced piping size on the bypass piping and a lack of source water.

Response

Our response is in two parts.

Raw Water Bypass Capacity

The PDR has relied on the conclusion of the *Chino II Desalter Expansion Preliminary Design Report*, October, 2009, that the existing raw water bypass has a hydraulic capacity of at least 6 mgd (see Section 3.14, page 3-54, Appendix D.3 of the PDR). If this conclusion is incorrect then the easy remedy is to increase the size of the existing raw water bypass control valve (10-inch Cla-Val) and associated piping.

The Chino Phase 3 expansion does not require the use of the raw water bypass to meet the CDA member entitlements under either of the alternatives recommended in Section 8, which are Option C (primary recommendation) and Option A (secondary, or fallback, recommendation). Therefore, the modification of the raw water bypass, if necessary to increase the existing capacity, would be an undertaking of the entire CDA and not the Sponsors.

Source Water Capacity

See response to Comment Log No. 331.

Log No.	Source	Source No.	Date	Report Ref.	Comment
334	JCSD (TM)	9	01/22/10	1-7	Consequently the Chino II product water capacity has historically ranged between 12 and 13 MGD - Could be higher with more source water and larger bypass piping

Response

See response to Comment Log No. 331 and 333.

Log No.	Source	Source No.	Date	Report Ref.	Comment
335	JCSD (TM)	10	01/22/10	2-14	We recommend constructing the CCWF with capacity as proposed in the Wildermuth model and allowing wells CDA 1-13,14,and 15 to pump to the Chino II raw water system - What is the TDS and NO_3, can raw bypass still run?

Response

Based upon the average TDS in the Chino II raw water supply (630 mg/L) the TDS of Wells I-13, I-14, and I-15 will increase the average Chino II raw water TDS to 680 mg/L, which results in a reduction of raw water bypass capacity of approximately 5 percent of plant RO/IX production.

However, because of the Chino II Phase 3 expansion, the average capacity of the bypass will increase from 2 mgd (20% x 10 mgd) to over 3 mgd (15% x 20.5 mgd). The raw water bypass is eliminated completely at an average raw water TDS > 1,000 mg/L. This information is presented in Section 4 (see subsection 4.4.1, pages 4-36 through 4-40.

Log No.	Source	Source No.	Date	Report Ref.	Comment
336	JCSD (TM)	11	01/22/10	2-19	an open line-shaft is recommended with water lubrication of the bearings. In order to provide initial lubrication of the bearings before starting the well pump, we recommend installation of water pre-lubrication. - How is this to be done? The use of small prelube tanks as used on Chino I wells is not recommended.

Response

We are proposing a solenoid operated valve on a pipeline around the check valve from the raw water pipeline to the pre-lube system. This will be the normal mode for pre-lube on well startup and it will work except when the raw water pipeline is not pressurized (i.e., when the Chino II system is completely shut down).

We understand that the unpressurized pre-lube tanks used for the Chino I line-shaft pumps are undesirable because of poor seals on the lids, algae growth on the sight-glass, etc. For start up of a well into an unpressurized pipeline we recommend one of the following options instead of unpressurized pre-lube tanks.

- A pressurized hydropneumatic tank with sufficient volume to provide for pre-lube. Several wells equipped with such tanks (or connections for a portable tank) would allow the flexibility to start up the raw water system from a complete shutdown.
- A connection to the local drinking water distribution system through an approved backflow prevention device. The chlorine residual could be handled through 1) a small carbon filter, 2) an extended flush to waste period, or 3) calculation and confirmation of adequate dilution of pre-lube chlorine residual in the total raw water flow.

We will include this discussion in the PDR with a recommendation that the decision is made after further evaluation during final design.

Log No.	Source	Source No.	Date	Report Ref.	Comment
337	JCSD (TM)	12	01/22/10	2-21	We recommend submersible pump discharge heads constructed of 316L stainless steel with a glass-bead blast finish. - Inconsistant with 2.4.2.1

Response

We will delete the word “submersible.”

Log No.	Source	Source No.	Date	Report Ref.	Comment
338	JCSD (TM)	13	01/22/10	2-24	After a set period of time the ~~pumped~~ "pump" to waste valve will begin to close; simultaneously - (Previous Comment 23 from JCSD) "no need with a check valve, can still be a Cla-Val, issues with simultaneous operations"
Response We will change “pumped waste” to “pump-to-waste.”					
339	JCSD (TM)	14	01/22/10	3-6	We recommend construction of an intertie flow control station to allow transfer of raw water from the Chino II raw water system to the Chino I raw water system as part of the Phase 3 expansion project - With Chino Creek well field there is already ample well redundancy
Response That may be true. However, the City of Chino disagrees and the inclusion of an intertie flow control station may facilitate the approval of the PDR.					
340	JCSD (TM)	15	01/22/10	Figure 3.6	Change spelling of Dry Creek Channel to proper name as "Day Creek Channel"
Response We will make the change.					
341	JCSD (TM)	16	01/22/10	3-16	If CDPH does not approve an application for a revised operating permit allowing Option 1, then elimination of the Chino II raw water bypass during those periods when extremely impaired wells are treated at Chino II is the least expensive low risk option - Why wait until later? why not put in a draft application or get better DPH guidance?
Response We agree. We will add a recommendation that CDA submit a draft application for an amended operating permit to CDPH as soon as the PDR is accepted by the CDA Board.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
342	JCSD (TM)	17	01/22/10	4-1	This is putting everything on Chino II. For redundancy Chino I should meet nameplate or be expanded

Response

This is a valid issue. The 1st draft of the PDR recommended increasing Chino I to nameplate capacity with the cost to be paid by the entire CDA. This was not a popular recommendation.

