

## North Coast Regional Water Quality Control Board

**ORDER R1-2021-0026  
NPDES NO. CA1000003  
WDID NO. 1B20161NHUM**

### **Waste Discharge Requirements for the Nordic Aquafarms California, LLC Humboldt County**

The following Discharger is subject to waste discharge requirements (WDRs) set forth in this Order:

Discharger	<b>Nordic Aquafarms California, LLC</b>
Name of Facility	<b>Nordic Aquafarms California, LLC</b>
Facility Address	<b>1 TCF Drive Samoa, CA 95501 Humboldt County</b>

**Table 1. Discharge Location**

<b>Discharge Point</b>	<b>Effluent Description</b>	<b>Discharge Point Latitude (North-South)</b>	<b>Discharge Point Longitude (East-West)</b>	<b>Receiving Water</b>
001	Ocean Outfall	40° 49' 10"	-124° 13' 32"	Pacific Ocean

This Order was adopted on:	<b>August 19, 2021</b>
This Order shall become effective on:	<b>October 1, 2021</b>
<b>This Order shall expire on:</b>	<b>September 30, 2026</b>

The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDRs in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than: **November 30, 2025**. The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, North Coast Region have classified this discharge as follows: **Minor**

THEREFORE, IT IS HEREBY ORDERED, that in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

I, Matthias St. John, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, North Coast Region, on the date indicated above.

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Matthias St. John, Executive Officer

21\_0026\_Nordic\_NPDES Permit

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## 1. FACILITY INFORMATION

Information describing the Nordic Aquafarms California, LLC (Facility) is summarized on the cover page and in sections 1 and 2 of the Fact Sheet (Attachment F). The Facility is Concentrated Aquatic Animal Production (CAAP) as defined in 40 Code of Federal Regulations (40 C.F.R.) section 122.24 and a Fish Processing Facility as defined in 40 C.F.R. section 408. Section 1 of the Fact Sheet also includes information regarding the Facility's permit application.

## 2. FINDINGS

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

### 2.1. Legal Authorities

This Order serves as waste discharge requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as a National Pollutant Discharge Elimination System (NPDES) permit authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 1 subject to the WDRs in this Order.

### 2.2. Background and Rationale for Requirements

The North Coast Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for the requirements in this Order, is hereby incorporated into and constitutes Findings for this Order. Attachments A through E are also incorporated into this Order.

### 2.3. Provisions and Requirements Implementing State Law

The provisions/requirements in subsections 4.2, 4.3, and 5.2 are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

### 2.4. Notification of Interested Parties

The Regional Water Board Name has notified the Permittee and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet.

## 2.5. **Consideration of Public Comment**

The North Coast Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet.

## 3. **DISCHARGE PROHIBITIONS**

### 3.1. **Discharge Prohibition 3.1**

The discharge of any waste not disclosed by the Permittee or not within the reasonable contemplation of the Regional Water Board is prohibited.

### 3.2. **Discharge Prohibition 3.2**

Creation of pollution, contamination, or nuisance, as defined by Water Code section 13050, is prohibited.

### 3.3. **Discharge Prohibition 3.3**

The Discharge of waste to Humboldt Bay is prohibited.

### 3.4. **Discharge Prohibition 3.4**

The discharge of domestic waste, treated or untreated, to surface waters is prohibited.

### 3.5. **Discharge Prohibition 3.5**

The discharge of waste to land that is not owned by the Permittee or under agreement to use by the Permittee is prohibited.

### 3.6. **Discharge Prohibition 3.6**

The discharge of waste at any point not described in Finding 2.2 of the Fact Sheet or authorized by a permit issued by the State Water Resources Control Board (State Water Board) is prohibited.

### 3.7. **Discharge Prohibition 3.7**

The maximum daily flow of waste through the Facility in excess of 12.5 mgd is prohibited. Compliance with this prohibition shall be determined as defined in sections 7.7 of this Order.

### 3.8. **Discharge Prohibition 3.8**

The discharge of any radiological, chemical, or biological warfare agent into waters of the state is prohibited.

**3.9. Discharge Prohibition 3.9**

The discharge of waste resulting from cleaning activities is prohibited.

**3.10. Discharge Prohibition 3.10**

The discharge of detectable levels of chemicals used for the treatment and control of disease, other than salt (NaCl), is prohibited.

**4. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS**

**4.1. Effluent Limitations – Discharge Point 001**

**4.1.1. Final Effluent Limitations – Discharge Point 001**

The discharge of treated wastewater shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location Eff-001, as described in the Monitoring and Reporting Program (MRP) (Attachment E).

**Table 2. Effluent Limitations**

Parameter (Table Note 1)	Units	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow	mgd			12.5		
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	lbs/day	6,270 (Table Note 2)		10,230 (Table Note 2)		
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	lbs/day	12,566 (Table Note 3)		20,503 (Table Note 3)		
Total Suspended Solids	mg/L					60
Total Suspended Solids	lbs/day	1, 254 (Table Note 2)		2,145 (Table Note 2)		6,255
Total Suspended Solids	lbs/day	2,513 (Table Note 3)		4,299 (Table Note 3)		6,255
pH	standard units	---	---	---	6.0	9.0
Settleable Solids	mL/L	1.0	1.5	---	---	3.0
Oil and Grease	mg/L	25	40	---	---	75
Oil and Grease	lbs/day	248 (Table Note 2)		693 (Table Note 2)		
Oil and Grease	lbs/day	496 (Table Note 3)		1,389 (Table Note 3)		
Turbidity	NTU	75	100	---	---	225



Table Notes

1. See Definitions in Attachment A and Compliance Determination discussion in section 7 of this Order.
2. Effluent Limit Guidelines established in 40 C.F.R. section 408 subpart S establishes mass-loading technology-based effluent limitations (TBELs) for west coast salmon processing facilities. TBELs for Phase 1 are based on 165,000 lbs of fish processed per day.
3. Effluent Limit Guidelines established in 40 C.F.R. section 408 subpart S establishes mass-loading technology-based effluent limitations (TBELs) for west coast salmon processing facilities. TBELs for Phase 2 are based on 330,693 lbs of fish processed per day.

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**4.1.2. Interim Effluent Limitations – Not Applicable**

This Order does not establish interim effluent limitations or schedules for compliance with final limitations.

**4.2. Land Discharge Specifications – Not Applicable**

This Order does not authorize discharges of waste to land.

**4.3. Water Recycling Specifications and Requirements – Not Applicable**

This Order does not authorize discharges of recycled water.

**4.4. Other Requirements****4.4.1. Disinfection Process Requirements for Ultraviolet Light (UV) Disinfection System**

The Permittee shall operate the UV disinfection system to ensure that the UV design dose is met, and pathogens are not discharged to the receiving water.

- 4.4.1.1. Prior to initial discharge at Discharge Point 001, the Permittee shall submit, for Executive Officer approval, a copy of a letter from the UV supplier showing written acceptance of the UV system design specifications and capacity for the Facility
- 4.4.1.2. Provide continuous, reliable monitoring of flow, UV transmittance (UVT), UV intensity, UV dose, and UV power at Monitoring Location INT-001. The Permittee must demonstrate compliance with the UV dose requirement.
- 4.4.1.3. Operate the UV disinfection system to provide a minimum UV dose of 250 millijoules per square centimeter (mJ/cm<sup>2</sup>) at all times at Monitoring Location INT-001.
- 4.4.1.4. Visually inspect the quartz sleeves and cleaning system components per the manufacturer's operation manual for physical wear (scoring, solarization, seal leaks, etc.) and check the efficacy of the cleaning system.
- 4.4.1.5. Wipe/clean the quartz sleeves at fixed intervals following the manufacturer's procedures to ensure the minimum required UV dose delivery is consistently achieved. Cleaning intervals shall be increased as necessary to ensure compliance with permit requirements.
- 4.4.1.6. Operate the UV disinfection system in accordance with an approved operations and maintenance plan, which clearly specifies the operational limits and responses required for critical alarms. The Permittee shall maintain a copy of the approved operations plan at the treatment plant and make the plan readily available to properly trained operations personnel and regulatory

agencies. The Permittee shall post a quick reference plant operations data sheet at the treatment plant. The data sheet shall include the following information:

