

Please print or type in the unshaded areas only	EPA I.D. NUMBER (copy from Item 1 of Form 1)	
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Form <b>2D</b> NPDES		<b>New Sources and New Dischargers</b> <b>Application for Permit to Discharge Process Wastewater</b>
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**I. Outfall Location**

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

Outfall Number (list)	Latitude			Longitude			Receiving Water (name)
	Deg.	Min.	Sec.	Deg.	Min.	Sec.	
001	33	8	17	117	20	22	Pacific Ocean via effluent pond & surface discharge channel
002	33	8	20	117	20	14	Agua Hedionda Lagoon via fish return discharge pipe

**II. Discharge Date** (When do you expect to begin discharging?)

Co-located potable water production operations began in 2016; proposed permanent stand-alone operations scheduled to begin in 2018.

**III. Flows, Sources of Pollution, and Treatment Technologies**

A. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

Outfall Number	1. Operations Contributing Flow (List)	2. Average Flow (Include Units)	3. Treatment (Description or List codes from Table 2D-1)
<b>Discharge Currently Permitted under NPDES CA0109233:</b>			
<b>Co-located operations with Encina Power Station (EPS) or temporary stand-alone operations when EPS augments cooling water flows</b>			
001	Concentrated seawater from reverse osmosis desalination	50 mgd average day 54 mgd maximum day	4 - A *
001	Filter backwash from reverse osmosis desalination	4 mgd average day 6 mgd maximum day	1-U; 4-A *

**Proposed Discharge:**  
**Permanent stand-alone CDP operations when EPS cooling water discharge is permanently terminated**

001	Concentrated seawater from reverse osmosis desalination	60 mgd average annual	4 - A *
001	Filter backwash from reverse osmosis desalination	7 mgd annual average	1-U; 4-A *
001	Bypassed seawater from CDP intake structure ***	171 mgd annual average***	4 - A *
002	Screen wash and fish return from proposed permanent stand-alone CDP intake structure	1 mgd annual average	4 - A **

Note: Annual average discharge flows will be equal to or less than the values shown above. To the extent that backwash flows are recycled back to the headworks rather than discharged to the ocean, the reduction in discharge flow rate will require an equivalent increase in bypass flow to replace dilution provided by the filter backwash. Total intake and discharge flows under either mode of operation (filter backwash recycling to headworks or discharge to the ocean) would be identical.	* Discharge to the ocean via an effluent pond and effluent surface discharge channel (Outfall 001) ** Discharge to Agua Hedionda Lagoon (Outfall 002) via the fish return discharge pipe (low pressure screen rinse) *** Includes high pressure intake screen rinse flow directed to the effluent discharge pond (Outfall 001)
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B. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item III-A. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

C. Except for storm runoff, leaks, or spills, will any of the discharges described in Items III-A be intermittent or seasonal?

YES (complete the following table)

NO (go to Section IV)

Outfall Number	1. Frequency		2. Flow		
	a. Days Per Week (specify average)	b. Months Per Year (specify average)	a. Maximum Daily Flow Rate (in mgd)	b. Maximum Total Volume (specify with units)	c. Duration (in days)
NA	NA	NA	NA	NA	NA

**IV. Production**

If there is an applicable production-based effluent guideline or NSPS, for each outfall list the estimated level of production (projection of actual production level, not design), expressed in the terms and units used in the applicable effluent guideline or NSPS, for each of the first 3 years of operation. If production is likely to vary, you may also submit alternative estimates (attach a separate sheet).

Year	A. Quantity Per Day	B. Units Of Measure	c. Operation, Product, Material, etc. (specify)
NA	NA	NA	Not applicable

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**V. Effluent Characteristics**

A and B: These items require you to report estimated amounts (*both concentration and mass*) of the pollutants to be discharged from each of your outfalls. Each part of this item addresses a different set of pollutants and should be completed in accordance with the specific instructions for that part. Data for each outfall should be on a separate page. Attach additional sheets of paper if necessary.

**General Instructions** (See table 2D-2 for Pollutants)

Each part of this item requests you to provide an estimated daily maximum and average for certain pollutants and the source of information. Data for all pollutants in Group A, for all outfalls, must be submitted unless waived by the permitting authority. For all outfalls, data for pollutants in Group B should be reported only for pollutants which you believe will be present or are limited directly by an effluent limitations guideline or NSPS or indirectly through limitations on an indicator pollutant.

1. Pollutant	2. Maximum Daily Value <i>(include units)</i>	3. Average Daily Value <i>(include units)</i>	4. Source <i>(see instructions)</i>
See attached tables			See attached tables for Outfalls 001 and 002 effluent quality

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C. Use the space below to list any of the pollutants listed in Table 2D-3 of the instructions which you know or have reason to believe will be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it will be present.

1. Pollutant	2. Reason for Discharge
See attached tables	See attached tables

**VI. Engineering Report on Wastewater Treatment**

A. If there is any technical evaluation concerning your wastewater treatment, including engineering reports or pilot plant studies, check the appropriate box below.

Report Available       No Report

B. Provide the name and location of any existing plant(s) which, to the best of your knowledge resembles this production facility with respect to production processes, wastewater constituents, or wastewater treatments.

Name	Location
Tampa Bay Seawater Desalination Plant (25 mgd operational)	13041 Wyandotte Road Hillsboro County Gibsonton, FL 33534
Poseidon Huntington Beach Desalination Facility (50 mgd proposed)	21730 Newland Avenue Orange County Huntington Beach, CA 92647

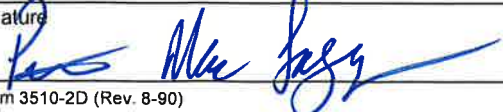
**VII. Other Information (Optional)**

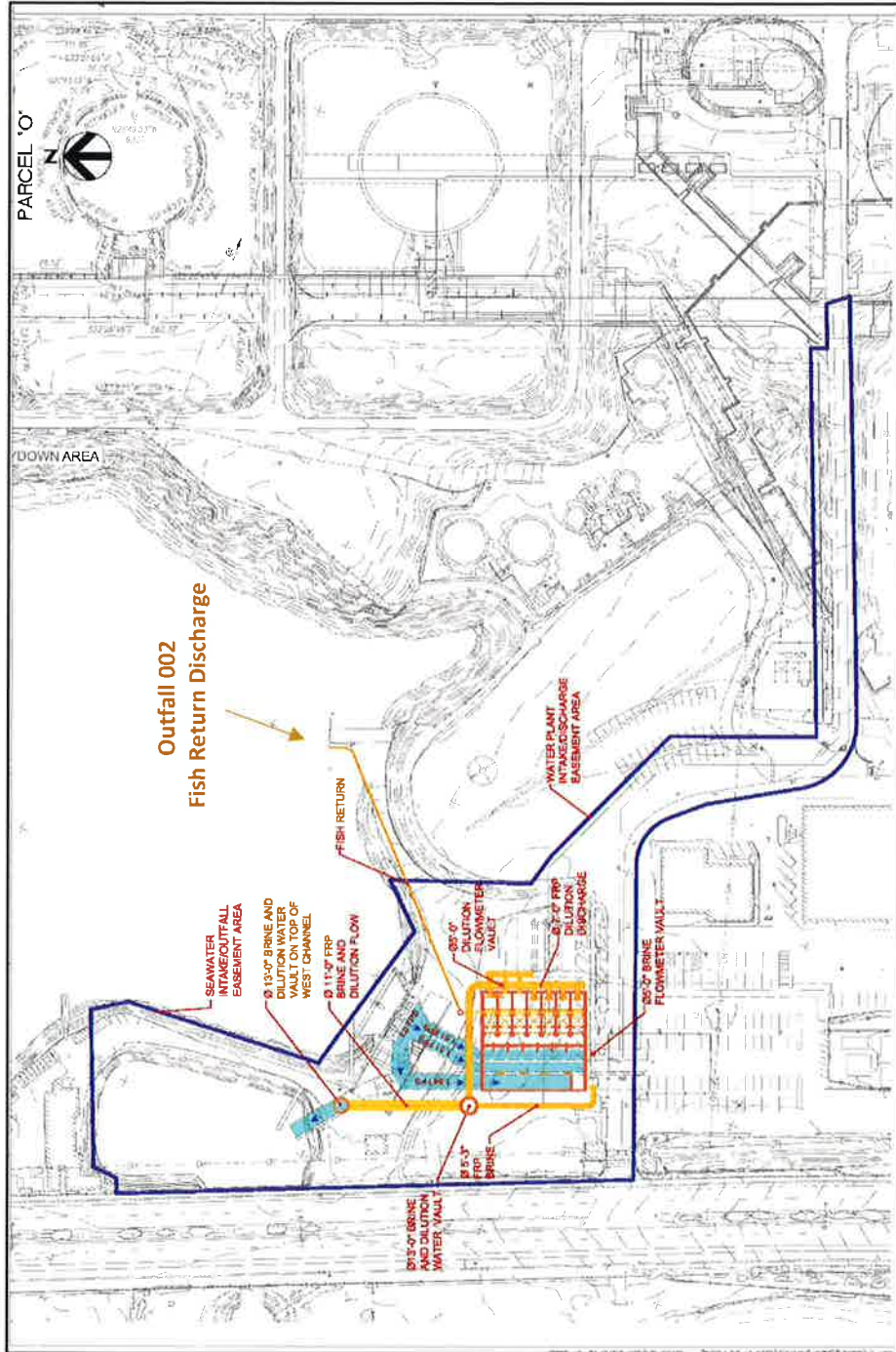
Use the space below to expand upon any of the above questions or to bring to the attention of the reviewer any other information you feel should be considered in establishing permit limitations for the proposed facility. Attach additional sheets if necessary.

See attached technical information and reports

**VIII. CERTIFICATION**

*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

A. Name and Official Title (type or print) Peter M. MacLaggan, Vice President	B. Phone No. (760) 655-3999
C. Signature 	D. Date Signed 4/10/17



**Figure 8**  
**Outfall 002 – Fish Return Discharge**

**Summary of Production and Discharge Flows  
Existing Permitted Discharge and Proposed Discharge  
Carlsbad Desalination Project (CDP)**

Parameter		Current Permitted Discharge <sup>1</sup> (to be continued under the updated NPDES permit until the EPS once-through cooling water discharge is permanently terminated)				Proposed Revised Discharge (EPS permanently taken out of operation)	Discharge Location
		Co-Located Operating Conditions <sup>2</sup>		Temporary Stand-Alone Operating Conditions <sup>2</sup>		Permanent Stand-Alone Operating Conditions <sup>3</sup>	
		Average Daily Flow	Maximum Daily Flow	Average Daily Flow	Maximum Daily Flow	Annual Average	
Potable water production capacity		50 mgd	54 mgd	50 mgd	54 mgd	60 mgd	NA
CDP Intake Flows	Intake from EPS Effluent Channel	104 mgd	114 mgd	104 mgd	114 mgd	---	NA
	Intake from CDP Lagoon Intake Structure	---	---	---	---	299 mgd	NA
Wastewater discharge components	Granular Media Filtration Backwash	4 mgd	6 mgd	4 mgd	6 mgd	7 mgd	Outfall 001 <sup>6</sup>
	RO concentrate	50 mgd	54 mgd	50 mgd	54 mgd	60 mgd	Outfall 001 <sup>6</sup>
	CDP stand-alone intake flows bypassed <sup>4</sup>	NA	NA	NA	NA	171 mgd <sup>4</sup>	Outfall 001 <sup>6</sup>
	Total CDP Discharge to Pacific Ocean (Outfall 001)	54 mgd	60 mgd	54 mgd	60 mgd	238 mgd	Outfall 001 <sup>6</sup>
	Low pressure screen wash & fish return discharge to Agua Hedionda Lagoon (Outfall 002)	NA	NA	NA	NA	1 mgd	Outfall 002 <sup>7</sup>
	Minimum EPS discharge flow required to achieve salinity standard <sup>5</sup>	200 mgd <sup>5</sup>	210 mgd <sup>5</sup>	200 mgd <sup>5</sup>	210 mgd <sup>5</sup>	NA	Outfall 001 <sup>6</sup>