The 2nd draft of the PDR recommends using the concentrate reduction process (Option c in Section 8) at Chino II to make up for the missing Chino I capacity. This allows a lower cost to the Sponsors than paying for the Chino I nameplate capacity upgrades and it allows the flexibility of reducing the raw water requirement of Chino II in the future, which benefits the entire CDA. Concentrate reduction does not preclude modifying Chino I to nameplate capacity in the future.

If concentrate reduction is not possible then we recommend increasing Chino I to nameplate capacity (Option A in Section 8) even if the Sponsors pay the entire cost.

Log No.	Source	Source No.	Date	Report Ref.	Comment
343	JCSD (TM)	18	01/22/10	4-3	One of the wells (CDA II-9A) is extremely impaired for nitrates but bypass of the RO/IX treatment (i.e., raw water blending) is permitted. - What was the NO_3 and TDS when the well was permitted? Has it gotten worse, if so, what is the NO_3 and TDS currently on the Raw bypass?

Response

Data furnished by Chino II staff show the first three water quality measurements for Well CDA II-9A as follows:

- 4/11/07: nitrate = 160 mg/L; TDS = 840 mg/L
- 5/03/07: nitrate = 180 mg/L; TDS = 980 mg/L
- 6/06/07: nitrate = 200 mg/L; TDS = 980 mg/L

The last three water quality measurements we have for Well CDA II-9A are as follows:

- 2/02/09: nitrate = 160 mg/L; TDS = 1100 mg/L
- 3/03/09: nitrate = 160 mg/L; TDS = 1100 mg/L
- 4/01/09: nitrate = 150 mg/L; TDS = 980 mg/L

The extremely impaired limit for nitrates is 135 mg/L. Every measurement of nitrate level for II-9A in the Chino II database exceeds 135 mg/L. This is the only information we have on II-9A water quality.

We note that CDA's consultant stated the following during the drilling and testing of the Chino II well field: "The projected water quality for all the Chino II wells was 150 mg/l nitrate and 900 mg/l TDS." This implies that it was originally assumed that the entire Chino II well field would be extremely impaired with respect to nitrates (RBF letter to Tom O'Neil, CDA Project Manager, 10/29/2004).

Log No.	Source	Source No.	Date	Report Ref.	Comment
344	JCSD (TM)	19	01/22/10	4-3	Change Desalter product water nitrate level, is less, to Desalter product water is "equal or" less than 25 mg/L
Response You are correct. The text in the CDA Joint Powers Agreement (Amendment No. 2) reads “not more than twenty five (25) mg/l for nitrates (measured as nitrate).” We will make the change.					
345	JCSD (TM)	20	01/22/10	4-4	Change Desalter product water is less than 350 mg/L to Desalter product water is "equal or" less than 350 mg/L
Response You are correct. The text in the CDA Joint Powers Agreement (Amendment No. 2) reads “not more than three hundred fifty (350) mg/l for total dissolved solids.” We will make the change.					
346	JCSD (TM)	21	01/22/10	Figure 4.1	Change II-9 to II-9a
Response We will make the change.					
347	JCSD (TM)	22	01/22/10	Figure 4.2	Change II-9 to II-9a
Response We will make the change.					
348	JCSD (TM)	23	01/22/10	4-20	Does Option 3 factor in additional staff, disposal cost for life cycle. Is GAC the BAT?
Response Currently, the only CDPH-approved treatment option for TCE/PCE and TCP is GAC. GAC is also designated by EPA as BAT for VOCs. Table 4.2 compares the capital cost of GAC treatment alternatives. It does not include a comparison of O&M between the GAC alternatives.					
349	JCSD (TM)	24	01/22/10	4-20	Just because TCP is not enforceable does not mean it should not be treated?
Response The PDR text links the presence of an enforceable standard to a requirement for treatment. The conclusions and recommendations of the PDR do not preclude the CDA from treating for TCP in the absence of a requirement to do so.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
350	JCSD (TM)	25	01/22/10	4-21	What happened to Hydrogen Peroxide presented by Winnie? Carollo was asked to look at using only Hydrogen Peroxide, Where are the results?

Response

Currently, Advanced Oxidation Processes (AOP) such as hydrogen peroxide and ozone have not been approved by CDPH for TCP treatment. Carollo did look at GAC and AOP for removal of TCP (*VOC Study for Chino I Desalter*, September 2008, Winnie Shih).

If CDPH approves AOP for TCP treatment then there is no reason that AOP cannot be implemented in the future, either at individual well sites or at a regional facility.

The PDR uses GAC as the benchmark treatment for VOC treatment capital costs comparison regarding treatment locations because it is approved, understood, and conservative. Keep in mind that we have not included VOC treatment in the Phase 3 project. The only recommendations made in the PDR regarding VOC treatment are:

- Do not install parallel raw water pipeline to allow separated treatment of the new CCWF wells at Chino I.
- Purchase CCWF sites large enough to allow the option of installation of wellhead treatment for VOCs in the future.

The PDR states "at the present time, GAC is designated as the best available technology (BAT) for TCP; however, if better technologies (e.g., smaller footprint or lower cost) are available in the future, they can be used instead of GAC." Better technologies would include AOP, if approved by CDPH. But the decision doesn't have to be made now.

351	JCSD (TM)	26	01/22/10	4-24	Nitrate MCL 44.3 - Be consistent Table 4.5 (45[2]a)

Response

We will make this change (see response to Comment Log No. 314).

