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## North Coast Regional Water Quality Control Board

### California Regional Water Quality Control Board

#### North Coast Region

#### California Water Code Section 13267 Investigative Order R1-2017-0051

#### Directing PacifiCorp and the California Department of Fish and Wildlife

#### To Submit

#### Technical and Monitoring Reports Pertaining to Discharges from the Iron Gate Fish Hatchery

#### WDID No. 1A800520SIS

#### Hornbrook, Siskiyou County

The California Regional Water Quality Control Board, North Coast Region (Regional Water Board) finds that:

1. PacifiCorp is the owner of Iron Gate Fish Hatchery (Facility), and California Department of Fish and Wildlife (CDFW) operates the Facility. The Facility is located at 8638 Lakeview Road in Hornbrook, identified as Siskiyou County Assessor's Parcel Numbers 041-070-080 and 041-070-050.
2. PacifiCorp and CDFW (hereinafter referred to as Dischargers) currently own and operate the Facility under Order No. R1-2000-17, NPDES No. CA0006688 and Monitoring and Reporting Program (MRP) Order R1-2000-17.
3. Fish raised in the Facility may become vulnerable to disease and parasite infestations. Various aquaculture drugs and chemicals are used periodically at the Facility to ensure the health and productivity of the confined fish population, as well as to maintain production efficiency. Aquaculture drugs are used to treat fish for parasites, fungal growths and bacterial infections.
4. The operation of the Facility may introduce a variety of pollutants into receiving waters. The Regional Water Board may regulate three classes of pollutants discharged by the Facility: (1) conventional pollutants (i.e., total suspended solids (TSS), oil and grease, biochemical oxygen demand (BOD), fecal coliform organisms, and pH); (2) toxic pollutants (e.g., metals such as copper, lead, nickel, and zinc); and (3) non-conventional pollutants (e.g., contaminants of

emerging concern (CECs), ammonia, formalin, and phosphorus). The most predominant of these pollutants are solids from fish feces and uneaten feed that settle to the bottom of the raceways. Both of these types of solids are primarily composed of organic matter including BOD, organic nitrogen, and organic phosphorus.

5. The chemicals and aquaculture drugs the Facility uses, or can use, for the treatment and control of disease include oxytetracycline, florfenicol, formalin, providine-iodine complex, hydrogen peroxide, potassium permanganate, and sodium chloride. Chemicals and aquaculture drugs used for anesthesia include MS-222/Finquel, and carbon dioxide.
6. The Facility includes two settling basins, which receive all wastewater from the hatchery building and wastewater from the production ponds during cleaning operations or drug/chemical applications. A properly operating settling basin is crucial for treatment of the pollutants discharged from the Facility.
7. On September 7, 2010, the State Water Resources Control Board adopted a Resolution approving amendments to the Water Quality Control Plan for the North Coast Region to establish: (1) Site Specific Dissolved Oxygen Objectives for the Klamath River; (2) an Action Plan for the Klamath River Total Maximum Daily Loads (TMDL) Addressing Temperature, Dissolved Oxygen, Nutrient, and Microcystin Impairments in the Klamath River; and (3) an Implementation Plan for the Klamath and Lost River Basins. On December 28, 2010, the U.S. Environmental Protection Agency approved the TMDLs for the Klamath River in California pursuant to Clean Water Act Section 303(d)(2).
8. The Klamath River TMDL includes Waste Load Allocations (WLAs) for Iron Gate Fish Hatchery for temperature, total phosphorus, total nitrogen and organic matter. The WLA for temperature is "zero increase above natural temperature." The WLAs for nutrients and organic matter is "zero net increase of nutrient and organic matter loads above California allocation scenario conditions." Review of current hatchery sampling data shows that the Facility discharges approximately 2,500 lbs of nitrogen per year, 500 lbs of phosphorus per year and 14,000 lbs of organic matter per year measured as Biochemical Oxygen Demand (BOD). This represents 0.03% of the overall loading of nitrogen and phosphorus and 0.02% of the overall loading of organic matter to the Klamath River every year.
9. The Klamath Hydroelectric Settlement Agreement (KHSA) was amended on April 6, 2016, and establishes the terms for removal of Iron Gate Dam in 2020. Per the KHSA, PacifiCorp may continue to fund the Facility for a minimum of eight years after dam removal to meet ongoing hatchery production goals. Hatchery production continuity is intended to bridge the gap between habitat disturbance related to dam removal activities and the successful reintroduction of anadromous fish upstream of Iron Gate dam.
10. PacifiCorp has begun a study to evaluate hatchery production options that do not rely on the current Iron Gate Hatchery water supply. The study will assess groundwater and surface water supply options, water reuse technologies, operational changes or new facilities at other locations that could support hatchery production in the absence of Iron Gate Dam. PacifiCorp engineering and environmental staff are researching available water supply options in the area and historic records on hatchery water supply options considered at the time Iron Gate

Hatchery was constructed. PacifiCorp has developed some preliminary alternatives for continued hatchery operations that will be evaluated with further engineering and economic study and is evaluating past work conducted during the relicensing process that evaluated hatchery operations. PacifiCorp has selected an engineering consultant to assist in the study.