- Existing permitted conditions under Regional Water Board Order No. R9-2006-0065 (NPDES 0109223), as amended by Order No. R9-2009-0038. The NPDES Report of Waste Discharge submitted by Poseidon on March 29, 2011 proposed continuation of these requirements. The revised Poseidon Report of Waste Discharge presented herein requests continuation of these existing NPDES requirements as long as the EPS once-through cooling water discharge remains in operation. Once EPS is permanently taken out of operation, the CDP would be operated in permanent stand-alone operating mode.
- For conditions under which EPS is discharging sufficient power plant cooling water flows to the EPS effluent channel (pursuant to EPS NPDES discharge permit requirements), Order No. R9-2006-0065 authorizes the CDP to discharge water into the EPS effluent channel (downstream from the co-located CDP intake point) where it is blended with sufficient flow from the EPS to meet the blended effluent salinity requirements prior to discharge to the EPS discharge pond (Monitoring Location M-002). For conditions under which EPS is not discharging sufficient power plant cooling water flows to meet the blended effluent salinity requirements prior to discharge, Order No. R9-2006-0065 authorizes the EPS to run the cooling water pumps under such "temporary stand-alone" conditions for CDP's benefit to meet the blended effluent salinity requirements prior to discharge to the EPS discharge pond (Monitoring Location M-002).
- Conditions under which EPS operations are terminated and the CDP is operated in permanent stand-alone mode. Under such stand-alone conditions, CDP influent flows are withdrawn from the lagoon via a new stand-alone CDP intake system, a portion of the withdrawn flows are directed to CDP for desalination, and remaining withdrawn intake flows are blended back into the CDP RO concentrate and filter backwash streams prior to discharge to the final effluent pond (Monitoring Location M-002).
- Intake water flows under stand-alone CDP operations that bypass CDP and are directed into the effluent channel (Outfall 001) for blending with CDP RO concentrate and filtration backwash (when backwash is not being recycled to CDP pretreatment). At the discretion of plant operators, however, filter backwash may instead be recycled to the plant headworks. When backwash flows are being recycled to the CDP pretreatment processes rather than discharged to the ocean, a commensurate increase in the bypass flow rate will be required to ensure that effluent pond salinities are maintained at 42 ppt or less and receiving water salinities 200 meters from the discharge point are less than 2 ppt above natural background salinity. Total CDP intake flows would be 299 mgd and total CDP discharge flows would remain at 239 mgd regardless of whether filter backwash is discharged to the ocean or recycled back to the headworks. When filter backwash is recycled to the headworks, 178 mgd of the 299 mgd intake flow would be bypassed. When filter backwash is discharged to the ocean, 171 mgd of the 299 mgd intake flow would be bypassed. Bypassed intake flows also include high pressure rinse water from the permanent stand-alone intake screens.
- Minimum EPS discharge flow under EPS/CDP co-located operations required to ensure that the combined EPS and CDP discharges achieve a blended salinity equal to or lower than the average daily salinity standard. To the extent that backwash flows are being recycled to the front of the CDP pretreatment rather than discharge to the ocean (see footnote #4), the reduction in the discharge flow rate will require an equivalent increase in the minimum EPS discharge flow to replace initial dilution of the RO concentrate discharge that would have been accomplished through commingling the RO concentrate with the filter backwash water.
- Outfall 001 is the discharge to the Pacific Ocean via the EPS effluent pond and effluent channel.
- Outfall 002 is the fish return discharge (e.g. low pressure intake screen rinse water) that is discharged back into Agua Hedionda Lagoon.

**Group A Parameters  
General Physical/Chemical Constituents**

Group A Parameters <sup>1</sup> EPA Form 2D	Units	Analytical Method	Outfall 001: Combined CDP Effluent Discharge at Monitoring Location M-001 <sup>2</sup>				Outfall 002: Fish Return Discharge to Agua Hedionda Lagoon	
			Number of 2016 Samples <sup>2</sup>	Mean 2016 Concentration <sup>2</sup>	Maximum 2016 Monthly Average Concentration <sup>3</sup>	Maximum Mass Emission <sup>4</sup> (lbs/day)	Concentration <sup>5</sup>	Mass Emission <sup>6</sup> (lbs/day)
Ammonia (as N)	mg/l	SM 4500 NH3	4	< 0.048	< 0.1	< 56	< 0.1 <sup>7</sup>	< 0.8
Temperature (winter)	deg. F	---	39	65.0	63.1 – 69.0 <sup>8</sup>	---	60.3 – 64.1 <sup>9</sup>	---
Temperature (summer)	deg. F	---	33	73.5	70.0 – 77.5 <sup>8</sup>	---	67.8 – 74.9 <sup>9</sup>	---
TSS (total suspended solids)	mg/l	SM 2540 D	63	27	49.8	< 28,000	< 30 <sup>10,11</sup>	< 250 <sup>10,11,12</sup>
Settleable Solids	ml/l	SM 2540	65	< 0.1	< 0.2	---	< 0.1 <sup>13</sup>	---
Oil and Grease	mg/l	EPA 1664	64	< 1.3	1.45	800	< 1 <sup>14</sup>	8.3
pH	pH Units	SM 4500 H B	65	7.71	7.34 - 7.94	---	7.0– 8.3 <sup>15</sup>	---
Turbidity	NTU	EPA 180.1	65	1.1	2.15	---	2.8 <sup>16</sup>	---

- 1 Group A parameters, as classified by EPA NPDES Application Form 2D. A "<x" value indicates that the parameter was not detected at a Minimum Level (ML) concentration of "x".
- 2 Data from 2016 monitoring reports for Monitoring Location M-001 submitted to the RWQCB, as reported in the California Integrated Water Quality System. The 2016 data is for co-located and temporary stand-alone operations. Water quality at Monitoring Location M-001 is projected to be identical under permanent stand-alone operations.
- 3 Maximum monthly average concentrations for calendar year 2016 at Monitoring Location M-001, as reported in the 2016 CDP annual report submitted to the RWQCB.
- 4 Projected maximum mass emissions are computed on the basis of the maximum observed concentration at M-001 multiplied by the maximum proposed total discharge flow of 67 mgd (60 mgd RO concentrate flow and 7 mgd filter backwash flow). Values rounded to two significant figures. The listed mass emissions represent mass within intake lagoon water that is recirculated back into the ocean. CDP desalination operations do not result in any discernible increase in mass for any of the above constituents.
- 5 The fish return (Outfall 002) discharge will contain approximately the same concentrations of the above Group A parameters as the Agua Hedionda Lagoon intake water. The fish return discharge will be implemented under permanent stand-alone operations.
- 6 Mass emissions for CDP flows through Outfall 002 (fish return discharge) are computed on the basis of the listed concentration and a maximum daily fish return flow of 1.0 mgd. Total net mass emissions through Outfall 002 will be negative, since only a fraction of a percent of the mass of each dissolved constituent that is removed by the CDP intake will be returned to the lagoon via the fish return discharge.
- 7 Value based on non-detected concentrations of ammonia in the CDP pilot plant intake and effluent in 2003-2004, and non-detected concentrations of ammonia at Monitoring Location M-001 in 2016.
- 8 Maximum and minimum monthly temperatures for 2016 at Monitoring Location M-001. Winter temperatures are for the period November through April. Summer temperatures are for the period May through October.
- 9 Listed values represent maximum and minimum monthly temperatures for 2016 at Monitoring Location M-INF. Data for 2016 from Monitoring Location M-INF includes data during both co-located operations and temporary stand-alone operations. As a result, the listed temperatures may represent slight overestimates of temperatures in the Agua Hedionda Lagoon intake supply and in the fish return discharge back into the lagoon.
- 10 Historic TSS monitoring indicates that the CDP intake flow typically contains low concentrations of TSS and no measurable settleable solids. Although some larger suspended material may be collected in the screens and rinsed into the fish return trough, it is anticipated that the fish return discharge will typically be comprised of smaller solids that pass through the CDP intake screens. Under these conditions, TSS concentrations in the fish return discharge will mirror TSS concentrations of ambient lagoon waters. TSS concentrations in the CFP influent during pilot testing (41 samples) averaged 4.2 mg/l (see Table 6 of *Amendment to Pilot Plant Report* (Poseidon Water, 2014). Samples collected during storm events in January/February 2007 showed TSS concentrations of 17-22 mg/l in the CDP pilot plant intake. For comparison, Agua Hedionda Lagoon TSS concentrations reported by the Hubbs-Seaworld Research Institute for the period 2001-2009 showed an average TSS concentration of 6.9 mg/l with a standard deviation of 15.5 mg/l, as reported in the RWQCB's *Clean Water Act Sections 305(b) and 303(d) Integrated Report for the San Diego Region* (RWQCB, 2016). On the basis of these data, TSS concentrations in the fish return discharge are projected to be less than 30 mg/l under typical operations.
- 11 During periods of storms, extreme tidal conditions, heavy surf and currents, or heavy winds, the potential exists for elevated concentrations of larger solids (> 1 mm) to become suspended within lagoon waters, including bits of kelp, celgrass, leaves, twigs, or other bits of organic matter. During such times, TSS concentrations in the fish return discharge may be elevated well above 30 mg/l and exceed TSS concentrations in the ambient lagoon.
- 12 Mass emissions of TSS in the fish return discharge back into the lagoon will be significantly less than the solids mass removed from the lagoon, as the vast majority of suspended solids will be discharged to the effluent pond either in the intake water bypass or the filter backwash discharge.
- 13 Settleable solids data on the Agua Hedionda Lagoon intake have not been collected as part of CDP pilot plant testing or operations, but settleable solids data have been collected on the north side of the lagoon by the Hubbs-Seaworld Research Institute. As reported by the RWQCB (2016), settleable solids concentrations in the Hubbs-Seaworld intake were less than 0.1 ml/l in all 86 samples collected during samples during 2001-2009.
- 14 Oil and grease was not detected in 41 CDP influent samples during 2003-2007 pilot plant testing. See Table 6 of *Amendment to Pilot Plant Report* (Poseidon Resources, 2014).
- 15 Range of pH concentrations in the CDP intake during pilot plant testing (91 samples) conducted during 2003-2007. See Table 6 of *Amendment to Pilot Plant Report* (Poseidon Resources, 2014).
- 16 As reported, in Table 6 of *Amendment to Pilot Plant Report* (Poseidon Resources, 2016), turbidity in the CDP intake (95 samples) averaged 2.8 NTU during pilot plant testing. Turbidity averaged 3.2 NTU and ranged from 1.3 NTU to 11 NTU in supplemental CDP pilot plant sampling conducted by Montgomerly Watson Harza in 2005-2007.