- 4.4.1.6.1. The alarm set points for high and low flow, UV dose and transmittance, UV lamp operation hours, and power.
- 4.4.1.6.2. The values of high and low flow, UV dose and transmittance, UV lamp operation hours, and power when flow must be diverted to waste.
- 4.4.1.6.3. The required frequency of calibration for all meters measuring flow, UVT, and power.
- 4.4.1.6.4. The required frequency of mechanical cleaning/wiping and equipment inspection.
- 4.4.1.7. Replace lamps per the manufacturer's recommendation, or sooner, if there are indications the lamps are failing to provide adequate disinfection. The Permittee shall maintain lamp age and lamp replacement records for a time period consistent with the record retention requirements in the Standard Provisions (Attachment D, section IV).
- 4.4.1.8. Properly calibrate flow meters and UVT monitors to ensure proper disinfection.
- 4.4.1.9. Inspect the UVT meter and check against a reference bench-top unit weekly to document accuracy.
- 4.4.1.10. Recalibrate the on-line UVT analyzer by a procedure recommended by the manufacturer if the on-line analyzer UVT reading varies from the bench-top spectrophotometer UVT reading by 2 percent or more.
- 4.4.1.11. Operate the UV disinfection system with a built-in automatic reliability feature that must be triggered when the system is below the target UV dose. If the measured UV dose goes below the minimum UV dose, the UV reactor in question must alarm and startup the next available row of UV lamps or UV lamp bank.
- 4.4.1.12. Not allow equivalent or substitutions of equipment to occur without an adequate demonstration of equivalent disinfection performance to the satisfaction and approval of the Executive Officer.
- 4.4.1.13. Ensure that flow through the UV disinfection system not exceed the peak design flow of the system as a daily maximum

## 5. RECEIVING WATER LIMITATIONS

Receiving water limitations are based on water quality objectives contained in the Ocean Plan (Surface Water Limitations) are a required part of this Order. Receiving water conditions not in conformance with the limitations are not necessarily a violation of this Order. Compliance with receiving water limitations shall be measured at monitoring locations described in the MRP (Attachment E). The Regional Water Board may require an investigation to determine cause and culpability prior to asserting that a violation has occurred.

### 5.1. Surface Water Limitations

Discharges from the Facility shall not cause the following in the receiving water upon completion of initial dilution (115:1):

#### 5.1.1. Ocean Plan

##### 5.1.1.1. Physical Characteristics

- 5.1.1.1.1. Floating particulates and oil and grease shall not be visible.
- 5.1.1.1.2. The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface.
- 5.1.1.1.3. Natural light shall not be significantly reduced at any point outside the initial dilution zone as the result of the discharge of waste.
- 5.1.1.1.4. The rate of deposition of inert solids and the characteristics of inert solids in ocean sediments shall not be changed such that benthic communities are degraded.

##### 5.1.1.2. Chemical Characteristics

- 5.1.1.2.1. The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste materials.
- 5.1.1.2.2. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.
- 5.1.1.2.3. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.
- 5.1.1.2.4. The concentration of substances set forth in chapter II, Table 1 of the Ocean Plan shall not be increased in marine sediments to levels which would degrade indigenous biota.

- 5.1.1.2.5. The concentration of organic materials in marine sediments shall not be increased to levels that would degrade marine life.
- 5.1.1.2.6. Nutrient materials shall not cause objectionable aquatic growths or degrade indigenous biota.
- 5.1.1.2.7. Discharges shall not cause exceedances of water quality objectives for ocean waters of the state established in chapter II, Table 1 of the Ocean Plan.
- 5.1.1.2.8. Discharge of radioactive waste shall not degrade marine life.
- 5.1.1.3. **Biological Characteristics**
  - 5.1.1.3.1. Marine communities, including vertebrate, invertebrate and plant species, shall not be degraded.
  - 5.1.1.3.2. The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.
  - 5.1.1.3.3. The concentration of organic materials in fish, shellfish, or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.
- 5.1.1.4. **General Standards**
  - 5.1.1.4.1. The discharge shall not cause a violation of any applicable water quality standard for the receiving waters adopted by the Regional Water Board or the State Water Board as required by the CWA and regulations adopted thereunder.
  - 5.1.1.4.2. Waste management systems that discharge to the ocean must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.
  - 5.1.1.4.3. Waste discharged to the ocean must be essentially free of:
    - 5.1.1.4.3.1. Material that is floatable or will become floatable upon discharge.
    - 5.1.1.4.3.2. Settleable material or substances that may form sediments which will degrade benthic communities or other aquatic life.
    - 5.1.1.4.3.3. Substances which will accumulate to toxic levels in marine waters, sediments or biota.
    - 5.1.1.4.3.4. Substances that significantly decrease the natural light to benthic communities and other marine life.

- 5.1.1.4.3.5. Materials that result in aesthetically undesirable discoloration of the ocean surface.
- 5.1.1.4.4. Waste effluents shall be discharged in a manner which provides sufficient initial dilution to minimize the concentrations of substances not removed in the treatment.
- 5.1.1.4.5. Location of waste discharges must be determined after a detailed assessment of the oceanographic characteristics and current patterns to assure that:
  - 5.1.1.4.5.1. Pathogenic organisms and viruses are not present in areas where shellfish are harvested for human consumption or in areas used for swimming or other body-contact sports.
  - 5.1.1.4.5.2. Natural water quality conditions are not altered in areas designated as being of special biological significance or areas that existing marine laboratories use as a source of seawater.
  - 5.1.1.4.5.3. Maximum protection is provided to the marine environment.
  - 5.1.1.4.5.4. The discharge does not adversely affect recreational beneficial uses such as surfing and beach walking.

## 5.1.2. Thermal Plan

### 5.1.2.1. Temperature Objectives

The discharge shall not result in increases in the natural water temperature exceeding 4°F at (a) the shoreline, (b) the surface of any ocean substrate, or (c) the ocean surface beyond 1,000 feet from the discharge system. The surface temperature limitation shall be maintained at least 50 percent of the duration of any complete tidal cycle.

## 6. PROVISIONS

### 6.1. Standard Provisions

#### 6.1.1. Federal Provisions

The Permittee shall comply with all Standard Provisions included in Attachment D of this Order.

#### 6.1.2. Regional Water Board Standard Provisions

The Permittee shall comply with the following Regional Water Board standard provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:

- 6.1.2.1. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this Facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.
- 6.1.2.2. In the event the Permittee do not comply or will be unable to comply for any reason, with any prohibition, final effluent limitation, receiving water limitation, or provision of this Order that may result in a significant threat to human health or the environment, such as inundation of treatment infrastructure, breach of pond containment, sanitary sewer overflow, etc., that results in a discharge to a drainage channel or a surface water, the Permittee shall notify Regional Water Board staff within 24 hours of having knowledge of such non-compliance. Spill notification and reporting shall be conducted in accordance with section 5.5 of Attachment D and section 10.5 of the MRP.

## 6.2. **Monitoring and Reporting Program (MRP) Requirements**

The Permittee shall comply with the MRP, and future revisions thereto, in Attachment E.

## 6.3. **Special Provisions**

### 6.3.1. **Reopener Provisions**

#### 6.3.1.1. **Standard Revisions**

If applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments thereto, the Regional Water Board may reopen this Order and make modifications in accordance with such revised standards.

#### 6.3.1.2. **Reasonable Potential.**

This Order may be reopened for modification to include an effluent limitation if monitoring establishes that the discharge causes, or has the reasonable potential to cause or contribute to, an excursion above a water quality criterion or objective applicable to the receiving water.

#### 6.3.1.3. **Whole Effluent Toxicity (WET)**

This Order may be reopened to include a new narrative or numeric chronic toxicity limitation, acute toxicity limitation and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity effluent limitation based on that objective.

#### 6.3.1.4. **303(d)-Listed Pollutants**

If an applicable total maximum daily load (TMDL) (see Fact Sheet, section 3.4) program is adopted, this Order may be reopened and effluent limitations for the pollutant(s) that are the subject of the TMDL modified or imposed to conform this Order to the TMDL requirements.