### **Legal and Regulatory Authority**

- 11.** This California Water Code (Water Code) section 13267 Investigative Order (Order) conforms to and implements policies and requirements of the Porter-Cologne Water Quality Control Act (Division 7, commencing with California Water Code section 13000) including section 13267, and the Water Quality Control Plan for the North Coast Region (Basin Plan) adopted by the Regional Water Board including beneficial uses, water quality objectives, and implementation plans.
- 12.** Water Code section 13267, subdivision (a) provides that the Regional Water Board may investigate the quality of any waters of the state within its region in connection with any action relating to the Basin Plan. Water Code section 13267, subdivision (b) provides that the Regional Water Board, in conducting an investigation, may require a discharger to furnish, under penalty of perjury, technical or monitoring program reports. The reports required by this Order, pursuant to Water Code section 13267, are necessary to ensure that the future threat to water quality created by activities at the Facility are properly assessed and controlled. Due to the importance of protecting water resources as explained herein, the costs associated with developing the requested reports and work plans bear a reasonable relationship to the benefits that will be obtained from having the necessary information for the Regional Water Board to properly regulate and monitor the Facility.
- 13.** Water Code section 13383, subdivision (a) provides the Regional Water Board may establish monitoring, inspection, reporting, and record keeping requirements, as authorized by section 13160, 13376, or 13377 for any person who discharges, or proposes to discharge to navigable waters. Subdivision (b) provides that the Regional Water Board may require any person subject to this section to establish and maintain monitoring equipment or methods, including, where appropriate, biological monitoring methods, sample effluent as prescribed, and provide other information as may be reasonably required.

THEREFORE, IT IS HEREBY ORDERED that, pursuant to Water Code section 13267 and 13383, the Dischargers shall provide the following information:

#### **1. Hatchery Plan**

**Within one year from the date the Klamath River Renewal Corporation accepts the Federal Energy Regulatory Commission's Surrender Order for the Klamath Hydroelectric Project, and annually thereafter,** the Dischargers shall prepare and submit for Executive Officer an update on the development of a Post Iron Gate Dam Mitigation Hatchery Plan (Hatchery Plan) that incorporates the following elements:

##### **A. Continuity Study**

A report that will evaluate hatchery production options that do not rely on the current Facility water supply. The Continuity Study will assess groundwater and surface water

options, water reuse technologies and/or operational changes that could support hatchery production in the absence of Iron Gate Dam. The Continuity Study may include examination of local well records and the feasibility of increasing the production potential at existing or new hatchery facilities in the basin.

#### **B. Enhanced Effluent Treatment Evaluation**

A report detailing the evaluation of potential treatment options to further reduce nutrient loadings discharged from the Facility. Treatment options will include, but are not limited to, developing constructed treatment wetlands within or adjacent to the settling ponds and/or to develop water reuse applications to reduce nutrient loadings from the Facility. Effluent treatment options will be evaluated for the current Facility. If the Hatchery Plan determines that production at the current Facility cannot meet the production levels after Iron Gate Dam is removed, then any new proposed facilities (*i.e.*, Fall Creek, Shovel Creek) will have effluent treatment options evaluated as well.

### **2. Best Management Practices Plan**

**Within three months of the issuance date of this Order**, the Dischargers shall prepare and submit for Executive Officer review and approval, a site-specific Best Management Practices (BMP) Plan. The BMP Plan shall identify measures and practices to prevent or minimize the generation and discharge of wastes and pollutants to waters of the United States and waters of the state and ensure proper disposal for wastes complies with applicable solid waste disposal regulations and is protective of water quality. The Dischargers shall operate the Facility in accordance with the most recently updated BMP Plan.

The BMP Plan shall include, at a minimum, the following BMPs:

#### **C. Chemical and Solids Controls**

- 1.** Feed management and feeding strategies shall minimize the discharge of unconsumed food.
- 2.** Raceways and ponds shall be cleaned at such frequency and in such a manner to prevent the discharge of accumulated solids to waters of the United States.
- 3.** Fish grading, harvesting, and other activities within raceways or ponds shall be conducted in such a manner to minimize the discharge of accumulated solids.
- 4.** Fish mortalities shall be removed and properly disposed of on a regular basis to prevent discharge to waters of the United States, except in cases where the discharge to surface waters is determined to benefit the aquatic environment. Procedures shall be identified and implemented to collect, store, and dispose of fish and other solid wastes.
- 5.** A description of practices used to minimize use of drugs and chemicals to the maximum extent feasible.
- 6.** All drugs and pesticides shall be used in accordance with applicable label directions (Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) or Federal Food and Drug Administration (FDA)), except under the following conditions, both of which shall be reported in writing to the Executive Officer:

- a. Participation in Investigational New Animal Drug (INAD) studies, using established protocols; or
- b. Extra-label drug use, as prescribed by a veterinarian.

**D. Materials Storage**

1. Ensure proper storage of drugs, chemicals, and feed in a manner designed to prevent spills that may result in the unauthorized discharge of drugs, pesticides or feed to land or waters of the United States.
2. Implement procedures for properly containing, cleaning, and disposing of any spilled material.

**E. Structural Maintenance**

1. Inspect the production system and the wastewater treatment system on a routine basis in order to identify and promptly repair any damage.
2. Conduct regular maintenance of the production system and the wastewater treatment system in order to ensure that they are properly functioning.

**F. Recordkeeping**

1. Maintain records for aquatic animal rearing units documenting the feed amounts and estimates of the numbers and weight of aquatic animals.
2. Keep records, on site for three years, documenting the frequency of cleaning, inspections, maintenance and repairs.