352	JCSD (TM)	27	01/22/10	4-38 Table 4.5	TDS (mg/L) 480 average - This occurred due to a change in the conductivity/TDS multiplier. When staff saw first the lab results they adjusted the treatment, artificially high number

Response

We understand from our telephone conversation with Todd Minten on 1/27/10 that this represents an operational issue rather than a process capability issue and we will add a footnote to this effect to Table 4.5.

Log No.	Source	Source No.	Date	Report Ref.	Comment
353	JCSD (TM)	28	01/22/10	Table 4.6	Capacity (each Vessel) IX facilities - what happened to rerating the IXP Vessels for higher loading rate?
Response Rerating the IX vessels is not required in order to produce 8 mgd of IX effluent after the Chino II expansion. After the expansion, Chino II can produce 8 mgd with two IX vessels off-line without exceeding the current, approved loading criteria. This is not to say that rerating the IX is a bad thing or that it should not be pursued by the CDA. But it is not necessary in order to meet the production requirements of Chino II under the Phase 3 expansion and therefore is not reflected in the PDR criteria. Given that rerating the IX adds flexibility to how the desalter is operated we would suggest incorporating this as part of the application for an amended CDPH operating permit for the expanded Chino II desalter.					
354	JCSD (TM)	29	01/22/10	Table 4.6	Rinse reclaim tank and reclaim tanks are the same thing
Response The “Rinse Reclaim Tank” is different from the “~~Water~~ Softener ~~Waste~~ **Brine Reclaim** Tanks,” which is currently shown as two-line wraparound text but will be collapsed to “Softener Brine Reclaim Tanks” in the final version.					
355	JCSD (TM)	30	01/22/10	Table 5.3	Treatment Process Flows IX Capacity - Rerate Resin Flow (see comment 24)
Response See response to JCSD Comment No. 28 (Comment Log No. 353).					
356	JCSD (TM)	31	01/22/10	Table 5.3	Historical waste flows - What was Plant production? Plant has run over 10 MGD but less than 14 MGD
Response The maximum RO concentrate flow of record (1.48 mgd) occurred on 1/23/09 with a product water flow of 12.0 mgd. The maximum IX waste flow of record (0.25 mgd) occurred on 1/6/09 with a product water flow of 8.3 mgd. The maximum total (RO + IX) flow of record (1.61 mgd) occurred on 9/11/08 with a product water flow of 12.9 mgd.					
357	JCSD (TM)	32	01/22/10	Table 5.3	SARI Flows under conservative criteria - What flows?
Response The flows are the “Treatment Process Flows” at the top of the table (same for “normal” and “conservative”). The conservative operating criteria are shown as 80% RO recovery and 97.5% IX process efficiency, as shown in the table.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
358	JCSD (TM)	33	01/22/10	Table 5.3	SARI Flows under normal operating criteria - What is normal, in plant mgd?
Response The flows are the “Treatment Process Flows” at the top of the table (same for “normal” and “conservative”). The normal operating criteria are shown as 83.5% RO recovery and 99% IX process efficiency, as shown in the table.					
359	JCSD (TM)	34	01/22/10	Table 5.5	Will trucks fit? Relook entire delivery and chemical storage with Monday - Thursday deliveries and limited Friday deliveries. Look at all chemical deliveries and labor to coordinate. Storage must be long enough to get through a holiday weekend - 5 days. Labor will go up. I think it is underestimated.
Response We will include design criteria as Appendix E.2 for the proposed Chino II concentrate reduction facilities that will include storage size. Storage will be a minimum of 6 days. We based our labor estimates for materials loading and unloading based upon discussions with chemical suppliers and the assumption that a Chino II operator is present for the entire loading/unloading period. We will increase the estimates in Table 5.5 by 50 percent.					
360	JCSD (TM)	35	01/22/10	5-23	Labor may be underestimated
Response We will round up the estimated labor, currently 1.2 full-time equivalent employees (FTE), to 2.0 FTE. This is a 67 percent increase.					
361	JCSD (TM)	36	01/22/10	5-24	Labor may be underestimated
Response We will round up the estimated labor, currently 1.2 full-time equivalent employees (FTE), to 2.0 FTE. This is a 67 percent increase.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
362	JCSD (TM)	37	01/22/10	6-1	Because each of these CDA members (except JCSD) deliver their Chino II product water into lower pressure zones there is a loss of energy associated with pumping to the JCSD 110 zone - What about Western and Ontario's 1212 Zone?

Response

The point the PDR tries to make is that energy is lost when water goes through a control valve from a higher pressure zone to a lower pressure zone. If WMWD or Ontario (or anyone else) pumps from a lower pressure zone to a higher pressure zone then that does not represent a loss in energy.

Further, additive pump lifts do not constitute a loss in energy, for example, Ontario pumping from the 870 zone to the 1010 zone and then pumping again from the 1010 zone to the 1212 zone does not constitute a loss in energy.

In other words, pumping uphill does not constitute a loss in energy. Pumping uphill and then letting the water run back downhill through a control valve constitutes a loss in energy.

Log No.	Source	Source No.	Date	Report Ref.	Comment
363	JCSD (TM)	38	01/22/10	6-1	Put PR on Ontario to 870 zone for the redundancy and get rid of additional piping, JCSD can't continue to bifurcate it's yard with easements.

Response

We will delete the 870 zone pump station and all associated piping from Section 6 (see Comment Log No. 372).

Log No.	Source	Source No.	Date	Report Ref.	Comment
364	JCSD (TM)	39	01/22/10	6-1	Will additional piping be put into the existing easements?

