

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

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Section 308 of the federal Clean Water Act and sections 122.41(h), (j)-(l), 122.44(i), and 122.48 of title 40 of the Code of Federal Regulations (40 C.F.R.) require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Colorado River Basin Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. This MRP establishes monitoring, reporting, and recordkeeping requirements that implement the federal and California laws and/or regulations.

I. GENERAL MONITORING PROVISIONS

- A. Sample Volume and Monitoring Locations.** 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 locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of the Colorado River Basin Water Board.
- B. Instrumentation and Calibration.** 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 measurements is consistent with the accepted capability of that type of device. All flow measurement devices shall be calibrated at least once per year or more frequently, to ensure continued accuracy of the devices. Devices selected shall be capable of measuring flows with a maximum deviation of less than ± 10 percent from true discharge rates throughout the range of expected discharge volumes.
- C. Laboratory Certification.** Laboratories analyzing monitoring samples shall be certified by the Environmental Laboratory Accreditation Program (ELAP) through the State Water Board, Division of Drinking Water (DDW) in accordance with Water Code section 13176, and must include quality assurance/quality control data with their reports.
- D. Monitoring Test Procedures.** The collection, preservation and holding times of all samples shall be in accordance with the test procedures under 40 C.F.R. part 136 (amended May 18, 2012) *Guidelines Establishing Test Procedures for the Analysis of Pollutants*, promulgated by the United States Environmental Protection Agency (USEPA), unless otherwise specified in this MRP. In addition, the Colorado River Basin Water Board and/or USEPA, at their discretion, may specify test methods that are more sensitive than those specified in 40 C.F.R. part 136.
- E. General Analytical Testing Methods.** The Discharger must utilize analytical methods as follows:
1. A test procedure listed in 40 C.F.R. section 136.3; or
 2. An alternative test procedure approved by USEPA as provided in 40 C.F.R. sections 136.4 or 136.5; or

3. A test procedure listed in 40 C.F.R. part 136, with modifications allowed by USEPA as provided in 40 C.F.R. section 136.6.

Guidance on procedures for approval of alternative and new test procedures can be obtained from the following references: *Protocol for EPA Approval of Alternative Test Procedures for Organic and Inorganic Analytes in Wastewater and Drinking Water* (EPA 821-B-98-002, March 1999); and *Protocol for EPA Approval of New Methods for Organic and Inorganic Analytes in Wastewater and Drinking Water* (EPA 821-B-98-003, March 1999).

- F. Minimum Levels (ML) for Priority Pollutants.** For priority pollutants, the Discharger shall require its testing laboratory to calibrate the analytical system down to the minimum levels (MLs) specified in 40 C.F.R. part 136, unless an alternative minimum level is approved by the Colorado River Basin Water Board's Executive Officer.
- G. Analytical Testing Methods for Metals.** In conformance with 40 C.F.R. section 122.45(c), analyses to determine compliance with the effluent limitations for metals shall be conducted using the total recoverable method. For Chromium (VI), the dissolved method in conformance with 40 C.F.R. part 136 shall be used to measure compliance with a Chromium (VI) effluent limitation.

For Cyanide,¹ analytical test methods in conformance with 40 C.F.R. part 136 shall be used as acceptable methods to measure Cyanide.²

- H. Quality Assurance Plan (QAP).** In accordance with the test procedures under 40 C.F.R. part 136, samples shall be analyzed as soon as possible after collection. The Discharger shall develop and implement a written Quality Assurance Plan (QAP) for samples that are analyzed on-site. The QAP shall at a minimum address the following steps:

1. Provide a description of Standard Operating Procedures (SOPs);
2. Provide an overview of the task description and objectives;
3. Identify the sampling process, method and handling;
4. Identify the instrumentation/equipment testing, inspection and maintenance;
5. Identify the instrumentation/equipment calibration and frequency;

¹ The sample for cyanide measurement shall be collected as a grab sample. Various sample preservation and sample stabilization procedures are available that may resolve analytical interferences associated with cyanide analysis of treated wastewater effluent, ASTM Standard Practice D7365-09a. Further, any technique for removal or suppression of interferences may be employed, provided the laboratory demonstrates that it more accurately measures cyanide through quality control measures described in the analytical test method. Any removal or suppression technique not described in D7365-09a or the analytical test method must be documented with supporting data.

² Federal Register, Vol. 77, No. 97, May 18, 2012. Cyanide exists in a variety of forms. It can be free or part of strong or weak complexes with other species. The analytical method employed determines what type of cyanide is measured. Types of cyanide measured include: Total, Available, Amenable to Chlorination, Weak Acid Dissociable, Free, and others.