**G. Training**

1. Train all Facility personnel in spill prevention and how to respond in the event of a spill in order to ensure the proper clean-up and disposal of spilled material.
2. Train personnel on the proper operation and cleaning of production and wastewater treatment systems including feeding procedures and proper use of equipment. The Dischargers shall ensure that operations staff are familiar with the BMP Plan and have been adequately trained in the specific procedures it requires.

**3. Settling Pond Evaluation**

The Dischargers shall submit, **within one year of the issuance date of this Order**, for Executive Officer concurrence, a settling pond evaluation for the two settling ponds at the Facility. The Dischargers shall evaluate and determine the degree of sedimentation in the ponds and whether performance of the ponds could be improved with pond dredging, engineered baffles, or through other means.

**4. Chemical Control and Verification Monitoring and Reporting Plan**

The Dischargers shall submit, **within one year of the issuance date of this Order**, for Executive Officer concurrence, a site-specific Chemical Control and Verification Monitoring and Reporting Plan (Control and Verification MRP) in order to minimize the need for disease control chemicals and characterize effluent associated with disease control activities. The Control and Verification MRP shall include, at a minimum: (1) an evaluation of controls and alternatives for

the reduction of chemical usage at the facility, (2) a plan to collect and analyze effluent for whole effluent toxicity, (3) a plan to collect, analyze, and compare to water quality objectives<sup>1</sup> concentrations of antibiotics and other treatments used for the prevention of disease in effluent, and (4) a schedule for implementation.

The Dischargers shall implement the Control and Verification MRP in accordance with the implementation schedule approved by the Executive Officer.

#### 5. Offsite Nutrient Reduction Feasibility Study

The Dischargers shall submit, **within one year of the issuance date of this Order**, for Executive Officer concurrence, an Offsite Nutrient Reduction Feasibility Study. The goal is to identify and evaluate the feasibility of implementing offsite nutrient reduction project(s). Some potential projects that could be considered are described in the attached Offsite Nutrient Reduction Feasibility Study Guidance document (Attachment B). The document includes information on a tracking tool that can be used to estimate the amount of nitrogen and phosphorus that may be reduced by various projects.

#### 6. Monitoring and Reporting Provisions

Water Code sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. This monitoring program establishes monitoring and reporting requirements that will assist the Regional Water Board with implementing federal and California regulations. The Monitoring and Reporting Provisions are incorporated in to this Order and can be found in Section 9 below.

#### 7. New Chemical and Aquaculture Drug Use Reporting

The Dischargers shall submit, **when any new chemicals and/or aquaculture drugs are to be used**, for Executive Officer concurrence, a Chemical and Drug Use Report. The report shall contain the following:

- A. The common name(s) and active ingredient(s) of the drug or chemical proposed for use and discharge;
- B. The purpose for the proposed use of the drug or chemical (i.e., list the specific disease for treatment and specific species for treatment);
- C. The amount proposed for use and the resulting calculated concentration in the discharge;
- D. The duration and frequency of the proposed use;
- E. Material Safety Data Sheets (MSDS) and available information; and

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<sup>1</sup> For all drugs and chemicals that have adopted numeric water quality goals or standards. A searchable database containing an extensive compendium of numeric water quality thresholds can be found at [http://www.waterboards.ca.gov/water\\_issues/programs/water\\_quality\\_goals/search.shtml](http://www.waterboards.ca.gov/water_issues/programs/water_quality_goals/search.shtml)

- F. Any related Investigational New Animal Drug (INAD), New Animal Drug Application (NADA) information, extra-label use requirements, and/or veterinarian prescriptions.

The Dischargers shall also submit chronic toxicity test information on any new chemical or drug applied in solution for immersive treatment in accordance with methods specified in the U.S. EPA Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (EPA-821-R-02-014EPA 600/4-90/027) using *ceriodaphnia dubia* and apply the Test of Significant Toxicity (TST) described in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R10-003, 2010).

## 8. Operation and Maintenance Manual

The Dischargers shall submit, **within one year of the issuance date of this Order**, for Executive Officer concurrence, an updated Operation and Maintenance (O&M) Manual for the operational components at the Facility. The Dischargers shall update the O&M manual, as necessary, to conform to changes in operation and maintenance of the Facility. The Dischargers shall operate and maintain the Facility in accordance with the most recently updated O&M Manual. The O&M Manual shall be readily available to operating personnel onsite and for review by state or federal inspectors. The O&M Manual shall include the following:

- A. Description of the Facility's organizational structure showing the number of employees, duties and qualifications and plant attendance schedules (daily, weekends and holidays, part-time, etc.). The description should include documentation that the personnel are knowledgeable and qualified to operate the treatment Facility so as to achieve the required level of treatment at all times.
- B. Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.
- C. Description of laboratory and quality assurance procedures.
- D. Description of safeguards to assure that, should there be reduction, loss, or failure of electric power, the Permittees will be able to comply with requirements of this Order.
- E. Description of preventive (fail-safe) and contingency (response and cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. These plans shall identify the possible sources (such as loading and storage areas, power outage, waste treatment unit failure, process equipment failure, tank and piping failure) of accidental discharges, untreated or partially treated waste bypass, and polluted drainage.

