

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

**EXECUTIVE OFFICER SUMMARY REPORT
DECEMBER 11, 2019**

ITEM 10

SUBJECT

NPDES Permit Amendment: An Order Amending Order No. R9-2015-0070, NPDES No. CA0107239, Waste Discharge Requirements for the University of California San Diego-Scripps Institution of Oceanography, Discharge to the Pacific Ocean, San Diego County (Tentative Order No. R9-2019-0176) (*Fisayo Osibodu*).

STAFF RECOMMENDATION

Adoption of the Tentative Order No. R9-2019-0176 (Tentative Order) is recommended (**Supporting Document No. 1**).

KEY ISSUES

1. The Tentative Order proposes a minor modification of Order No. R9-2015-0070 for the limited purpose of providing regulatory permit coverage for a new discharge of treated seawater from aquaria tanks used for conducting research on genetically modified organisms.
2. The San Diego Water Board received written comments from an interested person addressing issues outside the scope of the Tentative Order. The San Diego Water Board provided only high-level written responses because the comments are not pertinent to the Board's consideration of the Tentative Order.

PRACTICAL VISION

Consistent with the mission of the Strategy for Healthy Waters chapter of the Practical Vision¹, the Tentative Order modifies an existing permit, Order No. R9-2015-0070, to provide regulatory coverage for a new discharge of treated seawater from aquaria tanks. The Tentative Order will ensure that the new discharge is subject to applicable technology-based requirements, water quality-based effluent limitations, and receiving water quality standards for optimal protection of water quality and beneficial uses in the Pacific Ocean.

DISCUSSION

The University of California, San Diego (Discharger) owns and operates the Scripps Institution of Oceanography (Facility). The Facility is a research and teaching institution located immediately adjacent to the San Diego - Scripps Area of Special Biological Significance (ASBS), a portion of the Pacific Ocean off the coast of La Jolla, San Diego County (see page 1 of **Supporting Document No. 2**).

The Facility discharges waste seawater, at times co-mingled with urban runoff, to the San Diego - Scripps ASBS under the terms and conditions of an NPDES permit, Order No. R9-2015-0070. Waste discharges to ASBS are prohibited by the California Ocean Plan (Ocean Plan).² State Water Board Resolution No. 2004-0052 granted a limited five-year

¹ The San Diego Water Board's Practical Vision is available at this website:

https://www.waterboards.ca.gov/sandiego/water_issues/Practical_Vision/index.shtml

² See chapter III.E.4(a) of the Ocean Plan. The Ocean Plan is a water quality control plan adopted by the State Water Board for waters for which water quality standards are required by the Clean Water Act. A copy of the California Ocean Plan is available on the State Water Board website at: https://www.waterboards.ca.gov/water_issues/programs/ocean/docs/oceanplan2019.pdf

exception to the Ocean Plan prohibition allowing the discharge from the Facility into the San Diego - Scripps ASBS. On April 21, 2015, the State Water Board adopted a new resolution granting the Discharger an exception to the Ocean Plan prohibition of discharges without an expiration date. The Facility NPDES permit, Order No. R9-2015-0070 incorporates provisions from State Water Board Resolution No. 2004-0052 and the April 21, 2015 State Water Board Resolution to ensure that the discharges from the Facility do not adversely impact the biological communities in the ASBS or compromise protection of ocean waters for beneficial uses. The Facility has complied with these provisions and the Tentative Order is consistent with these provisions.

The Facility utilizes a seawater intake system to pump approximately 0.50 to 0.75 million gallons per day (MGD) of seawater to support the Discharger's research and aquaria activities. The seawater pumped from the ocean is treated by settling tanks, sand filters, and storage tanks prior to being conveyed to laboratories and aquaria within the Facility. Up to 1.25 MGD of seawater from aquaria tanks, filter backwash, filtered seawater from storage tanks, and unfiltered raw seawater is discharged from the Facility back to the Pacific Ocean shoreline via four outfalls: Outfalls 001, 003, 004a, and 004b (see page 2 of **Supporting Document No. 2**). Storm water is also discharged from the Facility to the Pacific Ocean shoreline via Outfall 002.

The Tentative Order will amend Order No. R9-2015-0070 to allow the discharge of treated seawater to the Pacific Ocean from select aquaria tanks at the Facility which will be used for conducting research on genetically modified species. The Discharger has installed a new treatment system which consists of filtration, ultraviolet disinfection, and a protein skimmer with ozone treatment that will treat wastewater/seawater from the aquaria tanks housing genetically modified species. This filtration system utilizes one micrometer pore size filters which are two orders of magnitude smaller than the smallest viable embryos of genetically modified species. In addition, the ultraviolet system, ozone treatment, and protein skimmer will inactivate remaining viable cells in seawater discharged from aquaria tanks. The Facility currently utilizes similar treatment processes at Birch Aquarium and Hubbs Hall (see page 2 of **Supporting Document No. 2**) for treating seawater from aquaria tanks that house non-indigenous species of plants or animals whose historic or native range does not include waters of the State of California.

A maximum of 50,000 gallons per day of treated seawater will be discharged from the aquaria tanks housing genetically modified species. This discharge will not cause the total flow from the Facility to exceed the maximum permitted flow of 1.25 MGD specified in Order No. R9-2015-0070.