Response

With the recommended Chino Desalter Phase 3 project configuration, which includes concentrate reduction at Chino II, a new 1010 zone product water pump station for Ontario and WMWD, and use of the existing 1110 zone product water pump station for delivery to JCSD (i.e., no 870 zone pump station) there is only one additional pipeline required between CDA's Chino II site and the public-right-of-way in Harrel Street—the single pipeline required is the 30-inch 1010 zone product water pipeline.

We understand that JCSD has two major concerns with this pipeline:

- Congestion of existing easements or burdening the JCSD property with additional easements from the Chino II site to Harrel St.
- Potential conflicts between the 1010 zone product water pipeline route and planned future JCSD pipelines within the public right-of-way (e.g., Harrel Street, Wineville Road, Riverside Drive, and Hamner Avenue).

There is also a need for additional power service to the Chino II site for the Phase 3 expansion, which needs to be coordinated with JCSD requirements.

The PDR is not sufficiently detailed to provide recommendations on the best routes for these utilities; however, the Phase 3 project presented in the PDR is not possible without them. Coordination between JCSD and the CDA design team will be required to resolve this issue in the most satisfactory manner in order to allow the project to proceed.

Log No.	Source	Source No.	Date	Report Ref.	Comment
365	JCSD (TM)	40	01/22/10	6-1	WMWD would receive water elsewhere from the JCSD 870 zone - relook with AAWA - JCSD's water systems has evolved since the earlier report
Response The Sponsors have selected Option A for delivery of Chino II expansion product water to Ontario and WMWD through a new dedicated transmission system, separate from the JCSD distribution system; therefore, the current or future condition of the JCSD water system is not an issue relevant to the PDR.					
366	JCSD (TM)	41	01/22/10	Table 6.1	Has the CDA Board agreed to combine deliveries?
Response The current CDA Joint Powers Agreement does not distinguish the facilities that are used to produce the CDA member's entitlements. In effect, the CDA currently treats all production facilities as a common pool used to deliver the individual member entitlements. Our understanding is that the CDA Board has never separated deliveries by facility.					
367	JCSD (TM)	42	01/22/10	Table 6.1	Budget was set up 10,200 for Chino II to 14,400 for Chino I, equals 24,600AF. The coordinator changed because Chino I cannot meet production goals due to TDS
Response Agreed and understood (see response to Comment Log No. 366). Table 6.1 is actually based upon the historical CDA entitlement concept, which assumes that Chino I produces at nameplate capacity (14.2 mgd) in order to provide 14,200 AF/yr of product water—this assumption is presented as Option A (Chino I modified to nameplate capacity) in Section 8. We will revise Table 6.1 to show what happens under Option B (continued use of Chino II bypass to deliver entitlements) and Option C (concentrate reduction at Chino II), both of which will require a continued "overproduction" at Chino II in order to make up for the nameplate capacity deficiency at Chino I.					
368	JCSD (TM)	43	01/22/10	Table 6.1	Expanded Chino II Product Water Pumping Zone 870 PS - see comment [38]
Response We will delete the 870 zone pump station and all associated piping (see Comment Log No. 372).					
369	JCSD (TM)	44	01/22/10	Table 6.1	Expanded Chino II Product Water Capacity Requirement Zone 870 PS - see comment [38]
Response We will delete the 870 zone pump station and all associated piping (see Comment Log No. 372).					

Log No.	Source	Source No.	Date	Report Ref.	Comment
370	JCSD (TM)	45	01/22/10	6-3	Long term delivery of WMWD product water under Option B requires construction of the Riverside- Corona Feeder Pipeline, which has uncertain funding and schedule at the present. - What about JCSD getting import water?

Response

The purpose of the referenced statement in the PDR is to illustrate that one of the problems with product water delivery Option B is that it relies on the construction of the Riverside-Corona Feeder for long-term delivery of Chino II product water to WMWD. Option B was not selected by the Sponsors; therefore, the Chino Desalter Phase 3 project doesn't have to deal with Riverside-Corona Feeder.

We do not believe that the delivery of imported water by WMWD to JCSD through the Riverside-Corona Feeder Pipeline is part of the Chino Desalter Phase 3 expansion scope.

Log No.	Source	Source No.	Date	Report Ref.	Comment
371	JCSD (TM)	46	01/22/10	6-3	Short term delivery - What evaluation was done to determine if this is possible?

Response

Albert A. Webb Associates prepared a technical memorandum dated April 2, 2008 establishing the feasibility of the Option B short-term delivery of up to 7 mgd through the JCSD 870 zone to the Arlington pipeline under summer conditions (including the need for the pump station). However, this is not the selected option.

Log No.	Source	Source No.	Date	Report Ref.	Comment
372	JCSD (TM)	47	01/22/10	6-3	See General Comment No. 3. JCSD prefers Option A with the dedicated pipeline and delivery to Ontario and WMWD; however, we request additional coordination with Webb and JCSD to coordinate with our master planned facilities.

Response

We understand this comment as having three different parts.

1. JCSD prefers that Ontario and WMWD take delivery of product water through a new 1010 zone product water pump station and pipeline as described in Option A in Section 6.
2. JCSD wants delivery of all of its Chino II product water (both current and expansion entitlements) through the existing 1110 zone product water pump station. JCSD does not want any Chino II product water delivered to the 870 zone at the Chino II site. This information was provided by Robert Tock (JCSD) to Gary Meyerhofer (Carollo) at the Sponsor meeting on 1/26/10 and confirmed by telephone conversation between Todd Minten (JCSD) and Matthew Marshall (Carollo) on 1/27/10.
3. Coordination is required between the new Phase 3 expansion product water facilities and JCSD's master planned facilities. For example, the proposed 1010 zone product water pipeline from Chino II to Ontario, WMWD, and Norco will occupy the same public rights-of-way as future master planned JCSD pipeline. Coordination is required to ensure that one facility does not preclude future construction of the other.

