



POSEIDON CHANNELSIDE

a Poseidon Water company

March 1, 2018

Ben Neill
Water Resources Control Engineer
Core Regulatory Unit
San Diego Regional Water Quality Control Board
2375 Northside Drive, Suite 100
San Diego, CA 92123

SUBJECT: Order R9-2006-0065 Discharge Monitoring Report – January, 2018

PROJECT: Carlsbad Desalination Plant (CDP), 4590 Carlsbad Blvd., Carlsbad, CA 92008

Dear Mr. Neill,

Poseidon Resources (Channelside), LP (Discharger) is submitting its monthly discharge monitoring report in compliance with the requirements of the National Pollutant Discharge Elimination System (NPDES) Permit Number CA0109223, Order Number R9-2006-0065. For reference, a summary of the order for the site is presented below:

<u>NPDES Permit</u>	<u>Order No.</u>	<u>Adopted</u>	<u>Order Effective Date</u>
CA0109223	R9-2006-0065	June 14, 2006	October 1, 2006

During the month of January 2018, continuous discharges occurred in accordance with Order R9-2006-0065 (NPDES Permit Number CA0109223). The Discharger self-reported a submittal of an incomplete report for not completing daily analysis as required under Attachment E, Footnote 15 of the Order on January 20th while running a SWRO train off-spec during normal operations and delivering water to the San Diego County Water Authority (SDCWA).

On January 9, 2018 at 6:38 AM a complete plant shutdown occurred due to a power surge on the grid during a heavy storm. On January 9, 2018 at 7:05 AM power was restored and CDP began re-starting the plant. At 2:47pm CDP resumed delivery to the SDCWA. The following flows contributed to the daily operational flow totals discharged through M-001: January 9th – 33.27 MG.

On January 9, 2018 at 6:43 PM, the plant shutdown due to a high false flow meter reading to the SCADA. Flow meter (FIT 200-002/4) read a high false flow of 28,000 gpm to the SCADA, causing the IPS pumps to slow down. The reduction of IPS flow initiated a shortage of filter effluent flow causing a plant shutdown. The Plant was restarted after the meter signal repair and at 8:54pm resumed product delivery to the SDCWA. The following

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flows contributed to the daily operational flow totals discharged through M-001: January 9th – 2.91 MG.

On January 12, 2018 at 11:00 AM Operator placed SWRO Train 10 to off-spec post scheduled maintenance activities. SWRO Train 10 was returned to service on January 13, 2018 at 4:36 PM. CDP maintained normal operations and delivery to SDCWA during this partial maintenance/operational period. The following off-spec flows contributed to the daily operational flow totals discharged through M-001: January 12th – 3.92 MG, January 13th – 5.22 MG.

On January 13, 2018 at 7:03 PM Operator placed SWRO Train 6 to off-spec post scheduled maintenance activities. SWRO Train 6 was returned to service on January 15, 2018 at 11:03 AM. CDP maintained normal operations and delivery to SDCWA during this partial maintenance/operational period. The following off-spec flows contributed to the daily operational flow totals discharged through M-001: January 13th – 1.39 MG, January 14th – 7.31 MG, January 15th – 3.20 MG.

On January 20, 2018 at 8:33 AM Operator placed SWRO Train 7 to off-spec post scheduled maintenance activities. SWRO Train 7 was returned to service on January 22, 2018 at 7:40 AM. CDP maintained normal operations and delivery to SDCWA during this partial maintenance/operational period. The following off-spec flows contributed to the daily operational flow totals discharged through M-001: January 20th – 4.67 MG, January 21st – 7.35 MG, and January 22nd – 2.23 MG.

On January 23, 2018 CDP Operator overflowed the PWT due to changes in production to meet SDCWA production request for the 2:00 PM delivery window. CDP maintained normal operations and delivery to SDCWA during this temporary overflow period. The following PWT overflow contributed to the daily operational flow totals discharged through M-001 January 23rd – 0.59 MG.

On January 24, 2018 CDP Operator overflowed the PWT due to operational mode changes. CDP maintained normal operations and delivery to SDCWA during this temporary overflow period. The following PWT overflow contributed to the daily operational flow totals discharged through M-001 January 24th – 0.08 MG.

Monthly average discharge flows through M-001 for the January 2018 reporting period are as follows: 44.23 MG during normal operating conditions and 46.53 MG combined plant discharges resulting from both normal plant and maintenance mode operations.

Fourteen compliance chronic toxicity samples were collected during the January 2018 reporting period; results of analysis are as follows: January 4th - >40, January 9th - >40, January 9th – 10 TUC, January 12th – 10 TUC, January 13th – 16.5 TUC, January 14th – 16.5

TUc, January 15th – 40 TUc, January 16th - >40 TUc, January 21st – 40 TUc, January 21st – 20 TUc, January 22nd – 16.5 TUc, January 23rd – 40 TUc, January 24th – 40 TUc, January 30th - <6.67 TUc. Chronic toxicity analysis reports were uploaded as attachments in CIWQS for the January 2018 reporting period. The Discharger self-reported eight violations for exceedance of the chronic toxicity limit of 16.5 TUc during the January 2018 reporting period.

In accordance with the Order, a Toxicity Investigation Evaluation (TIE) is being conducted in conformance with a Regional Water Board approved Toxicity Reduction Evaluation (TRE) Plan. The TIE includes investigative toxicity testing to identify the source of the toxicity. Results from the TRE/TIE screening samples collected at M-001 have been uploaded to CIWQS as attachments for the January 2018 reporting period.

The January 2018 chronic toxicity test results are an artifact of the conservative toxicity testing procedure set forth in the NPDES permit for the CDP, and did not result in harm to the environment. Under existing regulations, the CDP is required to meet the toxicity standard after initial mixing occurs. Initial mixing includes the mixing of the CDP's brine discharge with the discharge from the Encina Power Plant (four gallons of seawater exiting the power plant is mixed with every gallon of brine leaving the CDP); and then the combined CDP/power plant discharge receives additional mixing in the ocean prior to reaching the compliance point under the permit that is located 1,000 feet offshore (15 gallons of seawater mixes with every gallon of combined CDP/power plant discharge prior to reaching the compliance point).

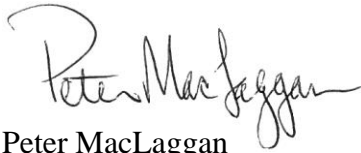
Under the terms of the permit, the CDP is required to test for toxicity at higher discharge concentrations than is actually occurring at the compliance point. This is because the conservative testing regime set forth in the permit fails to take into consideration the initial dilution provided by the power plant.

The Discharger has been conducting two sets of toxicity tests since this problem was first identified in December 2015. For the period beginning December 9, 2015 through January 30, 2018 77 out of 187 monthly, weekly, and daily chronic toxicity samples tested demonstrated some level of toxicity; whereas 61 out of 64 of the samples tested with the full initial dilution provided by the power plant and in the ocean have been below the toxicity limit in the permit. These results effectively demonstrate that the exceedance of the toxicity limit is a result of the failure to account for the dilution provided by the power plant discharge in toxicity monitoring procedure included in the permit, and not an indication of the plant causing toxic conditions in the Pacific Ocean.

The Discharger has been in close communication with the Regional Water Board on the CDP toxicity monitoring and the TIE. Additional sampling and testing will continue in an effort to identify and minimize the source(s) of toxicity.

I Certify under penalty of law that his 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.

Sincerely,

A handwritten signature in cursive script that reads "Peter MacLaggan". The signature is written in black ink and is positioned above the printed name.

Peter MacLaggan