## 9. Monitoring and Reporting Program

### A. General Monitoring Provisions.

1. **Wastewater Monitoring Provision.** Composite samples may be taken by a proportional sampling device approved by the Executive Officer or by grab samples composited in proportion to flow. In compositing grab samples, the sampling interval shall not exceed one hour.
2. **Supplemental Monitoring Provision.** If the Dischargers monitor any pollutant more frequently than required by this Order, using test procedures approved by 40 C.F.R.

Part 136 or as specified in this Order, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the quarterly and/or annual monitoring reports required by this Order.

3. **Data Quality Assurance Provision.** Laboratories analyzing monitoring samples shall be certified by the Division of Drinking Water, in accordance with Water Code section 13176, and must include quality assurance/quality control data with their reports.
4. **Instrumentation and Calibration Provision.** All monitoring instruments and devices used by the Dischargers to fulfill the prescribed monitoring program shall be properly installed, calibrated, operated, and maintained to ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device.
5. **Minimum Levels (ML) and Reporting Levels (RL) Provision.** Priority pollutant monitoring analyses shall be conducted using commercially available and reasonably achievable detection limits that are lower than any applicable effluent limitation and/or water quality criteria. If no ML value is below these levels, the lowest ML shall be selected as the RL. Test methods and required MLs for specific priority pollutants assigned monitoring requirements in this Order are included in Table 1. Applicable MLs for all remaining priority pollutants can be referenced in Appendix 4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP).

**Table 1. Test Methods and MLs for Priority Pollutants**

CTR #	Parameter	Types of Analytical Methods MLs (µg/L)	
		Inductively Coupled Plasma/Mass Spectroscopy (ICPMS)	Stabilized Platform Graphite Furnace Atomic Absorption (SPGFAA)
6	Copper, Total Recoverable	0.5	2

**B. Monitoring Locations**

Monitoring required by this Order shall occur at the following monitoring locations:

**Table 2. Monitoring Station Locations**

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
---	<b>INF-001 (M-004)</b>	Influent is measured at the entrance to the hatchery building and the entrance to the raceways
<b>005</b>	<b>EFF-005</b>	Outfall for the production pond system
<b>006</b>	<b>EFF-006</b>	Treated effluent from the settling ponds
---	<b>RSW-001 (M-008)</b>	Upstream monitoring of the Klamath River just below the Lakeview Road Bridge or at a location just upstream (River Mile 189.73)
---	<b>RSW-002 (M-007)</b>	Downstream monitoring of the Klamath River approximately 20 feet upstream from discharge point 006
---	<b>RSW-003 (M-009)</b>	Downstream monitoring of the Klamath River at the USGS gauging station approximately 400 feet below EFF-006

**C. Influent Monitoring Requirements**

**1. Monitoring Location INF-001**

The Dischargers shall monitor the raw water supply to the Facility at Monitoring Location INF-001 (also referred to as Monitoring Location M-004) when discharges from the Facility are occurring. Samples shall be collected at approximately the same time as effluent and receiving water samples. Influent monitoring shall include the following:

**Table 3. Influent Monitoring –Iron Gate Hatchery**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Suspended Solids	mg/L	Grab	Quarterly	Standard Methods <sup>1</sup>
Settleable Solids	ml/L	Grab	Quarterly	Standard Methods
Total Nitrogen	mg/L	Grab	Monthly	Standard Methods
Total Phosphorus	mg/L	Grab	Monthly	Standard Methods
Copper, Total Recoverable	µg/L	Grab	Quarterly <sup>2,3</sup>	ICPMS <sup>4</sup> (0.5 µg/L) or SPGFAA <sup>5</sup> (2.0 µg/L)
Temperature	°F	Grab	Monthly	Standard Methods
CTR Priority Pollutants <sup>6,7</sup>	µg/L	Grab	Once per 5 years	Standard Methods

Table Notes:

1. In accordance with the current edition of *Standard Methods for Examination of Water and Wastewater* (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136.
2. Influent copper monitoring shall coincide with effluent copper monitoring. This will determine if there is any copper loading from the facility.
3. Measurements must be taken to coincide with quarterly influent and effluent sampling for copper. If the monitoring results show no net increase in copper from the Facility after one year of sampling, the Dischargers can cease sampling for hardness and copper. If monitoring results show a net increase in copper, the Dischargers shall initiate accelerated monitoring for hardness and copper until the source of copper can be determined and eliminated.
4. Inductively Coupled Plasma / Mass Spectroscopy.
5. Stabilized Platform Graphite Furnace Atomic Absorption.
6. Those pollutants identified by the California Toxics Rule at 40 C.F.R. section 131.38.
7. Analytical methods must achieve the lowest minimum level (ML) specified in Attachment 4 of the SIP; and in accordance with Section 2.4 of the SIP, the Dischargers shall report the ML and MDL for each sample result.