**Group A Parameters (continued)**  
**General Physical/Chemical Constituents**

Group A Parameters <sup>1</sup> EPA Form 2D	Analytical Method	Outfall 001: Combined CDP Effluent Discharge at Monitoring Location M-001		Outfall 002: Fish Return Discharge to Agua Hedionda Lagoon	
		Projected Concentration <sup>2</sup> (mg/l)	Mass Emission <sup>3</sup> (lbs/day)	Concentration <sup>4</sup> (mg/l)	Mass Emission <sup>5</sup> (lbs/day)
BOD (biochemical oxygen demand)	SM 5210 B	< 10	< 5600	< 10 <sup>6</sup>	< 83
COD (chemical oxygen demand)	EPA 410.4	< 100	< 56,000	< 100 <sup>6</sup>	< 834
TOC (total organic carbon)	SM 5310 C	< 8	< 4500	1.26 <sup>7</sup>	11
MBAS (methylene blue active substances)	SM 5540 C	< 0.1	< 62	0.125 <sup>8</sup>	< 1.0

- 1 Group A parameters, as classified by EPA NPDES Application Form 2D. A "<x" value indicates that the parameter was not detected at a Minimum Level (ML) concentration of "x".
- 2 Order No. R9-2006-0065 (as amended) does not require monitoring for BOD, COD, TOC or MBAS at Monitoring Location M-001 for current CDP co-located or temporary stand-alone operations. The above data are from February 2003 monitoring of the 1 mgd CDP pilot plant, as presented in Poseidon's September 2005 NPDES application for CDP co-located and temporary stand-alone operations. The combined CDP discharge at Monitoring Location M-001 is projected to be the same under co-located operating conditions, temporary stand-alone operating conditions, and permanent stand-alone operating conditions.
- 3 Projected maximum mass emissions are computed on the basis of the projected concentration at M-001 multiplied by the maximum proposed total discharge flow of 67 mgd (60 mgd RO concentrate flow and 7 mgd filter backwash flow). Values rounded to two significant figures. The listed mass emissions represent mass within intake lagoon water that is recirculated back into the ocean. CDP desalination operations do not result in any discernible concentrations of the above constituents being added to the discharge stream.
- 4 The fish return (Outfall 002) discharge would be implemented under permanent stand-alone operations, and is projected to contain approximately the same concentrations of BOD, COD, TOC, and MBAS as the Agua Hedionda Lagoon intake water.
- 5 Mass emissions for CDP flows through Outfall 002 (fish return discharge) are computed on the basis of the listed concentration and a maximum daily fish return flow of 1.0 mgd. Total net mass emissions through Outfall 002 will be negative, since only a fraction of a percent of the mass of each dissolved constituent that is removed by the CDP intake will be returned to the lagoon via the fish return discharge.
- 6 Agua Hedionda Lagoon monitoring data for BOD and COD near the EPS intake are not available. Wet weather monitoring data within the Agua Hedionda Lagoon watershed show a mean wet weather BOD concentration of 11 mg/l and CBOD of 99 mg/l in the lagoon and at storm runoff monitoring stations tributary to the lagoon, as reported in Table 12 of *Agua Hedionda Lagoon Watershed, Water Quality Analysis and Recommendations Report* (Tetra Tech, 2007). The CDP intake and fish return discharge BOD and COD concentrations are projected to be less than these wet weather storm runoff values.
- 7 Total organic carbon (TOC) concentrations in the CDP influent averaged 1.26 in 21 CDP pilot plant intake samples collected during 2003-2007, as reported in Table 6 of *Amendment to Pilot Plant Report* (Poseidon Resources, 2014). TOC concentrations in the fish return system are projected to be approximately the same as the CDP influent.
- 8 Concentrations of MBAS (surfactants) averaged 0.125 mg/l (with a maximum value of 1.5 mg/l) in CDP intake sampling during 2003-2007, as reported in Table 4-3 of the *Carlsbad Seawater Desalination Project Watershed Sanitary Survey* (Poseidon Resources, 2015). MBAS concentrations in the fish return discharge are projected to be the same as in the CDP influent.

**Group B Parameters  
Mineral//Physical/Metals**

Group B Parameters <sup>1</sup> EPA Form 2D	Units	Analytical Method	Outfall 001: Combined CDP Effluent Discharge at Monitoring Location M-001		Outfall 002: Fish Return Discharge to Agua Hedionda Lagoon	
			Concentration <sup>2</sup>	Mass Emission <sup>3</sup> (lbs/day)	Concentration <sup>4</sup>	Mass Emission <sup>5</sup> (lbs/day)
Boron	mg/l	EPA 200.8	7.2	4,000	< 4.06 <sup>6</sup>	< 34
Bromide	mg/l	EPA 300.0	114	64,000	< 60 <sup>7</sup>	< 600
Chlorine residual, total	mg/l	---	0.02	11	None <sup>8</sup>	--
Color	Units	EPA 110.2	3.0	---	4 <sup>9</sup>	--
Coliforms, fecal <sup>10</sup>	#/100 ml	SM 9221 E	< 4 <sup>10</sup>	---	61 <sup>10</sup>	--
Fluoride	mg/l	EPA 300.0	< 2	< 1100	1.9 <sup>11</sup>	37
Nitrate (as N)	mg/l	EPA 300.0	< 0.5	< 280	0.076 <sup>12</sup>	4.9
Phosphorus (as P) Total	mg/l	EPA 365.3	< 0.1	< 56	< 0.07 <sup>13</sup>	0.58
Sulfate	mg/l	EPA 300.0	5000	2,794,000	2642 <sup>14</sup>	28,000
Sulfide	mg/l	SM 4500 S2 D	< 0.1	< 56	< 0.1 <sup>15</sup>	< 0.83
Sulfite	mg/l	SM 4500 SO3	< 2	< 1100	< 2 <sup>15</sup>	< 17
Aluminum	µg/l	EPA 1640	110	61	193 <sup>16</sup>	4.9
Barium	µg/l	EPA 1640	14	7.8	7.6 <sup>17</sup>	0.34
Cobalt	µg/l	EPA 1640	< 2.7	< 1.5	< 2.7 <sup>15</sup>	0.02
Iron	µg/l	EPA 1640	< 950	< 530	108 <sup>18</sup>	1.4
Manganese	µg/l	EPA 1640	17	9.5	5 <sup>19</sup>	0.092
Molybdenum	µg/l	EPA 1640	26	15	< 26 <sup>15</sup>	0.22
Tin	µg/l	EPA 1640	< 2.5	< 1.4	< 2.5 <sup>15</sup>	0.02
Titanium	µg/l	EPA 1640	< 10	< 5.6	< 10 <sup>15</sup>	0.08

- Group B parameters, as classified by EPA NPDES Application Form 2D. A "<x" value indicates that the parameter was not detected at a Minimum Level (ML) concentration of "x".
- Order No. R9-2006-0065 (as amended) does not require monitoring for the above listed constituents. Except as noted in separate footnotes, the above data are from February 2003 monitoring of the 1 mgd CDP pilot plant, as presented in Poseidon's September 2005 NPDES application for CDP co-located and temporary stand-alone operations. The combined CDP discharge at Monitoring Location M-001 is projected to be the same under co-located, temporary stand-alone, and permanent stand-alone operating conditions.
- Projected mass emissions are computed on the basis of the projected concentration at M-001 multiplied by the maximum proposed total discharge flow of 67 mgd (60 mgd RO concentrate flow and 7 mgd filter backwash flow). Values rounded to two significant figures. The listed mass emissions represent mass within intake lagoon water that is recirculated back into the ocean. CDP desalination operations do not result in any discernible concentrations of the above constituents being added to the discharge stream.
- The fish return (Outfall 002) discharge will be implemented under permanent stand-alone operations, and is projected to contain approximately the same concentrations as the Agua Hedionda Lagoon intake water.
- Mass emissions for CDP flows through Outfall 002 (fish return discharge) are computed on the basis of the listed concentration and a daily fish return flow of 1.0 mgd. Total net mass emissions through Outfall 002 will be negative, since only a fraction of a percent of the mass of each dissolved constituent that is removed by the CDP intake will be returned to the lagoon via the fish return discharge.
- Mean value of 3 samples of the CDP influent, as reported in Table 6 of *Amendment to Pilot Plan Report* (Poseidon Resources, 2014). Maximum boron value for the 3 samples was 4.11 mg/l.
- Mean value of 8 samples of the CDP influent, as reported in Table 6 of *Amendment to Pilot Plan Report* (Poseidon Resources, 2014). Maximum bromide value for the 8 samples was 72 mg/l.
- The fish return discharge is not chlorinated.
- Mean value of 2 samples of the CDP influent, as reported in Table 4-2 of the *Carlsbad Seawater Desalination Project Watershed Sanitary Survey* (Poseidon Resources, 2015). Maximum value for the 2 samples was 5 color units.
- Mean value of 13 fecal coliform samples from the outer lagoon, as reported in Table 4-11 of the *Carlsbad Seawater Desalination Project Watershed Sanitary Survey* (Poseidon Resources, 2015). The median fecal coliform concentration in the 13 samples was 30 per 100 ml.
- Mean value of 6 samples of the CDP influent, as reported in Table 4-2 of the *Carlsbad Seawater Desalination Project Watershed Sanitary Survey* (Poseidon Resources, 2015). Maximum fluoride value for the 6 samples was 4.4 mg/l.
- Mean value of 6 samples of the CDP influent, as reported in Table 4-2 of the *Carlsbad Seawater Desalination Project Watershed Sanitary Survey* (Poseidon Resources, 2015). Maximum nitrate value for the 6 samples was 0.12 mg/l.
- Mean value of 13 samples of the CDP influent for calendar years 2008-2009 collected by Montgomery Watson Harza (2009).
- Mean value of 6 samples of the CDP influent, as reported in Table 4-3 of the *Carlsbad Seawater Desalination Project Watershed Sanitary Survey* (Poseidon Resources, 2015). Maximum sulfate value for the 6 samples was 3314 mg/l.
- The constituent has not been monitored in the CDP influent or in Agua Hedionda Lagoon, but the concentration in the fish return discharge should be less than concentrations in the combined CDP discharge at Monitoring Location M-001.
- Mean value of 11 samples of the CDP influent, as reported in Table 4-2 of the *Carlsbad Seawater Desalination Project Watershed Sanitary Survey* (Poseidon Resources, 2015). Maximum aluminum value for the 11 samples was 592 µg/l.
- Mean value of 5 samples of the CDP influent, as reported in Table 4-2 of the *Carlsbad Seawater Desalination Project Watershed Sanitary Survey* (Poseidon Resources, 2015). Maximum barium value for the 5 samples was 41 µg/l.
- Mean value of 10 samples of the CDP influent, as reported in Table 4-3 of the *Carlsbad Seawater Desalination Project Watershed Sanitary Survey* (Poseidon Resources, 2015). Maximum iron value for the 10 samples was 170 µg/l.
- Mean value of 10 samples of the CDP influent, as reported in Table 4-3 of the *Carlsbad Seawater Desalination Project Watershed Sanitary Survey* (Poseidon Resources, 2015). Maximum manganese value for the 10 samples was 11 µg/l.