6. Identify the sample analysis methods and calibration range; and
 7. Summarize the data review and validation procedures.
- I. Failure of Continuous Monitoring Instruments/Devices.** 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. In the event that continuous monitoring equipment is out of service for a period greater than 24 hours, the Discharger shall obtain representative grab samples each day the equipment is out of service. The Discharger shall correct the cause(s) of failure of the continuous monitoring equipment as soon as practicable. The Discharger shall report the period(s) during which the equipment was out of service and if the problem has not been corrected, shall identify the steps which the Discharger is taking or proposes to take to bring the equipment back into service and the schedule for these actions.
 - J. Reporting Intervals.** Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this MRP. Whenever the Discharger monitors any pollutant more frequently than is required by this Order, the results of this monitoring shall be included in the regular discharge monitoring reports.
 - K. Non-operation of Facility and/or No Discharge.** If the Facility is not in operation, or there is no discharge during a required reporting period, the Discharger shall indicate that there has been no activity during the required reporting period in CIWQS.
 - L. Electronic Self-Monitoring Reports (eSMRs).** The Discharger shall submit values in eSMR as required to determine compliance with the permit effluent limit requirements (e.g., AMEL, MDEL, percent removals, geomeans, mass loadings, etc.) in the California Integrated Water Quality System (CIWQS) Program, as specified below in Section X.B. The Discharger shall submit the eSMR for Second Quarter 2018 in the eSMR module for Order No. R7-2014-0005 in the CIWQS Program.
 - M. Discharge Monitoring Report – Quality Assurance (DMR-QA) Study.** The Discharger shall ensure that the results of the Discharge Monitoring Report-Quality Assurance (DMR-QA) Study or the most recent Water Pollution Performance Evaluation Study are submitted annually to the State Water Board at the following address:

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

II. MONITORING LOCATIONS

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 ¹ Name	Monitoring Location Description
001	EFF-001A	Effluent discharged from the Facility can be monitored at the outlet pipe into the receiving water (Central Drain No. 5); Latitude 32°48' 14.8" N and Longitude 115° 32' 39.2" W.
001	EFF-001B	Effluent discharged from the Facility can be monitored at the effluent collection sump; Latitude 32°48' 7.1" N and Longitude 115° 32' 25.6" W.
---	RSW-001	Receiving water (Central Drain No. 5) monitoring location should be located at the upstream monitoring sampling point for adjacent discharger to avoid interference along the Central Drain No. 5; Latitude 32°47'50" N and Longitude 115°32'39" W.
---	RSW-002	Receiving water (Central Drain No. 5) monitoring location not to exceed 200 feet downstream from the location where the effluent enters the Central Drain No. 5, at a point where a plume would be expected; Latitude 32°48'15.2" N and Longitude 115°32'39.2" W.

¹ The North latitude and West longitude information in Table E-1 are approximate for administrative purposes.

III. INFLUENT MONITORING REQUIREMENTS-NOT APPLICABLE

IV.EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001A or EFF-001B

The Discharger shall monitor treated wastewater effluent at Monitoring Location EFF-001A or EFF-001B as follows. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table E-2. Effluent Monitoring at EFF-001A or EFF-001B

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Calculated	1x/Day ¹	See Section I.B of the MRP
Temperature	°F	Grab	1x/Day ²	See Section I.E and I.F of the MRP
pH	Standard Units	Grab	1x/Day ²	"
Chlorine, Total Residual	mg/L	Grab	1x/Day ²	"
	lbs/day	Calculated		
Suspended Solids, Total (TSS)	mg/L	Grab	2x/Month	"