The Tentative Order was noticed for a public hearing and released for public review and comment for a thirty-day comment period on October 4, 2019. The San Diego Water Board received a late comment letter from Mr. Craig Carlisle on November 6, 2019, and additional photographs from Mr. Carlisle on November 7, 2019 after the close of the public comment period (**Supporting Document No. 3**). A copy of the comment letter was provided to the Discharger.³ Mr. Carlisle's written comments address issues outside the scope of both the San Diego Water Board's public notice inviting public comments (**Supporting Document No. 4**) and the Tentative Order. When a permit is modified, only the conditions subject to modification are reopened (40 CFR 122.62). The Tentative Order

³ The San Diego Water Board Chair has concluded that acceptance of these communications into the record for this matter will not prejudice any party or the Board because there is ample time for their review and parties and interested persons can comment on them during the public hearing

proposes to amend the Facility's NPDES permit for the limited purpose of allowing the discharge of treated seawater from aquaria tanks used for conducting research on genetically modified organisms. Mr. Carlisle's comments did not address issues pertinent to the terms and conditions of the Tentative Order. Staff has advised Mr. Carlisle that he may resubmit the comments when Order No. R9-2015-0070 is considered for reissuance at a future date.

Although Mr. Carlisle's comments are all outside the scope of the Tentative Order, the main concerns expressed in the letter are summarized in italics and addressed in summary form below for informational purposes only.

1. *There should be no waste discharged into the San Diego-Scripps ASBS.*

The State Water Board Resolution adopted on April 21, 2015 grants a conditional exception from the Ocean Plan prohibition of waste discharge into the ASBS that allows the Discharger to discharge waste into the San Diego-Scripps ASBS. The implementing provisions of the Resolution are incorporated in the Facility NPDES permit (Order No. R9-2015-0070) to ensure the discharge does not adversely affect biological communities in the San Diego-Scripps ASBS or adversely affect beneficial uses of the ocean.

2. *The discharge meets the definition of a Nuisance.*

The term nuisance is defined in Water Code section 13050(m) to mean anything that (1) is injurious to health, indecent or offensive to the senses, or an obstruction to the free use of property so as to interfere with the comfortable enjoyment of life or property; (2) affects an entire community or considerable number of persons; and (3) occurs during, or as a result of, the treatment or disposal of wastes. To constitute a nuisance under the Board's jurisdiction, all three factors cited above must be met. Based on the lack of corroborating complaints from other persons, the Facility's discharges do not appear to be a nuisance issue affecting an entire community or a considerable number of persons. Moreover, compliance with the requirements of Order No. R9-2015-0070 as modified by the Tentative Order should prevent nuisance conditions attributable to the discharge of waste from the Facility.

3. *Given that it is a waste discharge into an ASBS, the San Diego Water Board is not doing enough to determine compliance with the discharge permit, including reviewing and commenting on the decades of reports and studies required by the permits.*

The Facility has complied with provisions incorporated in Order No. R9-2015-0070 for protection of water quality and beneficial uses based on the State Water Board Resolution. The San Diego Water Board reviewed all monitoring reports for compliance with Order No. R9-2015-0070 since its adoption in November 2015. One deficient monitoring violation was identified for a failure to monitor effluent discharge flowrates from March 28, 2019 to May 2, 2019 due to an inaccurate flow meter and subsequently, the Discharger corrected the faulty flow meter. The San Diego Water Board issued a staff enforcement letter on July 31, 2019 for the deficient monitoring violation. Other studies submitted by the Discharger were also reviewed during development of Order No. R9-2015-0070 and will be further evaluated when Order No. R9-2015-0070 is considered for reissuance at a future date.

4. *Although the data regarding the impacts is very limited, elevated metals are reported in mussel tissue at the Scripps Pier.*

The Facility does not utilize chemical additives in its aquaria that contribute metals to the discharge. The Discharger also implements management measures and treatment controls to reduce pollutants in storm water runoff such as using a storm water media filtration system and diversion of dry weather flows to bioswales.⁴ As a result, the discharge is not expected to adversely affect aquatic life. The bioaccumulation study conducted by the Discharger, which reported the elevated concentrations of metals in mussels, also reported the elevated concentrations could be from bases of steel pilings left behind from the temporary steel pier used during the construction and demolition of the Scripps Pier in 1988. The study results referenced in the comment letter are insufficient to conclude that the Facility discharge is causing elevated metal concentrations in mussel tissue.

PUBLIC NOTICE

The Tentative Order was noticed and released for public review on October 3, 2019, with comments due on November 4, 2019. The Notice of Public Hearing and Comment Period was posted on the San Diego Water Board website for the duration of the comment period and sent to all known interested persons by email on October 3, 2019. A copy of the Notice is included as Supporting Document No. 4. Notice of the public hearing on the Tentative Order was also provided in the Meeting Notice and Agenda for the December 11, 2019 Board meeting, which was posted on the San Diego Water Board website.

SUPPORTING DOCUMENTS

1. Tentative Order No. R9-2019-0176
2. Location Map
3. Written Comments from Mr. Craig Carlisle
4. Notice of Public Hearing and Comment Period

⁴ In December 2012 the Discharger enrolled in the statewide Phase II Small Municipal Separate Storm Sewer Systems (MS4) General NPDES Permit (Order No. 2013-0001 DWQ). The source control BMPs developed to prevent dry weather runoff flows from discharging into the ASBS and to reduce pollutant loadings into the ASBS during storm events are part of the Discharger's Storm Water Management Plan required under Order No. 2013-0001 DWQ.