**Group B Parameters  
Radioactivity**

Group B Parameters <sup>1</sup> EPA Form 2D	Analytical Method	Concentration (picocuries/liter)	
		Outfall 001: Combined CDP Effluent Discharge at Monitoring Location M-001	Outfall 002: Fish Return Discharge to Agua Hedionda Lagoon
Radioactivity - gross alpha	SM 7110C	3.7 <sup>2</sup>	1.1 <sup>3</sup>
Radioactivity - gross beta	EPA 900.0	700 <sup>2</sup>	693 <sup>3</sup>
Radioactivity - radium 226	EPA 903.0	0.13 <sup>2</sup>	0.194 <sup>3</sup>
Radioactivity - radium 228	Ra-05	< 0.12 <sup>2</sup>	0.007 <sup>3</sup>

- 1 Group B parameters, as classified by EPA NPDES Application Form 2D. A "<x" value indicates that the parameter was not detected at a Minimum Level (ML) concentration of "x".
- 2 Order No. R9-2006-0065 (as amended) does not require monitoring for the above listed constituents. The above data are from February 2003 monitoring of the 1 mgd CDP pilot plant, as presented in Poseidon's 2005 NPDES application for CDP co-located and temporary stand-alone operations. The combined CDP discharge at Monitoring Location M-001 is projected to be the same under co-located operating conditions, temporary stand-alone operating conditions, and permanent stand-alone operating conditions.
- 3 The fish return (Outfall 002) discharge is projected to contain the same concentrations as the Agua Hedionda Lagoon intake water. Radioactivity sampling results (1 sample) are reported in Table 4-2 of the *Carlsbad Seawater Desalination Project Watershed Sanitary Survey* (Poseidon Resources, 2015).

**Group B1 and B2 Parameters  
Toxic Metals/Cyanide and TCDD**

Group B1 & B2 Parameters <sup>1</sup> EPA Form 2D	Analytical Method	Outfall 001: Combined CDP Effluent Discharge at Monitoring Location M-001 <sup>2</sup>					Outfall 002: Fish Return Discharge to Agua Hedionda Lagoon		
		2016 Concentration <sup>2</sup> (µg/l)					Projected Mass Emissions at Maximum Production <sup>3</sup> (lbs/day)	Concentration <sup>4</sup> (µg/l)	Mass Emission <sup>5</sup> (lbs/day)
		2/19/2016	4/12/2016	7/11/2016	10/14/2016	Max 2016 Value			
Antimony	EPA 1640	< 0.4	< 0.37	0.2	0.2	< 0.4	< 0.22	0.097 <sup>6</sup>	0.0008
Arsenic	EPA 1640	0.92	1.5	0.87	1.0	1.5	0.84	1.5 <sup>7</sup>	0.013
Beryllium	EPA 1640	< 0.05	< 0.039	< 0.039	< 0.039	< 0.05	< 0.03	0.001 <sup>8</sup>	0.00002
Cadmium	EPA 1640	0.04	0.044	0.011	0.033	0.04	0.022	0.02 <sup>9</sup>	0.00024
Chromium III	EPA 1640	0.41	0.43	0.33	0.43	0.43	0.24	0.585 <sup>10</sup>	0.0049
Chromium VI	EPA 1640	< 5	< 0.048	< 0.034	0.0048	< 5	< 2.8	0.585 <sup>10</sup>	0.0049
Copper	EPA 1640	0.42	0.73	0.73	0.41	0.73	0.41	0.39 <sup>11</sup>	0.0033
Lead	EPA 1640	0.052	0.14	0.0034	0.46	0.46	0.26	0.1 <sup>12</sup>	0.0009
Mercury	EPA 1640	< 1	< 0.00031	< 0.00031	0.00052 <sup>21</sup>	< 1	< 0.56	0.031 <sup>13</sup>	0.00026
Nickel	EPA 1640	0.85	0.85	0.27	0.78	0.85	0.47	0.325 <sup>4</sup>	0.0027
Selenium	EPA 1640	< 0.1	< 0.034	0.039	0.091	0.091	0.051	0.018 <sup>15</sup>	0.00015
Silver	EPA 1640	< 0.05	0.033	0.018	0.077	0.077	0.043	0.023 <sup>16</sup>	0.00019
Thallium	EPA 1640	< 0.2	0.072	0.05	0.019	< 0.2	0.11	0.009 <sup>17</sup>	0.00008
Zinc	EPA 1640	0.73	1.6	0.084	0.65	1.6	0.89	1.6 <sup>18</sup>	0.042
Cyanide	SM 4500 CN E	< 0.01	< 2.7	< 2.7	< 2.7	< 2.7	< 1.5	5 <sup>19</sup>	0.04
2,3,7,8-TCDD	EPA 1613	0.00000172	< 0.0000038	0.00000395	0.00000434	0.00000434	0.0000024	< 0.0000043 <sup>20</sup>	< 0.00000004

- Group B1 parameters (toxic metals and cyanide) and Group B2 parameters (TCDD), as classified by EPA NPDES Application Form 2D. A "<x" value indicates that the parameter was not detected at a Minimum Level (ML) concentration of "x".
- Data from 2016 monitoring reports for Monitoring Location M-001 submitted to the RWQCB, as reported in the California Integrated Water Quality System. The 2016 data is for co-located and temporary stand-alone operations. Water quality at Monitoring Location M-001 is projected to be identical under permanent stand-alone operations.
- Projected maximum mass emissions are computed on the basis of the maximum observed concentration at M-001 multiplied by the maximum proposed total discharge flow of 67 mgd (60 mgd RO concentrate flow and 7 mgd filter backwash flow). Values rounded to two significant figures. The listed mass emissions represent mass within intake lagoon water that is recirculated back into the ocean. CDP desalination operations do not result in any discernible concentrations of the above constituents being added to the discharge stream.
- The fish return (Outfall 002) discharge will contain the same concentrations of the above B3 parameters as the Agua Hedionda Lagoon intake water. The above projected concentrations are based on Agua Hedionda Lagoon intake data presented in Table 4-2 of the *Carlsbad Seawater Desalination Project Watershed Sanitary Survey* (Poseidon Resources, 2015).
- Mass emissions for CDP flows through Outfall 002 (fish return discharge) are computed on the basis of the listed concentration and a maximum daily fish return flow of 1.0 mgd. Total net mass emissions through Outfall 002 will be negative, since only a fraction of a percent of the mass of each dissolved constituent that is removed by the CDP intake will be returned to the lagoon via the fish return discharge.
- Mean value of 11 samples of the CDP influent, as reported in the 2015 CDP *Watershed Sanitary Survey*. Maximum antimony value was 0.138 µg/l.
- Mean value of 10 samples of the CDP influent, as reported in the 2015 CDP *Watershed Sanitary Survey*. Maximum arsenic value was 2.5 µg/l.
- Mean value of 10 samples of the CDP influent, as reported in the 2015 CDP *Watershed Sanitary Survey*. Maximum beryllium value was 0.02 µg/l.
- Mean value of 10 samples of the CDP influent, as reported in the 2015 CDP *Watershed Sanitary Survey*. Maximum cadmium value was 0.116 µg/l.
- Maximum total chromium value (10 samples) for the CDP influent, as reported within Table 4-2 of the CDP *Watershed Sanitary Survey*.
- Mean value of 10 samples of the CDP influent, as reported in the CDP *Watershed Sanitary Survey*. Maximum copper value was 0.74 µg/l. For comparison, the median copper concentration in 51 Hubbs-Seaworld influent samples (north side of Agua Hedionda Lagoon) was 2.48 µg/l during 2001-2008, as reported in the Fact Sheet to the *2014 Draft Integrated Report (303(d) List/305(b) Report)*. (RWQCB, 2016)
- Mean value of 10 samples of the CDP influent, as reported in the 2015 CDP *Watershed Sanitary Survey*. Maximum lead value was 0.28 µg/l.
- Mean value of 10 samples of the CDP influent, as reported in the 2015 CDP *Watershed Sanitary Survey*. Maximum mercury value was 0.117 µg/l.
- Mean value of 10 samples of the CDP influent, as reported in the 2015 CDP *Watershed Sanitary Survey*. Maximum nickel value was 0.780 µg/l.
- Mean value of 10 samples of the CDP influent, as reported in the 2015 CDP *Watershed Sanitary Survey*. Maximum selenium value was 0.07 µg/l.
- Mean value of 10 samples of the CDP influent, as reported in the 2015 CDP *Watershed Sanitary Survey*. Maximum silver value was 0.259 µg/l.
- Mean value of 10 samples of the CDP influent, as reported in the 2015 CDP *Watershed Sanitary Survey*. Maximum thallium value was 0.02 µg/l.
- Mean value of 10 samples of the CDP influent, as reported in the 2015 CDP *Watershed Sanitary Survey*. Maximum zinc value was 5 µg/l. For comparison, the median zinc concentration in 26 Hubbs-Seaworld influent samples (north side of Agua Hedionda Lagoon) was 36 µg/l during 2001-2008, as reported by the RWQCB in Fact Sheet to the *2014 Draft Integrated Report (303(d) List/305(b) Report)*. (RWQCB, 2016)
- Mean value of 10 samples of the CDP influent, as reported in the CDP *Watershed Sanitary Survey*. Maximum cyanide value was 20 µg/l.
- Dioxins/furans were not sampled in Agua Hedionda Lagoon. The listed value is the maximum value for the CDP effluent at Monitoring Location M-001. Since the CDP RO processes would concentrate constituents, the TCDD concentration in the Agua Hedionda Lagoon intake would be less than the reported maximum effluent value at Monitoring Location M-001.
- Additionally, a mercury concentration of 0.004 µg/l was recorded in a follow-up 11/09/2016 sample at M-001.

**Group B3 Parameters  
Volatile Organic Compounds**

Group B3 Parameters <sup>1</sup> Volatile Organic Compounds	Analytical Method	Outfall 001: Combined CDP Effluent Discharge at Monitoring Location M-001 <sup>2</sup>						Outfall 002: Fish Return Discharge to Agua Hedionda Lagoon	
		2016 Concentration <sup>2</sup> (µg/l)					Projected Mass Emissions at Maximum Production <sup>3</sup> (lbs/day)	Concentration <sup>4</sup> (µg/l)	Mass Emission <sup>5</sup> (lbs/day)
		2/19/2016	4/12/2016	7/11/2016	10/14/2016	Max 2016 Value			
Benzene	EPA 524.2	< 5	< 0.3	< 0.23	< 0.23	< 5	< 2.8	< 5	< 0.04
Carbon Tetrachloride	EPA 524.2	< 5	< 0.32	< 0.33	< 0.33	< 5	< 2.8	< 5	< 0.04
Chlorobenzene	EPA 524.2	< 5	< 0.46	< 0.21	< 0.21	< 5	< 2.8	< 5	< 0.04
Chloroform	EPA 524.2	< 5	< 0.31	< 0.25	< 0.25	< 5	< 2.8	< 5	< 0.04
Dibromochloromethane	EPA 524.2	< 5	< 0.29	< 0.38	< 0.38	< 5	< 2.8	< 5	< 0.04
Dichlorobenzenes <sup>6</sup>	EPA 524.2	< 11.8	< 1.05	< 0.37	< 1.1	< 11.8	< 6.6	< 11.8	< 0.10
Dichlorobromomethane	EPA 524.2	< 5	< 0.32	< 0.28	< 0.28	< 5	< 2.8	< 5	< 0.04
1,1-Dichloroethylene	EPA 524.2	< 5	< 0.34	< 0.39	< 0.39	< 5	< 2.8	< 5	< 0.04
1,2-Dichloroethane	EPA 524.2	< 5	< 0.28	< 0.24	< 0.24	< 5	< 2.8	< 5	< 0.04
1,4-Dichlorobenzene	EPA 524.2	< 11.8	< 0.15	< 0.55	< 0.55	< 11.8	< 6.6	< 11.8	< 0.10
cis-1,3-Dichloropropene	EPA 524.2	< 5	< 0.25	< 0.22	< 0.22	< 5	< 2.8	< 5	< 0.04
Ethylbenzene	EPA 524.2	< 5	< 0.43	< 0.17	< 0.17	< 5	< 2.8	< 5	< 0.04
Halomethanes <sup>7</sup>	EPA 524.2	< 5	< 1.66	< 1.05	< 1.05	< 5	< 2.8	< 5	< 0.04
Methylene Chloride	EPA 524.2	< 5	< 0.34	< 0.25	< 0.25	< 5	< 2.8	< 5	< 0.04
1,1,2,2-Tetrachloroethane	EPA 524.2	< 5	< 0.34	< 0.18	< 0.18	< 5	< 2.8	< 5	< 0.04
Tetrachloroethene	EPA 524.2	< 5	< 0.5	< 0.27	< 0.27	< 5	< 2.8	< 5	< 0.04
Toluene	EPA 524.2	< 5	< 0.45	< 0.22	< 0.22	< 5	< 2.8	< 5	< 0.04
1,1,1-Trichloroethane	EPA 524.2	< 5	< 0.39	< 0.38	< 0.38	< 5	< 2.8	< 5	< 0.04
1,1,2-Trichloroethane	EPA 524.2	< 5	< 0.29	< 0.25	< 0.25	< 5	< 2.8	< 5	< 0.04
Trichloroethene	EPA 524.2	< 5	< 0.35	< 0.37	< 0.37	< 5	< 2.8	< 5	< 0.04
Vinyl Chloride	EPA 524.2	< 5	< 0.33	< 0.33	< 0.33	< 5	< 2.8	< 5	< 0.04