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Dissolved Solids, Total (TDS)	mg/L	24-Hr. Composite ³	2x/Month	"
Oil and Grease ⁵	mg/L	Grab	1x/Month	"
	lbs/day	Calculated		
Copper, Total Recoverable	µg/L	Grab	1x/Month	See Section I.E, I.F, and I.G of the MRP
	lbs/day	Calculated		
Cyanide, Free	µg/L	Grab	1x/Month	See Section I.E, I.F, I.G, and I.H of the MRP
	lbs/day	Calculated		
Selenium, Total Recoverable	µg/L	Grab	1x/Month	See Section I.E, I.F, and I.G of the MRP
	lbs/day	Calculated		
Zinc, Total Recoverable	µg/L	Grab	1x/Month	"
	lbs/day	Calculated		
Chromium, Total Recoverable	µg/L	Grab	1x/Month	"
	lbs/day	Calculated		
Bis (2-ethyhexyl) Phthalate	µg/L	Grab	1x/Month	"
	lbs/day	Calculated		
Hardness, Total (as CaCO ₃)	mg/L	Grab	1x/Month	See Section I.E and I.F of the MRP
Nitrates as N	mg/L	Grab	2x/Year ⁴	"
Nitrites as N	mg/L	Grab	2x/Year ⁴	"
Ammonia Nitrogen as N	mg/L	Grab	2x/Year ⁴	"
Total Kjeldahl Nitrogen (TKN) as N	mg/L	Grab	2x/Year ⁴	"
Total Phosphorus as P	mg/L	Grab	2x/Year ⁴	"
Ortho-Phosphate as P	mg/L	Grab	2x/Year ⁴	"
Sulfates	mg/L	Grab	2x/Year ⁴	"
Priority Pollutants ⁶	µg/L	Grab/24-Hr. Composite ³	1x/Year	See Section I.E, I.F, and I.G of the MRP

¹ Reported monthly with monthly average daily flow.

² Daily (excluding Friday off day (9/80 based schedule), holidays and weekends).

³ 24-hour composite samples shall be time-proportionate composite samples. Inorganic priority pollutant shall be collected using composite samples and volatile and semi-volatile pollutants shall be collected using grab samples.

⁴ The first sample should be collected between January 1 through June 30 and the second sample collected between July 1 through December 31.

⁵ Total oil and grease shall include the polar and non-polar fraction of oil and grease materials.

⁶ All Priority Pollutants as defined by the California Toxics Rule (CTR), codified at 40 C.F.R. section 131.38.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Chronic Toxicity Testing

1. **Discharge In-stream Waste Concentration (IWC) for Chronic Toxicity.**
The chronic toxicity IWC for this discharge is 100 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. 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. **Test Methods.** The Discharger shall conduct the following chronic toxicity tests on effluent samples at the in-stream waste concentration for the discharge in accordance with species and test protocols in Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (EPA 821-R-02-013, 2002).
4. **Test Species.** The Discharger shall conduct static renewal toxicity tests, with the fathead minnow (*Pimephales promelas*), (Larval Survival and Growth Test Method 1000.0) and the water flea (*Ceriodaphnia dubia*), (Survival and Reproduction Test Method 1002.0); and static tests with the green alga (*Selenastrum capricornutum*), (Growth Test Method 1003.0). In no case shall these species be substituted with another test species unless written authorization from the Colorado River Basin Water Board is received.
5. **Discharge Collected at Monitoring Stations.** The Discharger shall conduct chronic toxicity testing on the final effluent measured at Monitoring Location EFF-001 as follows:

Table E-3. Whole Effluent Toxicity Test Species

Test (s)	Species	Endpoints	Test Duration (days)	References	Sample Type	Minimum Sampling Frequency ¹
Chronic	Fathead Minnow (<i>Pimephales promelas</i>) ²	Larval Survival and Growth	7	EPA 821-R-02-013 (Chronic) EPA Method 1000.0	24-Hr. Composite	1x/Year ³
Chronic	Water Flea (<i>Ceriodaphnia dubia</i>) ²	Survival and Reproduction	6-8 ⁴	EPA 821-R-02-013 (Chronic) EPA Method 1002.0	24-Hr. Composite	1x/Year ³
Chronic	Green Alga (<i>Selenastrum capricornutum</i>) ²	Growth	4	EPA 821-R-02-013 (Chronic)	24-Hr. Composite	1x/Year ³

				EPA Method 1003.0		
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¹ The reporting period will match the sampling frequency (e.g., minimum sampling frequency is monthly then the reporting period is monthly, minimum sampling frequency is quarterly then reporting period is quarterly, etc.)

² For the fathead minnow and the water flea, the sample should consist of three water samples collected on three separate days as noted in the method. The green algae test uses only one sample, as it is a shorter test.

³ The screening phase (conducted during the first and fourth years of the permit term) shall be completed after a minimum of one (1) toxicity test has been completed on the three test species. The monitoring phase shall be conducted after the initial screening and during the remaining years (i.e., second, third, and fifth years of the permit term), using the most sensitive species.

⁴ Test duration is determined by production of the 3rd brood by control and can be between 6 and 8 days.

6. Species Sensitivity Screening. During the first and fourth years of the permit term, the toxicity testing shall be conducted in two phases, the screening phase and the monitoring phase.