#### 6.3.2. **Special Studies, Technical Papers, and Additional Monitoring Requirements**

##### 6.3.2.1. **Disaster Preparedness Assessment Report and Action Plan**

Natural disasters, extreme weather events, sea level rise, and shifting precipitation patterns, some of which are projected to intensify due to climate change, have significant implications for industrial wastewater treatment and operations. Some natural disasters are expected to become more frequent and extreme according to the current science on climate change. In order to ensure that Facility operations are not disrupted, compliance with conditions of this Order are achieved, and receiving waters are not adversely impacted by permitted and unpermitted discharges, the Permittee shall submit a Disaster Preparedness Assessment Report and Action Plan to the Regional Water Board by **August 1, 2024** for Executive Officer review and approval.

The Permittee shall: (1) conduct an assessment of the wastewater treatment facility, operations, collection, and discharge systems to determine areas of short- and long-term vulnerabilities related to natural disasters and extreme weather, including sea level rise and other conditions projected by climate change science, if applicable; the assessment shall consider, as applicable, impacts to operations due to changing influent and receiving water quality, rising sea level, storm surges, fires, floods, earthquakes, tsunamis, back-to-back severe storms, and other extreme conditions that pose a risk to plant operations and water quality; (2) identify control measures needed to protect, improve, and maintain infrastructure, waste discharge compliance, and receiving water quality in the event of a natural disaster or, if applicable, under conditions resulting from climate change; (3) develop a schedule to implement necessary control measures. Control measures shall include, but are not limited to, emergency procedures, contingency plans, alarm/notification systems, training, backup power and equipment, and the need for planned mitigations to ameliorate potential risks associated with extreme weather events and changing conditions resulting from climate change; and (4) implement the necessary control measures per the approved schedule of implementation.

The Humboldt Bay Harbor, Recreation and Conservation District (HBHRCD) is pursuing a plan that would combine three separately permitted NPDES waste streams through the outfall at Discharge Point 001. Currently, the DG Fairhaven Power Facility and Samoa Wastewater Treatment Plant are



permitted to discharge wastewater through the same ocean outfall at Discharge Point 001. The Permittee may work with these Facilities and any additional dischargers that utilize the ocean outfall to develop and submit for Executive Officer review and approval a joint Disaster Preparedness Assessment Report and Action Plan for the Samoa Peninsula as it relates to the discharge point.

#### 6.3.2.2. **New Chemical and Aquaculture Drug Use Reporting**

Based on information provided by the Permittee in their ROWD, CAAP potential chemicals and aquaculture drugs that may be used at the Facility include the following:

##### 6.3.2.2.1. **Detergents**

###### 6.3.2.2.1.1. Aqualife® Multipurpose Cleaner

A biodegradable, nonhazardous cleaner that is designed specifically for use in fish hatcheries, aquaculture facilities, fish & food processing plants, & agricultural farms. Active ingredients: sodium hydroxide (1-5%), the product is phosphate free, contains no volatile organic compounds and is NSF certified for use in food processing facilities. Used according to the label at dilutions of 1:20. Approximate annual use: 2,232 gallons/year.

###### 6.3.2.2.1.2. Gil Save®

High-foaming chlorinated, alkaline, liquid detergent, Gil Save is designed for foam and high pressure spray cleaning of meat and poultry plants, breweries, dairies and canneries. It is a complete product containing alkalis, water conditioners, chlorine and high-foaming wetting agents. Gil Save is an effective cleaner of food processing equipment by removing fatty and protein soils, pectin, mold, yeast and organic greases. Active ingredients: sodium hydroxide (7-9%), sodium hypochlorite (3-4%). Use according to label at concentrations of 0.2-3% (1/4-4 oz/gallon). Approximate annual use: 678 gallons/year.

##### 6.3.2.2.2. **Clean in Place (CIP)**

###### 6.3.2.2.2.1. Gil Super CIP®

A heavy-duty, chelated-liquid caustic cleaner for use in CIP, boil-out, soak, spray clean and atomization cleaning systems, Gil Super CIP is formulated to remove protein, fatty and carbonized soils typically found in dairy and food processing. Active ingredients: sodium hydroxide (49%). Used according to label at 0.1-3% (1/8-4 oz/gallon). Approximate annual use: 5,840 gallons/year.

**6.3.2.2.2. Gil Hydrox®**

A concentrated organic, liquid acid cleaner, Gil Hydrox rapidly removes milk/beer stone, alkaline/hard water film and stains/protein build-up from dairy and food processing equipment. It is specially formulated for use in CIP, spray and acid rinse operations. Active ingredients: glycolic acid (29-31%). Used according to label at 0.3-1.5% (½-2 oz/gallon). Approximate annual use: 5,840 gallons/year.

**6.3.2.2.3. Disinfectants/Sanitizers****6.3.2.2.3.1. Bleach**

Active ingredient: sodium hypochlorite (8%) in concentrated form. Typically used at 100-1,000 ppm for general cleaning/disinfection. Approximate annual use: 1,500 gallons/year.

**6.3.2.2.3.2. Ozone**

Ozone is a naturally occurring gas that is unstable and so has a very short half-life. It is formed when an oxygen molecule (O<sub>2</sub>) is forced to bond with a third atom of oxygen (O). The third atom is only loosely bound to the molecule, making ozone highly unstable. This property makes ozone an excellent oxidizing agent and ideal for use in water treatment. It reacts rapidly with organic materials (about 3,000 times faster than chlorine) and, unlike chlorine, there are no toxic residues. It reacts, then quickly disappears while the reaction by-product of ozone is oxygen.

Closed process equipment which comes in to contact with fresh or processed food such as pipes, vessels and evaporators and other food contact surfaces must be kept clean and sanitized to maintain a proper level of hygiene. Ozone has been granted Generally Recognized As Safe approval by both the USDA and FDA for direct contact with food and ozone's strongly oxidizing characteristics makes it a viable complete replacement for traditional chemical disinfectants used to sanitize fillet machines, cutting tables, knives, and all equipment that may be used in the seafood processing areas.

In addition, when used in the fish culture systems, ozone is responsible for reducing Total Suspended Solids and Dissolved Organic Carbon, as well as controlling the level of Biochemical Oxygen Demand / Chemical Oxygen Demand. Ozone breaks down large inorganic substances to smaller substances that are more readily biodegradable by bacteria contained in the recirculating aquaculture system (RAS) biological filters while ozone causes small organic particles to aggregate into larger particles which are more easily removed by filters. The combination of these factors leads to higher standards of environmental control and a

reduction in effluent volumes. Approximate annual use: TBD.  
Concentration in discharge = 0 ppm.

#### 6.3.2.2.3.3. Virkon® Aquatic

A powerful cleaning and disinfecting solution with efficacy against fish viruses, bacteria, fungi, and molds. Virkon® Aquatic is EPA registered (except in California where registration is pending) for the disinfection of environmental surfaces associated with aquaculture. Active ingredient: Potassium monopersulfate (21.4%). Used in accordance with label as a general cleaner and in footbaths. Working solution strengths normally range from 0.5% - 2.0%. Approximate annual use: 1,100 lbs/year (500 kg/year). Virkon Aquatic is conditionally approved for use once California approves registration and authorizes use.

#### 6.3.2.2.3.4. Zep FS Formula 12167® Chlorinated Disinfectant and Germicide

A liquid chlorine sanitizer and deodorant for use in all types of food-handling establishments. Authorized as no rinse sanitizer for equipment. Provides deodorizing activity by destroying bacteria which generate many disagreeable odors. Can also be used to sanitize commercial laundry. Active ingredients: Sodium hypochlorite (5-10%) and sodium hydroxide (1-3%). Used according to label, effective at concentrations as low as 0.3% (1 oz/ 2 gallons). USDA applicable and EPA and Maine registered. Approximate annual use: 1,980 gallons/year.

### 6.3.2.3. **Drugs for Fish Treatment**

#### 6.3.2.3.1.1. Parasite-S, Formalin-F, and Formacide-B. (Formalin)

Active ingredient 37% formaldehyde. Used periodically according to the label if needed to alleviate fish health issues due to saprolegniasis, external protozoa and monogenetic trematodes. Typical dose rates from 25 ppm to 1,000 ppm. Approximate annual use: 925 gallons/year.

#### 6.3.2.3.1.2. Finquel® or Tricane-S (Tricaine methanesulfonate)

Used periodically in accordance with the label to reduce stress on the fish when handling small numbers for examination. Typical dose rates of 15-330 mg/L. Approximate annual use: 1.1 lbs/year (500 gallons/year).

