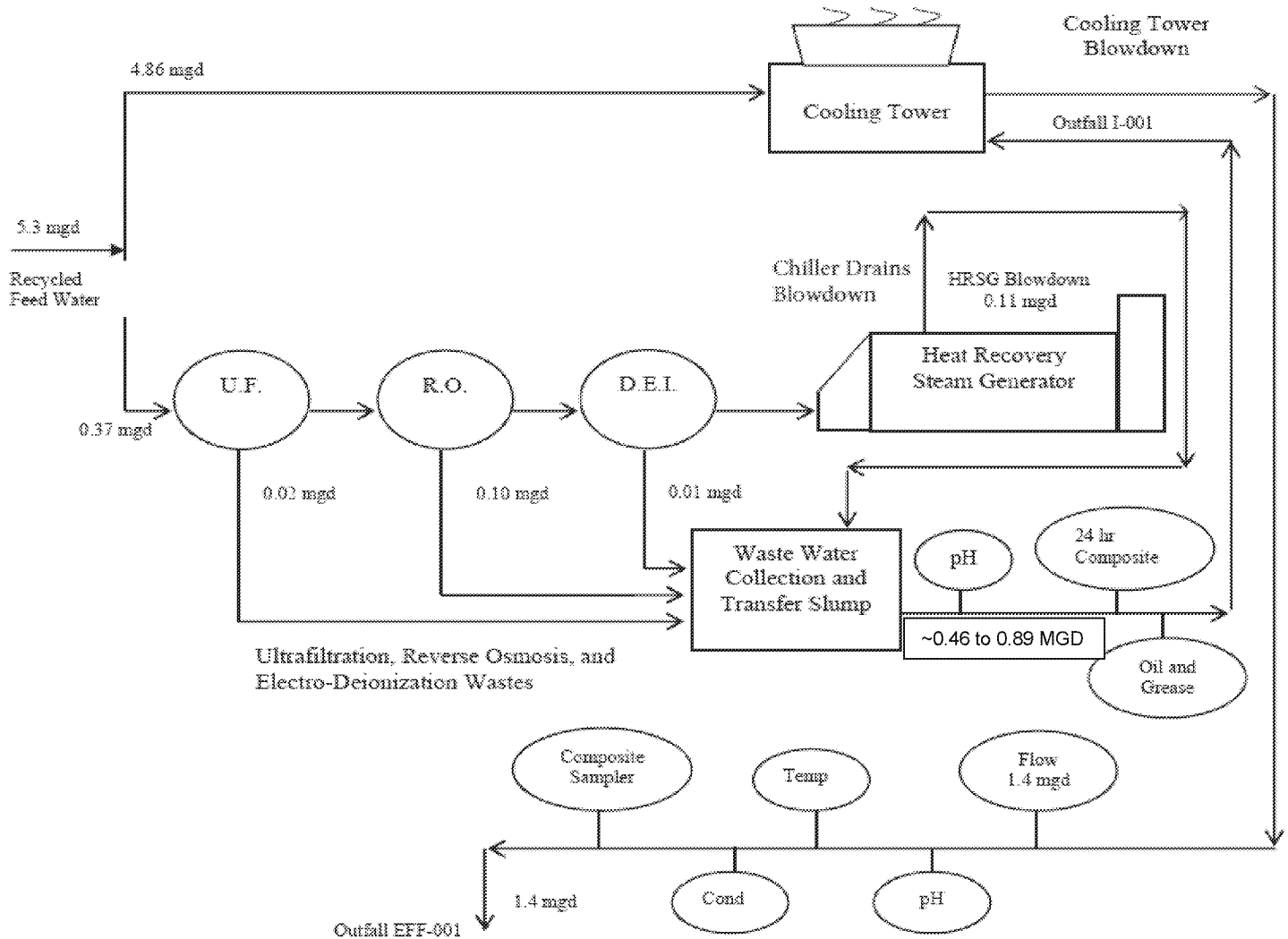
ATTACHMENT C – FLOW SCHEMATIC



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ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code (Water Code) and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 CFR sections 122.41(a); Water Code, sections 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 CFR section 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 CFR section 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 CFR section 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 CFR section 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 CFR section 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations. (40 CFR section 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board), State Water Resources Control Board (State Water Board), U.S. Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (33 United States Code

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(U.S.C.) section 1318(a)(4)(b); 40 CFR section 122.41(i); Water Code, sections 13267, 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C. section 1318(a)(4)(b)(i); 40 CFR section 122.41(i)(1); Water Code, sections 13267, 13383);
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. section 1318(a)(4)(b)(ii); 40 CFR section 122.41(i)(2); Water Code, sections 13267, 13383);
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C. section 1318(a)(4)(b)(ii); 40 CFR section 122.41(i)(3); Water Code, sections 13267, 13383); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C. section 1318(a)(4)(b); 40 CFR section 122.41(i)(4); Water Code, sections 13267, 13383.)

G. Bypass

1. Definitions
   a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR section 122.41(m)(1)(i).)
   b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 CFR section 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 CFR section 122.41(m)(2).)
3. Prohibition of bypass. Bypass is prohibited, and the San Diego Water Board may take enforcement action against a Discharger for bypass, unless (40 CFR section 122.41(m)(4)(i)):
   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR section 122.41(m)(4)(i)(A));
   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 CFR section 122.41(m)(4)(i)(B)); and
   c. The Discharger submitted notice to the San Diego Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 CFR section 122.41(m)(4)(i)(C).)

4. The San Diego Water Board may approve an anticipated bypass, after considering its adverse effects, if the San Diego Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 CFR section 122.41(m)(4)(ii).)

5. Notice

   a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass. The notice shall be sent to the San Diego Water Board. (40 CFR section 122.41(m)(3)(i).)

   b. Unanticipated bypass. The Discharger shall submit a notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). The notice shall be sent to the San Diego Water Board. (40 CFR section 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 CFR section 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 CFR section 122.41(n)(2).)

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 CFR section 122.41(n)(3)):

   a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 CFR section 122.41(n)(3)(i));

   b. The permitted facility was, at the time, being properly operated (40 CFR section 122.41(n)(3)(ii));

   c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 CFR section 122.41(n)(3)(iii)); and

   d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 CFR section 122.41(n)(3)(iv).)

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 CFR section 122.41(n)(4).)

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II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 CFR section 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 CFR section 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the San Diego Water Board. The San Diego Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 CFR sections 122.41(l)(3), 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 CFR section 122.41(j)(1).)

B. Monitoring must be conducted according to test procedures approved under 40 CFR part 136 for the analyses of pollutants unless another method is required under 40 CFR chapter 1, subchapters N or O. Monitoring must be conducted according to sufficiently sensitive test methods approved under 40 CFR part 136 for the analysis of pollutants or pollutant parameters or as required under 40 CFR chapter 1, subchapter N or O. For the purposes of this paragraph, a method is sufficiently sensitive when:

1. The method minimum level (ML) is at or below the level of the most stringent effluent limitation established in the permit for the measured pollutant or pollutant parameter, and either the method ML is at or below the level of the most stringent applicable water quality criterion for the measured pollutant or pollutant parameter or the method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in the facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or

2. The method has the lowest ML of the analytical methods approved under 40 CFR part 136 or required under 40 CFR chapter 1, subchapter N or O for the measured pollutant or pollutant parameter.

   In the case of pollutants or pollutant parameters for which there are no approved methods under 40 CFR part 136 or otherwise required under 40 CFR chapter 1, subchapters N or O, monitoring must be conducted according to a test procedure specified in this Order for such pollutants or pollutant parameters. (40 CFR sections 122.21(e)(3), 122.41(j)(4), 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the San Diego Water Board Executive Officer at any time. (40 CFR section 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 CFR section 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 CFR section 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 CFR section 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 CFR section 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 CFR section 122.41(j)(3)(v)); and
6. The results of such analyses. (40 CFR section 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 CFR section 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 CFR section 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 CFR section 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the San Diego Water Board, State Water Board, or USEPA within a reasonable time, any information which the San Diego Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the San Diego Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 CFR section 122.41(h); Water Code, sections 13267, 13383.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the San Diego Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, V.B.5, and V.B.6 below. (40 CFR section 122.41(k).)
2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 CFR section 122.22(a)(3).).
3. All reports required by this Order and other information requested by the San Diego Water Board, State Water Board, or USEPA shall be signed by a person described in

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Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 CFR section 122.22(b)(1));

b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 CFR section 122.22(b)(2)); and

c. The written authorization is submitted to the San Diego Water Board and State Water Board. (40 CFR section 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the San Diego Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR section 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following 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." (40 CFR section 122.22(d).)

6. Any person providing the electronic signature for documents described in Standard Provisions – V.B.1, V.B.2, or V.B.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting V.B, and shall ensure that all relevant requirements of 40 CFR part 3 (Cross-Media Electronic Reporting) and 40 CFR part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 CFR section 122.22(e).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR section 122.41(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the San Diego Water Board or State Water Board for reporting the results of monitoring, sludge use, or disposal practices. As of December 21, 2016, all reports and forms must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J and comply with 40 CFR part 3, 40 CFR section 122.22, and 40 CFR part 127. (40 CFR section 122.41(l)(4)(i).)