- a. For the screening phase, the Discharger shall split a 24-hour composite effluent sample and conduct concurrent toxicity tests using a fish, an invertebrate and an aquatic plant species. The fathead minnow (*Pimephales promelas*), water flea (*Ceriodaphnia dubia*), and green alga (*Selenastrum capricornutum*) are the test species approved by the Colorado River Basin Water Board’s Executive Officer.
- b. The screening phase is completed by selecting the most sensitive species. The most sensitive species is the fish, invertebrate, or algal species which consistently demonstrates the largest percent effect level at the In-stream Waste Concentration³ (IWC), where: IWC percent effect level = [(Control mean response – IWC mean response) ÷ Control mean response] × 100.
- c. After the screening phase, the permittee shall then continue to conduct toxicity testing during the monitoring phase using the single, most sensitive species until the next screening phase. An example of a sensitivity comparison is shown in Table E-4.

Table E-4. Example of Screening Table for Chronic Test

Species	Endpoints	Mean Control Response	Mean Response at IWC (100% effluent)	% effect at IWC (100% effluent)	Most Sensitive Species
Fathead Minnow	Larval Survival	10	10	$(10 - 10)/10 \times 100 = 0\%$	
Fathead Minnow	Growth	0.41	0.363	$(0.41 - 0.363)/.41 \times 100 = 11.5\%$	

³ Mixing zones or dilution credits are not authorized for this discharger at this time and 100% effluent will be considered the IWC.

Species	Endpoints	Mean Control Response	Mean Response at IWC (100% effluent)	% effect at IWC (100% effluent)	Most Sensitive Species
Water Flea	Survival	10	9	$(10-9)/10 \times 100 = 10\%$	
Water Flea ¹	Reproduction	33.4	26.7	$(33.4-26.7)/33.4 \times 100 = 20\%$	Highest % effect represents most sensitive species ¹
Green Alga	Growth	197.3	170.1	$(197.3-170.1)/197.3 \times 100 = 13.8\%$	

¹ In this example, the water flea represents the most sensitive species. Chronic tests for the water flea shall be conducted as required by measuring and reporting the endpoints for survival and reproduction during the monitoring phase at 100 percent IWC effluent.

7. Quality Assurance and Additional Requirements. Quality assurance measures, instructions, and other recommendations and requirements are found in the test methods manual previously referenced. Additional requirements are 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 (Chronic Freshwater and East Coast Methods) and Appendix B, Table B-1.

- b. The null hypothesis (Ho) for the TST statistical approach is:

$$\text{Mean discharge IWC response} \leq 0.75 \times \text{Mean control response.}$$

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.”

- c. The relative “Percent Effect” at the discharge IWC is defined and reported as:

$$\text{Percent Effect} = ((\text{Mean control response} - \text{Mean discharge IWC response}) / \text{Mean control response}) \times 100$$

This is a t-test (formally Student’s t-Test), a statistical analysis comparing two sets of replicate observations, 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.

- d. If the effluent toxicity test does not meet all test acceptability criteria (TAC) specified in the referenced test method in EPA/821-R-02-013 (see Table E-3), then the Discharger must resample and re-test within 14 days.

Table E-5. TAC Specified in EPA/821-R-02-013

Species and End Points	EPA/821-R-02-013 Test Method	Test Acceptability Criteria (TAC)
Fathead Minnow <i>Larval Survival and Growth</i>	1000.0, Table 1	80% or greater survival in controls; average dry weight per surviving organism in control chambers equals or exceeds 0.25 mg. (required)
Water Flea <i>Survival and Reproduction</i>	1000.2, Table 3	80% or greater survival of all control organisms and an average of 15 or more young per surviving female in the control solutions. 60% of surviving control females must produce three broods. (required)
Green Algae <i>Growth</i>	1000.3, Table 3	Mean cell density of at least 1 X 10 ⁶ cells/mL in the controls; and variability (CV%) among control replicates less than or equal to 20%. (required)

- e. Dilution water and control water shall be 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.
- f. The Discharger shall perform toxicity tests on final effluent samples. Chlorine in the final effluent sample may be removed prior to conducting toxicity tests in order to simulate the dechlorination process at the Facility. However, ammonia shall not be removed from the effluent sample prior to toxicity testing, unless explicitly authorized by the Executive Officer.
- g. A pH drift during a toxicity test may contribute to artifact toxicity when pH-dependent toxicants (e.g., ammonia, metals) are present in the effluent. To determine whether or not pH drift is contributing to artifact toxicity, the Discharger shall conduct side-by-side toxicity tests as described in Section 11.3.6.1 of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA/821/R-02/013, 2002).