Log No.	Source	Source No.	Date	Report Ref.	Comment
373	JCSD (TM)	48	01/22/10	Table 6.2	see Comment [40]
Response Option A (described in Section 6) has been selected for delivery of Chino II product water to Ontario and WMWD. We understand that JCSD wants delivery of all of its Chino II product water (both current and expansion entitlements) through the existing 1110 zone product water pump station and that JCSD does not want any Chino II product water delivered to the 870 zone at the Chino II site. We will revise Table 6.2 accordingly.					
374	JCSD (TM)	49	01/22/10	6-6	VFD's are needed to ensure stable flows and pumps do not cycle on and off
Response Agreed. The PDR includes a recommendation for equipping the proposed new Chino II product water pumps with VFDs (see Table 6.6, 1010 Zone Pump Station and 870 Zone Pump Station, “Drive” criteria). We will delete the 870 zone pump station					
375	JCSD (TM)	50	01/22/10	6-6	The lowest cost method - to who?
Response The intent of the text was to say that pumping to JCSD zone 870 represents the lowest cost to the CDA. However, we will delete this text because JCSD will take Chino II expansion water through the existing 1110 zone pump station (see Comment Log No. 372).					
376	JCSD (TM)	51	01/22/10	6-7	See Comment [40]
Response Option A (described in Section 6) has been selected for delivery of Chino II product water to Ontario and WMWD. We understand that JCSD wants delivery of all of its Chino II product water (both current and expansion entitlements) through the existing 1110 zone product water pump station and that JCSD does not want any Chino II product water delivered to the 870 zone at the Chino II site. We will revise Section 6 accordingly.					
377	JCSD (TM)	52	01/22/10	6-7	See Comment [38]
Response We will delete the 870 zone pump station and all associated piping from Section 6.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
378	JCSD (TM)	53	01/22/10	6-7	Ontario has an agreement with JCSD for use of storage capacity within the JCSD system that provides for some daily peaking of Chino II delivery to Ontario as well as short term reliability - Where? They own half of 1110 B reservoir, there is no way to isolate or store their water independently?
Response The statement in question is a direct quote from Ontario's review comments regarding TM No. 1 (memo from Scott Burton dated 4/27/09); a copy was sent to Robert Tock via e-mail on 4/28/09.					
379	JCSD (TM)	54	01/22/10	6-8	Construct a new 1010 zone pump station and pipeline large enough to accommodate Ontario's existing entitlement capacity (3.37MGD) and expansion entitlement capacity (3.5MGD) - Also by having no VFD's complicates deliveries
Response The PDR includes a recommendation for equipping the proposed new Chino II product water pumps with VFDs (see Table 6.6, 1010 Zone Pump Station and 870 Zone Pump Station, "Drive" criteria). We will delete the 870 zone pump station.					
380	JCSD (TM)	55	01/22/10	6-8	Maintain flexibility of taking delivery of the original Chino II entitlement capacity through the existing 1110 zone pump station and JCSD distribution system. - Emergency only, JCSD does not have control of the deliveries, Ontario does. Jurupa should have SCADA control at 1110 deliveries after the 1010 Product Water boosters are complete.
Response This is an issue that needs to be worked out between JCSD and Ontario.					
381	JCSD (TM)	56	01/22/10	6-13	The pipeline north of the Santa Ana River, and including the river crossing, would be operated by CDA as part of the Chino Desalter Project. - Maintained by who?
Response We will amend the text to read "operated and maintained" by CDA north of the river (including the crossing) and "operated and maintained" by WMWD south of the river (underlining indicates text that will be added).					

Log No.	Source	Source No.	Date	Report Ref.	Comment
382	JCSD (TM)	57	01/22/10	6-13	see comment [40]

Response

We agree that there should be close coordination between Norco, JCSD, and WMWD and that the coordination should include Albert A. Webb Associates. One subject of discussion is transferring delivery of the existing Norco Chino II product water from the JCSD system to the new WMWD/Ontario 1010 zone pipeline. We were unable to schedule a meeting between these parties during preparation of the PDR.

Log No.	Source	Source No.	Date	Report Ref.	Comment
383	JCSD (TM)	58	01/22/10	Table 6.5	question marks - why aren't these known?

Response

Our purpose in preparing Table 6.5 was to document the pump lifts incorporated into the CDA postage stamp rate for the various CDA member agencies. This would provide a sort of litmus test as to the reasonableness of pump lifts proposed for inclusion into the CDA postage stamp rate as part of the Phase 3 expansion. In other words, the table is intended to document the existing precedents for CDA paying a product water pump lift to a member agency.

We would be more than happy to replace the question marks with the appropriate values; however, despite repeated requests for this information it has never been provided to us and we do not have the resources needed to access this information without the assistance of the CDA member agencies.

Log No.	Source	Source No.	Date	Report Ref.	Comment
384	JCSD (TM)	59	01/22/10	6-23	JCSD Etiwanda Avenue IX Plant Flow= 12.7 MGD - too low and limits JCSD future work (also see comment [40])

Response

This entire subsection of the PDR (6.3.1.2 Chino II 870 Zone Pump Station) will be deleted because JCSD does not want any Chino II product water pumped to the 870 zone (see Comment Log No. 372).