**D. Effluent Monitoring Requirements**

**1. Effluent Monitoring Locations EFF-005 and EFF-006**

The Dischargers shall monitor effluent at Monitoring Locations EFF-005 and EFF-006 (previously referred to by the Dischargers as Monitoring Locations M-005 and M-006) as follows. Effluent samples shall be collected during or immediately following raceway cleaning or administration of drug or chemical treatments. Time of collection of samples shall be recorded. If more than one analytical test method is listed for a

given parameter, the Dischargers must select from the listed methods and corresponding Minimum Level:

**Table 4. Effluent Monitoring – Iron Gate Hatchery**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method <sup>1</sup>
Flow	MGD	Meter or Gauge	Daily <sup>2</sup>	---
Total Suspended Solids	mg/L	Grab	Quarterly <sup>3</sup>	Standard Methods
Net Total Suspended Solids	mg/L	Calculation <sup>4</sup>	Quarterly	---
Settleable Solids	ml/L	Grab	Quarterly <sup>3</sup>	Standard Methods
Net Settleable Solids	ml/L	Calculation <sup>4</sup>	Quarterly	---
Turbidity	NTU	Grab	Quarterly	Standard Methods
pH	pH units	Grab	Quarterly	Standard Methods
Ammonia Nitrogen, Total (as N)	mg/L	Grab	Quarterly <sup>5</sup>	Standard Methods
Hardness	mg/L	Grab	Quarterly <sup>6</sup>	Standard Methods
CTR Priority Pollutants <sup>7</sup>	µg/L	Grab	Once per 5 years	Standard Methods <sup>8</sup>
Copper, Total Recoverable	µg/L	Grab	Quarterly <sup>6</sup>	ICPMS <sup>9</sup> (0.5 µg/L) or SPGFAA <sup>10</sup> (2.0 µg/L)
Total Nitrogen (as N)	mg/L	Grab	Monthly	Standard Methods
Net Total Nitrogen (as N)	mg/L	Calculation <sup>4</sup>	Quarterly	---
Total Phosphorus (as P)	mg/L	Grab	Monthly	Standard Methods
Net Total Phosphorus (as P)	mg/L	Calculation <sup>4</sup>	Quarterly	---
Temperature	°F	Meter	Monthly <sup>11</sup>	Standard Methods
Net Temperature	°F	Calculation <sup>4</sup>	Quarterly	---

Table Notes:

1. In accordance with the current edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136.
2. The Dischargers shall monitor the discharge flow rates when there is a discharge. Daily flows shall be calculated or measured and recorded monthly.
3. Accelerated Monitoring. If the sample result exceeds an effluent limitation set forth in Order R1-2000-17, the Dischargers shall take two more samples, one within 14 days and one within 21 days following receipt of the initial sample result. During the intervening period, the Dischargers shall take steps to identify the pollutant source and take steps needed to return to compliance.
4. The net concentration shall be calculated by subtracting the influent concentration from the effluent concentration. For net calculations that require monthly monitoring, the net shall be calculated for each month, and the sum of the monthly net calculation shall be reported in the quarterly reports.
5. Measurements must be taken to coincide with quarterly effluent and receiving water sampling for temperature and pH.
6. Measurements must be taken to coincide with quarterly influent and effluent sampling for copper. If the monitoring results show no net increase in copper from the Facility after one year of sampling, the Dischargers can cease sampling for hardness and copper. If monitoring results show a net increase in copper, the Dischargers shall initiate accelerated

- monitoring for hardness and copper until the source of copper can be determined and eliminated.
7. Those pollutants identified by the California Toxics Rule at 40 C.F.R. section 131.38.
  8. Analytical methods must achieve the lowest minimum level (ML) specified in Attachment 4 of the State Water Resources Control Board's State Implementation Plan (SIP); and in accordance with Section 2.4 of the SIP, the Dischargers shall report the ML and MDL for each sample result.
  9. Inductively Coupled Plasma / Mass Spectroscopy.
  10. Stabilized Platform Graphite Furnace Atomic Absorption.
  11. Effluent temperature monitoring shall coincide with influent and receiving water temperature monitoring.

## E. Receiving Water Monitoring Requirements

### 1. Monitoring Location RSW-001

The Dischargers shall monitor the upstream receiving water at Monitoring Location RSW-001 (also referred to as Monitoring Location M-008) as follows:

**Table 5. Upstream Receiving Water Monitoring Requirements<sup>6</sup>**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method <sup>1</sup>
Dissolved Oxygen	mg/L	Grab	Quarterly	Standard Methods
pH	pH Units	Grab	Quarterly <sup>2</sup>	Standard Methods
Temperature	°F	Grab	Quarterly <sup>2</sup>	Standard Methods
Turbidity	mg/L	Grab	Quarterly	Standard Methods
Fluorescent Dissolved Organic Matter (FDOM)	mg/L	Meter	Daily <sup>3</sup>	Standard Methods

Table Notes:

1. In accordance with the current edition of *Standard Methods for Examination of Water and Wastewater* (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136.
2. Measurements must be taken to coincide with monthly effluent monitoring for ammonia.
3. FDOM data shall be collected on a daily basis at regular intervals set for the Data Sans. The data shall be submitted in a format established by the Klamath Basin Monitoring Program for other automatic sampling devices on the Klamath River.
4. Those pollutants identified by the California Toxics Rule at 40 C.F.R. section 131.38.
5. Analytical methods must achieve the lowest minimum level (ML) specified in Attachment 4 of the SIP; and in accordance with Section 2.4 of the SIP, the Dischargers shall report the ML and MDL for each sample result.
6. Monitoring conducted pursuant to the baseline water quality monitoring program under the Klamath Hydroelectric Settlement Agreement (KHSAs) may be used to dually satisfy the requirements in Table 5, provided the same sample type, frequency, and required analytical test method.