3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR part 136, or another method required for

an industry-specific waste stream under 40 CFR chapter 1, subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the San Diego Water Board. (40 CFR section 122.41(l)(4)(ii).)

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 CFR section 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 CFR section 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A report shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

   For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (i.e., combined sewer overflow, sanitary sewer overflow, or bypass event), type of overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volume untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the event, and whether the noncompliance was related to wet weather.

   As of December 21, 2020, all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting V.J. The reports shall comply with 40 CFR part 3, 40 CFR section 122.22, and 40 CFR part 127. The San Diego Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 CFR section 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours:

   a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR section 122.41(l)(6)(ii)(A).)

   b. Any upset that exceeds any effluent limitation in this Order. (40 CFR section 122.41(l)(6)(ii)(B).)

3. The San Diego Water Board may waive the above required written report on a case-by-case basis if an oral report has been received within 24 hours. (40 CFR section 122.41(l)(6)(ii)(B).)

F. Planned Changes

The Discharger shall give notice to the San Diego Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 CFR section 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 CFR section 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 CFR section 122.41(l)(1)(ii).

   The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 CFR section 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the San Diego Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order's requirements. (40 CFR section 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in Standard Provision – Reporting V.E and the applicable required data in appendix A to 40 CFR part 127. The San Diego Water Board may also require the Discharger to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section. (40 CFR section 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the San Diego Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 CFR section 122.41(l)(8).)

J. Initial Recipient for Electronic Reporting Data

The owner, operator, or the duly authorized representative is required to electronically submit NPDES information specified in appendix A to 40 CFR part 127 to the initial recipient defined in 40 CFR section 127.2(b). USEPA will identify and publish the list of initial recipients on its website and in the Federal Register, by State and by NPDES data group [see 40 CFR section 127.2(c)]. USEPA will update and maintain this listing.
(40 CFR section 122.41(l)(9).)

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VI. STANDARD PROVISIONS – ENFORCEMENT

The San Diego Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13268, 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the San Diego Water Board as soon as they know or have reason to believe (40 CFR section 122.42(a)):

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 CFR section 122.42(a)(1)):
    a. 100 micrograms per liter (µg/L) (40 CFR section 122.42(a)(1)(i));
    b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 CFR section 122.42(a)(1)(ii));
    c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 CFR section 122.42(a)(1)(iii)); or
    d. The level established by the San Diego Water Board in accordance with section 122.44(f). (40 CFR section 122.42(a)(1)(iv).)
2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels" (40 CFR section 122.42(a)(2)):
    a. 500 µg/L (40 CFR section 122.42(a)(2)(i));
    b. 1 milligram per liter (mg/L) for antimony (40 CFR section 122.42(a)(2)(ii));
    c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (ROWD) (40 CFR section 122.42(a)(2)(iii)); or
    d. The level established by the San Diego Water Board in accordance with 40 CFR section 122.44(f). (40 CFR section 122.42(a)(2)(iv).)

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Section 308 of the federal Clean Water Act (CWA) and sections 122.41(h), (j)-(l), 122.44(i), and 122.48 of title 40 of the Code of Federal Regulations (40 CFR) require that all National Pollutant Discharge Elimination System (NPDES) permits specify monitoring and reporting requirements. California Water Code (Water Code) sections 13267 and 13383 also authorize the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. Pursuant to this authority this MRP establishes conditions for the San Diego Gas and Electric Company (Discharger) to conduct routine or episodic self-monitoring of the discharges regulated under this Order at specified effluent and receiving water monitoring locations. This MRP requires the Discharger to report the results to the San Diego Water Board with information necessary to evaluate discharge characteristics and compliance status.

The purpose of this MRP is to determine and ensure compliance with effluent limitations and other requirements established in this Order, assess treatment efficiency, characterize effluents, and characterize the receiving water and the effects of the discharge on the receiving water. This MRP also specifies requirements concerning the proper use, maintenance, and installation of monitoring equipment and methods, and the monitoring type intervals and frequency necessary to yield data that are representative of the activities and discharges regulated under this Order.

Each monitoring section contains an introductory paragraph summarizing why the monitoring is needed and the key management questions the monitoring is designed to answer. In developing the list of key management questions, the San Diego Water Board considered four basic types of information for each question:

(1) Management Information Need – Why does the San Diego Water Board need to know the answer?

(2) Monitoring Criteria – What monitoring will be conducted for deriving an answer to the question?

(3) Expected Product – How should the answer be expressed and reported?

(4) Possible Management Actions – What actions will be potentially influenced by the answer?

The framework for this monitoring program has three components that comprise a range of spatial and temporal scales: 1. core monitoring, 2. regional monitoring, and 3. special studies.

1. Core monitoring consists of the basic site-specific monitoring necessary to measure compliance with individual effluent limitations and/or impacts to receiving water quality. Core monitoring is typically conducted in the immediate vicinity of the discharge by examining local scale spatial effects.

2. Regional monitoring provides information necessary to make assessments over large areas and serves to evaluate cumulative effects of all anthropogenic inputs. Regional monitoring data also assists in the interpretation of core monitoring studies. In the event that a regional monitoring effort takes place during the permit cycle in which this MRP does not specifically address regional monitoring, the San Diego Water Board may allow relief from aspects of core monitoring components in order to encourage participation pursuant to section V of this MRP.

3. Special studies are directed monitoring efforts designed in response to specific management or research questions identified through either core or regional monitoring programs. Often, they are used to help understand core or regional monitoring results, where a specific environmental process is not well understood, or to address unique issues of local importance.

I. GENERAL MONITORING PROVISIONS

A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in section II, Table E-1 and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the San Diego Water Board.

B. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurement is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than ±5 percent from true discharge rates throughout the range of expected discharge volumes.

C. Monitoring must be conducted according to U.S. Environmental Protection Agency (USEPA) test procedures approved at 40 CFR part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the CWA*, as amended, or unless other test procedures are specified in this Order and attachments thereof or otherwise specified by the San Diego Water Board.

D. All analyses shall be performed in a laboratory certified to perform such analyses by the State Water Resource Control Board (State Water Board), Division of Drinking Water (DDW) or a laboratory approved by the San Diego Water Board. The laboratory must be accredited under the DDW Environmental Laboratory Accreditation Program (ELAP) to ensure the quality of analytical data used for regulatory purposes to meet the requirements of this Order. Additional information on ELAP can be accessed at http://www.waterboards.ca.gov/drinking_water/certlic/labs/index.shtml.

E. Records of monitoring information shall include information required under Standard Provision, Attachment D, section IV.

F. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year, or more frequently, to ensure continued accuracy of the devices (i.e., no more than 12 months between calibrations for the flow measurement devises).

G. The Discharger shall have, and implement, an acceptable written quality assurance (QA) plan for laboratory analyses. Duplicate chemical analyses must be conducted on a minimum of 10 percent of the samples or at least one sample per month, whichever is greater. A similar frequency shall be maintained for analyzing spiked samples. The Discharger shall have a success rate equal to or greater than 80 percent.

H. When requested by USEPA or the San Diego Water Board, the Discharger shall participate in the NPDES Discharge Monitoring Report QA (DMR-QA) performance study. If the DMR-QA is not requested, the Discharger shall submit the most recent Water Pollution Performance Evaluation Study. The Discharger shall ensure that the results of the DMR-QA Study or the most recent Water Pollution Performance Evaluation Study are submitted annually by December 31 to the State Water Resources Control Board at the following address:

State Water Resources Control Board Quality Assurance Program Officer
Office of Information Management and Analysis
State Water Resources Control Board
1001 I Street, Sacramento, CA 95814

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I. Analysis for toxic pollutants, including chronic toxicity, with effluent limitations or performance goals based on water quality objectives and criteria of the *Water Quality Control Plan for the San Diego Basin* (Basin Plan) and the *Water Quality Control Plan, Ocean Waters of* California*, California Ocean Plan* (Ocean Plan) shall be conducted in accordance with procedures described in the Ocean Plan and restated in this MRP.

II. MONITORING LOCATION

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
I-001	I-001	The Palomar Energy Center (PEC or Facility) low volume waste sources, at the wastewater collection and transfer sump.
001	EFF-001	The PEC cooling tower blowdown (including all low volume waste sources that were pumped into the cooling tower), prior to combining with wastewaters in the Industrial Brine Collection System (IBCS), other wastewaters in the Escondido Land Outfall (ELO) line, and/or other wastewater in the San Elijo Ocean Outfall (SEOO), where a representative sample can be obtained.

III. CORE MONITORING REQUIREMENTS

A. Influent Monitoring Requirements – Not Applicable

B. Effluent Monitoring Requirements

Effluent monitoring is the collection and analysis of samples or measurements of effluents, after all treatment processes, to determine and quantify contaminants and to demonstrate compliance with applicable effluent limitations, standards, and other requirements of this Order.