Log No.	Source	Source No.	Date	Report Ref.	Comment
385	JCSD	60	01/22/10	6-25	Only 50 percent of the product water flow reaches the reservoir - Why?

Response

This assumption represents the operating condition when the reservoir is filling but there is demand within the distribution system, in other words, not all of the supply ends up in the reservoir. However, this entire subsection of the PDR (6.3.1.2 Chino II 870 Zone Pump Station) will be deleted because JCSD does not want any Chino II product water pumped to the 870 zone (see Comment Log No. 372).

Log No.	Source	Source No.	Date	Report Ref.	Comment
386	JCSD (TM)	61	01/22/10	Page 1-2 Appendix F Section 2.1.1	See Comment [40]
Response					
Option A (described in TM #1, Appendix F.1) has been selected for delivery of Chino II product water to Ontario and WMWD. We understand that JCSD wants delivery of all of its Chino II product water (both current and expansion entitlements) through the existing 1110 zone product water pump station and that JCSD does not want any Chino II product water delivered to the 870 zone at the Chino II site. We will revise Section 6 accordingly. TM #1 is only a historical document and does not require modification.					
387	JCSD (TM)	62	01/22/10	Page 1-3 Section 2.1.2.3	See Comment [38]
Response					
Option A (described in TM #1, Appendix F.1) has been selected for delivery of Chino II product water to Ontario and WMWD. We understand that JCSD wants delivery of all of its Chino II product water (both current and expansion entitlements) through the existing 1110 zone product water pump station and that JCSD does not want any Chino II product water delivered to the 870 zone at the Chino II site. We will revise Section 6 accordingly. TM #1 is only a historical document and does not require modification.					
388	JCSD (TM)	63	01/22/10	1-5 Section 2.2.1	See Comment [40]
Response					
Option A (described in TM #1, Appendix F.1) has been selected for delivery of Chino II product water to Ontario and WMWD. We understand that JCSD wants delivery of all of its Chino II product water (both current and expansion entitlements) through the existing 1110 zone product water pump station and that JCSD does not want any Chino II product water delivered to the 870 zone at the Chino II site. We will revise Section 6 accordingly. TM #1 is only a historical document and does not require modification.					
389	JCSD (TM)	64	01/22/10	Page 1-5 Section 2.2.1.3	See Comment [38]
Response					
Option A (described in TM #1, Appendix F.1) has been selected for delivery of Chino II product water to Ontario and WMWD. We understand that JCSD wants delivery of all of its Chino II product water (both current and expansion entitlements) through the existing 1110 zone product water pump station and that JCSD does not want any Chino II product water delivered to the 870 zone at the Chino II site. We will revise Section 6 accordingly. TM #1 is only a historical document and does not require modification.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
390	JCSD (TM)	65	01/22/10	Page 1-5 Section 2.2.1.4	See Comment [40]
Response					
Option A (described in TM #1, Appendix F.1) has been selected for delivery of Chino II product water to Ontario and WMWD. We understand that JCSD wants delivery of all of its Chino II product water (both current and expansion entitlements) through the existing 1110 zone product water pump station and that JCSD does not want any Chino II product water delivered to the 870 zone at the Chino II site. We will revise Section 6 accordingly. TM #1 is only a historical document and does not require modification.					
391	JCSD (TM)	66	01/22/10	Page 1-7 Section 2.2.3.1	See Comment [40]
Response					
Option A (described in TM #1, Appendix F.1) has been selected for delivery of Chino II product water to Ontario and WMWD. We understand that JCSD wants delivery of all of its Chino II product water (both current and expansion entitlements) through the existing 1110 zone product water pump station and that JCSD does not want any Chino II product water delivered to the 870 zone at the Chino II site. We will revise Section 6 accordingly. TM #1 is only a historical document and does not require modification.					
392	JCSD (TM)	67	01/22/10	Page 1-7 Section 2.2.3.2	Short Term Delivery - Who will operate the Norco Booster?
Response					
Option B was not selected as the preferred option for delivery of product water; therefore, the operation of the Norco Booster, which is not required in Option A (the selected alternative), is not an pertinent issue in the PDR. This would change if Option B were selected, but the Sponsors are in agreement with proceeding with Option A (see Comment Log No. 372).					
393	JCSD (TM)	68	01/22/10	Page 1-7 Section 2.2.3.2	See Comment [40]
Response					
Option A (described in TM #1, Appendix F.1) has been selected for delivery of Chino II product water to Ontario and WMWD. We understand that JCSD wants delivery of all of its Chino II product water (both current and expansion entitlements) through the existing 1110 zone product water pump station and that JCSD does not want any Chino II product water delivered to the 870 zone at the Chino II site. We will revise Section 6 accordingly. TM #1 is only a historical document and does not require modification.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
394	JCSD (TM)	69	01/22/10	Page 1-8 Section 2.2.3.3	Change the spelling of JCWD to JCSD
Response We will make this change.					
395	JCSD (TM)	70	01/22/10	Page 1-8 Section 2.2.3.3	Change "consider" to "considered"
Response We will make this change.					
396	JCSD (TM)	71	01/22/10	Page 1-8 Section 2.2.3.3	See Comment [40]
Response Option A (described in TM #1, Appendix F.1) has been selected for delivery of Chino II product water to Ontario and WMWD. We understand that JCSD wants delivery of all of its Chino II product water (both current and expansion entitlements) through the existing 1110 zone product water pump station and that JCSD does not want any Chino II product water delivered to the 870 zone at the Chino II site. We will revise Section 6 accordingly. TM #1 is only a historical document and does not require modification.					
397	JCSD (TM)	72	01/22/10	Table 2	See Comment [40]
Response Option A (described in TM #1, Appendix F.1) has been selected for delivery of Chino II product water to Ontario and WMWD. We understand that JCSD wants delivery of all of its Chino II product water (both current and expansion entitlements) through the existing 1110 zone product water pump station and that JCSD does not want any Chino II product water delivered to the 870 zone at the Chino II site. We will revise Section 6 accordingly. TM #1 is only a historical document and does not require modification.					
398	JCSD (TM)	73	01/22/10	Appendix H Page 57	Change Dry Creek Channel to Day Creek Channel
Response We will make this change.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
399	JCSD (DC)	74	01/22/10	Comment Log - Log No. 241	Will HDPE be considered in lieu of stainless steel for cost savings?
Response It is our view that HDPE may cost less than stainless steel but that it does not offer a higher level of service; therefore, stainless steel is the conservative choice for the PDR. During detailed design, HDPE could certainly be considered as an alternative to stainless steel if there were an advocate for its use.					
400	JCSD (DC)	75	01/22/10	Comment Log - Log No. 249	Confirm that CDA approves VFD's at all of the well sites. This increases the cost of the well head facilities significantly.
Response The PDR recommends VFDs for new wells constructed as part of the Chino Desalter Phase 3 expansion. The capital cost of the new Phase 3 expansion wells will be paid solely by the Sponsors: JCSD, Ontario, and WMWD. There is a three-step process in accepting this recommendation. First, the Sponsors (who will pay for the VFDs) can direct us to change the recommendation or, in the absence of any such direction, accept the recommendation. Second, the CDA TAC could object to the recommendation (which seems unlikely given that the CDA isn't paying for the capital cost of the VFDs) or by default accept the recommendation. Third, the CDA Board will ultimately accept, reject, or modify the PDR. We will leave the recommendation for VFDs at new Phase 3 expansion wells in the PDR until directed otherwise. As of this moment, no reviewer has objected to the VFDs.					
401	JCSD (DC)	76	01/22/10	Comment Log - Log No. 254	Interconnecting the wells to both Chino I and Chino II will impact where the pumps operate on their curves. Need to confirm what the impact will be to the pumps. This needs to be a design consideration.
Response Agreed. We believe that this is an issue for detailed design.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
402	JCSD (DC)	77	01/22/10	Comment Log - Log No. 263	Would VOC treatment of combined flow streams be less expensive? This also does not address how introduction of VOC's would impact permitting and blending at Chino II
Response Plume modeling data information provided by WEI indicate that the wells proposed for interconnection with Chino II (specifically, I-13, I-14, and I-15) will not be affected by VOCs in the future. Based upon these results, we believe that VOCs will not impact permitting and blending at Chino II, as related to the Chino Phase 3 expansion. VOC treatment of combined flow streams may be less expensive. Our position is that there is no requirement for near-future VOC treatment that results from the Chino Phase 3 expansion and that a decision on the most economical treatment for VOCs in the future can be deferred until actual field data on VOC concentrations in individual wells are available.					
403	JCSD (DC)	78	01/22/10	Comment Log - Log No. 269	There are discussions of wellhead treatment for VOC removal. Permitting these facilities needs to be addressed
Response The proposed TCP wellhead treatment process is liquid-phase GAC adsorption, which is currently designated the best available treatment (BAT) technology. Because there is no air emission there is no air quality permit required for the wellhead facility. We believe that other permits (e.g., CDPH operating permit, building permit, etc.) are adequately identified in the PDR. In other words, we believe that use of pressure vessels for GAC adsorption does not impose additional permit requirements beyond those currently identified in Section 7.					
404	JCSD (DC)	79	01/22/10	Page 1-2 Section 1.2 Second Paragraph	Consider changing the sentence as follows: "The ~~treated~~ drinking[2] water production of a groundwater desalter is referred to as product water, which is either direct treated water from the desalter facilities for a blend of treated and raw water."
Response We will make this change.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
405	JCSD (DC)	80	01/22/10	Page 1-5 Table 1.2 Notes B	Since the operation factor was removed from Table 1.1, where is this defined. Should this be tied to "desalter efficiency" instead?`