The Discharger can confirm toxicity due to pH drift when the Discharger observes no toxicity above the chronic WET permit limit or trigger in the treatments controlled at the pH of the effluent. Upon this confirmation, the Discharger shall request and, upon written approval by the Colorado River Basin Water Board’s Executive Officer, the Discharger may use the procedures outlined in Section 11.3.6.2 of the chronic freshwater test methods manual to control effluent sample pH during the toxicity test.

- 8. Accelerated Monitoring Requirements.** Accelerated monitoring for chronic toxicity is triggered when a chronic toxicity test, analyzed using the TST approach, results in “Fail” and the testing meets all test acceptability criteria.
 - a. Source of Toxicity is Known**

If the chronic WET testing results are reported as “Fail” and the source of toxicity is known (e.g., a temporary plant upset, ammonia, ionic imbalance

or elevated total dissolved solids [TDS]), then the Discharger shall conduct one additional toxicity test. The Discharger shall use the same species and test method that failed the WET test. This toxicity test shall begin within 14 days of receipt of a test result as "Fail." If the additional toxicity test result is reported as a "Pass" or it is confirmed that the toxicity is due to temporary plant upset, ammonia, ionic imbalance or elevated TDS, then the Discharger may return to the regular testing frequency.

b. Source of Toxicity is Not Known

If the chronic WET testing results are reported as "Fail" and the source of toxicity is not known, then the Discharger shall conduct four additional toxicity tests using the same species and test method, approximately every two weeks, over an eight-week period. This testing shall begin within 14 days of receipt of a test result as "Fail." If none of the additional toxicity test results are reported as "Fail," then the Discharger may return to the regular testing frequency.

c. Initiation of Toxicity Reduction Evaluation (TRE)

If any accelerated toxicity test results in "Fail," the Discharger shall cease accelerated monitoring and begin a TRE (as specified in Section V.B below) to investigate the cause(s) of effluent toxicity and to identify corrective actions to reduce or eliminate that toxicity.

B. Toxicity Reduction Evaluation (TRE) Process

- 1. Preparation of a TRE Work Plan.** The Discharger shall prepare and submit a copy of the Discharger's Toxicity Reduction Evaluation (TRE) work plan to the Colorado River Basin Water Board for approval within 90 days of the effective date of this permit. If the Executive Officer does not disapprove the work plan within 60 days, the work plan shall become effective. The Discharger shall use USEPA manual EPA/833B-99/002 (municipal) as guidance, or most current version. This work plan shall describe the steps that the Discharger intends to follow if toxicity is detected. At a minimum, the work plan shall include:
 - 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 Toxicity Identification Evaluation (TIE) is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor).
- 2. Preparation and Implementation of Detailed TRE Work Plan.** If one of the accelerated toxicity tests described in Section V.A.8, above, results in "Fail," the Discharger shall immediately initiate the TRE Work Plan developed

pursuant to Section V.B.1 in accordance with USEPA guidance provided in manuals EPA/600/2-88/070 (industrial) or EPA/833B-99/002 (municipal) and, within 30 days, submit to the Colorado River Basin Water Board a Detailed TRE Work Plan, which shall follow the generic TRE Work Plan revised as appropriate for this toxicity event. It shall include the following information, and comply with any additional conditions set by the Executive Officer:

- a. Further actions by the Discharger to investigate, identify, and correct the causes of toxicity.
- b. Actions the Discharger will take to mitigate the effects of the discharge and prevent the recurrence of toxicity.
- c. A schedule for these actions, progress reports, and the final report.

3. Toxicity Investigation Evaluation (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 methods and, as guidance, the procedures recommended by the USEPA, which include the following:

- a. *Toxicity Identification Evaluations: Characterization of Chronically Toxic Effluents, Phase I* (EPA/600/6-91/005F, 1992);
- b. *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures* (EPA/600/6-91/003, 1991);
- c. *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080, 1993); and
- d. *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/081, 1993).