Effluent monitoring is necessary to address the following questions:

(1) Does the effluent comply with permit effluent limitations, performance goals, and other requirements of this Order, thereby ensuring that water quality standards are achieved in the receiving water?

(2) What is the mass of parameters that are discharged daily, monthly, or annually?

(3) Is the effluent concentration or mass changing over time?

(4) Is the Facility being properly operated and maintained to ensure compliance with the conditions of this Order?

1. Monitoring Location EFF-001

The Discharger shall monitor the effluent at Monitoring Location EFF-001 as provided in Table E.2 below.

Table E-2. Effluent Monitoring at Monitoring Location EFF-001[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	million gallons per day (MGD)	Continuous	Continuous	--
Free Available Chlorine	µg/L	Grab	1/Month[2]	[3]
Temperature	°F	Grab	1/Month	[3]
Total Suspended Solids (TSS)	mg/L	24-hr composite	1/Month	[3]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Dissolved Solids (TDS)	mg/L	24-hr composite	1/Month	[3]
pH	standard units (SU)	Grab	1/Month	[3]
PARAMETERS FOR PROTECTION OF MARINE AQUATIC LIFE[5]				
Arsenic, Total Recoverable	µg/L	24-hr Composite	2/Year[2]	[3]
Cadmium, Total Recoverable	µg/L	24-hr Composite	2/Year[2]	[3]
Chromium (VI), Total Recoverable[4]	µg/L	24-hr Composite	2/Year[2]	[3]
Copper, Total Recoverable	µg/L	24-hr Composite	2/Year[2]	[3]
Lead, Total Recoverable	µg/L	24-hr Composite	2/Year[2]	[3]
Mercury, Total Recoverable	µg/L	24-hr Composite	2/Year[2]	[3]
Nickel, Total Recoverable	µg/L	24-hr Composite	2/Year[2]	[3]
Selenium, Total Recoverable	µg/L	24-hr Composite	2/Year[2]	[3]
Silver, Total Recoverable	µg/L	24-hr Composite	2/Year[2]	[3]
Zinc, Total Recoverable	µg/L	24-hr Composite	2/Year[2]	[3]
Cyanide, Total	µg/L	24-hr Composite	2/Year[2]	[3,5]
Total Chlorine Residual	µg/L	Grab	1/Week[2]	[3]
Ammonia Nitrogen, Total (as N)	µg/L	24-hr Composite	2/Year[2]	[3]
Chronic Toxicity	Pass/Fail; % Effect	24-hr Composite	2/Year	[6]
Phenolic Compounds (nonchlorinated)[1]	µg/L	24-hr Composite	2/Year[2]	[3]
Chlorinated Phenolics[1]	µg/L	24-hr Composite	2/Year[2]	[3]
Endosulfan[1]	µg/L	24-hr Composite	2/Year[2]	[3]
Endrin	µg/L	24-hr Composite	2/Year[2]	[3]
HCH (BHC)[1]	µg/L	24-hr Composite	2/Year[2]	[3]
Radioactivity	pCi/L	24-hr Composite	2/Year[2]	[3]
PARAMETERS FOR PROTECTION OF HUMAN HEALTH – NONCARCINOGENS[5]				
Acrolein	µg/L	Grab	2/Year[2]	[3]
Antimony, Total Recoverable	µg/L	24-hr Composite	2/Year[2]	[3]
Bis (2-chloroethoxy) Methane	µg/L	24-hr Composite	2/Year[2]	[3]
Bis (2-chloroisopropyl) Ether	µg/L	24-hr Composite	2/Year[2]	[3]
Chlorobenzene	µg/L	Grab	2/Year[2]	[3]
Chromium (III), Total Recoverable[4]	µg/L	24-hr Composite	2/Year[2]	[3]
Di-n-butyl Phthalate	µg/L	24-hr Composite	2/Year[2]	[3]
Dichlorobenzenes[1]	µg/L	Grab	2/Year[2]	[3]
Diethyl Phthalate	µg/L	24-hr Composite	2/Year[2]	[3]
Dimethyl Phthalate	µg/L	24-hr Composite	2/Year[2]	[3]
4,6-dinitro-2-methylphenol	µg/L	24-hr Composite	2/Year[2]	[3]
2,4-dinitrophenol	µg/L	24-hr Composite	2/Year[2]	[3]
Ethylbenzene	µg/L	Grab	2/Year[2]	[3]
Fluoranthene	µg/L	24-hr Composite	2/Year[2]	[3]
Hexachlorocyclopentadiene	µg/L	24-hr Composite	2/Year[2]	[3]
Nitrobenzene	µg/L	24-hr Composite	2/Year[2]	[3]
Thallium, Total Recoverable	µg/L	24-hr Composite	2/Year[2]	[3]
Toluene	µg/L	Grab	2/Year[2]	[3]
Tributyltin	µg/L	24-hr Composite	2/Year[2]	[3]
1,1,1-trichloroethane	µg/L	Grab	2/Year[2]	[3]
PARAMETERS FOR PROTECTION OF HUMAN HEALTH – CARCINOGENS[5]				
Acrylonitrile	µg/L	Grab	2/Year[2]	[3]
Aldrin	µg/L	24-hr Composite	2/Year[2]	[3]
Benzene	µg/L	Grab	2/Year[2]	[3]
Benzidine	µg/L	24-hr Composite	2/Year[2]	[3]
Beryllium, Total Recoverable	µg/L	24-hr Composite	2/Year[2]	[3]
Bis (2-chloroethyl) Ether	µg/L	24-hr Composite	2/Year[2]	[3]
Bis (2-ethlyhexyl) Phthalate	µg/L	24-hr Composite	2/Year[2]	[3]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Carbon Tetrachloride	µg/L	Grab	2/Year[2]	[3]
Chlordane[1]	µg/L	24-hr Composite	2/Year[2]	[3]
Chlorodibromomethane (dibromochloromethane)	µg/L	Grab	2/Year[2]	[3]
Chloroform	µg/L	Grab	2/Year[2]	[3]
DDT[1]	µg/L	24-hr Composite	2/Year[2]	[3]
1,4-dichlorobenzene	µg/L	Grab	2/Year[2]	[3]
3,3'-dichlorobenzidine	µg/L	24-hr Composite	2/Year[2]	[3]
1,2-dichloroethane	µg/L	Grab	2/Year[2]	[3]
1,1-dichloroethylene	µg/L	Grab	2/Year[2]	[3]
Dichlorobromomethane	µg/L	Grab	2/Year[2]	[3]
Dichloromethane (Methylene Chloride)	µg/L	Grab	2/Year[2]	[3]
1,3-dichloropropene (1,3-Dichloropropylene)	µg/L	Grab	2/Year[2]	[3]
Dieldrin	µg/L	24-hr Composite	2/Year[2]	[3]
2,4-dinitrotoluene	µg/L	24-hr Composite	2/Year[2]	[3]
1,2-diphenylhydrazine	µg/L	24-hr Composite	2/Year[2]	[3]
Halomethanes[1]	µg/L	Grab	2/Year[2]	[3]
Heptachlor	µg/L	24-hr Composite	2/Year[2]	[3]
Heptachlor Epoxide	µg/L	24-hr Composite	2/Year[2]	[3]
Hexachlorobenzene	µg/L	24-hr Composite	2/Year[2]	[3]
Hexachlorobutadiene	µg/L	24-hr Composite	2/Year[2]	[3]
Hexachloroethane	µg/L	24-hr Composite	2/Year[2]	[3]
Isophorone	µg/L	24-hr Composite	2/Year[2]	[3]
N-nitrosodimethylamine	µg/L	24-hr Composite	2/Year[2]	[3]
N-nitrosodi-N-propylamine	µg/L	24-hr Composite	2/Year[2]	[3]
N-nitrosodiphenylamine	µg/L	24-hr Composite	2/Year[2]	[3]
polycyclic aromatic hydrocarbons (PAHs)[1]	µg/L	24-hr Composite	2/Year[2]	[3]
polychlorinated biphenyls (PCBs)[1]	µg/L	24-hr Composite	2/Year[2]	[3]
TCDD equivalents[1]	µg/L	24-hr Composite	2/Year[2]	[3]
1,1,2,2-tetrachloroethane	µg/L	Grab	2/Year[2]	[3]
Tetrachloroethylene (Tetrachloroethene)	µg/L	Grab	2/Year[2]	[3]
Toxaphene	µg/L	24-hr Composite	2/Year[2]	[3]
Trichloroethylene (Trichloroethene)	µg/L	Grab	2/Year[2]	[3]
1,1,2-trichloroethane	µg/L	Grab	2/Year[2]	[3]
2,4,6-trichlorophenol	µg/L	24-hr Composite	2/Year[2]	[3]
Vinyl Chloride	µg/L	Grab	2/Year[2]	[3]

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order
2. The Discharger shall calculate and report the mass emission rate (MER) of the parameter for each sample taken. The MER shall be calculated in accordance with section VII.I.4 of this Order.
3. As required under 40 CFR part 136.
4. The Discharger may, at their option, apply this performance goal as a total chromium performance goal and monitor for total recoverable chromium in lieu of total recoverable chromium (III) or total recoverable chromium (VI). If the Discharger uses this option, the Discharger does not need to conduct duplicate sampling for total chromium (i.e., the Discharger is only required to conduct monthly monitoring for total chromium).
5. If a Discharger can demonstrate to the satisfaction of the San Diego Water Board (subject to USEPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, performance goals may be evaluated with the combined measurement of free cyanide, simple alkali metals cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 CFR part 136, as revised May 14, 1999.
6. Applicable to chronic toxicity as specified in section VII.K of this Order and section III.C of this MRP (Attachment E).