- Group B3 parameters (volatile organic compounds), as classified by EPA NPDES Application Form 2D. A "<x" value indicates that the parameter was not detected at a Minimum Level (ML) concentration of "x".
- Data from 2016 monitoring reports for Monitoring Location M-001 submitted to the RWQCB, as reported in the California Integrated Water Quality System. The 2016 data is for co-located and temporary stand-alone operations. Water quality at Monitoring Location M-001 is projected to be identical under permanent stand-alone operations.
- Projected maximum mass emissions are computed on the basis of the maximum observed concentration at M-001 multiplied by the maximum proposed total discharge flow of 67 mgd (60 mgd RO concentrate flow and 7 mgd filter backwash flow). Values rounded to two significant figures. The listed mass emissions represent mass within intake lagoon water that is recirculated back into the ocean. CDP desalination operations do not result in any discernible concentrations of the above constituents being added to the discharge stream.
- The fish return (Outfall 002) discharge will contain the same concentrations of the above B3 parameters as the Agua Hedionda Lagoon intake water. No specific data are available for the lagoon intake water quality, but the constituent has not been detected in the EPS effluent, the CDP RO concentrate, or the CDP filter backwash. Since the listed constituents have not been detected in any of these streams, it may be concluded that the constituents will also not be detected at these same MLs in the CDP permanent stand-alone influent or Outfall 002 fish return discharge.
- Mass emissions for CDP flows through Outfall 002 (fish return discharge) are computed on the basis of the listed concentration and a maximum daily fish return flow of 1.0 mgd. Total net mass emissions through Outfall 002 will be negative, since only a fraction of a percent of the mass of each dissolved constituent that is removed by the CDP intake will be returned to the lagoon via the fish return discharge.
- Sum of 1,2-dichlorobenzene and 1,3-dichlorobenzene.
- Sum of bromoform, bromomethane (methyl bromide) and chloromethane (methyl chloride).

**Group B3 Parameters  
Acid Extractable Compounds**

Group B3 Parameters <sup>1</sup> Acid Extractable Compounds	Analytical Method	Outfall 001: Combined CDP Effluent Discharge at Monitoring Location M-001 <sup>2</sup>					Projected Mass Emissions at Maximum Production <sup>3</sup> (lbs/day)	Outfall 002: Fish Return Discharge to Agua Hedionda Lagoon	
		2016 Concentration <sup>2</sup> (µg/l)						Concentration <sup>4</sup> (µg/l)	Mass Emission <sup>5</sup> (lbs/day)
		2/19/2016	4/12/2016	7/11/2016	10/14/2016	Max 2016 Value			
2-Chlorophenol	EPA 625	< 11.8 <sup>6</sup>	< 0.77 <sup>6</sup>	< 0.96 <sup>6</sup>	< 0.96 <sup>6</sup>	< 11.8	< 6.6	< 11.8	< 0.10
4-Chloro-3-methylphenol	EPA 625	< 11.8 <sup>6</sup>	< 0.77 <sup>6</sup>	< 0.96 <sup>6</sup>	< 0.96 <sup>6</sup>	< 11.8	< 6.6	< 11.8	< 0.10
2,4-Dichlorophenol	EPA 625	< 11.8 <sup>6</sup>	< 0.77 <sup>6</sup>	< 0.96 <sup>6</sup>	< 0.96 <sup>6</sup>	< 11.8	< 6.6	< 11.8	< 0.10
2,4-Dimethylphenol	EPA 625	< 11.8 <sup>7</sup>	< 0.57 <sup>7</sup>	< 0.87 <sup>7</sup>	< 0.87 <sup>7</sup>	< 11.8	< 6.6	< 11.8	< 0.10
2,4-Dinitrophenol	EPA 625	< 11.8 <sup>7</sup>	< 0.57 <sup>7</sup>	< 0.87 <sup>7</sup>	< 0.87 <sup>7</sup>	< 11.8	< 6.6	< 11.8	< 0.10
2-Methyl-4,6-dinitrophenol	EPA 625	< 11.8 <sup>8</sup>	< 0.12	< 0.87 <sup>8</sup>	< 1.7	< 11.8	< 6.6	< 11.8	< 0.10
2-Nitrophenol	EPA 625	< 11.8 <sup>7</sup>	< 0.57 <sup>7</sup>	< 0.87 <sup>7</sup>	< 0.87 <sup>7</sup>	< 11.8	< 6.6	< 11.8	< 0.10
4-Nitrophenol	EPA 625	< 11.8 <sup>7</sup>	< 0.57 <sup>7</sup>	< 0.87 <sup>7</sup>	< 0.87 <sup>7</sup>	< 11.8	< 6.6	< 11.8	< 0.10
Pentachlorophenol	EPA 625	< 11.8 <sup>6</sup>	< 0.77 <sup>6</sup>	< 0.96 <sup>6</sup>	< 0.96 <sup>6</sup>	< 11.8	< 6.6	< 11.8	< 0.10
Phenol, total	EPA 625	< 11.8 <sup>6</sup>	< 0.77 <sup>6</sup>	< 0.96 <sup>6</sup>	< 0.96 <sup>6</sup>	< 11.8	< 6.6	< 11.8	< 0.10
Phenol, total non-chlorinated	EPA 625	< 11.8 <sup>7</sup>	< 0.57 <sup>7</sup>	< 0.87 <sup>7</sup>	< 0.87 <sup>7</sup>	< 11.8	< 6.6	< 11.8	< 0.10
2,4,6-Trichlorophenol	EPA 625	< 11.8	< 0.13	< 0.22	< 0.22	< 11.8	< 6.6	< 11.8	< 0.10

- Group B3 parameters (volatile organic compounds), as classified by EPA NPDES Application Form 2D. A "<x" value indicates that the parameter was not detected at a Minimum Level (ML) concentration of "x".
- Data from 2016 monitoring reports for Monitoring Location M-001 submitted to the RWQCB, as reported in the California Integrated Water Quality System. The 2016 data is for co-located and temporary stand-alone operations. Water quality at Monitoring Location M-001 is projected to be identical under permanent stand-alone operations.
- Projected maximum mass emissions are computed on the basis of the maximum observed concentration at M-001 multiplied by the maximum proposed total discharge flow of 67 mgd (60 mgd RO concentrate flow and 7 mgd filter backwash flow). Values rounded to two significant figures. The listed mass emissions represent mass within intake lagoon water that is recirculated back into the ocean. CDP desalination operations do not result in any discernible concentrations of the above constituents being added to the discharge stream.
- The fish return (Outfall 002) discharge will contain the same concentrations of the above B3 parameters as the Agua Hedionda Lagoon intake water. No specific data are available for the lagoon intake water quality, but the constituent has not been detected in the EPS effluent, the CDP RO concentrate, or the CDP filter backwash. Since the listed constituents have not been detected in any of these streams, it may be concluded that the constituents will also not be detected at these same MLs in the CDP permanent stand-alone influent or Outfall 002 fish return discharge.
- Mass emissions for CDP flows through Outfall 002 (fish return discharge) are computed on the basis of the listed concentration and a maximum daily fish return flow of 1.0 mgd. Total net mass emissions through Outfall 002 will be negative, since only a fraction of a percent of the mass of each dissolved constituent that is removed by the CDP intake will be returned to the lagoon via the fish return discharge.
- Listed values are for total phenol.
- Listed values are for total non-chlorinated phenol.
- The listed value is for total phenol, as the ML for total phenol was more restrictive than the ML achieved for 2-methyl-4,6-dinitrophenol.