## 2. Monitoring Locations RSW-002 and RSW-003

The Dischargers shall monitor the downstream receiving water at Monitoring Location RSW-002 and RSW-003(also referred to as Monitoring Location M-007 and M-009) as follows:

**Table 6. Downstream Receiving Water Monitoring Requirements<sup>3</sup>**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method <sup>1</sup>
Dissolved Oxygen	mg/L	Grab	Quarterly	Standard Methods
pH	pH Units	Grab	Quarterly <sup>2</sup>	Standard Methods
Temperature	°F	Grab	Quarterly <sup>2</sup>	Standard Methods
Turbidity	mg/L	Grab	Quarterly	Standard Methods

Table Notes:

1. In accordance with the current edition of *Standard Methods for Examination of Water and Wastewater* (American Public Health Administration) or current test procedures specified in 40 C.F.R. part 136.
2. Measurements must be taken to coincide with monthly effluent monitoring for ammonia.
3. Monitoring conducted pursuant to the baseline water quality monitoring program under the KHSA may be used to dually satisfy the requirements in Table 6, provided the same sample type, frequency, and required analytical test method.

## F. Other Monitoring Requirements

### 1. Quarterly Drug and Chemical Use Report

The Dischargers shall submit a quarterly report describing all aquaculture drugs or chemicals used at the Facility using the Chemical Use Report in Attachment A of this Order. The information that shall be provided includes:

- a. The name(s) and active ingredient(s) of the drug or chemical;
- b. The date(s) of application;
- c. The purpose(s) for the application;
- d. The method of application (e.g., immersion bath, administered in feed), duration of treatment, whether the treatment was static or flush (for drugs or chemicals applied directly to water), amount in gallons or pounds used, treatment concentration(s), and the flow measured in million gallons per day (MGD) in the treatment units;
- e. The total flow through the Facility measured in MGD to the discharge point after mixing with the treated water;
- f. For drugs and chemicals used for the treatment and control of diseases (other than NaCl), the method used to demonstrate compliance with the North Coast Basin Plan's Policy on the Regulation of Fish Hatcheries, Fish Rearing Facilities, and Aquaculture Operations; and
- g. The method of disposal for drugs or chemicals used but not discharged in the effluent.

## **G. Reporting Requirements**

### **1. Self-Monitoring Reports (SMRs)**

- a.** The Dischargers shall submit the SMR electronically via e-mail to NorthCoast@waterboards.ca.gov. The Dischargers shall maintain sufficient staffing and resources to ensure it submits SMRs that are complete and timely. This includes provision of training and supervision of individuals (e.g., Dischargers' personnel or consultant) on how to prepare and submit SMRs.
- b.** The Dischargers shall report in the SMR the results for all monitoring specified in this Order under sections III through VI. The Dischargers shall submit quarterly, as well as annual SMRs, including the results of all required monitoring using U.S. EPA-approved test methods or other test methods specified in this Order. SMRs are to include all new monitoring results obtained since the last SMR was submitted. If the Dischargers monitor 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.
- c.** All monitoring results reported shall be supported by the inclusion of the complete analytical report from the laboratory that conducted the analyses.
- d.** Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

**Table 7. Monitoring Periods and Reporting Schedule**

Sampling Frequency	Monitoring Period Begins On	Monitoring Period	SMR Due Date
Daily	Order effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling	First day of second calendar month following the end of each quarter (February 1, May 1, August 1, November 1)
Monthly	First day of calendar month following Order effective date or on permit effective date if that date is first day of the month	First day of calendar month through last day of calendar month	First day of second calendar month following the end of each quarter (February 1, May 1, August 1, November 1)
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) Order effective date	January through March April through June July through September October through December	First day of second calendar month following the end of each quarter (February 1, May 1, August 1, November 1)
Annually	January 1 following (or on) Order effective date	January 1 through December 31	March 1, each year

**Table Notes:**

1. Quarterly monitoring periods are as follows: January 1 through March 31; April 1 through June 30; July 1 through September 30; and October 1 through December 31.

**e. Reporting Protocols.** The Dischargers shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 C.F.R. part 136.

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

- i. Sample results greater than or equal to the ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- ii. Sample results less than the 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 as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). 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.

- iii. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
  - iv. The 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 are the Dischargers to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.
- f. The Dischargers shall submit SMRs in accordance with the following requirements:
- i. The Dischargers 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 reported data shall include calculation of all effluent limitations that require averaging, determining a median, or other computation.
  - ii. The Dischargers shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify:
    - a) Facility name and address;
    - b) WDID number;
    - c) Applicable period of monitoring and reporting;
    - d) Corrective actions taken or planned; and
    - e) Proposed time schedule for corrective actions.
  - iii. SMRs must be submitted to the Regional Water Board, signed and certified, and submit the SMR electronically via e-mail to [NorthCoast@waterboards.ca.gov](mailto:NorthCoast@waterboards.ca.gov) or on disk (CD or DVD) in Portable Document Format (PDF) file in lieu of paper-sourced documents. The guidelines for electronic submittal of documents can be found on the Regional Water Board website at <http://waterboards.ca.gov/northcoast>.

## 2. Other Reports

- a. **Special Study Reports and Progress Reports.** Each special study and progress report shall be submitted in accordance with the following reporting requirements.