4. Evaluation of Ammonia Toxicity. For discharges where ammonia has been identified as a cause of toxicity, the Discharger shall calculate the response threshold on the basis of unionized and total ammonia. The Discharger shall run a parallel test with ammonia in lab water to evaluate if the lab water and the effluent responses are the same (i.e., no matrix effect). In future WET testing, where ammonia toxicity is hypothesized as the cause, the Discharger has the following three options to evaluate whether ammonia is causing the toxicity:

- a. If toxicity in lab water is similar to that in the effluent, the Discharger shall conduct a parallel test with ammonia spiked into lab water. Toxicity endpoints are compared on the basis of unionized ammonia. If the endpoints are the same, then the implication is ammonia is responsible for toxicity and no further action is required; or
- b. If toxicity in lab water is not similar to that in the effluent, the Discharger shall conduct a parallel test with effluent, maintaining pH at a level that maintains the unionized fraction below the toxic threshold. If no toxicity is

observed in the pH-controlled sample, then implication is that ammonia is responsible for toxicity and no further action is required; or

- c. Without using comparative tests, calculate toxicity in the sample on the basis of unionized ammonia and compare the result to data generated in the TIE; if the results support the hypothesis that ammonia explains toxicity, then no further action is required.
- d. However, if ammonia is not identified as the toxicant, the Discharger shall take action as described in Section V.A.8 (Accelerated Monitoring Schedule) of this MRP.

5. Evaluation of Ionic Imbalances or Elevated TDS Toxicity. For discharges where ionic imbalance or elevated TDS has been identified as a cause of toxicity, the Discharger shall conduct the following concurrent tests to characterize the contribution of ionic imbalance or elevated TDS to effluent toxicity. Based on the test results, toxicity should be either quantitatively recovered in synthetic effluent that mimics ionic imbalance or elevated TDS, or eliminated by adding selected ions to the effluent to address deficiencies. Thus, in future WET testing, where ionic imbalance or elevated TDS is hypothesized as contributing to toxicity, the Discharger has the following two options to evaluate whether ionic imbalance or elevated TDS is causing the toxicity:

- a. Conducting a parallel test with synthetic effluent that mimics the ionic imbalance or TDS concentration; or
- b. Conducting a parallel test with effluent spiked with deficient ion(s).

Using these approaches, if ionic imbalance or elevated TDS is shown to account for toxicity, the Discharger shall document the results and findings in the monitoring report and no further testing is required. However, if the parallel tests do not account for toxicity, the Discharger shall take action as described in Section V.A.9. Accelerated Monitoring Schedule of this MRP.

C. Reporting of Toxicity Monitoring Results

1. The Discharger shall submit either a summary page or the full laboratory report for all toxicity testing as an attachment to CIWQS for the reporting period (e.g., monthly, quarterly, semi-annually or annually) and provide the data (i.e., Pass/Fail) in the PET tool for uploading into CIWQS. The laboratory report shall include:
 - a. The valid toxicity test results for the TST statistical approach, reported as “Pass” or “Fail” and “Percent Effect” at the toxicity IWC for the discharge, the dates of sample collection and initiation of each toxicity test, all results for effluent parameters monitored concurrently with the toxicity test(s); and progress reports on TRE investigations.
 - b. 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.

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

2. TRE/TIE results. The Colorado River Basin 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 TIE/TRE report, the Discharger shall provide status updates in the monthly monitoring reports, indicating which TIE/TRE steps are underway and which steps have been completed.

a. Any additional QA/QC documentation or any additional chronic toxicity-related information, upon written request from the Colorado River Basin Water Board.

VI. LAND DISCHARGE MONITORING REQUIREMENTS–NOT APPLICABLE

VII. RECYCLING MONITORING REQUIREMENTS–NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Monitoring Location RSW-001

1. The Discharger shall monitor Central Drain No. 5 at Monitoring Location RSW-001 as follows. In the event that no receiving water is present at Monitoring Location RSW-001, no receiving water monitoring data is required for Monitoring Location RSW-001.

Table E-6. Receiving Water Monitoring Requirements – RSW-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Temperature	°F	Grab	1x/Day ¹	See Section I.E and I.F of the MRP
Dissolved Oxygen	mg/L	Grab	1x/Day ¹	"
pH	Standard Units	Grab	1x/Day ¹	"
Total Hardness (as CaCO ₃)	mg/L	Grab	1x/Month	"
Total Dissolved Solids	mg/L	Grab	1x/Month	"
Nitrates as N	mg/L	Grab	2x/Year ²	"
Nitrites as N	mg/L	Grab	2x/Year ²	"
Ammonia Nitrogen as N	mg/L	Grab	2x/Year ²	"
Total Kjeldahl Nitrogen (TKN) as N	mg/L	Grab	2x/Year ²	"
Total Phosphorus as P	mg/L	Grab	2x/Year ²	"
Orthophosphate as P	mg/L	Grab	2x/Year ²	"

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Oil and Grease	mg/L	Grab	2x/Year ²	"
Priority Pollutants ³	µg/L	Grab	1x/Year	See Section I.G of the MRP

¹ Daily (excluding Friday off day (9/80 based schedule), holidays and weekends).