2. Monitoring Location I-001

The Discharger shall monitor the effluent at Monitoring Location I-001 as follows:

Table E-3. Effluent Monitoring at Monitoring Location I-001[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow[2]	MGD	Continuous	Continuous	--
pH	SUs	Grab	1/Month	[4]
Total Suspended Solids (TSS)	mg/L	24-hr composite	1/Month	[4]
	lbs/day[3]	Calculated		
Oil and Grease	mg/L	Grab	1/Month	[4]
	lbs/day[3]	Calculated		

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
2. Flow shall be monitored prior to combining with any other waste stream.
3. The Discharger shall calculate and report the MER of the parameter for each sample taken. The MER shall be calculated in accordance with section VII.I.4 of this Order.
4. Pollutants shall be analyzed using the analytical methods described in 40 CFR part 136.

C. Whole Effluent Toxicity (WET) Testing Requirements

The WET refers to the overall aggregate toxic effect of an effluent measured directly by an aquatic toxicity test(s). The control of WET is one approach this Order uses to control the discharge of toxic pollutants. WET tests evaluate 1) the aggregate toxic effects of all chemicals in the effluent including additive, synergistic, or antagonistic toxicity effects; 2) the toxicity effects of unmeasured chemicals in the effluent; and 3) the variability in bioavailability of the chemicals in the effluent.

Monitoring to assess the overall toxicity of the effluent is required to answer the following questions:

(1) Does the effluent meet the performance goal for toxicity thereby ensuring that water quality standards are achieved in the receiving water?

(2) If the effluent does not meet the performance goal for toxicity, are unmeasured pollutants causing risk to aquatic life?

(3) If the effluent does not meet the performance goal for toxicity, are pollutants in combinations causing risk to aquatic life?

1. Discharge In-stream Waste Concentration (IWC) for Chronic Toxicity

The chronic IWC is calculated by dividing 100 percent by the dilution factor. The chronic toxicity IWC is 0.42 percent effluent.

2. Sample Volume and Holding Time

The total sample volume shall be determined by the specific toxicity test method used. Sufficient sample volume shall be collected to perform the required toxicity test. Sufficient sample volume of the effluent shall also be collected during accelerated monitoring for subsequent Toxicity Identification Evaluation (TIE) studies, if necessary, at each sampling event. All toxicity tests shall be conducted as soon as possible following sample collection. No more than 36 hours shall elapse before the conclusion of sample collection and test initiation.

3. Chronic Marine Species and Test Methods

If effluent samples are collected from outfalls discharging to receiving waters with salinity >one part per thousand (ppt), the Discharger shall conduct the following chronic toxicity tests on effluent samples, at the Discharge IWC (0.42 percent effluent), in accordance with species and test methods in *Short-Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to West Coast Marine Estuarine Organisms* (EPA/600/R-95/136, 1995). Artificial sea salts or hypersaline brine shall be used to increase sample salinity if needed. In no case shall these species be substituted with another test species unless written authorization from the San Diego Water Board is received.

a. A static renewal toxicity test with the topsmelt, *Atherinops affinis* (Larval Survival and Growth Test Method 1006.01).

b. A static non-renewal toxicity test with the purple sea urchin, *Strongylocentrotus purpuratus*/sand dollar, *Dendraster excentricus* (Fertilization Test Method 1008.0); or a static non-renewal toxicity test with the red abalone, *Haliotis rufescens* (Larval Shell Development Test Method).

c. A static non-renewal toxicity test with the giant kelp, *Macrocystis pyrifera* (Germination and Growth Test Method 1009.0).

4. Species Sensitivity Screening

Species sensitivity screening shall be conducted during this Order's first required sample collection, or within 24 months of most recent screening, whichever is later. The Discharger shall collect a single effluent sample to initiate and concurrently conduct three toxicity tests using the fish, an invertebrate, and the alga species previously referenced. This sample shall also be analyzed for the parameters required on a monthly frequency for the discharge, during that given month. As allowed under the test method for the *Atherinops affinis*, a second and third sample shall be collected for use as test solution renewal water as the seven-day toxicity test progresses. If the result of all three species is "Pass," then the species that exhibits the highest "Percent Effect" at the discharge IWC during species sensitivity screening shall be used for routine monitoring. If only one species fails, then that species shall be used for routine monitoring. Likewise, if two or more species result in "Fail," then the species that exhibits the highest "Percent Effect" at the discharge IWC during the suite of species sensitivity screening shall be used for routine monitoring.

Species sensitivity rescreening is required every 24 months. The Discharger shall rescreen with the marine vertebrate species, a marine invertebrate species, and the alga species previously referenced, and continue to monitor with the most sensitive species. If the first suite of rescreening tests demonstrates that the same species is the most sensitive, then the rescreening does not need to include more than one suite of tests. If a different species is the most sensitive or if there is ambiguity, then the Discharger may proceed with suites of screening tests for a minimum of three, but not to exceed five suites.

The species used during routine monitoring shall be the most sensitive species from the most recent species sensitivity screening.

During the calendar month, toxicity tests used to determine the most sensitive test species shall be reported as effluent monitoring results for the chronic toxicity performance goal.

5. Quality Assurance (QA) and Additional Requirements

The QA measures, instructions, and other recommendations and requirements are found in the test methods manual previously referenced. Additional requirements are specified below.

a. The discharge is subject to determination of "Pass" or "Fail" from a chronic toxicity test using the Test of Significant Toxicity (TST) statistical t-test approach described in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833- R-10-003, 2010), Appendix A, Figure A-1 and Table A-1 and Appendix B, Table B-1. The null hypothesis (Ho) for the TST statistical approach is: Mean discharge IWC response ≤0.75 × Mean control response. A test result that rejects this null hypothesis is reported as "Pass." A test result that does not reject this null hypothesis is reported as "Fail." This is a t-test (formally Student's t-test), a statistical analysis comparing two sets of replicate observations—in the case of WET, only two test concentrations (i.e., a control and IWC). The purpose of this statistical test is to determine if the means of the two sets of observations are different (i.e., if the IWC or receiving water concentration differs from the control (the test result is "Pass" or "Fail"). The Welch's t-test employed by the TST statistical approach is an adaptation of Student's t-test and is used with two samples having unequal variances. The relative "Percent Effect" at the discharge IWC is defined and reported as: ((Mean control response - Mean discharge IWC response) ÷ Mean control response) × 100.

b. If the effluent toxicity test does not meet all test acceptability criteria (TAC) specified in the referenced test method, *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995), the test should be declared invalid, then the Discharger must resample and re-test within 14 days of test termination.

c. Dilution water and control water, including brine controls, shall be 1-µm-filtered uncontaminated natural seawater, hypersaline brine prepared using uncontaminated natural seawater, or laboratory water prepared and used as specified in the test methods manual. If dilution water and control water is different from test organism culture water, then a second control using culture water shall also be used.

d. Monthly reference toxicant testing is sufficient. All reference toxicant test results should be reviewed and reported using the effects concentration at 25 percent (EC25).

e. The Discharger shall perform toxicity tests on final effluent samples. Chlorine and ammonia shall not be removed from the effluent sample prior to toxicity testing, unless explicitly authorized under this section of this MRP and the rationale is explained in the Fact Sheet (Attachment F).

6. Preparation of an Initial Investigation Toxicity Reduction Evaluation (TRE) Work Plan

The Discharger shall prepare and submit a copy of the Discharger's Initial Investigation TRE Work Plan to the San Diego Water Board for approval within 90 days of the effective date of this Order. If the San Diego Water Board does not disapprove the work plan within 60 days, the work plan shall become effective. The Discharger shall use USEPA manual, *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, 1989), or most current version, as guidance. At a minimum, the work plan must contain the provisions in Attachment I, *Generic Toxicity*

Reduction Evaluation (TRE) Work Plan. The Initial Investigation TRE Work Plan shall describe the steps that the Discharger intends to follow if toxicity is detected, and shall include, at a minimum:

a. A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency;

b. A description of the Facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in the operation of the Facility; and

c. If a TIE is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor).

7. Accelerated Monitoring Schedule for Maximum Daily Single Result: "Fail"

The Maximum Daily single result shall be used to determine if accelerated testing needs to be conducted.