**Group B3 Parameters  
Base Neutral Compounds**

Group B3 Parameters <sup>1</sup> Base Neutral Compounds	Analytical Method	Outfall 001: Combined CDP Effluent Discharge at Monitoring Location M-001 <sup>2</sup>						Outfall 002: Fish Return Discharge to Agua Hedionda Lagoon	
		2016 Concentration <sup>2</sup> (µg/l)					Projected Mass Emissions at Maximum Production <sup>3</sup> (lbs/day)	Concentration <sup>4</sup> (µg/l)	Mass Emission <sup>5</sup> (lbs/day)
		2/19/2016	4/12/2016	7/11/2016	10/14/2016	Max 2016 Value			
Acenaphthene	EPA 625	< 11.8 <sup>6</sup>	< 2.72 <sup>6</sup>	< 2.8 <sup>6</sup>	< 2.8 <sup>6</sup>	< 11.8	< 6.6	< 11.8	< 0.10
Acenaphthylene	EPA 625	< 11.8 <sup>6</sup>	< 2.72 <sup>6</sup>	< 2.8 <sup>6</sup>	< 2.8 <sup>6</sup>	< 11.8	< 6.6	< 11.8	< 0.10
Anthracene	EPA 625	< 11.8 <sup>6</sup>	< 2.72 <sup>6</sup>	< 2.8 <sup>6</sup>	< 2.8 <sup>6</sup>	< 11.8	< 6.6	< 11.8	< 0.10
Benzidine	EPA 625	< 59	< 0.53	< 3.7	< 3.7	< 59	< 33	< 59	< 0.49
Benzo(a)anthracene	EPA 625	< 11.8 <sup>6</sup>	< 2.72 <sup>6</sup>	< 2.8 <sup>6</sup>	< 2.8 <sup>6</sup>	< 11.8	< 6.6	< 11.8	< 0.10
Benzo(a)pyrene	EPA 625	< 11.8 <sup>6</sup>	< 2.72 <sup>6</sup>	< 2.8 <sup>6</sup>	< 2.8 <sup>6</sup>	< 11.8	< 6.6	< 11.8	< 0.10
Benzo(b)fluoranthene	EPA 625	< 11.8 <sup>6</sup>	< 2.72 <sup>6</sup>	< 2.8 <sup>6</sup>	< 2.8 <sup>6</sup>	< 11.8	< 6.6	< 11.8	< 0.10
Benzo (g,h,i) perylene	EPA 625	< 11.8 <sup>6</sup>	< 2.72 <sup>6</sup>	< 2.8 <sup>6</sup>	< 2.8 <sup>6</sup>	< 11.8	< 6.6	< 11.8	< 0.10
Benzo(k)fluoranthene	EPA 625	< 11.8 <sup>6</sup>	< 2.72 <sup>6</sup>	< 2.8 <sup>6</sup>	< 2.8 <sup>6</sup>	< 11.8	< 6.6	< 11.8	< 0.10
Bis (2-chloroethoxy) methane	EPA 625	< 11.8	< 0.16	< 0.25	< 0.25	< 11.8	< 6.6	< 11.8	< 0.10
Bis(2-chloroethyl) ether	EPA 625	< 29.5	< 0.14	< 0.27	< 0.27	< 29.5	< 16	< 29.5	< 0.25
Bis(2-chloroisopropyl) ether	EPA 625	< 29.5	< 0.16	< 0.38	< 0.38	< 29.5	< 16	< 29.5	< 0.25
Bis(2-ethylhexyl) phthalate	EPA 625	19.5	< 3.1	30	3,225	19.5	11	< 1 <sup>7</sup>	< 0.04
4-Bromophenyl phenyl ether	EPA 625	NA <sup>8</sup>	NA <sup>8</sup>	NA <sup>8</sup>	NA <sup>8</sup>	< 5 <sup>8</sup>	< 2.8	< 5	< 0.04
Butyl benzyl phthalate	EPA 625	NA <sup>8</sup>	NA <sup>8</sup>	NA <sup>8</sup>	NA <sup>8</sup>	< 5 <sup>8</sup>	< 2.8	< 5	< 0.04
2-Chloronaphthalene	EPA 625	NA <sup>8</sup>	NA <sup>8</sup>	NA <sup>8</sup>	NA <sup>8</sup>	< 5 <sup>8</sup>	< 2.8	< 5	< 0.04
4-Chlorophenyl phenyl ether	EPA 625	NA <sup>8</sup>	NA <sup>8</sup>	NA <sup>8</sup>	NA <sup>8</sup>	< 5 <sup>8</sup>	< 2.8	< 5	< 0.04
Chrysene	EPA 625	< 11.8 <sup>6</sup>	< 2.72 <sup>6</sup>	< 2.8 <sup>6</sup>	< 2.8 <sup>6</sup>	< 11.8	< 6.6	< 11.8	< 0.10
Dibenzo (a,h) anthracene	EPA 625	< 11.8 <sup>6</sup>	< 2.72 <sup>6</sup>	< 2.8 <sup>6</sup>	< 2.8 <sup>6</sup>	< 11.8	< 6.6	< 11.8	< 0.10
1,2-Dichlorobenzene	EPA 625	< 11.8 <sup>9</sup>	< 1.05 <sup>9</sup>	< 0.37 <sup>9</sup>	< 1.1 <sup>9</sup>	< 11.8	< 6.6	< 11.8	< 0.10
1,3-Dichlorobenzene	EPA 625	< 11.8 <sup>9</sup>	< 1.05 <sup>9</sup>	< 0.37 <sup>9</sup>	< 1.1 <sup>9</sup>	< 11.8	< 6.6	< 11.8	< 0.10
1,4-Dichlorobenzene	EPA 625	< 11.8 <sup>9</sup>	< 1.05 <sup>9</sup>	< 0.37 <sup>9</sup>	< 1.1 <sup>9</sup>	< 11.8	< 6.6	< 11.8	< 0.10
3,3'-Dichlorobenzidine	EPA 625	< 29.5	< 0.9	< 1.2	< 1.2	< 29.5	< 16	< 29.5	< 0.25
Diethyl phthalate	EPA 625	< 11.8	< 0.14	< 0.15	< 0.15	< 11.8	< 6.6	< 11.8	< 0.10
Dimethyl phthalate	EPA 625	< 11.8	< 0.15	< 0.18	< 0.18	< 11.8	< 6.6	< 11.8	< 0.10
Di-n-butyl phthalate	EPA 625	< 11.8	< 0.12	< 0.24	< 0.24	< 11.8	< 6.6	< 11.8	< 0.10
2,4-Dinitrotoluene	EPA 625	< 11.8	< 0.16	< 0.18	< 0.18	< 11.8	< 6.6	< 11.8	< 0.10
2,6-Dinitrotoluene	EPA 625	NA <sup>8</sup>	NA <sup>8</sup>	NA <sup>8</sup>	NA <sup>8</sup>	< 5 <sup>8</sup>	< 2.8	< 5	< 0.04
Di-n-octyl phthalate	EPA 625	NA <sup>8</sup>	NA <sup>8</sup>	NA <sup>8</sup>	NA <sup>8</sup>	< 5 <sup>8</sup>	< 2.8	< 5	< 0.04
1,2-Diphenyl hydrazine	EPA 625	< 11.8	< 1.0	< 0.25	< 0.25	< 11.8	< 6.6	< 11.8	< 0.10

NOTE: Table for Group B3 base neutral compounds (including footnotes) is continued on the following page

**Group B3 Parameters  
Base Neutral Compounds (continued)**

Group B3 Parameters <sup>1</sup> Base Neutral Compounds	Analytical Method	Outfall 001: Combined CDP Effluent Discharge at Monitoring Location M-001 <sup>2</sup>					Outfall 002: Fish Return Discharge to Agua Hedionda Lagoon		
		2016 Concentration <sup>2</sup> (µg/l)					Projected Mass Emissions at Maximum Production <sup>3</sup> (lbs/day)	Concentration <sup>4</sup> (µg/l)	Mass Emission <sup>5</sup> (lbs/day)
		2/19/2016	4/12/2016	7/11/2016	10/14/2016	Max 2016 Value			
Fluoranthene	EPA 625	< 11.8	< 0.13	< 0.22	< 0.22	< 11.8	< 6.6	< 11.8	< 0.10
Fluorene	EPA 625	< 11.8 <sup>6</sup>	< 2.72 <sup>6</sup>	< 2.8 <sup>6</sup>	< 2.8 <sup>6</sup>	< 11.8	< 6.6	< 11.8	< 0.10
Hexachlorobenzene	EPA 625	< 0.008	< 0.14	< 0.49	< 0.49	< 0.49	< 0.3	< 0.49	< 0.004
Hexachlorobutadiene	EPA 625	< 11.8	< 0.14	< 0.47	< 0.47	< 11.8	< 6.6	< 11.8	< 0.098
Hexachlorocyclopentadiene	EPA 508	< 29.5	< 0.1	< 1.5	< 1.5	< 29.5	< 16	< 29.5	< 0.25
Hexachloroethane	EPA 625	< 11.8	< 0.15	< 0.52	< 0.52	< 11.8	< 6.6	< 11.8	< 0.10
Indeno (1,2,3-c) pyrene	EPA 625	< 11.8 <sup>6</sup>	< 2.72 <sup>6</sup>	< 2.8 <sup>6</sup>	< 2.8 <sup>6</sup>	< 11.8	< 6.6	< 11.8	< 0.10
Isophorone	EPA 625	< 11.8	< 0.2	< 0.21	< 0.21	< 11.8	< 6.6	< 11.8	< 0.10
Naphthalene	EPA 615	NA <sup>8</sup>	NA <sup>8</sup>	NA <sup>8</sup>	NA <sup>8</sup>	< 5 <sup>8</sup>	< 2.8	< 5	< 0.04
Nitrobenzene	EPA 625	< 29.5	< 0.63	< 0.36	< 0.36	< 29.5	< 16	< 29.5	< 0.25
N-nitrosodi-n-propylamine	EPA 625	< 11.8	< 0.21	< 0.26	< 0.26	< 11.8	< 6.6	< 11.8	< 0.10
N-Nitrosodimethylamine	EPA 625	< 11.8	< 0.16	< 0.14	< 0.14	< 11.8	< 6.6	< 11.8	< 0.10
N-Nitrosodiphenylamine	EPA 625	< 11.8	< 1.0	< 0.19	< 0.19	< 11.8	< 6.6	< 11.8	< 0.10
Phenanthrene	EPA 625	< 11.8 <sup>6</sup>	< 2.72 <sup>6</sup>	< 2.8 <sup>6</sup>	< 2.8 <sup>6</sup>	< 11.8	< 6.6	< 11.8	< 0.10
Pyrene	EPA 625	< 11.8 <sup>6</sup>	< 2.72 <sup>6</sup>	< 2.8 <sup>6</sup>	< 2.8 <sup>6</sup>	< 11.8	< 6.6	< 11.8	< 0.10

- Group B3 parameters (volatile organic compounds), as classified by EPA NPDES Application Form 2D. A "<x" value indicates that the parameter was not detected at a Minimum Level (ML) concentration of "x".
- Data from 2016 monitoring reports for Monitoring Location M-001 submitted to the RWQCB, as reported in the California Integrated Water Quality System. The 2016 data is for co-located and temporary stand-alone operations. Water quality at Monitoring Location M-001 is projected to be identical under permanent stand-alone operations.
- Projected maximum mass emissions are computed on the basis of the maximum observed concentration at M-001 multiplied by the maximum proposed total discharge flow of 67 mgd (60 mgd RO concentrate flow and 7 mgd filter backwash flow). Values rounded to two significant figures. The listed mass emissions represent mass within intake lagoon water that is recirculated back into the ocean. CDP desalination operations do not result in any discernible concentrations of the above constituents being added to the discharge stream.
- The fish return (Outfall 002) discharge will contain the same concentrations of the above B3 parameters as the Agua Hedionda Lagoon intake water. No specific data are available for the lagoon intake water quality, but the constituent has not been detected in the EPS effluent, the CDP RO concentrate, or the CDP filter backwash. Since the listed constituents have not been detected in any of these streams, it may be concluded that the constituents will also not be detected at these same MLs in the CDP permanent stand-alone influent or Outfall 002 fish return discharge.
- Mass emissions for CDP flows through Outfall 002 (fish return discharge) are computed on the basis of the listed concentration and a maximum daily fish return flow of 1.0 mgd. Total net mass emissions through Outfall 002 will be negative, since only a fraction of a percent of the mass of each dissolved constituent that is removed by the CDP intake will be returned to the lagoon via the fish return discharge.
- Listed values are for total PAHs (polynuclear aromatic hydrocarbons). PAHs are the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno [1,2,3-cd] pyrene, phenanthrene and pyrene.
- Bis(2-ethylhexyl) phthalate (also called di(2-ethylhexyl) phthalate or DEPH) is a plasticizer that may be periodically detected in the CDP effluent as a result of the use of plastic pipe within the CDP. Concentrations of DEPH in the CDP influent, however, are extremely low or non-detected. As reported in Table 4-2 of the *Carlsbad Seawater Desalination Project Watershed Sanitary Survey* (Poseidon Resources, 2015), the mean DEPH concentrations in 6 CDP influent samples was 0.07 µg/l, and the maximum observed DEPH concentration in the 6 samples was 0.12 µg/l.
- The constituent is not monitored as part of the CDP NPDES monitoring program and data for calendar year 2016 are not available. The constituent was not detected at a ML of 5 µg/l in 2003 pilot plant monitoring of the CDP influent, RO concentrate, or filter backwash.
- Listed values are for total dichlorobenzene.