Response

The term “operation factor” is used throughout the report to designate the ratio between the nameplate capacity of a facility and the annual average flow required to deliver a specified volume of water annually. This is the definition that is given in the first paragraph at the top of page 1-6 of the 2nd and 3rd draft PDR.

The operation factor defines how much we have to oversize a facility (i.e., required nameplate capacity) in order to make up for down time due to maintenance, cleaning, breakage, etc. This is a different issue than desalter efficiency, which is defined as the ratio of product water to raw water, i.e., for a given volume of raw water how much product water and how much waste do we end up with.

Log No.	Source	Source No.	Date	Report Ref.	Comment
406	JCSD (DC)	81	01/22/10	Page 2-6 Section 2.3.1.1	The question remains whether the model considers "design" or "current" pumping rates?

Response

The model considers neither “design” nor “current” well capacities.

If all of the wells were operated at their “design” or “current” well capacities they would produce a greater total volume of water on an annual basis than is required to operate the Chino desalters. The modeled well flows are the annual average flows required to produce the volume of water required by the desalters in order to deliver the product water entitlements.

The only connection between the modeled well flows and the well capacities is that the modeled flow of any given well should not exceed the capacity (either “design” or “current”) of that well, where “design” capacity is the design point of the pump and the “current” capacity is the most recent Southern California Edison well capacity measurement.