² The first sample should be collected between January 1 through June 30 and the second sample collected between July 1 through December 31.

³ All Priority Pollutants as defined by the California Toxics Rule (CTR), codified at 40 C.F.R. section 131.38.

B. Monitoring Location RSW-002

- The Discharger shall monitor Central Drain No. 5 at Monitoring Location RSW-002 as follows. In the event that no receiving water is present at Monitoring Location RSW-002, no receiving water monitoring data is required for Monitoring Location RSW-002.

Table E-7. Receiving Water Monitoring Requirements- RSW-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Temperature °	°F	Grab	1x/Day ¹	See Section I.E and I.F of the MRP
Dissolved Oxygen	mg/L	Grab	1x/Day ¹	"
pH	Standard Units	Grab	1x/Day ¹	"
Total Hardness (as CaCO ₃)	mg/L	Grab	1x/Month	"
Total Dissolved Solids	mg/L	Grab	1x/Month	"
Nitrates as N	mg/L	Grab	2x/Year ²	"
Nitrites as N	mg/L	Grab	2x/Year ²	"
Ammonia Nitrogen as N	mg/L	Grab	2x/Year ²	"
Total Kjeldahl Nitrogen (TKN) as N	mg/L	Grab	2x/Year ²	"
Total Phosphorus as P	mg/L	Grab	2x/Year ²	"
Orthophosphate as P	mg/L	Grab	2x/Year ²	"
Oil and Grease	mg/L	Grab	2x/Year ²	"

¹ Daily (excluding Friday off day (9/80 based schedule), holidays and weekends).

² The first sample should be collected between January 1 through June 30 and the second sample collected between July 1 through December 31.

C. Visual Monitoring

- In conducting the receiving water sampling, a log shall be kept of the receiving water conditions at Monitoring Locations RSW-001 and RSW-002. Notes on receiving water conditions shall be summarized in the monthly

monitoring report and when data is submitted electronically via the SMR module in the CIWQS Program, data shall be reported in the “Attachments” section. Attention shall be given to the presence or absence of:

- a. Floating or suspended matter;
- b. Discoloration;
- c. Aquatic life (including plants, fish, shellfish, birds);
- d. Visible film, sheen, or coating;
- e. Fungi, slime, or objectionable growths; and
- f. Potential nuisance conditions.

IX. OTHER MONITORING REQUIREMENTS—NOT APPLICABLE

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

1. The Discharger shall report the results of chronic toxicity testing, TRE, as required in Section V, “Effluent Toxicity Testing.”
2. The results of any analysis taken more frequently than required using analytical methods and/or monitoring procedures, and performed at the locations specified in this MRP shall be reported to the Colorado River Basin Water Board.
3. The Discharger shall ensure laboratory analytical results are consistent with the requirements contained in 40 C.F.R. part 136 with regard to significant figures. 40 C.F.R. part 136 specifies for some analytical methods, the number of significant figures to which measurements are made.

B. Electronic Self-Monitoring Reports (eSMRs)

1. The Discharger shall submit electronic Self-Monitoring Reports (eSMRs) using the State Water Board’s California Integrated Water Quality System (CIWQS) Program website (<https://www.waterboards.ca.gov/ciwqs/index.html>). The CIWQS website will provide additional information for eSMR submittal in the event there will be a planned service interruption for electronic submittal.
2. The Discharger shall maintain sufficient staffing and resources to ensure it submits eSMRs for the duration of the term of this permit including any administrative extensions. This includes provision of training and supervision of individuals (e.g., Discharger personnel or consultant) on how to prepare and submit eSMRs.
3. The Discharger shall report in the eSMR the results for all monitoring specified in this MRP under Sections III through IX. The Discharger shall submit monthly, quarterly, and annual eSMRs including the results of all

required monitoring using USEPA-approved test methods or other test methods specified in this Order. eSMRs are to include all new monitoring results obtained since the last eSMR 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 eSMR.