Once the Discharger becomes aware of this result, the Discharger shall notify the San Diego Water Board and implement an accelerated monitoring schedule within five calendar days of the receipt of the result. However, if the sample is contracted out to a commercial laboratory, the Discharger shall ensure that the San Diego Water Board is notified and the first of four accelerated monitoring tests is initiated within seven calendar days of the Discharger becoming aware of the result. The accelerated monitoring schedule shall consist of four toxicity tests (including the discharge IWC), conducted at approximately two-week intervals, over an eight-week period; in preparation for the TRE process and associated reporting, these results shall also be reported using the EC25. If each of the accelerated toxicity tests results in "Pass," the Discharger shall return to routine monitoring for the next monitoring period. If one of the accelerated toxicity tests results in "Fail," the Discharger shall immediately implement the TRE Process conditions set forth below. During accelerated monitoring schedules, only TST results ("Pass" or "Fail" and "Percent Effect") for chronic toxicity tests shall be reported as effluent monitoring results for the chronic toxicity performance goal.

8. TRE Process

During the TRE Process, minimum effluent monitoring shall resume and TST results ("Pass" or "Fail" and "Percent Effect") for chronic toxicity tests shall be reported as effluent monitoring results for the chronic toxicity performance goal.

a. Preparation and Implementation of Detailed TRE Work Plan. The Discharger shall immediately initiate a TRE using, according to the type of treatment facility, The Discharger shall use USEPA manual, *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070, 1989) and, within 15 days of receiving validated results, submit to the San Diego Water Board a Detailed TRE Work Plan, which shall follow the Initial Investigation TRE Work Plan revised as appropriate for this toxicity event. It shall include the following information, and comply with additional conditions set by the San Diego Water Board:

i. Further actions by the Discharger to investigate, identify, and correct the causes of toxicity;

ii. Actions the Discharger will take to mitigate the effects of the discharge and prevent the recurrence of toxicity; and

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iii. A schedule for these actions, progress reports, and the final report.

b. TIE Implementation. The Discharger may initiate a TIE as part of a TRE to identify the causes of toxicity using the same species and test method and, as guidance, USEPA manuals: *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures* (EPA/600/6-91/003, 1991); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080, 1993); *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/081, 1993); and *Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document* (EPA/600/R-96-054, 1996). The TIE should be conducted on the species demonstrating the most sensitive toxicity response.

c. Many recommended TRE elements parallel required or recommended efforts for source control, pollution prevention, and storm water control programs. Whenever possible, TRE efforts should be coordinated with such efforts. As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the sources and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with toxicity evaluation parameters.

d. The Discharger shall continue to conduct the minimum effluent monitoring while the TRE and/or TIE process is taking place. Additional accelerated monitoring and TRE Work Plans are not required once a TRE is begun.

e. The San Diego Water Board recognizes that toxicity may be episodic and identification of causes and reduction of sources of toxicity may not be successful in all cases. The TRE may be ended at any stage if routine monitoring finds there is no longer toxicity.

f. The San Diego Water Board may consider the results of any TRE/TIE studies in an enforcement action.

9. Reporting

The Self-Monitoring Report (SMR) shall include a full laboratory report for each toxicity test. This report shall be prepared using the format and content of the test methods manual chapter called Report Preparation, and shall include:

a. The valid toxicity test results for the TST statistical approach, reported as “Pass” or “Fail” and “Percent Effect” at the chronic toxicity IWC for the discharge. All toxicity test results (whether identified as valid or otherwise) conducted during the monitoring period shall be reported on the SMR due date specified in Table E-4.

b. Summary water quality measurements for each toxicity test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, chlorine, ammonia).

c. The statistical analysis used in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010) Appendix A, Figure A-1 and Table A-1, and Appendix B, Table B-1.

d. TRE/TIE results. The San Diego Water Board shall be notified no later than 30 days from completion of each aspect of TRE/TIE analyses. Prior to the completion of the final TRE/TIE report, the Discharger shall provide status updates in the monthly SMRs, indicating which TRE/TIE steps are underway and which steps have been completed.

e. Statistical program (e.g., TST calculator, CETIS, etc.) output results, including graphical plots, for each toxicity test.

f. Graphical plots clearly showing the laboratory's performance for the reference toxicant for the previous 20 tests and the laboratory's performance for the control mean, control standard deviation, and control coefficient of variation for the previous 12-month period.

g. Any additional quality assurance/quality control (QA/QC) documentation or any additional chronic toxicity-related information, upon written request from the San Diego Water Board.

D. Land Discharge Monitoring Requirements – Not Applicable

E. Recycling Monitoring Requirements – Not Applicable

IV. RECEIVING WATER MONITORING REQUIREMENTS

The City of Escondido and San Elijo Joint Powers Authority conduct receiving water monitoring for their individual discharges to the San Elijo Ocean Outfall[1]. The receiving water monitoring is designed to measure the effects of the SEOO discharge on the receiving ocean waters, including effects on coastal water quality, seafloor sediments, and marine life. The receiving water monitoring data may be used, in conjunction with other pertinent technical information, to determine compliance with the receiving water limitations and other related provisions of this Order. The Discharger shall review the receiving water monitoring reports submitted by the City of Escondido and San Elijo Joint Powers Authority as they become available on the State Water Board website at http://ciwqs.waterboards.ca.gov/ciwqs/readOnly/PublicReportEsmrAtGlanceServlet?inCommand=reset.

V. REGIONAL MONITORING REQUIREMENTS

Regional ocean water monitoring provides information about the sources, fates, and effects of anthropogenic contaminants in the coastal marine environment necessary to make assessments over large areas. The large-scale assessments provided by regional monitoring describe and evaluate cumulative effects of all anthropogenic inputs and enable better decision making regarding protection of beneficial uses of ocean waters. Regional monitoring data assists in the interpretation of core monitoring studies by providing a more accurate and complete characterization of reference conditions and natural variability. Regional monitoring also leads to methods standardization and improved quality control through inter-calibration exercise. The coalitions implementing regional monitoring enable sharing of technical resources, trained personnel, and associated costs. Focusing these resources on regional issues and developing a broader understanding of pollutants effects in ocean waters enables the development of more rapid and effective response strategies. Based on all of these considerations the San Diego Water Board supports regional approaches to monitoring ocean waters.

The Discharger is encouraged to participate with other regulated entities, other interested parties, and the San Diego Water Board in development and implementation of new and improved

[1] Discharges from the City of Escondido's MFRO Facility and HARRF are regulated by separate WDRs, Order No. R9-2018-0002, NPDES No. CA0107981, *Waste Discharge Requirements for the City of Escondido, Hale Avenue Resource Recovery Facility and Membrane Filtration/Reverse Osmosis Facility Discharge to the Pacific Ocean through the San Elijo Ocean Outfall.*
Discharges from the San Elijo Joint Powers Authority, San Elijo Water Reclamation Facility are regulated by separate WDRs, Order No. R9-2018-0003, NPDES No. CA0107999, *Waste Discharge Requirements for the San Elijo Joint Powers Authority, San Elijo Water Reclamation Facility Discharge to the Pacific Ocean through the San Elijo Ocean Outfall.*

monitoring and assessment programs for ocean waters in the San Diego Region and discharges to those waters.

A. Kelp bed canopy monitoring requirements

Kelp consists of a number of species of brown algae. Along the central and southern California coast, giant kelp (*Macrocystis pyrifera*) is the largest species colonizing rocky, and in some cases sandy, subtidal habitats. Giant kelp is an important component of coastal and island communities in southern California, providing food and habitat for numerous animals. Monitoring of the kelp beds is necessary to answer the following questions:

(1) What is the maximum areal extent of the coastal kelp bed canopies each year?

(2) What is the variability of the coastal kelp bed canopy over time?

(3) Are coastal kelp beds disappearing? If yes, what are factors that could contribute to the disappearance?

(4) Are new coastal kelp beds forming?

The City of Escondido and San Elijo Joint Powers Authority participate, for their individual discharges to the San Elijo Ocean Outfall, in an ongoing regional survey of coastal kelp beds in the Southern California Bight. The intent of these surveys is to provide an indication of the health of these kelp beds, recognizing that the extent of kelp bed canopies may change due to variety of influences. Kelp bed canopy data obtained from the regional monitoring program may be used, in conjunction with other pertinent technical information, to determine compliance with the receiving water limitations and other related provisions of this Order. The Discharger shall review the findings and conclusions of each annual Status of the Kelp Beds Report as it becomes available on the Southern California Bight Regional Aerial Kelp Surveys website at http://kelp.sccwrp.org/reports.html.

B. Southern California Bight Monitoring Program Participation Requirements

The Discharger may be requested by the San Diego Water Board to participate in the Southern California Bight Regional Monitoring Program coordinated by the Southern California Coastal Water Research Project (SCCWRP), or any other coordinated regional monitoring effort named by the San Diego Water Board, pursuant to Water Code sections 13267 and 13383, and 40 CFR section 122.48. The intent of the Southern California Bight Regional Monitoring Program is to maximize the efforts of all monitoring partners using a more cost-effective monitoring design and to best utilize the pooled scientific resources of the Southern California Bight.