**Table 8. Reporting Requirements for Special Progress Reports**

Special Provision Requirement	Reporting Requirements
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Special Provision Requirement	Reporting Requirements
New Chemical and Aquaculture Drug Use Reporting	New use of drug or chemical
Hatchery Plan (includes continuity study and the enhanced hatchery effluent treatment evaluation)	Annual reporting beginning one year from the effective date of the 13267 Order
Settling Pond Evaluation	One year from the effective date of the 13267 Order
Best Management Practices Plan	Three months from the effective date of the 13267 Order
Chemical Controls and Verification Monitoring and Reporting Plan	One year from the effective date of the 13267 Order
Updated Operation and Maintenance Manual	One year months from the effective date of the 13267 Order
Offsite Nutrient Reduction Feasibility Study	One year from the effective date of the 13267 Order

**b. Annual Report.** The Dischargers shall submit an annual report to the Regional Water Board for each calendar year electronically via email to NorthCoast mailbox (Section VII.A.6.c above). The report shall be submitted by March 1st of the following year. The report shall, at a minimum, include the following:

- i. Where appropriate, both tabular and/or graphical summaries of the monitoring data and disposal records from the previous year. If the Dischargers monitor any pollutant more frequently than required by this MRP, using test procedures approved under 40 C.F.R. part 136 or as specified in this MRP, the results of this monitoring shall be included in the calculation and report of the data submitted SMR;
- ii. The names and general responsibilities of all persons employed at the Facility;
- iii. The names and telephone numbers of persons to contact regarding the Facility for emergency and routine situations;
- iv. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration; and
- v. Solids Handling and Disposal Activity Reporting.

## 10. Provisions

**A. Use of Registered Professionals:** The Dischargers shall provide documentation that its technical report was prepared under the direction of appropriately qualified professionals. In preparing the technical report required by this Order, any engineering or geologic evaluations and judgments must be performed by or under the direction of registered professionals pursuant to California Business and Professions Code sections 6735, 7835, and 7835.1. A statement of qualifications and registration numbers of the responsible lead professional shall be included in the report submitted by the Dischargers. The lead professional shall sign and affix his or her registration stamp to the report.

- B. Qualified Professionals:** The Dischargers' reliance on qualified professionals promotes proper planning, implementation, and long-term cost-effectiveness of investigation, and cleanup and abatement activities. Professionals shall be qualified, licensed where applicable, and competent and proficient in the fields pertinent to the required activities.
- C. Signatory Requirements:** The technical report shall be signed and certified by either a principal executive officer, ranking elected official, or the person with overall responsibility for environmental matters for the Dischargers. Additional reports submitted in support of the technical report must be signed by the principal author.
- D. Certification Statement:** Any report submitted in response to this Order shall include the following perjury statement:

*"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."*

- E. Report Submittal:** The technical report shall be submitted electronically to:

North Coast Regional Water Quality Control Board  
[NorthCoast@waterboards.ca.gov](mailto:NorthCoast@waterboards.ca.gov)

If the report cannot be sent by email, it shall be submitted electronically on a compact disc to the following address:

North Coast Regional Water Quality Control Board  
5550 Skylane Boulevard, Suite A  
Santa Rosa, CA 95403

## 11. Notifications

- A. Enforcement Discretion:** The Regional Water Board and the State Water Board reserve their rights to take any enforcement action authorized by law for violations of the terms and conditions of this Order. Furthermore, compliance with this Order is wholly distinct from any possible enforcement that may follow from the discharges themselves, pursuant to violations of the California Water Code or other orders issued by the Regional Water Board or State Water Board.
- B. Enforcement Notification:** Pursuant to California Water Code section 13268, failure to submit the required technical reports as required by Water Code section 13267(b), or falsifying any information provided therein, may result in the imposition of administrative civil liability up to \$1,000 per violation per day. Any actual unauthorized discharge to waters of the United States may subject the Discharger to up to \$10,000 for each day of discharge, and \$10 for each gallon over 1,000 gallons not cleaned up pursuant to Water

Code section 13385. The Regional Water Board reserves its rights to take any further enforcement action authorized by law.

- C. California Environmental Quality Act Compliance:** The issuance of this Order is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Title 14 of the California Code of Regulations, section 15306. The submission of technical information does not constitute a project with environmental impacts.
- D. Appeal Notification:** Any person aggrieved by this action of the Regional Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by

5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: [http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality](http://www.waterboards.ca.gov/public_notices/petitions/water_quality) or will be provided upon request.

It is hereby ordered.

Matthias St. John  
Executive Officer  
September 29, 2017

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**ATTACHMENT A - CHEMICAL USE REPORT**

Date	Chemical Name	Purpose	Amount Applied	Units	Treatment Duration	Treatment Type (Immersion, Feed, Injection)	Flow Treated (MGD)	Total Effluent Flow (MGD)	Calculated Effluent Concentration
<p><i>For drugs and chemicals used for the treatment and control of diseases (other than NaCl), use the space below to describe the method used to demonstrate compliance with Discharge Prohibition IV.G of this General Order. Information that may be used to demonstrate compliance includes monitoring data for the drug or chemical at the time of application or calculation of the concentration (C) at the point of discharge as compared to the reporting level for the drug or chemical using the equation <math>C = (\text{treatment concentration}) \times (\text{flow in treatment area}) \div (\text{flow at point of discharge})</math>.</i></p>									

## **Attachment B - Offsite Nutrient Reduction Feasibility Study Guidance**

**Study Purpose:** Identify and evaluate the feasibility of implementing offsite nutrient reduction project(s). Some potential projects that could be considered are described below including a tracking tool to estimate the amount of nitrogen and phosphorus that may be reduced by various projects.