#### 6.3.2.3.1.3. Ovadine® (PVP Iodine)

A buffered 1% Iodine solution (Iodophor) specifically formulated for use in disinfecting fish eggs. It contains a 10% Povidone-Iodine (PVP Iodine) complex, which provides 1% available iodine. Used according to the label at dose rates of 50 -100 ppm as available iodine solution. Estimated usage: 160 gallons/year (600 l/year).

Other chemicals and aquaculture drugs can only be authorized if the Permittee submits a written request to the Executive Officer to use a new drug or chemical. The request for new chemical usage shall contain the following:

- The common name(s) and active ingredient(s) of the drug or chemical proposed for use and discharge;
- The purpose for the proposed use of the drug or chemical (i.e., list the specific disease for treatment and specific species for treatment);
- The amount proposed for use and the resulting calculated concentration in the discharge;
- The duration and frequency of the proposed use;
- Safety Data Sheets (SDS) and available information; and
- Any related Investigational New Animal Drug (INAD), New Animal Drug Application (NADA) information, extra-label use requirements, and/or veterinarian prescriptions.

The Permittee 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 (EPA-821-R-02-014) 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). The submission may include previous, valid chronic toxicity test results. Upon review of the written request for new chemical usage, the Executive Officer shall determine the suitability of the chemical(s) for use under this Order. If the chemical is deemed eligible for coverage, the Executive Officer shall issue approval in a letter to the Permittee.

### 6.3.3. **Best Management Practices and Pollution Prevention**

#### 6.3.3.1. **Best Management Practices (BMP) Plan**

The Permittee must submit, 180 days prior to first discharge, or when Facility Operations change, a site-specific BMP Plan developed and implemented as required by 40 C.F.R. part 451, Subpart A. The Permittee shall develop and implements the BMP Plan 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 disposal or land application of wastes is in compliance with applicable solid waste disposal regulations. The Permittee shall review the BMP Plan annually and must amend the BMP Plan whenever

there is a change in the Facility or in the operation of the Facility which materially increases the generation of pollutants or their release or potential release to surface waters.

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

#### 6.3.3.1.1. **Chemical and Solids Controls**

- 6.3.3.1.1.1. Feed management and feeding strategies must minimize the discharge of unconsumed food.
- 6.3.3.1.1.2. Holding tanks must be cleaned at such frequency and in such a manner to prevent the discharge of accumulated solids discharged to waters of the United States.
- 6.3.3.1.1.3. Fish grading, harvesting and other activities within the Facility must be conducted in such a manner to minimize the discharge of accumulated solids.
- 6.3.3.1.1.4. Fish mortalities must 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 must be identified and implemented to collect, store, and dispose of fish and other solid wastes.
- 6.3.3.1.1.5. A description of practices used to minimize use of drugs and chemicals to the extent feasible.
- 6.3.3.1.1.6. All drugs and pesticides must 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 must be reported in writing to the Executive Officer:
  - Participation in Investigational New Animal Drug (INAD) studies, using established protocols; or
  - Extra-label drug use, as prescribed by a veterinarian.

#### 6.3.3.1.2. **Materials Storage**

- 6.3.3.1.2.1. 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.
- 6.3.3.1.2.2. Implement procedures for properly containing, cleaning, and disposing of any spilled material.

**6.3.3.1.3. Structural Maintenance**

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

**6.3.3.1.4. Recordkeeping**

- 6.3.3.1.4.1. In order to calculate representative feed conversion ratios, maintain records for aquatic animal rearing units documenting the feed amounts and estimates of the numbers and weight of aquatic animals.
- 6.3.3.1.4.2. Keep records documenting the frequency of cleaning, inspections, maintenance and repairs.

**6.3.3.1.5. Training**

- 6.3.3.1.5.1. 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 adequately.
- 6.3.3.1.5.2. Train personnel on the proper operation and cleaning of production and wastewater treatment systems including training in feeding procedures and proper use of equipment. The Permittee shall ensure that its operations staff are familiar with the BMP Plan and have been adequately trained in the specific procedures it requires.

**6.3.3.2. Pollutant Minimization Program (PMP)**

- 6.3.3.2.1. The Permittee shall, as required by the Executive Officer, develop and conduct a PMP, as further described below, when there is evidence (e.g., sample results reported as detected, but not quantified (DNQ) when the effluent limitation is less than the method detection limit (MDL), sample results from analytical methods more sensitive than those methods required by this Order, health advisories for fish consumption, results of benthic or aquatic organism tissue sampling) that a priority pollutant is present in the effluent above an effluent limitation and either:
  - 6.3.3.2.1.1. A sample result is reported as DNQ and the effluent limitation is less than the RL; or
  - 6.3.3.2.1.2. A sample result is reported as ND and the effluent limitation is less than the MDL, using definitions described in Attachment A and reporting protocols described in MRP section 10.2.4.

- 6.3.3.2.2. The PMP shall include, but not be limited to, the following actions and submittals acceptable to the Regional Water Board:
- 6.3.3.2.2.1. An annual review and semi-annual monitoring of potential sources of the reportable priority pollutant(s), which may include fish tissue monitoring and other bio-uptake sampling;
  - 6.3.3.2.2.2. Quarterly monitoring for the reportable priority pollutant(s) in the influent to the wastewater treatment system;
  - 6.3.3.2.2.3. Submittal of a control strategy designed to proceed toward the goal of maintaining concentrations of the reportable priority pollutant(s) in the effluent at or below the effluent limitation;
  - 6.3.3.2.2.4. Implementation of appropriate cost-effective control measures for the reportable priority pollutant(s), consistent with the control strategy; and
  - 6.3.3.2.2.5. An annual status report that shall be submitted as part of the Annual Facility Report due March 1st to the Regional Water Board and shall include:
    - 6.3.3.2.2.5.1. All PMP monitoring results for the previous year;
    - 6.3.3.2.2.5.2. A list of potential sources of the reportable priority pollutant(s);
    - 6.3.3.2.2.5.3. A summary of all actions undertaken pursuant to the control strategy; and
    - 6.3.3.2.2.5.4. A description of actions to be taken in the following year.

#### 6.3.4. **Construction, Operation and Maintenance Specifications**

##### 6.3.4.1. **Proper Operation and Maintenance**

This Order (Attachment D, Standard Provision I.D) requires that the Permittee at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Permittee to achieve compliance with this Order. Proper operation and maintenance includes adequate laboratory quality control and appropriate quality assurance procedures.

##### 6.3.4.2. **Operation and Maintenance Manual**

The Permittee shall maintain an updated Operation and Maintenance (O&M) Manual for the operational components of the Facility. The Permittee shall submit the O&M Manual to the Regional Water Board **30 days prior to first discharge**, an update the O&M Manual, as necessary, to conform to changes in operation and maintenance of the Facility. The Permittee 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:

- 6.3.4.2.1. Description of the Facility's organizational structure showing the number of employees, duties and qualifications and attendance schedules (daily, weekends and holidays, part-time, etc.). The description should include documentation that the personnel are knowledgeable and qualified to operate the Facility so as to achieve the required level of treatment at all times.
- 6.3.4.2.2. Detailed description of safe and effective operation and maintenance of treatment processes, process control instrumentation and equipment.
- 6.3.4.2.3. Description of laboratory and quality assurance procedures.
- 6.3.4.2.4. Inspection and essential maintenance schedules for all processes and equipment.
- 6.3.4.2.5. Description of safeguards to assure that, should there be reduction, loss, or failure of electric power, the Permittee will be able to comply with requirements of this Order.
- 6.3.4.2.6. 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.
- 6.3.4.3. **New Facility Certification Report**

All proposed new treatment facilities shall be completely constructed and operable prior to initiation of the discharge from the new or expanded facilities. The Permittee shall submit a certification report, **once construction of the new Facility is complete and prior to first discharge**, for each new treatment facility, expansion of an existing facility, and design capacity re-ratings, prepared by the design engineer. For design capacity re-ratings, the certification report shall be prepared by the engineer who evaluated the treatment facility design capacity. The signature and engineering license number of the engineer preparing the certification report shall be affixed to the report.

The certification report shall:

- 6.3.4.3.1. Identify the dates when testing and full operation capacity of the new treatment facilities occurred.