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

Table E-8. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins	Monitoring Period	SMR Due Date
Continuous	April 1, 2020	All	Submit with monthly eSMR
Daily 1x/Day	April 1, 2020	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly eSMR
Weekly 1x/Week	April 1, 2020	Sunday through Saturday	Submit with monthly eSMR
5x/Month	April 1, 2020	Sunday through Saturday	Submit with monthly eSMR
Monthly 1x/Month	April 1, 2020	1 st day of calendar month through last day of calendar month	First day of second month from end of monitoring period
Quarterly 1x/Quarter 4x/Year	April 1, 2020	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	May 1 August 1 November 1 February 1
Annually 1x/Year	April 1, 2020	January 1 through December 31	March 1

5. **Reporting Protocols.** The Discharger shall follow the procedure in 40 C.F.R. part 136 when reporting the results of analytical determinations of chemical constituents in a sample. Further, the Discharger shall use the following reporting protocol:

- a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample). For reporting concentration and calculated values in the PET tool follow these instructions:
 - i. Reporting Concentration - Under the “Qualifier” column select “=” and under the “Result” column report the result (concentration).
 - ii. Reporting Calculated Values - Under the “Qualifier” column select “=” and under the “Result” column report the result (calculated value).

- b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported under the "Qualifier" column as "DNQ" (Detected, but Not Quantified). For the purposes of data collection, the laboratory shall write the estimated chemical concentration under the "Result" column 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 (\pm a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory. For reporting concentration and calculated values in the PET tool follow these instructions:
 - i. Reporting Concentration – Under the "Qualifier" column select "DNQ," under the "Result" column report the estimated chemical concentration. In addition, the MDL shall be reported under the "MDL" column and the ML shall be reported under the "ML" column.
 - ii. Reporting Calculated Values – Under the "Qualifier" column select "<," under the "Result" column report the calculated value or in the case of mass loading report the average monthly effluent limitation for mass loading.
 - c. Sample results less than the laboratory's MDL shall be reported as "ND" (Not Detected). For reporting concentration and calculated values in the PET tool follow these instructions:
 - i. Reporting Concentration – Under the "Qualifier" column select "ND" and report the MDL under the "MDL" column.
 - ii. Reporting Calculated Values - Under the "Qualifier" column select "<," under the "Result" column report the calculated value (Flow, MGD x 8.34 x MDL (use correct units)) or in the case of mass loading report the average monthly effluent limitation for mass loading.
 - 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. Multiple Sample Data.** If the Permit contains an AMEL, AWEL and MDEL for pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, 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 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.
- 7. Formatting of eSMRs.** The Discharger shall submit eSMRs 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 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 eSMR. The information contained in the cover letter shall clearly identify violations of the WDRs; 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. In addition, the Discharger shall add these violations into CIWQS.
 - c. The Discharger shall upload the Whole Effluent Toxicity Test result page or entire report for the reporting period under the attachment tab for the reporting period.
 - d. The Discharger shall upload the laboratory reports for the analysis of the priority pollutant for the reporting period under the attachment tab for the reporting period. The Discharger shall evaluate the results with the criteria and notify the Colorado River Basin Regional Board of any exceedance of the criteria.

C. Discharge Monitoring Reports (DMRs)

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

D. Other Reports

1. **Special Studies.** The Discharger shall report the results of any special studies required by Special Provisions – VI.C.2 of this Order. The Discharger

shall report the progress in satisfaction of compliance schedule dates specified in Special Provisions – Section VI.C.7 of this Order.

2. The Discharger shall submit reports with the eSMR scheduled to be submitted on or immediately following the report due date.
3. **Operations and Maintenance Report.** The Discharger shall report the following as shown in Table E-9:

Table E-9. Operations and Maintenance Report

Activity	Reporting Frequency
To inspect and document the operation and maintenance of the UV disinfection system, including but not limited to, inspection, cleaning, and bulb replacement. The Discharger shall provide a certification statement in the annual report that inspections and documentation of inspections and operation/maintenance problems have been completed.	1x/Year
To inspect and document any operation/maintenance problems by inspecting each unit process. The Discharger shall provide a certification statement in the annual report that inspections and documentation of inspections and operations/maintenance problems have been completed.	1x/Year
Calibration of flow meters and mechanical equipment shall be performed in a timely manner and documented. The Discharger shall provide a certification statement in the annual report that the calibration of flow meters and mechanical equipment has been conducted and documentation of such calibrations is maintained.	1x/Year
The Discharger shall maintain documentation of all logbooks (operation and maintenance), chain of custody sheets, laboratory and sampling activities as stated in Standard Provisions Sections IV and V (Attachment D). The Discharger shall provide a certification statement in the annual report that maintenance of logbooks, chain of custody sheets, and laboratory and sampling activities as required is being implemented.	1x/Year
The Discharger shall conduct an annual review and evaluation of priority pollutant sampling results collected each year to evaluate the impact on surface water quality, and provide this evaluation in the annual report.	1x/Year