**Group B3 Parameters  
Chlorinated Pesticides and PCBs**

Group B3 Parameters <sup>1</sup> Chlorinated Pesticides and PCBs	Analytical Method	Outfall 001: Combined CDP Effluent Discharge at Monitoring Location M-001 <sup>2</sup>					Projected Mass Emissions at Maximum Production <sup>3</sup> (lbs/day)	Outfall 002: Fish Return Discharge to Agua Hedionda Lagoon	
		2016 Concentration <sup>2</sup> (µg/l)						Concentration <sup>4</sup> (µg/l)	Mass Emission <sup>5</sup> (lbs/day)
		2/19/2016	4/12/2016	7/11/2016	10/14/2016	Max 2016 Value			
Aldrin	EPA 625	< 0.0038	< 0.001	< 0.0015	< 0.0015	< 0.0038	< 0.002	< 0.0038	< 0.00003
BHC-alpha	EPA 625	< 0.004 <sup>6</sup>	< 0.004 <sup>6</sup>	< 0.0095 <sup>6</sup>	< 0.0095 <sup>6</sup>	< 0.0095	< 0.005	< 0.0095	< 0.00008
BHC-beta	EPA 625	< 0.004 <sup>6</sup>	< 0.004 <sup>6</sup>	< 0.0095 <sup>6</sup>	< 0.0095 <sup>6</sup>	< 0.0095	< 0.005	< 0.0095	< 0.00008
BHC-delta	EPA 625	< 0.004 <sup>6</sup>	< 0.004 <sup>6</sup>	< 0.0095 <sup>6</sup>	< 0.0095 <sup>6</sup>	< 0.0095	< 0.005	< 0.0095	< 0.00008
BHC-gamma (Lindane)	EPA 625	< 0.004 <sup>6</sup>	< 0.004 <sup>6</sup>	< 0.0095 <sup>6</sup>	< 0.0095 <sup>6</sup>	< 0.0095	< 0.005	< 0.0095	< 0.00008
Chlordane-alpha	EPA 625	< 0.01 <sup>7</sup>	< 0.1 <sup>7</sup>	< 0.05 <sup>7</sup>	< 0.05 <sup>7</sup>	< 0.1	< 0.056	< 0.1	< 0.0008
Chlordane-gamma	EPA 625	< 0.01 <sup>7</sup>	< 0.1 <sup>7</sup>	< 0.05 <sup>7</sup>	< 0.05 <sup>7</sup>	< 0.1	< 0.056	< 0.1	< 0.0008
2,4'-DDD	EPA 625	< 0.0038 <sup>8</sup>	< 0.004 <sup>8</sup>	< 0.024 <sup>8</sup>	< 0.024 <sup>8</sup>	< 0.024	< 0.013	< 0.024	< 0.0002
2,4'-DDE	EPA 625	< 0.0038 <sup>8</sup>	< 0.004 <sup>8</sup>	< 0.024 <sup>8</sup>	< 0.024 <sup>8</sup>	< 0.024	< 0.013	< 0.024	< 0.0002
2,4'-DDT	EPA 625	< 0.0038 <sup>8</sup>	< 0.004 <sup>8</sup>	< 0.024 <sup>8</sup>	< 0.024 <sup>8</sup>	< 0.024	< 0.013	< 0.024	< 0.0002
4,4'-DDD	EPA 625	< 0.0038 <sup>8</sup>	< 0.004 <sup>8</sup>	< 0.024 <sup>8</sup>	< 0.024 <sup>8</sup>	< 0.024	< 0.013	< 0.024	< 0.0002
4,4'-DDE	EPA 625	< 0.0038 <sup>8</sup>	< 0.004 <sup>8</sup>	< 0.024 <sup>8</sup>	< 0.024 <sup>8</sup>	< 0.024	< 0.013	< 0.024	< 0.0002
4,4'-DDT	EPA 625	< 0.0038 <sup>8</sup>	< 0.004 <sup>8</sup>	< 0.024 <sup>8</sup>	< 0.024 <sup>8</sup>	< 0.024	< 0.013	< 0.024	< 0.0002
Dieldrin	EPA 635	< 0.004	< 0.001	< 0.0021	< 0.0021	< 0.004	< 0.002	< 0.004	< 0.00003
Endosulfan I	EPA 635	< 0.004 <sup>9</sup>	< 0.003 <sup>9</sup>	< 0.005 <sup>9</sup>	< 0.0096 <sup>9</sup>	< 0.0096	< 0.005	< 0.0096	< 0.00008
Endosulfan II	EPA 625	< 0.004 <sup>9</sup>	< 0.003 <sup>9</sup>	< 0.005 <sup>9</sup>	< 0.0096 <sup>9</sup>	< 0.0096	< 0.005	< 0.0096	< 0.00008
Endosulfan sulfate	EPA 625	< 0.004 <sup>9</sup>	< 0.003 <sup>9</sup>	< 0.005 <sup>9</sup>	< 0.0096 <sup>9</sup>	< 0.0096	< 0.005	< 0.0096	< 0.00008
Endrin	EPA 625	< 0.004	< 0.001	< 0.0028	< 0.0028	< 0.004	< 0.002	< 0.004	< 0.00003
Heptachlor	EPA 625	< 0.004	< 0.002	< 0.0017	< 0.0017	< 0.004	< 0.002	< 0.004	< 0.00003
Heptachlor epoxide	EPA 625	< 0.004	< 0.001	< 0.0019	< 0.0019	< 0.004	< 0.002	< 0.004	< 0.00003
Polychlorinated biphenyls (PCBs)	EPA 625	< 1.59 <sup>10</sup>	< 0.5 <sup>10</sup>	< 0.42 <sup>10</sup>	< 0.42 <sup>10</sup>	< 1.59	< 0.89	< 1.59	< 0.01
Toxaphene	EPA 625	< 0.29	< 0.5	< 0.12	< 0.12	< 0.5	< 0.28	< 0.5	< 0.004

- Group B3 parameters (chlorinated pesticides and PCBs), as classified by EPA NPDES Application Form 2D. A "<x" value indicates that the parameter was not detected at a Minimum Level (ML) concentration of "x".
- Data from 2016 monitoring reports for Monitoring Location M-001 submitted to the RWQCB, as reported in the California Integrated Water Quality System. The 2016 data is for co-located and temporary stand-alone operations. Water quality at Monitoring Location M-001 is projected to be identical under permanent stand-alone operations.
- Projected maximum mass emissions are computed on the basis of the maximum observed concentration at M-001 multiplied by the maximum proposed total discharge flow of 67 mgd (60 mgd RO concentrate flow and 7 mgd filter backwash flow). Values rounded to two significant figures. The listed mass emissions represent mass within intake lagoon water that is recirculated back into the ocean. CDP desalination operations do not result in any discernible concentrations of the above constituents being added to the discharge stream.
- The fish return (Outfall 002) discharge will contain the same concentrations of the above B3 parameters as the Agua Hedionda Lagoon intake water. No specific data are available for the lagoon intake water quality, but the constituent has not been detected in the EPS effluent, the CDP RO concentrate, or the CDP filter backwash. Since the listed constituents have not been detected in any of these streams, it may be concluded that the constituents will also not be detected at these same MLs in the CDP permanent stand-alone influent or Outfall 002 fish return discharge.
- Mass emissions for CDP flows through Outfall 002 (fish return discharge) are computed on the basis of the listed concentration and a maximum daily fish return flow of 1.0 mgd. Total net mass emissions through Outfall 002 will be negative, since only a fraction of a percent of the mass of each dissolved constituent that is removed by the CDP intake will be returned to the lagoon via the fish return discharge.
- Listed values are for total BHC (also known as hexachlorocyclohexane).
- Listed values are for total chlordane.
- Listed values are for total DDD, DDE, and DDT isomers.
- Listed values are for total endosulfan.
- Listed values for sum of polychlorinated biphenyl (PCB) isomers.

**Group B3 Parameters  
Other Compounds**

Group B3 Parameters <sup>1</sup> Other Hazardous Compounds EPA Form 2D	Analytical Method	Outfall 001: Combined CDP Effluent Discharge at Monitoring Location M-001 <sup>2</sup>		Outfall 002: Fish Return Discharge to Agua Hedionda Lagoon	
		Concentration <sup>3</sup> (µg/l)	Mass Emission <sup>4</sup> (lbs/day)	Concentration <sup>5</sup> (µg/l)	Mass Emission <sup>6</sup> (lbs/day)
Benzo(e)pyrene <sup>7</sup>	EPA 625	< 5	< 2.8	< 5	< 0.04
Biphenyl hydrazine <sup>7</sup>	EPA 625	< 5	< 2.8	< 5	< 0.04
2,6-Dimethylnaphthalene <sup>7</sup>	EPA 625	< 5	< 2.8	< 5	< 0.04
Methoxychlor <sup>8</sup>	EPA 508	< 10	< 5.6	< 10	< 0.08
1-Methylnaphthalene <sup>7</sup>	EPA 625	< 5	< 2.8	< 5	< 0.04
2-Methylnaphthalene <sup>7</sup>	EPA 625	< 5	< 2.8	< 5	< 0.04
1-Methylphenanthrene <sup>7</sup>	EPA 625	< 5	< 2.8	< 5	< 0.04
Mirex <sup>8</sup>	EPA 508	< 0.02	< 0.011	< 0.02	< 0.0002
Perylene <sup>7</sup>	EPA 625	< 5	< 2.8	< 5	< 0.04
2,3,5-Trimethylnaphthalene <sup>7</sup>	EPA 625	< 5	< 2.8	< 5	< 0.04
trans-Nonachlor <sup>8</sup>	EPA 508	< 0.01	< 0.006	< 0.01	< 0.0001
Tributyltin	---	< 0.0029 <sup>9</sup>	< 0.002	< 0.0029	< 0.00002

- Group B3 parameters classified as "other hazardous compounds" by EPA NPDES Application Form 2D. A "<x" value indicates that the parameter was not detected at a Minimum Level (ML) concentration of "x".
- CDP wastewater streams under co-located, temporary stand-alone, or permanent stand-alone operations. Once EPS facilities are permanently shut down, CDP permanent stand-alone operations would also include discharges of 1 mgd of screen wash and fish return flow from the CDP lagoon intake structure and 171 mgd of diverted lagoon water that will be used for diluting salinity from the RO concentrate. Blending flow diverted from the CDP lagoon intake structure will have the same water quality as the intake lagoon water.
- Except for tributyltin, the listed constituents are not monitored as part of the CDP NPDES monitoring program. The listed data are from February 12, 2003 sampling of CDP pilot plant waste streams.
- Projected maximum mass emissions are computed on the basis of the maximum observed concentration at M-001 multiplied by the maximum proposed total discharge flow of 67 mgd (60 mgd RO concentrate flow and 7 mgd filter backwash flow). Values rounded to two significant figures. The listed mass emissions represent mass within intake lagoon water that is recirculated back into the ocean. CDP desalination operations do not result in any discernible concentrations of the above constituents being added to the discharge stream.
- The fish return (Outfall 002) discharge will contain the same concentrations of the above B3 parameters as the Agua Hedionda Lagoon intake water. No specific data are available for the lagoon intake water quality, but the constituent has not been detected in the EPS effluent, the CDP RO concentrate, or the CDP filter backwash. Since the listed constituents have not been detected in any of these streams, it may be concluded that the constituents will also not be detected at these same MLs in the CDP permanent stand-alone influent or Outfall 002 fish return discharge.
- Mass emissions for CDP flows through Outfall 002 (fish return discharge) are computed on the basis of the listed concentration and a maximum daily fish return flow of 1.0 mgd. Total net mass emissions through Outfall 002 will be negative, since only a fraction of a percent of the mass of each dissolved constituent that is removed by the CDP intake will be returned to the lagoon via the fish return discharge.
- Base neutral compound not listed within the EPA Form 2D Group B3 base neutral compounds.
- Pesticide not listed within the EPA Form 2D Group B3 pesticides.
- Quarterly NPDES monitoring of the CDP discharge at Monitoring Location M-001 is conducted. During 2016, tributyltin was not detected in the CDP effluent at M-001 at MLs of 0.0029, 0.0019, 0.0012, and 0.0012 µg/l.