- 6.3.4.3.2. Demonstrate that the Facility was constructed to meet the design criteria and identify any changes that occurred in relation to the original design plans. This may include submittal of the as-built drawings and a narrative description of any changes that occurred in relation to the original design plans.
- 6.3.4.3.3. Identify and certify the design capacity of the treatment facility; and
- 6.3.4.3.4. Certify the adequacy of each component of the treatment facility to meet requirements of this Order.
- 6.3.5. **Special Provisions for Publicly-Owned Treatment Works (POTWs) – Not Applicable**
- 6.3.6. **Other Special Provisions**
- 6.3.6.1. **Sludge Disposal and Handling Requirements**
- 6.3.6.1.1. The application to land of collected screenings and other solids, including fish carcasses is not covered or authorized by this Order. Collected screenings and other solids, including fish carcasses shall be disposed of in a manner consistent with Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste , as set forth in Cal. Code Regs., tit 27, division 2, subdivision 1, § 20005, et seq.
- 6.3.6.1.2. A report describing solids handling, disposal method, and final disposition of solids and/or fish carcasses shall be submitted to the Regional Water Board within 90 days of the issuance of the NOA authorizing coverage under this General Order. The report may be submitted in conjunction with the Permittee's BMP Plan.
- 6.3.6.1.3. All aquaculture drugs and chemicals not discharged in accordance with the provisions of this General Order shall be disposed of in an environmentally safe manner, according to label guidelines, MSDS guidelines, and the Permittee's BMP Plan. Any other form of disposal requires approval from the Executive Officer.
- 6.3.6.1.4. All collected solid waste removed from liquid wastes shall be removed from screens, sumps, and tanks as needed to ensure optimal plant operation and disposed of in accordance with applicable federal and state regulations.
- 6.3.6.1.5. Solids treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, and shall not result in groundwater contamination.
- 6.3.6.1.6. Solids treatment and storage sites shall have facilities adequate to divert surface water runoff from adjacent areas to protect the boundaries of the site from erosion and prevent drainage from the treatment and storage site.

Adequate protection is defined as protection from a design storm with a 100-year recurrence interval and 24-hour duration.

- 6.3.6.1.7. The discharge of solids shall not cause waste material to be in a position where it is, or can be, conveyed from the treatment and storage sites and deposited in the waters of the state.

**6.3.6.2. Storm Water**

For the control of storm water discharges from the Facility the Permittee shall seek separate authorization to discharge under the requirements of the State Water Board's Water Quality Order No. 2014-0057-DWQ, NPDES General Permit No. CAS000001, General Permit for Storm Water Discharges Associated with Industrial Activities (or subsequent renewed versions of the NPDES General Permit CAS000001), which is not incorporated by reference in this Order.

For control of storm water discharges from construction at the Facility the Permittee is required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ.

Best management practices (BMPs) to control the run-on and runoff of storm water to the Facility site shall be maintained and upgraded as necessary. The Permittee shall describe the effectiveness of these storm water BMPs, as well as activities to maintain and upgrade these BMPs during the previous year, in its annual report to the Regional Water Board.

**6.3.7. Compliance Schedules – Not Applicable**

This Order does not establish interim effluent limitations or schedules of compliance for final numeric effluent limitations.

**7. COMPLIANCE DETERMINATION**

Compliance with the prohibitions and effluent limitations contained in section 4 of this Order will be determined as specified below.

**7.1. General**

Compliance with effluent limitations for priority pollutants, when effluent limitations have been established, shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Permittee shall be deemed out of compliance with effluent limitations if the concentration of a pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported minimum level (ML).

## 7.2. Multiple Sample Data

When determining compliance with an AMEL for priority pollutants, and more than one sample result is available, the Permittee shall compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or ND. In those cases, the Permittee shall compute the median in place of the arithmetic mean in accordance with the following procedure.

- 7.2.1. 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.
- 7.2.2. 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 middle values 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 and a value of zero shall be used for the ND or DNQ value in the median calculation for compliance purposes only. Using a value of zero for DNQ or ND samples does not apply when performing

## 7.3. Average Monthly Effluent Limitation (AMEL)

If the average (or when applicable, the median determined by subsection B, above, for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Permittee will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Permittee will be considered out of compliance for that calendar month. The Permittee will only be considered out of compliance for days when the discharge occurs. If there are ND or DNQ results for a specific constituent in a calendar month, the Permittee shall calculate the median of all sample results within that month for compliance determination with the AMEL as described in section 7.2, above.

## 7.4. Maximum Daily Effluent Limitation (MDEL)

If a daily discharge (or when applicable, the median determined by subsection B, above, for multiple sample data of a daily discharge) exceeds the MDEL for a given parameter, the Permittee will be considered out of compliance for that parameter for that 1 day only within the reporting period.

## 7.5. Instantaneous Minimum Effluent limitation

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, the Permittee will be considered out of compliance for that parameter for that single sample. Non-compliance for each

sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

If the Permittee monitors pH continuously, pursuant to 40 C.F.R. section 401.17, the Permittee shall be in compliance with the pH limitation specified herein provided that both of the following conditions are satisfied: (1) the total sum of time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (2) no individual excursion from the range of pH values shall exceed 60 minutes.

#### **7.6. Instantaneous Maximum Effluent Limitation**

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, the Permittee will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (e.g., the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

If the Permittee monitors pH continuously, pursuant to 40 C.F.R. section 401.17, the Permittee shall be in compliance with the pH limitation specified herein provided that both of the following conditions are satisfied: (1) the total sum of time during which the pH values are outside the required range of pH values shall not exceed 7 hours and 26 minutes in any calendar month; and (2) no individual excursion from the range of pH values shall exceed 60 minutes.

#### **7.7. Flow Effluent Limitation**

Compliance with the maximum daily effluent limitation of 12.5 MGD will be measured at monitoring location EFF-001.

## ATTACHMENT A - DEFINITIONS

### ARITHMETIC MEAN (M)

Also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

$$\text{Arithmetic mean } (\mu) = \frac{\sum x}{n}$$

where:  $\sum x$  is the sum of the measured ambient water concentrations, and  $n$  is the number of samples.

### AVERAGE MONTHLY EFFLUENT LIMITATION (AMEL)

The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

### AVERAGE WEEKLY EFFLUENT LIMITATION (AWEL)

The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

### BIOACCUMULATIVE

Those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

### CARCINOGENIC

Pollutants are substances that are known to cause cancer in living organisms.

### COEFFICIENT OF VARIATION (CV)

CV is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

### DAILY DISCHARGE

Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a

constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

### **DETECTED, BUT NOT QUANTIFIED (DNQ)**

DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

### **DILUTION CREDIT**

Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

### **EFFLUENT CONCENTRATION ALLOWANCE (ECA)**

ECA is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as wasteload allocation (WLA) as used in U.S. EPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

### **ENCLOSED BAYS**

Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

### **ESTIMATED CHEMICAL CONCENTRATION**

The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

## **ESTUARIES**

Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

## **INLAND SURFACE WATERS**

All surface waters of the state that do not include the ocean, enclosed bays, or estuaries.

## **INSTANTANEOUS MAXIMUM EFFLUENT LIMITATION**

The highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

## **INSTANTANEOUS MINIMUM EFFLUENT LIMITATION**

The lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

## **MAXIMUM DAILY EFFLUENT LIMITATION (MDEL)**

The highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

## **MEDIAN**

The middle measurement in a set of data. After the measurements are ranked in order, the median is the middle measurement if the number of measurements is odd. If the number of measurements is even, then the median is the arithmetic mean of the middle pair of ranked measurements.

## **METHOD DETECTION LIMIT (MDL)**

MDL is the minimum concentration of a substance that can be reported with 99 percent confidence that the measured concentration is distinguishable from method blank results, as defined in 40 C.F.R. part 136, Attachment B.

## **MINIMUM LEVEL (ML)**

ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

## **MIXING ZONE**

Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

## **NOT DETECTED (ND)**

Sample results which are less than the laboratory's MDL.

## **PERSISTENT POLLUTANTS**

Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

## **POLLUTANT MINIMIZATION PROGRAM (PMP)**

PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The <Regional Water Board Name> may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

## **POLLUTION PREVENTION**

Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State



Water Resources Control Board (State Water Board) or <Regional Water Board Name>.