VI. SPECIAL STUDIES REQUIREMENTS – NOT APPLICABLE

VII. OTHER MONITORING REQUIREMENTS

A. Water Treatment Systems and Cooling Tower Additives Log

The Discharger is required to maintain a log at the Facility of all chemical analytes used in the water treatment systems and/or added for cooling tower maintenance that are eventually discharged from the Facility to the IBCS. The log shall include a list of the chemicals analytes used, the use of each analyte, the location of use of each analyte, and the approximate quantity of each analyte used over a given period of time. By March 1 of each year, the Discharger shall submit 1) the annual log of all chemical analytes used in the water treatment systems and/or added for cooling tower maintenance for the period covering the previous calendar year, 2) any changes to the list of chemical analytes that the Discharger plans to use in the water treatment systems and/or cooling tower maintenance for the period covering the current calendar year, and 3) the certification that no priority pollutant listed in Appendix A of

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40 CFR part 423 had been used in the contents of chemical formulations added for cooling tower maintenance (i.e., The Facility is in compliance with Discharge Prohibition III.E.).

B. Anticipated Increase Production Notification

The Discharger shall notify the San Diego Water Board at least 2 business days prior to a month in which the Discharger expects to operate at an increased energy output production level which will result in cooling tower blowdown flow in excess of the reasonable measure of the actual production of the Facility described in section IV.B of the Fact Sheet. The notice shall specify the anticipated increased energy output production level, respective flows (not to exceed the measure of the maximum production capacity of 1.4 MGD) and the period during which the Discharger expects to operate at the alternate level. If the notice covers more than one month, the notice shall specify the reasons for the anticipated energy output production level increase. New notice of discharge at alternate levels is required to cover a period or production level not covered by prior notice or, if during two consecutive months otherwise covered by the notice, the production level at the facility does not in fact meet the higher level designated in the notice. The Discharger shall comply with the mass-based effluent limitations in Table 4 of this Order unless the Discharger has notified the San Diego Water Board of the increase in energy output production.

The Discharger shall submit, with the DMR and SMR, the level of energy output production that actually occurred during each month, respective flows (not to exceed the measure of the maximum production capacity of 1.4 MGD), and the respective mass-based effluent limitations applicable to that level of production and flows (with all calculations provided).

VIII. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. The Discharger shall report all instances of noncompliance not reported under sections V.E, V.G, and V.H of the Standard Provisions (Attachment D) at the time monitoring reports are submitted. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

B. Self-Monitoring Reports (SMRs)

1. The Discharger shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program website at <http://www.waterboards.ca.gov/water_issues/programs/ciwqs/>. The CIWQS website will provide additional information for SMR submittal in the event there will be a planned or unplanned service interruption for electronic submittal. SMRs must be signed and certified as required by section V of the Standards Provisions (Attachment D). The Discharger shall maintain sufficient staffing and resources to ensure it submits SMRs that are complete and timely. This includes provision for training and supervision of individuals on how to prepare and submit SMRs.
2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IV. The Discharger shall submit SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. SMRs are to include all new monitoring results obtained

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since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-4. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	First day of second calendar month following month of sampling.
Weekly	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	First day of second calendar month following month of sampling.
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling.
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31	August 1 March 1

4. Section III.B of the Standard Provisions (Attachment D) includes the standard provisions for test procedures. USEPA published regulations for the Sufficiently Sensitive Methods Rule (SSM Rule) which became effective September 18, 2015. For the purposes of the NPDES program, when more than one test procedure is approved under 40 CFR part 136 for the analysis of a pollutant or pollutant parameter, the test procedure must be sufficiently sensitive as defined at 40 CFR sections 122.21(e)(3) and 122.44(i)(1)(iv). Both 40 CFR sections 122.21(e)(3) and 122.44(i)(1)(iv) apply to the selection of a sufficiently sensitive analytical method for the purposes of monitoring and reporting under NPDES permits, including review of permit applications. A USEPA-approved analytical method is sufficiently sensitive where:

   a. The Minimum Level (reported ML, also known as the Reporting Level, or RL) is at or below both the level of the applicable water quality criterion/objective and this Order limitation for the measured pollutant or pollutant parameter; or

   b. In permit applications, the ML is above the applicable water quality criterion/objective, but the amount of the pollutant or pollutant parameter in a facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or

   c. The method has the lowest ML of the USEPA-approved analytical methods where none of the USEPA-approved analytical methods for a pollutant can achieve the MLs necessary to assess the need for effluent limitations or to monitor compliance with a permit limitation.

   d. The MLs in Ocean Plan Appendix II and MLs in Appendix 4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP) remain applicable. However, there may be situations when analytical methods are published with MLs that are more sensitive than the MLs for analytical methods listed in the Ocean Plan. For instance, USEPA Method 1631E for mercury is not currently listed in Ocean Plan Appendix II, but it is

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published with an ML of 0.5 nanograms per liter (ng/L) that makes it a sufficiently sensitive analytical method. Similarly, USEPA Method 245.7 for mercury is published with an ML of 5 ng/L.

5. **Reporting Protocols.** The Discharger shall report with each sample result the applicable reported ML (or RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR part 136.

   The Discharger shall report the results of analytical determinations for the presence of chemical parameters in a sample using the following reporting protocols:

   a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

   b. Sample results less than the reported ML, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

      For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

   c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

   d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

6. **Compliance Determination.** Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined above and in Attachment A of this Order. For purposes of reporting and administrative enforcement by the San Diego Water Board and State Water Board, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the reportable pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported ML.

7. **Multiple Sample Data.** When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of DNQ or ND, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

   a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

   b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case

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the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

8. The Discharger shall submit SMRs in accordance with the following requirements:

   a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

   b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the waste discharge requirements; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

C. Discharge Monitoring Reports (DMRs)

The DMRs are USEPA reporting requirements. The Discharger shall electronically certify and submit DMRs together with SMRs using Electronic Self-Monitoring Reports (eSMR) module eSMR 2.5 or any upgraded version. Electronic DMRs submittal shall be in addition to electronic SMR submittal. Information about electronic DMRs submittal is available at the DMR website at: http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring.

D. Other Reports

The following reports are required under section VI of this Order and sections I, III, IV, V, VI, and VII of this MRP. The reports shall be submitted to the San Diego Water Board using the State Water Board's CIWQS program website, unless stated otherwise. The reports must be signed and certified as required by section V of the Standards Provisions (Attachment D). The CIWQS website will provide additional information for SMR submittal in the event of a planned or unplanned service interruption for electronic submittal.

Table E-5. Other Reports

Report	Location of requirement	Due Date
Report of Waste Discharge (for reissuance)	Section VI.A.2.a	No later than 180 days before the Order expiration date[1]
DMR-QA Study	Section I.H of this MRP	Annually no later than December 31[2]
Initial Investigation TRE Work Plan	Section III.C.6 of this MRP	Within 90 days after adoption of this Order
Water Treatment Systems and Cooling Tower Additives Log	Section VII.A of this MRP	Annually no later than March 1

1. Submit in person or by mail to the San Diego Water Board office (2375 Northside Drive. Suite 100, San Diego, CA 92108) or by email at SanDiego@waterboards.ca.gov.

2. See section I.H. of this MRP for instructions on how to submit the study.

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ATTACHMENT F – FACT SHEET

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ATTACHMENT F – FACT SHEET

As described in section II.B of this Order, the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) incorporates this Fact Sheet as findings of the San Diego Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as "Not Applicable" have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as "Not Applicable" are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	9 000002388
Discharger	San Diego Gas and Electric Company
Name of Facility	Palomar Energy Center
Facility Address	2300 Harveson Place
	Escondido, CA 92029
	San Diego County
Facility Contact, Title and Phone	Carl S. LaPeter, Plant Manager, (760) 432-2503
Authorized Person to Sign and Submit Reports	Carl S. LaPeter, Plant Manager, (760) 432-2503
Mailing Address	Same as Facility Address
Billing Address	Same as Facility Address
Type of Facility	Natural Gas-Fired Combined Cycle Power Plant
Major or Minor Facility	Major
Threat to Water Quality	2
Complexity	A
Pretreatment Program	Not Applicable
Recycling Requirements	None
Facility Permitted Flow	1.4 million gallons per day (MGD)
Facility Design Flow	1.4 MGD
Watershed	Pacific Ocean
Receiving Water	Pacific Ocean
Receiving Water Type	Ocean waters

A. San Diego Gas and Electric Company (SDG&E or Discharger) is the owner and operator of the Palomar Energy Center (PEC or Facility). The Facility is a natural gas-fired combined cycle power plant located at 2300 Harveson Place, Escondido, CA 92029.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and State laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. The PEC discharges wastewater to the Pacific Ocean, a water of the United States (U.S.) The Discharger was previously regulated by Order No. R9-2012-0015, as amended by the Order No. R9-2017-0012, and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0109215 adopted on September 12, 2012 and expired on October 31, 2017. Attachment B

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provides a map of the area around the PEC. Attachment C provides a flow schematic of the PEC.