### Acute Toxicity

<b>Outfall 001 Combined CDP Discharge at Monitoring Location M-001</b>	
Sample Date	Acute Toxicity <sup>1</sup> (TUa)
1/15/2016	0.82
1/20/2016	0.66
1/26/2016	0
2/5/2016	0.31
4/12/2016	0.66
7/27/2016	0
10/21/2016	0

<sup>1</sup> Data for 96-hour acute toxicity survival (Pacific Topsmelt) from samples collected from Monitoring Location M-001, as reported in the California Integrated Water Quality System. The 2016 data are for co-located and temporary stand-alone operations. Similar water quality at Monitoring Location M-001 is projected under permanent stand-alone operations.

### Chronic Toxicity

<b>Outfall 001 Combined CDP Discharge</b>		<b>Outfall 001 Combined CDP Discharge</b>		<b>Outfall 001 Combined CDP Discharge</b>		<b>Outfall 001 Combined CDP Discharge</b>	
Sample Date	Chronic Toxicity (TUC)	Sample Date	Chronic Toxicity (TUC)	Sample Date	Chronic Toxicity (TUC)	Sample Date	Chronic Toxicity (TUC)
1/6/2016	16.5	3/29/2016	< 5.9	7/6/2016	40	9/20/2016	< 6.67
1/15/2016	16.5 <sup>2</sup>	3/31/2016	< 5.9 <sup>2</sup>	7/11/2016	10	9/21/2016	< 6.67
1/15/2016	40	4/5/2016	16.5	7/13/2016	> 40	9/25/2016	> 40
2/4/2016	< 2 <sup>2</sup>	4/6/2016	16.5	7/18/2016	40	9/27/2016	< 6.67
2/4/2016	16.5	4/26/2016	5.88	8/1/2016	> 40	9/28/2016	20
2/9/2016	6.67 <sup>2</sup>	4/27/2016	< 6.67	8/5/2016	20	10/4/2016	40
2/9/2016	40	4/28/2016	< 6.67	8/8/2016	16.5	10/11/2016	20
2/23/2016	< 4	4/29/2016	< 6.67	8/10/2016	10	10/19/2016	< 6.67
3/21/2016	< 5.9	5/3/2016	16.5	8/17/2016	< 6.67	10/21/2016	10
3/23/2016	< 5.9	5/24/2016	16.5	8/18/2016	40	10/26/2016	20
3/24/2016	< 5.9	5/25/2016	16.5	8/23/2016	20	11/2/2016	20
3/25/2016	< 5.9	6/17/2016	40	8/31/2016	40	11/4/2016	10
3/26/2016	< 5.9	6/23/2016	20	9/6/2016	20	11/11/2016	16.5
3/27/2016	< 5.9	6/24/2016	20	9/13/2016	40	12/2/2016	< 6.67
3/28/2016	< 5.9	6/30/2016	20	9/15/2016	40	12/14/2016	< 6.67

<sup>1</sup> Data for chronic toxicity tests (EPA/600/R-95/136) conducted on samples from Monitoring Location M-001, as reported in the California Integrated Water Quality System. The 2016 data are for co-located and temporary stand-alone operations.

<sup>2</sup> Split samples run parallel and adjusted to a salinity of 40 ppt.



APPLICATION/REPORT OF WASTE DISCHARGE  
GENERAL INFORMATION FORM FOR  
WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT



VI. OTHER REQUIRED INFORMATION

Please provide a COMPLETE characterization of your discharge. A complete characterization includes, but is not limited to, design and actual flows, a list of constituents and the discharge concentration of each constituent, a list of other appropriate waste discharge characteristics, a description and schematic drawing of all treatment processes, a description of any Best Management Practices (BMPs) used, and a description of disposal methods.

Also include a site map showing the location of the facility and, if you are submitting this application for an NPDES permit, identify the surface water to which you propose to discharge. Please try to limit your maps to a scale of 1:24,000 (7.5' USGS Quadrangle) or a street map, if more appropriate.

VII. OTHER

Attach additional sheets to explain any responses which need clarification. List attachments with titles and dates below:

See attached maps, schematics, data tables, and technical studies

You will be notified by a representative of the RWQCB within 30 days of receipt of your application. The notice will state if your application is complete or if there is additional information you must submit to complete your Application/Report of Waste Discharge, pursuant to Division 7, Section 13260 of the California Water Code.

VIII. CERTIFICATION

"I certify under penalty of law that this document, including all attachments and supplemental information, were prepared under my direction and supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Print Name: Peter M. MacLaggan Title: Vice President  
Signature: [Handwritten Signature] Date: April 10, 2017

FOR OFFICE USE ONLY

Date Form 200 Received:	Letter to Discharger:	Fee Amount Received:	Check #:
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State of California  
Regional Water Quality Control Board  
**APPLICATION/REPORT OF WASTE DISCHARGE  
GENERAL INFORMATION FORM FOR  
WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT**



**A. Facility:**

**I. FACILITY INFORMATION**

Name: Claude "Bud" Lewis Carlsbad Desalination Plant (CDP)			
Address: 4590 Carlsbad Boulevard			
City: Carlsbad	County: San Diego	State: CA	Zip Code: 92008
Contact Person: Peter M. MacLaggan, Vice President		Telephone Number: (760) 655-3999	

**B. Facility Owner:**

Name: Poseidon Resources (Channelside) LP			Owner Type (Check One) 1. <input type="checkbox"/> Individual    2. <input checked="" type="checkbox"/> Corporation 3. <input type="checkbox"/> Governmental Agency    4. <input type="checkbox"/> Partnership Agency 5. <input type="checkbox"/> Other: _____	
Address: 5780 Fleet Street, Suite 140				
City: Carlsbad	State: CA	Zip Code: 92008		
Contact Person: Peter M. MacLaggan, Vice President		Telephone Number: (760) 655-3999	Federal Tax ID: 27-3318194	

**C. Facility Operator (The agency or business, not the person):**

Name: Poseidon Resources (Channelside) LP			Operator Type (Check One) 1. <input type="checkbox"/> Individual    2. <input checked="" type="checkbox"/> Corporation 3. <input type="checkbox"/> Governmental Agency    4. <input type="checkbox"/> Partnership Agency 5. <input type="checkbox"/> Other: _____	
Address: 5780 Fleet Street, Suite 140				
City: Carlsbad	State: CA	Zip Code: 92008		
Contact Person: Peter M. MacLaggan, Vice President		Telephone Number: (760) 655-3999		

**D. Owner of the Land:**

Name: Cabrillo Power I LLC			Owner Type (Check One) 1. <input type="checkbox"/> Individual    2. <input checked="" type="checkbox"/> Corporation 3. <input type="checkbox"/> Governmental Agency    4. <input type="checkbox"/> Partnership Agency 5. <input type="checkbox"/> Other: _____	
Address: 4600 Carlsbad Boulevard				
City: Carlsbad	State: CA	Zip Code: 92008		
Contact Person: Sheila Henika		Telephone Number: (760) 268-4018		

**E. Address Where Legal Notice May Be Served:**

Address: Same as Facility Owner			
City:	State:	Zip Code:	
Contact Person:		Telephone Number:	

**F. Billing Address:**

Address: Same as Facility Owner			
City:	State:	Zip Code:	
Contact Person:		Telephone Number:	



State of California  
Regional Water Quality Control Board  
**APPLICATION/REPORT OF WASTE DISCHARGE  
GENERAL INFORMATION FORM FOR  
WASTE DISCHARGE REQUIREMENTS OR NPDES PERMIT**



**II. TYPE OF DISCHARGE**

Check Type of Discharge(s) Described in this Application (A or B):

- A. WASTE DISCHARGE TO LAND       B. WASTE DISCHARGE TO SURFACE WATER

Check all that apply:

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> Domestic/Municipal Wastewater Treatment and Disposal | <input type="checkbox"/> Animal Waste Solids                      | <input type="checkbox"/> Animal or Aquacultural Wastewater  |
| <input type="checkbox"/> Cooling Water  | <input type="checkbox"/> Land Treatment Unit                      | <input type="checkbox"/> Biosolids/Residual                 |
| <input type="checkbox"/> Mining   | <input type="checkbox"/> Dredge Material Disposal                 | <input type="checkbox"/> Hazardous Waste (see instructions) |
| <input type="checkbox"/> Waste Pile   | <input type="checkbox"/> Surface Impoundment                      | <input type="checkbox"/> Landfill (see instructions)        |
| <input type="checkbox"/> Wastewater Reclamation                               | <input checked="" type="checkbox"/> Industrial Process Wastewater | <input checked="" type="checkbox"/> Storm Water             |

Other, please describe: Outfall 001 Ocean discharge via the Encina Power Station discharge channel - concentrated seawater from seawater desalination process and clarified filter backwash  
Outfall 002 Fish return discharge to Agua Hedionda Lagoon - low pressure rinse water and organisms from closed intake screens

**III. LOCATION OF THE FACILITY**

Describe the physical location of the facility.

Outfall 001  Encina Power Station  Effluent Pond  Discharge Channel

**1. Assessor's Parcel Number(s)**  
Facility: 210-01-43  
Discharge Point:  A

**2. Latitude**  
Facility: 33 08 21  
Discharge Point: 33 08 17  
(Outfall 001)

**3. Longitude**  
Facility: 117 20 06  
Discharge Point: 117 20 22  
(Outfall 001)

Note: Outfall 002 (fish return discharge outfall) discharges to Agua Hedionda Lagoon at 33 08 20 117 20 14

**IV. REASON FOR FILING**

<input type="checkbox"/> New Discharge or Facility	<input type="checkbox"/> Changes in Ownership/Operator (see instructions)
<input checked="" type="checkbox"/> Change in Design or Operation	<input checked="" type="checkbox"/> Waste Discharge Requirements Update or NPDES Permit Reissuance
<input checked="" type="checkbox"/> Change in Quantity/Type of Discharge	<input type="checkbox"/> Other: _____

**V. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)**

Name of Lead Agency: City of Carlsbad and San Diego County Water Authority (SCEWA)

Has a public agency determined that the proposed project is exempt from CEQA?  Yes  No

If Yes, state the basis for the exemption and the name of the agency supplying the exemption on the line below.  
Basis for Exemption/Agency: not applicable

Has a "Notice of Determination" been filed under CEQA?  Yes  No

If Yes, enclose a copy of the CEQA document, Environmental Impact Report, or Negative Declaration. If no, identify the expected type of CEQA document and expected date of completion.

Selected CEQA Documents

EIR       Negative Declaration

Final EIR certified by the City of Carlsbad on 6/13/2006  
First EIR Addendum certified by the City of Carlsbad on 9/15/2009  
Second EIR Addendum certified by SCEWA on 11/29/2012  
Third EIR Addendum certified by SCEWA on 9/26/2013  
Fourth EIR Addendum certified by SCEWA on 7/9/2014