### **REPORTING LEVEL (RL)**

The RL is the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order, including an additional factor if applicable as discussed herein. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the <Regional Water Board Name> either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

### **SOURCE OF DRINKING WATER**

Any water designated as municipal or domestic supply (MUN) in a <Regional Water Board Name> Basin Plan.

### **STANDARD DEVIATION ( $\Sigma$ )**

Standard Deviation is a measure of variability that is calculated as follows:

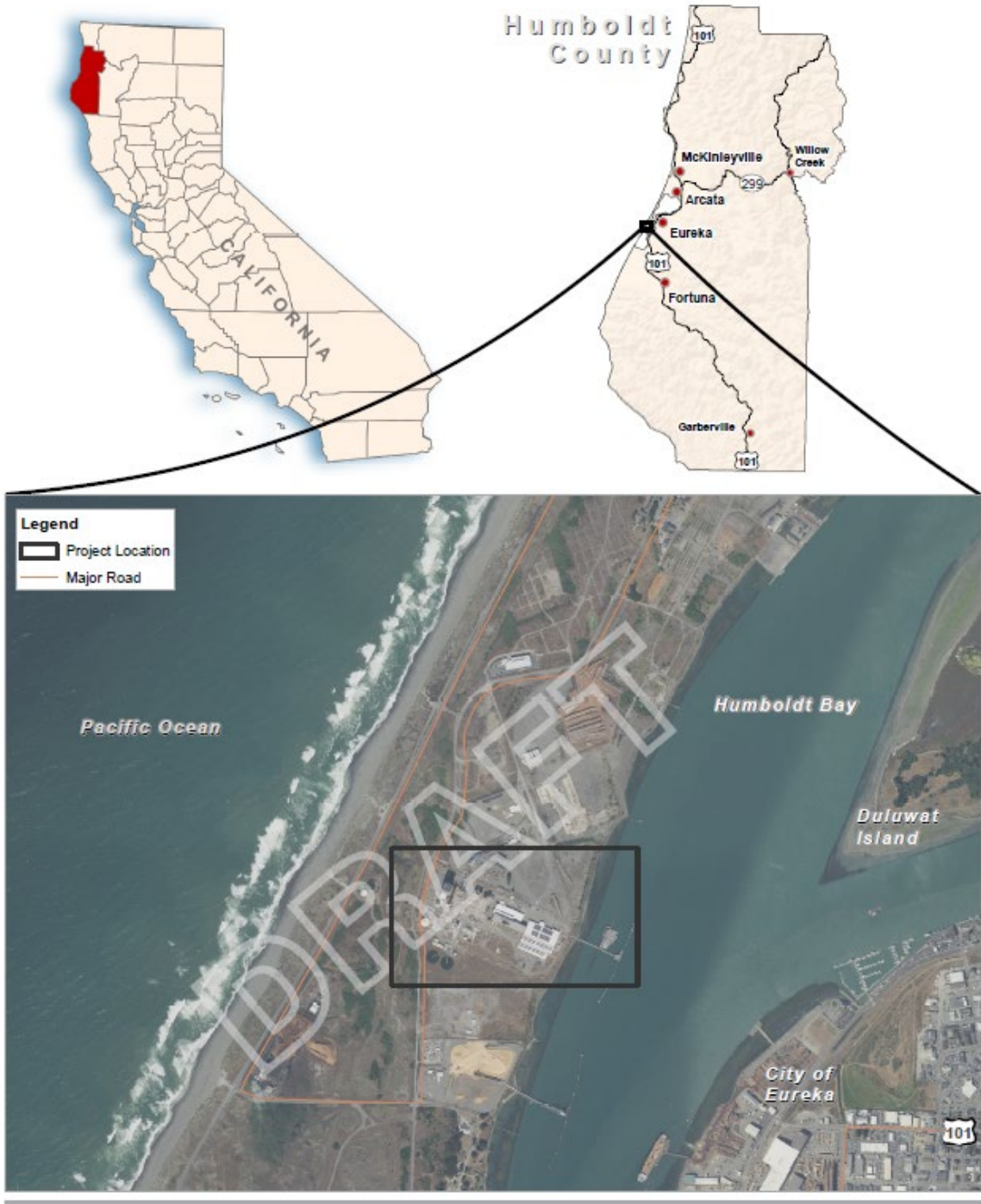
$$\text{Standard Deviation } (\sigma) = \frac{\Sigma(X-\mu)^2}{(n-1)^{0.5}}$$

where: x is the observed value;  $\mu$  is the arithmetic mean of the observed values; and n is the number of samples.

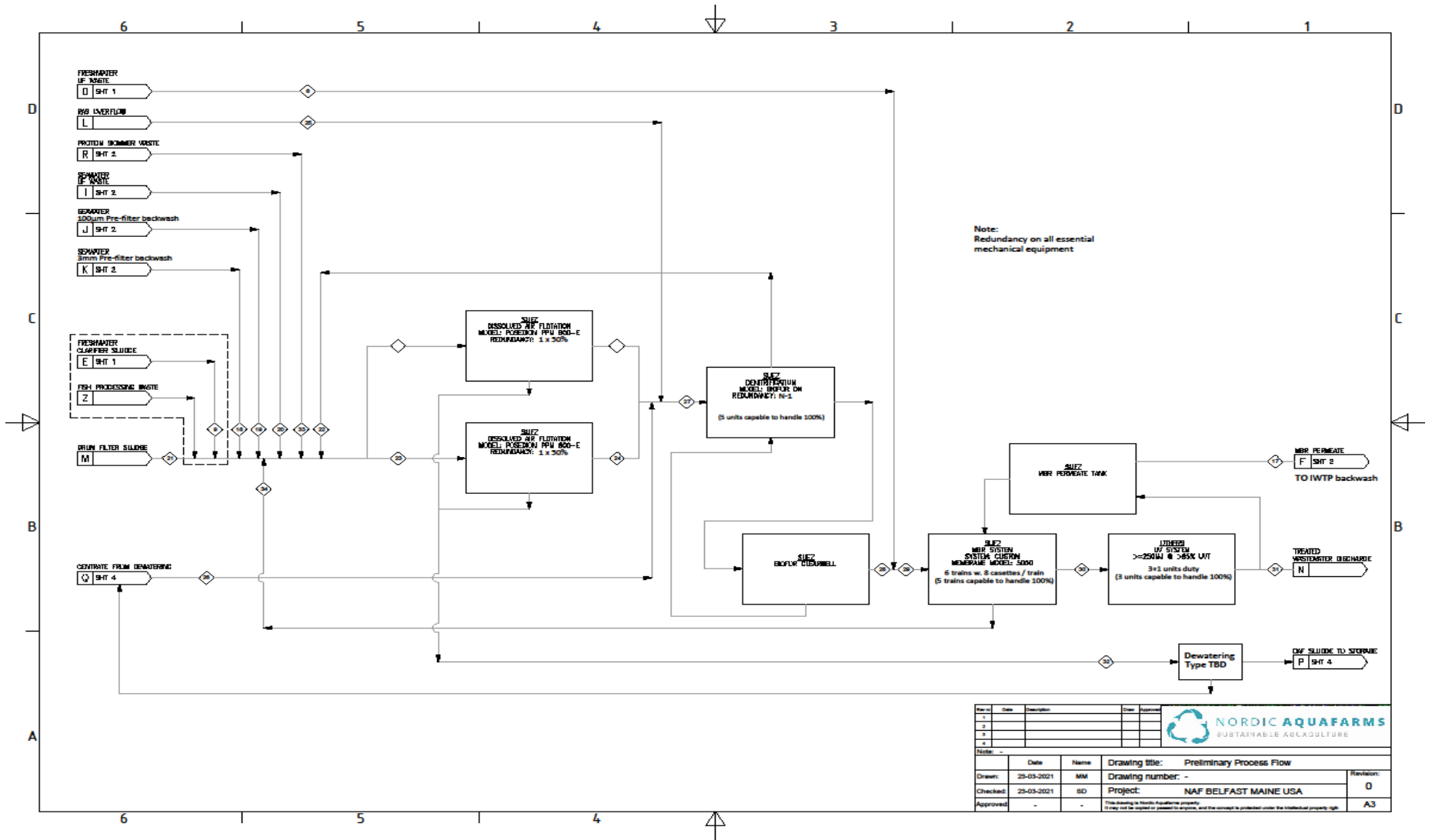
### **TOXICITY REDUCTION EVALUATION (TRE)**

TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

# ATTACHMENT B - VICINITY MAP



# ATTACHMENT C - FLOW SCHEMATIC



## ATTACHMENT D - STANDARD PROVISIONS

### 1. STANDARD PROVISIONS – PERMIT COMPLIANCE

#### 1.1. Duty to Comply

- 1.1.1. The Permittee must comply with all the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. § 122.41(a); Wat. Code, §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)
- 1.1.2. The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

#### 1.2. Need to Halt or Reduce Activity Not a Defense

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

#### 1.3. Duty to Mitigate

The Permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

#### 1.4. Proper Operation and Maintenance

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

#### 1.5. Property Rights

- 1.5.1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

- 1.5.2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

## 1.6. **Inspection and Entry**

The Permittee shall allow the Regional Water Board, State Water Board, U.S. EPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i); Wat. Code, §§ 13267, 13383):

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

## 1.7. **Bypass**

### 1.7.1. **Definitions**

- 1.7.1.1. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)
- 1.7.1.2. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)

- 1.7.2. **Bypass not exceeding limitations.** The Permittee may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not

subject to the provisions listed in Standard Provisions – Permit Compliance 1.7.3, 1.7.4, and 1.7.5 below. (40 C.F.R. § 122.41(m)(2).)

- 1.7.3. **Prohibition of bypass.** Bypass is prohibited, and the Regional Water Board may take enforcement action against a Permittee for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):
  - 1.7.3.1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
  - 1.7.3.2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and
  - 1.7.3.3. The Permittee submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance 1.7.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)
- 1.7.4. **Burden of Proof.** In any enforcement proceeding, the permittee seeking to establish the bypass defense has the burden of proof.
- 1.7.5. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance 1.7.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)
- 1.7.6. **Notice**
  - 1.7.6.1. **Anticipated bypass.** If the Permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible, at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)
  - 1.7.6.2. **Unanticipated bypass.** The Permittee shall submit a notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

## 1.8. Upset

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

- 1.8.1. **Effect of an upset.** An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance 1.8.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).)
- 1.8.2. Conditions necessary for a demonstration of upset. A Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):
  - 1.8.2.1. An upset occurred and that the Permittee can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));
  - 1.8.2.2. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));
  - 1.8.2.3. The Permittee submitted notice of the upset as required in Standard Provisions – Reporting 5.5.2.2 below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and
  - 1.8.2.4. The Permittee complied with any remedial measures required under Standard Provisions – Permit Compliance 1.3 above. (40 C.F.R. § 122.41(n)(3)(iv).)
- 1.8.3. **Burden of proof.** In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

## 2. STANDARD PROVISIONS – PERMIT ACTION

### 2.1. General

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

### 2.2. Duty to Reapply

If the Permittee wishes to continue an activity regulated by this Order after the expiration date of this Order, the Permittee must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

### 2.3. Transfers

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

## 3. STANDARD PROVISIONS – MONITORING

- 3.1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)
- 3.2. Monitoring must be conducted according to test procedures approved under 40 C.F.R. part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. chapter 1, subchapter N. Monitoring must be conducted according to sufficiently sensitive test methods approved under 40 C.F.R. part 136 for the analysis of pollutants or pollutant parameters or as required under 40 C.F.R. chapter 1, subchapter N. For the purposes of this paragraph, a method is sufficiently sensitive when:
  - 3.2.1. The method minimum level (ML) is at or below the level of the most stringent effluent limitation established in the permit for the measured pollutant or pollutant parameter, and either the method ML is at or below the level of the most stringent applicable water quality criterion for the measured pollutant or pollutant parameter or the method ML is above the applicable water quality criterion but the amount of the pollutant or pollutant parameter in the facility's discharge is high enough that the method detects and quantifies the level of the pollutant or pollutant parameter in the discharge; or
  - 3.2.2. The method has the lowest ML of the analytical methods approved under 40 C.F.R. part 136 or required under 40 C.F.R. chapter 1, subchapter N for the measured pollutant or pollutant parameter.

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

## 4. STANDARD PROVISIONS – RECORDS

- 4.1. The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or



application. This period may be extended by request of the <Regional Water Board Name> Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

- 4.2. Records of monitoring information shall include:
  - 4.2.1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
  - 4.2.2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
  - 4.2.3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
  - 4.2.4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
  - 4.2.5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
  - 4.2.6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)
- 4.3. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):
  - 4.3.1. The name and address of any permit applicant or Permittee (40 C.F.R. § 122.7(b)(1)); and
  - 4.3.2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

## **5. STANDARD PROVISIONS – REPORTING**

### **5.1. Duty to Provide Information**

The Permittee shall furnish to the Regional Water Board, State Water Board, or U.S. EPA within a reasonable time, any information which the Regional Water Board, State Water Board, or U.S. EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Permittee shall also furnish to the Regional Water Board, State Water Board, or U.S. EPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, §§ 13267, 13383.)

### **5.2. Signatory and Certification Requirements**

- 5.2.1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions – Reporting 5.2.2, 5.2.3, 5.2.4, 5.2.5, and 5.2.6 below. (40 C.F.R. § 122.41(k).)

- 5.2.2. All permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 C.F.R. § 122.22(a)(1).)
- 5.2.3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting 5.2.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- 5.2.3.1. The authorization is made in writing by a person described in Standard Provisions – Reporting 5.2.2 above (40 C.F.R. § 122.22(b)(1));
- 5.2.3.2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and
- 5.2.3.3. The written authorization is submitted to the Regional Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)
- 5.2.4. If an authorization under Standard Provisions – Reporting 5.2.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting 5.2.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)
- 5.2.5. Any person signing a document under Standard Provisions – Reporting 5.2.2 or 5.2.3 above shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 C.F.R. § 122.22(d).)

- 5.2.6. Any person providing the electronic signature for documents described in Standard Provisions – 5.2.1, 5.2.2, or 5.2.3 that are submitted electronically shall meet all relevant requirements of Standard Provisions – Reporting 5.2, and shall ensure that all relevant requirements of 40 C.F.R. part 3 (Cross-Media Electronic Reporting) and 40 C.F.R. part 127 (NPDES Electronic Reporting Requirements) are met for that submission. (40 C.F.R. § 122.22(e).)

### 5.3. Monitoring Reports

- 5.3.1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.41(l)(4).)
- 5.3.2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board. As of December 21, 2016, all reports and forms must be submitted electronically to the initial recipient defined in Standard Provisions – Reporting 5.10 and comply with 40 C.F.R. part 3, 40 C.F.R. section 122.22, and 40 C.F.R. part 127. (40 C.F.R. § 122.41(l)(4)(i).)
- 5.3.3. If the Permittee monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. chapter 1, subchapter N, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or reporting form specified by the Regional Water Board or State Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)
- 5.3.4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

### 5.4. Compliance Schedules

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

## 5.5. Twenty-Four Hour Reporting

- 5.5.1. The Permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Permittee becomes aware of the circumstances. A report shall also be provided within five (5) days of the time the Permittee becomes aware of the circumstances. The report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
- 5.5.2. The following shall be included as information that must be reported within 24 hours:
  - 5.5.2.1. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
  - 5.5.2.2. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)
- 5.5.3. The Regional Water Board may waive the above required written report on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

## 5.6. Planned Changes

The Permittee shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

- 5.6.1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or
- 5.6.2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 C.F.R. § 122.41(l)(1)(ii).); or
- 5.6.3. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under section 122.42(a)(1) (see Additional Provisions—Notification Levels 7.1.1). (40 C.F.R. § 122.41(l)(1)(ii).)

## **5.7. Anticipated Noncompliance**

The Permittee shall give advance notice to the Regional Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order's requirements. (40 C.F.R. § 122.41(l)(2).)

## **5.8. Other Noncompliance**

The Permittee shall report all instances of noncompliance not reported under Standard Provisions – Reporting 5.3, 5.4, and 5.5 above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting 5.5 above.