C. The Discharger filed a Report of Waste Discharge (ROWD) and submitted an application of reissuance for its waste discharge requirements (WDRs) and NPDES permit on April 25, 2017. The application proposed no changes in the PEC operational conditions or discharge flows. The application was deemed complete on May 23, 2017. A site visit was conducted on February 28, 2018 to observe operations and collect additional data to develop permit limitations and requirements for waste discharge.

D. Regulations at title 40 of the Code of Federal Regulations (40 CFR) section 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the duration of the discharge authorization. However, pursuant to California Code of Regulations (CCR), title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all federal NPDES requirements for continuation of expired permits.

II. FACILITY DESCRIPTION

The PEC is a 550-megawatt (MW) natural gas-fired combined cycle power plant located on a 20-acre site within the Escondido Research and Technology Center (ERTC), an industrial park in the City of Escondido in San Diego County. The PEC, located within the Discharger's electric transmission system, is designed to meet local and regional electric power requirements. The PEC has also been deemed essential for maintaining the reliability of the California Independent System Operator (CAISO) controlled grid. As such, the PEC is designated as a Reliability-Must-Run (RMR) plant by the CAISO.

The power generating facilities at the PEC include two 165-MW General Electric 7FA combustion turbine generators (CTGs), a centralized chiller plant, and two multi-pressure heat recovery steam generators (HRSGs). The HRSGs are equipped with duct burners, two 110-foot tall HRSG exhaust stacks, and one reheat condensing 187-MW steam turbine-generator (STG). The cooling system includes a surface condenser, circulating water system, and a plume-abated wet cooling tower.

Ultra-filtration (UF) backwash, reverse osmosis (RO) brine backwash, electro-deionization (DEI) brine backwash, various low flow floor drains, and heat recovery steam generator blowdown (collectively referred to as "low volume waste sources") are pumped into the cooling tower along with recycled water from the City of Escondido's Hale Avenue Resource Recovery Facility (HARRF) and other feed water. The cooling tower blowdown is then discharged to the Industrial Brine Collection System (IBCS), which connects to the Escondido Land Outfall (ELO), the San Elijo Ocean Outfall (SEOO), and the Pacific Ocean.

The City of Escondido owns and operates the IBCS and issued Industrial User Discharge (IUD) Permit No. 11016A to SDG&E to discharge to the IBCS. The maximum discharge of the cooling tower blowdown to the IBCS is 1.4 MGD (based on maximum production capacity).

A. Description of Wastewater Treatment and Controls

Approximately 5.3 MGD of recycled water is continuously sent from the HARRF to the PEC. As shown in the flow schematic in Attachment C of this Order, the recycled water is used in the power plant's cooling tower and water purification systems (i.e., UF, RO, and DEI systems). The recycled water is also used in the Facility's fire suppression system (not shown in the schematic). The Discharger may augment feed water to the cooling tower with up to 25,000 gallons per year of the Facility's fire suppression system water and/or 0.375 MGD of retained storm water.

The PEC generates wastewater from the heat recovery steam generator blowdown, water collected in floor drains, and the backwash of the UF, RO, and DEI systems serving the steam generators. These wastewater streams are collectively referred to as low volume waste sources. The low volume waste sources contain salts, minerals, suspended solids, and oil and grease. The low volume waste sources are collected in the wastewater collection system and transfer sump. From there, the low volume waste sources are pumped into the cooling tower along with recycled water from the HARRF, and other feed water (including the Facility's fire suppression system water and/or retained storm water).

The cooling water circulates in the cooling tower and cools the captured steam from the steam turbine. As a result of evaporation, total dissolved solids (TDS) concentration in the cooling water increases. To minimize system fouling and corrosion, a portion of the cooling tower water is purged and replaced with "make up" water; 40% sodium tolyltriazole is used daily; and Aquapure 3691 polyphosphate is used once per year. To reduce scaling, Proprietary Chemtreat CL 3587 is used daily.[1] The purged water is referred to as "blowdown". The cooling water must be chlorinated to prevent biofouling and buildup of algae and to maintain the health of the cooling tower. The cooling tower blowdown therefore contains chlorine residuals and high TDS.

Most of the recycled water delivered to the PEC is lost to evaporation, and only a portion of the recycled water is returned to the IBCS as cooling tower blowdown.

Wastewater collected in floor drains located in chemical storage areas and wastewater from plant and equipment wash down which potentially contain oil and grease and suspended solids are collected and discharged to the City of Escondido's sanitary sewer system.

B. Discharge Points and Receiving Waters

Cooling tower blowdown from the PEC; brine wastewaters and cooling tower blowdown from Stone Brewing Co.[2], and brine wastewater from the City of Escondido's proposed Membrane Filtration/Reverse Osmosis (MFRO) Facility[3] commingle in the IBCS. All flows in the IBCS are either conveyed directly into the ELO or directed to a 2-million-gallon storage pond at the HARRF for controlled release into the ELO at a later time. Treated wastewater from HARRF and wastes from the IBCS flows through the ELO approximately 14 miles in a southwesterly direction, generally following Escondido Creek, until it enters the SEOO.

The SEOO is co-owned by the San Elijo Joint Powers Authority and the City of Escondido, which own 21 percent and 79 percent of the capacity, respectively. The SEOO begins at a point approximately 2,200 feet south of the mouth of the San Elijo Lagoon, where treated wastewater from the HARRF and wastes from the IBCS merge with treated wastewater from the San Elijo Joint Powers Authority, San Elijo Water Reclamation Facility[4]. The SEOO extends into the Pacific Ocean, where the inshore end of a diffuser is located approximately 6,800 feet offshore at a depth of approximately 110 feet. The diffuser, which is collinear with the outfall, is approximately 1,200 feet in length and extends to a depth of approximately 148

[1] By email dated August 6, 2018, the Discharger provided a list of the chemicals used at the Facility.

[2] Discharges from Liquid Stone Holding, LLC, DBA Stone Brewing Co. are regulated by separate WDRs, Order No. R9-2018-0063, NPDES No. CA0109258, *Waste Discharge Requirements for Liquid Stone Holding, LLC, DBA Stone Brewing Co. Discharge to the Pacific Ocean through the San Elijo Ocean Outfall.*

[3] Discharges from the City of Escondido's MFRO Facility and HARRF are regulated by separate WDRs, Order No. R9-2018-0002, NPDES No. CA0107981, *Waste Discharge Requirements for the City of Escondido, Hale Avenue Resource Recovery Facility and Membrane Filtration/Reverse Osmosis Facility Discharge to the Pacific Ocean through the San Elijo Ocean Outfall.*

[4] Discharges from the San Elijo Joint Powers Authority, San Elijo Water Reclamation Facility are regulated by separate WDRs, Order No. R9-2018-0003, NPDES No. CA0107999, *Waste Discharge Requirements for the San Elijo Joint Powers Authority, San Elijo Water Reclamation Facility Discharge to the Pacific Ocean through the San Elijo Ocean Outfall.*

feet. The terminus of the diffuser (i.e., Discharge Point No. 001) is located at Latitude 33° 00' 21" North and Longitude 117° 18' 09" West.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations contained in Order No. R9-2012-0015 for discharges from Discharge Point Nos. I-001 and 001, and representative monitoring data from the term of Order No. R9-2012-0015 are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data - Discharge Point No. I-001[1]

Parameter	Units[1]	Effluent Limitations			Monitoring Data (From November 2012 to May 2018)		
		Average Monthly	Maximum Daily	Instantaneous Maximum	Highest Average Monthly Discharge	Highest Maximum Daily Discharge	Highest Instantaneous Maximum Discharge
Total Suspended Solids (TSS)	milligram per liter (mg/L)	30	100	--	--	24	--
	pounds per day (lbs/day)	80[2]	267[2]	--	--	78.8	--
pH	standard units (SU)	--	--	6.0-9.0[3]	--	--	3.1-8.9[3]
Oil and Grease	mg/L	15	20	--	9	18	--
	lbs/day	40[2]	53[2]	--	28.5	57.0	--

1. See Attachment A for definitions of abbreviations and a glossary of common terms used in this Order.
2. The mass emission rate (MER) limitations, in lbs/day, were calculated based on the following equation: MER (lbs/day) = 8.34 x Q x C, where Q is the maximum flow rate for the low volume waste sources (0.32 MGD) and C is the concentration (mg/L).
3. Minimum and maximum value.