COMMENT LOG

CHINO DESALTER PHASE 3 COMPREHENSIVE PREDESIGN REPORT, FINAL REPORT, JUNE 2010

(Comments are Numbered Sequentially in Continuation from the Log in Appendix H of the PDR)

Log No.	Source	Source No.	Date	Report Ref.	Comment
407	Chino	1	11/12/10	Pages 9 and 5-25	The listed steps for pursuit of the implementation of the concentrate reduction includes "Identify and acquire additional property adjacent to the Chino II site for construction of concentrate reduction facilities." How much acreage is needed and what if it isn't available? The CDA members should discuss this ASAP.

Response

Figure 5.5 of the PDR shows one way that the proposed concentrate reduction facilities could be located on the Chino II site. The PDR text on page 5-13 explains, “If this is not feasible then additional property purchase from JCSD or other adjacent property owner would be required…”

It is our understanding that the Chino II staff and JCSD would prefer acquiring additional property from the adjacent owner and are prepared to discuss with the adjacent property owner the purchase of a parcel larger than that required for the concentrate reduction facilities. Further, it is our understanding that property purchased in excess of the requirements of the concentrate reduction facilities could be held, or be disposed of, by the Sponsors or used by JCSD. We understand that current discussion do not anticipate cost sharing of the property purchase with the entire CDA.

JCSD asked that we add the referenced text to indicate that a follow-on activity (listed in the PDR) is the need to proceed with initial property negotiations with actual purchase to be contingent on the successful completion of the pilot test program. It is our understanding that the Sponsor group is proceeding with these property negotiations.

Log No.	Source	Source No.	Date	Report Ref.	Comment
408	Chino	2	11/12/10	Page 2-16	The proposed new language (2nd paragraph of Section 2.4.1) states "...the Sponsors will limit their financial contribution to six CCWF wells, as defined in the PDR, and other parties to the Peace II Agreement will be responsible for any additional wells required to achieve Watermaster's goal of hydraulic control or other OBMP objectives." If the proposed six wells do not produce the volume of water roughly equivalent to the production of Wells Nos. I-13, I-14, & I-15, then what are the impacts (if any) and corresponding mitigation plans for the preservation of the well field operation factor and treated water take-or-pay deliveries to Chino I Desalter retailers?
Response Carollo is not in a position to identify the parties that would pay for well construction in excess of the six CCWF wells that the Sponsors have agreed to fund. This comment requires a response from the Sponsors, or others.					
409	Chino	3	11/12/10	Pages Nos. 4-11 and 4-26	On these two pages (and perhaps elsewhere in the PDR document) there are descriptions of CCWF design that read similar (and contrary to agreement), as follows: "...the CCWF wells will withdraw water primarily from the shallow/Layer 1 aquifer...". All such descriptions should be revised (see description at the top of Page No. 2-10) to indicate that the CCWF wells will withdraw water from only the shallow layer of the aquifer.
Response Agreed. We will strike the word “primarily” on pages 4-11 and 4-26 as we did on page 2-10. We have searched the document again for similar references and find none except for a statement posed in a hypothetical context on page 4-2, which we do not believe requires revision.					

Log No.	Source	Source No.	Date	Report Ref.	Comment
410	Chino	4	11/12/10	Page No. 4-15	The last paragraph indicates that "...it is assumed herein that shutting off affected wells is not a viable TCP control strategy in view of Watermaster's goal to achieve hydraulic control...". Since the affected wells are producing groundwater from beneath the shallow aquifer, and since production from the shallow aquifer is the production that is considered necessary to achieve hydraulic control, is the reasoning for the assumption valid?

Response

We propose adding the word “CCWF” so that the text reads “…it is assumed herein that shutting off affected CCWF wells is not a viable TCP control strategy in view of Watermaster’s goal to achieve hydraulic control…”. With this change the sentence will make more sense in the context of cones of depression and migration of the VOC plume within the shallow aquifer, as discussed in the same PDR paragraph.

This clarification will eliminate the alternative interpretation, which is that the sentence refers to shutting off the existing VOC wells (CDA I-1, 2, 3, and 4) that withdraw groundwater from the lower aquifer. We have not asked Watermaster’s consultant (WEI) if shutting off the existing VOC wells would adversely affect hydraulic control; however, it would certainly adversely affect the production of Chino I and the cost of water if replacement supplies, which presumably would require more treatment than the current air stripping, are developed. We would point out that WEI’s water quality projections indicate the levels of TCP in the existing VOC wells are decreasing and will continue to decrease.

In any event, a discussion of shutting off the existing VOC wells is a separate issue from the Phase 3 expansion issues addressed in the PDR. In other words, shutting off the existing VOC wells is a decision that could be made by the CDA whether the Phase 3 expansion is implemented or not and, therefore, is not a sole Sponsor cost.

Log No.	Source	Source No.	Date	Report Ref.	Comment
411	Chino	5	11/12/10	Pages Nos. 25 and 27 of Appendix H	Comments Nos. 82 and 85, submitted by Chino, are proposed (presumably by CDA Legal Counsel) to be revised. While we do not have any particular concern with the substance of the proposed revisions to these comments, we do question whether or not it is appropriate to revise published comments.

Response

The changes to the text of the original comments were proposed by CDA legal counsel. We suggest leaving the original comments unchanged and adding the following clarification to our responses for these two comments:

"It is understood that the Chino Creek wells must produce from the shallow aquifer in order to help Watermaster achieve hydraulic control."

COMMENT LOG

CHINO DESALTER PHASE 3 COMPREHENSIVE PREDESIGN REPORT, FINAL REPORT, JUNE 2010

(Comments are Numbered Sequentially in Continuation from the Log in Appendix H of the PDR)

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