**Nutrient Tracking Tool** – The Nutrient Tracking Tool (NTT) was developed by Texas Institute for Applied Environmental Research (TIAER) staff in collaboration with United States Department of Agriculture Natural Resources Conservation Services (USDA-NRCS). The tool estimates nitrogen, phosphorus, and sediments losses from fields managed under a variety of cropping patterns and management practices.

NTT can simulate a wide variety of conservation practices. The following are a few of the many practices that are commonly simulated using the program.

- Nutrient Management - Alternative fertilizer and manure applications. To mitigate discharge of nutrients.
- Contour buffer strips – Buffer strips positioned along field contour. To help trap sediment and filter nutrients and pesticides.
- Filter strips – Managed strip(s) of vegetation to reduce sediment and nutrient runoff.
- Riparian vegetation buffer – Multi-plant buffer zones around water bodies to reduce the discharge of nutrients and sediment to surface waters.
- Alternative tillage systems – a variety of tillage systems (e.g., no-till, conventional tillage, minimum till) for reducing sediment discharge. Could be possible to reduce phosphorus inputs due to attached phosphorus on sediment.
- Tile drainage – Subsurface drainage management
- Strip cropping – Alternative strips of different crops
- Cover cropping – Vegetative cover crops planted after harvesting the main crop.

A NTT fact sheet can be found at <http://tiaer.tarleton.edu/nttfactsheet.pdf>. TIAER and USDA NRCS produced a document called “Nutrient Tracking Tool (NTT) Application for Oregon: Overview and Guidelines” that can be used as guidance and provides some case studies for applications in Oregon. This document can be found at [http://willamettepartnership.org/wp-content/uploads/2014/09/NTT-User-Guide\\_Oregon\\_100511.pdf](http://willamettepartnership.org/wp-content/uploads/2014/09/NTT-User-Guide_Oregon_100511.pdf).

The USDA Office of Environmental Markets has just finished collecting data in the Willamette River Basin and is currently calibrating the NTT model with the collected data. The USDA plans to calibrate the model to the Upper Klamath once the Willamette project is completed. There is currently no timetable for completion.

The North Coast Water Board understands the NTT has some restrictions and may not be fully calibrated for the Klamath River Basin, but the tool can provide insight to the amount of phosphorus, nitrogen and sediment that may be reduced by various projects.

Some project alternatives for offsite nutrient reduction that could be considered include the following:

**Animal Exclusion Fencing** – Keep animals out of surface waters: exclude animals, people, or vehicles to protect and maintain plant and water quality and prevent or minimize direct loading of animal waste and sediment into surface waters. Install alternative drinking sources (e.g., pipelines, ponds, troughs, tanks, and wells) to keep animals away from sensitive water bodies and install hardened access points so animals have access to drinking water sources. Use fences, hedgerows, moats, and other practices to keep animals away from sensitive areas and place mineral supplements and additional shade away from sensitive areas.

**Water Conservation, Reuse and Wetlands/Streams Restoration** – Irrigation improvements can conserve water and improve the quality of the water entering the rivers. Tailwater recycling systems reduce irrigation withdrawals. Riparian areas have the natural functions to filter runoff before it enters the river. Constructed Wetlands can also help filter out nutrients.

**Grazing Management** –The purpose of this management measure is to protect sensitive areas in ranch, pasture, and other grazing lands. California-approved USDA NRCS standards required for a conservation management systems should be applied to the entire grazing area. These components include erosion control, adequate pasture stand density, and rangeland condition. The California State Water Board lists the following Management Practices for Grazing Management:

- Carefully plan the use of grazing areas by developing a grazing management plan with the goal of improving or maintaining water quality. Use prescribed grazing techniques to harvest vegetation in a controlled manner by managing the intensity, frequency, and duration of grazing.
- Prevent erosion from wind or water by maintaining sufficient vegetative cover to stabilize soils. Where feasible, consider installing wind rows or wind fences to reduce wind velocity and erosion.
- Provide designated, stabilized stream crossings for livestock and equipment to minimize impacts on stream habitat and water quality.
- Use structural range improvements like access roads, grade stabilizers, sediment ponds, stalk trails or walkways, troughs and tanks, pipelines, and streambank protection to maintain vegetation and slopes and prevent waterway degradation.
- Use non-structural practices such as planting of native vegetation, especially along channels or in critical areas; prescribed burning; range seeding; brush management; stream corridor

improvement; and wetland and upland wildlife management to manage vegetation, prevent erosion, and protect wildlife habitat.

- Allow for a vegetative buffer strip/filter strip to remain around sensitive areas (such as streambanks, ponds, lake shores, and riparian zones) to help facilitate infiltration and ultimately prevent polluted runoff from directly entering surface waters.

**Replanting Native Species** - Grasses provide a buffer that filters nutrients out of pasture runoff, shrubs help stabilize banks and reduce erosion, and fallen trees provide habitat for fish. Grazing management projects protect the area so vegetation can return and planting native species can speed up this process.