Table F-3. Historic Effluent Limitations and Monitoring Data for Discharge Point No. 001[1]

Parameter	Units[1]	Effluent Limitations				Monitoring Data (From November 2012 to May 2018) Highest Discharge			
		6-Month Median	Average Monthly	Maximum Daily	Instanta-neous Maximum	6-Month Median	Average Monthly	Maximum Daily	Instanta-neous Maximum
pH	SU	--	--	--	6.0-9.0[2]	--	--	--	7.2-8.1[2]
Free Available Chlorine	microgram per liter (µg/L)	--	--	--	500[3]	--	--	--	110
	lbs/day	--	--	--	4.6	--	--	--	1
Total Residual Chlorine	µg/L	476	--	1,904	14,280	60	--	--	1200
	lbs/day	4.4	--	17.5	131	0.37	--	2.4	2.37
Chromium, Total Recoverable	mg/L	--	0.2	0.2	--	--	Not Detected (ND)	0.0012	--
	lbs/day	--	1.8	1.8	--	--	ND	0.008	--
Zinc, Total Recoverable[4]	mg/L	--	1.0	1.0	--	--	0.1	0.14	--
	lbs/day	--	9.2	9.2	--	--	0.7	1.2	--

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Parameter	Units[1]	Effluent Limitations				Monitoring Data (From November 2012 to May 2018) Highest Discharge			
		6-Month Median	Average Monthly	Maximum Daily	Instanta-neous Maximum	6-Month Median	Average Monthly	Maximum Daily	Instanta-neous Maximum
Acenaphthene[4]	µg/L	--	ND[5]	--	ND[5]	--	Not Reported (NR)	--	NR
Acrolein[4]	µg/L	--	ND[5]	--	ND[5]	--	<2.5	--	<2.5
Acrylonitrile[4]	µg/L	--	ND[5]	--	ND[5]	--	<3.5	--	<35
Benzene[4]	µg/L	--	ND[5]	--	ND[5]	--	<2.5	--	<2.5
Benzidine[4]	µg/L	--	ND[5]	--	ND[5]	--	<1.7	--	<1.7
Carbon Tetrachloride (Tetrachloromethane)[4]	µg/L	--	ND[5]	--	ND[5]	--	<2.5	--	<2.5
Chlorobenzene[4]	µg/L	--	ND[5]	--	ND[5]	--	<2.5	--	<2.5
1,2,4-trichlorobenzene[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
Hexachlorobenzene[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.18	--	<0.18
1,2-dichloroethane[4]	µg/L	--	ND[5]	--	ND[5]	--	<2.5	--	<2.5
1,1,1-trichloreothane[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
Hexachloroethane[4]	µg/L	--	ND[5]	--	ND[5]	--	<2.8	--	<2.8
1,1-dichloroethane[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
1,1,2-trichloroethane[4]	µg/L	--	ND[5]	--	ND[5]	--	<2.5	--	<2.5
1,1,2,2-tetrachloroethane[4]	µg/L	--	ND[5]	--	ND[5]	--	<2.5	--	<2.5
Chloroethane[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
Bis(2-chloroethyl) Ether[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.092	--	<0.092
2-chloroethyl Vinyl Ether (mixed)[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
2-chloronaphthalene[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
2,4,6-trichlorophenol[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.14	--	<0.14
Parachlorometacresol[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
Chloroform (Trichloromethane)[4]	µg/L	--	ND[5]	--	ND[5]	--	<2.5	--	<2.5
2-chlorophenol[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
1,2-dichlorobenzene[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
1,3-dichlorobenzene[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
1,4-dichlorobenzene[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.25	--	<0.25
3,3-dichlorobenzidine[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.97	--	<0.97
1,1-dichloroethylene[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.25	--	<0.25
1,2-trans-dichloroethylene[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
2,4-dichlorophenol[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
1,2-dichloropropane[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
1,2-dichloropropylene (1,3-dichloropropene)[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
2,4-dimethylphenol[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
2,4-dinitrotoluene[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.14	--	<0.14
2,6-dinitrotoluene[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
1,2-diphenylhydrazine[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.77	--	<0.77
Ethylbenzene[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.25	--	<0.25
Fluoranthene[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.095	--	<0.095

Parameter	Units[1]	Effluent Limitations				Monitoring Data (From November 2012 to May 2018) Highest Discharge			
		6-Month Median	Average Monthly	Maximum Daily	Instanta-neous Maximum	6-Month Median	Average Monthly	Maximum Daily	Instanta-neous Maximum
4-chlorophenyl Phenyl Ether[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
4-bromophenyl Phenyl Ether[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
Bis(2-chloroisopropyl) Ether[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.49	--	<0.49
Bis(2-chloroethoxy) Methane[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.69	--	<0.69
Methylene Chloride (dichloromethane)[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.78	--	<0.78
Methyl Chloride (dichloromethane)[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
Methyl Bromide (bromomethane)[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
Bromoform (Tribromomethane)[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
Dichlorobromomethane[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.26	--	<0.26
Chlorodibromomethane[4]	µg/L	--	ND[5]	--	ND[5]	--	0.66	--	0.66
Hexachlorobutadiene[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.32	--	<0.32
Hexachloromyclopentadiene[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
Isophorone[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.14	--	<0.14
Naphthalene[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
Nitrobenzene[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.23	--	<0.23
2-nitrophenol[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
4-nitrophenol[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
2,4-dinitrophenol[4]	µg/L	--	ND[5]	--	ND[5]	--	<1.2	--	<1.2
4,6-dinitro-o-cresol[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
N-nitrosodimethylamine[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.13	--	<0.13
N-nitrosodiphenylamine[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.14	--	<0.14
N-nitrosodi-n-propylamin[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.64	--	<0.64
Pentachlorophenol[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
Phenol[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.13	--	<0.13
Bis(2-ethylhexyl) Phthalate[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.71	--	<0.71
Butyl Benzyl Phthalate[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
Di-n-butyl Phthalate[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.56	--	<0.56
Di-n-octyl Phthalate[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
Diethyl Phthalate[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.77	--	<0.77
Dimethyl Phthalate[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.071	--	<0.071
1,2-benzanthracene (benzo(a)anthracene)[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
Benzo(a)pyrene (3,4-benzo-pyrene)[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
3,4-Benzofluoranthene (benzo(b)fluoranthene)[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
11,12-benzofluoranthene (benzo(b)fluoranthene)[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR

Parameter	Units[1]	Effluent Limitations				Monitoring Data (From November 2012 to May 2018) Highest Discharge			
		6-Month Median	Average Monthly	Maximum Daily	Instanta-neous Maximum	6-Month Median	Average Monthly	Maximum Daily	Instanta-neous Maximum
Chrysene[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
Acenaphthylene[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
Anthracene[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
1,12-benzoperylene (benzo(ghi)perylene)[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
Fluorene[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
Phenanthrene[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
1,2,5,6-dibenzanthracene (dibenzo(h)anthracene)[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
Indeno (1,2,3-cd) Pyrene (2,3-opheynylene Pyrene)[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
Pyrene[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
Tetrachloroethylene[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
Toluene[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.25	--	<0.25
Trichloroethylene[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
Vinyl Chloride (Chloroethylene[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.23	--	<0.23
Aldrin[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.0015	--	<0.0015
Dieldrin[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.002	--	<0.002
Chlordane (technical mixture and metabolites)[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.014	--	<0.014
4,4-DDT[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.0039	--	<0.0039
4,4-DDE (p,p-DDX)[4]	µg/L	--	ND[5]	--	ND[5]				
4,4-DDD (p,p-TDE)[4]	µg/L	--	ND[5]	--	ND[5]				
Alpha-endosulfan[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.003	--	<0.003
Beta-endosulfan[4]	µg/L	--	ND[5]	--	ND[5]				
Endosulfan Sulfate[4]	µg/L	--	ND[5]	--	ND[5]				
Endrin[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.002	--	<0.002
Endrin Aldehyde[4]	µg/L	--	ND[5]	--	ND[5]	--	NR	--	NR
Heptachlor[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.0029	--	<0.0029
Heptachlor Epoxide (BHC-hexachlorocyclohexane)[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.0024	--	<0.0024
Alpha-BHC[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.0017	--	<0.0017
Beta-BHC[4]	µg/L	--	ND[5]	--	ND[5]				
Gamma-BHC (lindane)[4]	µg/L	--	ND[5]	--	ND[5]				
Delta-BHC (polychlorinated biphenyls (PCBs))[4]	µg/L	--	ND[5]	--	ND[5]				
PCB–1242 (Arochlor 1242)[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.25	--	<0.25
PCB–1254 (Arochlor 1254)[4]	µg/L	--	ND[5]	--	ND[5]				
PCB–1221 (Arochlor 1221)[4]	µg/L	--	ND[5]	--	ND[5]				
PCB–1232 (Arochlor 1232)[4]	µg/L	--	ND[5]	--	ND[5]				
PCB–1248 (Arochlor 1248)[4]	µg/L	--	ND[5]	--	ND[5]				
PCB–1260 (Arochlor 1260)[4]	µg/L	--	ND[5]	--	ND[5]				
PCB–1016 (Arochlor 1016)[4]	µg/L	--	ND[5]	--	ND[5]				
Toxaphene[4]	µg/L	--	ND[5]	--	ND[5]	--	<0.25	--	<0.25

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