## **5.9. Other Information**

When the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or U.S. EPA, the Permittee shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

## **5.10. Initial Recipient for Electronic Reporting Data**

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

## **6. STANDARD PROVISIONS – ENFORCEMENT**

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

## **7. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS**

### **7.1. Non-Municipal Facilities**

Existing manufacturing, commercial, mining, and silvicultural Permittees shall notify the Regional Water Board as soon as they know or have reason to believe (40 C.F.R. § 122.42(a)):

- 7.1.1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. § 122.42(a)(1)):

- 7.1.1.1. 100 micrograms per liter ( $\mu\text{g/L}$ ) (40 C.F.R. § 122.42(a)(1)(i));
- 7.1.1.2. 200  $\mu\text{g/L}$  for acrolein and acrylonitrile; 500  $\mu\text{g/L}$  for 2,4 dinitrophenol and 2 methyl 4,6 dinitrophenol; and 1 milligram per liter ( $\text{mg/L}$ ) for antimony (40 C.F.R. § 122.42(a)(1)(ii));
- 7.1.1.3. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(1)(iii)); or
- 7.1.1.4. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(1)(iv).)
- 7.1.2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. § 122.42(a)(2)):
  - 7.1.2.1. 500 micrograms per liter ( $\mu\text{g/L}$ ) (40 C.F.R. § 122.42(a)(2)(i));
  - 7.1.2.2. 1 milligram per liter ( $\text{mg/L}$ ) for antimony (40 C.F.R. § 122.42(a)(2)(ii));
  - 7.1.2.3. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(2)(iii)); or
  - 7.1.2.4. The level established by the Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

## ATTACHMENT E - MONITORING AND REPORTING PROGRAM

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## **ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)**

The Code of Federal Regulations (40 C.F.R. § 122.48) requires that all National Pollutant Discharge Elimination System (NPDES) permits specify monitoring and reporting requirements. California Water Code (Water Code) section 13383 also authorizes the Regional Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement federal and California regulations. The monitoring and reporting requirements included in this MRP are in effect once the Facility begins discharge to manhole 5 ending in discharge from the ocean outfall.

### **1. GENERAL MONITORING PROVISIONS**

#### **1.1. 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 1 hour.

#### **1.2. Supplemental Monitoring Provision**

If the Permittee monitors 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 monthly and annual discharge monitoring reports.

#### **1.3. Data Quality Assurance Provision**

Laboratories analyzing monitoring samples shall be certified by the State Water Resources Control Board (State Water Board) in accordance with the provisions of Water Code section 13176 and must include quality assurance / quality control data with their analytical reports. The Permittee may analyze pollutants with short hold times (e.g., pH, chlorine residual, etc.) with field equipment or its on-site laboratory provided that the Permittee has standard operating procedures (SOPs) that identify quality assurance/quality control procedures to be followed to ensure accurate results. The Permittee shall keep a manual onsite containing the steps followed in this program and must demonstrate sufficient capability to adequately perform these on-site laboratory and field tests (e.g., qualified and trained employees, properly calibrated and maintained on-site laboratory and field instruments). The program shall conform to U.S. EPA guidelines or other approved procedures.

#### **1.4. Instrumentation and Calibration Provision**

All monitoring instruments and devices used by the Permittee to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall



be calibrated no less than the manufacturer’s recommended intervals or one-year intervals, (whichever comes first) to ensure continued accuracy of the devices.

**1.5. Minimum Levels (ML) and Reporting Levels (RL)**

Unless otherwise specified by this MRP, all monitoring shall be conducted according to test procedures established at 40 C.F.R. 136, Guidelines Establishing Test Procedures for Analysis of Pollutants. All analyses shall be conducted using the lowest practical quantitation limit achievable using U.S. Environmental Protection Agency (U.S. EPA) approved methods. For the purposes of the NPDES program, when more than one test procedure is approved under 40 C.F.R., part 136 for the analysis of a pollutant or pollutant parameter, the test procedure must be sufficiently sensitive as defined at 40 C.F.R. 122.21(e)(3) and 122.44(i)(1)(iv). Where effluent limitations are set below the lowest achievable quantitation limits, pollutants not detected at the lowest practical quantitation limits will be considered in compliance with effluent limitations. Analysis for toxics listed in Table 1 of the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (2015) (Ocean Plan) shall also adhere to guidance and requirements contained in the Ocean Plan. However, there may be situations when analytical methods are published with MLs that are more sensitive than the MLs for analytical methods listed in the Ocean Plan. For instance, U.S. EPA Method 1631E for mercury is not currently listed in Ocean Plan Appendix II, but it is published with an ML of 0.5 ng/L that makes it a sufficiently sensitive analytical method. Similarly, U.S. EPA Method 245.7 for mercury is published with an ML of 5 ng/L.

**2. MONITORING LOCATIONS**

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

**Table E-1. Monitoring Station Locations**

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
	INT-001	Location for monitoring ultraviolet light (UV) radiation dose and UV transmittance of the UV disinfection system.
001	EFF-001	A location where representative samples of the treated wastewater to be discharged to the Pacific Ocean at Discharge Point 001 can be collected at a point after treatment, including UV disinfection, and prior to Manhole 5 and commingling with wastewater discharges from other facilities in the Humboldt Bay Harbor District’s outfall line.

### 3. EFFLUENT MONITORING REQUIREMENTS

#### 3.1. Monitoring Location EFF-001

3.1.1. The Permittee shall monitor treated effluent at EFF-001 during periods of discharge to the Pacific Ocean at Discharge Point 001 as follows:

**Table E-2. Effluent Monitoring**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method (Table Note 1)
Effluent Flow	MGD	Meter	Continuous	---
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	mg/L	24-hr Composite	Daily	Part 136
Biochemical Oxygen Demand 5-day @ 20°C (BOD <sub>5</sub> )	lbs/day	Calculation	Daily	
Oil and Grease	mg/L	Grab	Daily	Part 136
Oil and Grease	lbs/day	Grab	Daily	Calculation
pH	S.U.	Grab	Weekly	Part 136
Total Suspended Solids (TSS)	mg/L	24-hr Composite	Daily	Part 136
Ammonia Nitrogen, Total (as N)	mg/L	Grab	Monthly	Part 136
Unionized Ammonia (as N)	mg/L	Grab	Monthly	Calculation
Organic Nitrogen, Total (as N)	mg/L	Grab	Monthly	Part 136
Nitrate Nitrogen, Total (as N)	mg/L	Grab	Monthly	Part 136
Settleable Solids	ml/L	Grab	Weekly	Part 136
Turbidity	NTU	Grab	Weekly	Part 136
Temperature	°F	Meter	Continuous	Part 136
Ocean Plan Table 1 Pollutants	µg/L	Grab/Composite (Table Note 2)	Once per permit term (Table Note 3)	Part 136
Chronic Toxicity	µg/L	Composite	Annually	Part 136

**Table Notes**

1. Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Regional Water Board or State Water Board, such as with the current

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method (Table Note 1)
<p>edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration).</p> <p>2. Grab samples shall be used for volatile chemicals listed in Table II-1 of the Ocean Plan (2019). Composite samples shall be used for all other Ocean Plan Table 1 parameters.</p> <p>3. Sampling shall be conducted within 1 year following commencement of discharges at Discharge Point 001.</p>				

**4. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS**

**4.1. Chronic Toxicity Testing**

The Permittee shall conduct chronic toxicity testing in accordance with the following chronic toxicity testing requirements:

**4.1.1. Test Frequency**

The Permittee shall conduct chronic toxicity testing in accordance with the schedule established by this MRP while discharging at Discharge Point 001, as summarized in Table E-3, above.

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

The chronic toxicity IWC for this discharge is 0.87 percent effluent.

**4.1.3. 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.

For toxicity tests requiring renewals (*Atherinops affinis*), a minimum of three samples shall be collected. The lapsed time (holding time) from sample collection to first use of each sample must not exceed 36 hours.

**4.1.4. Chronic Marine Test Species and Test Methods**

If effluent samples are collected from outfalls discharging to receiving waters with salinity >1 ppt, the Permittee shall conduct the following chronic toxicity tests on effluent samples at the discharge IWC in accordance with species and test methods in Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms (EPA/600/R-95/136, 1995). Artificial sea salts or hypersaline brine prepared from natural seawater shall be used to increase sample salinity. In no case shall

these species be substituted with another test species unless written authorization from the Executive Officer is received.

- 4.1.4.1. A static renewal toxicity test with the topsmelt, *Atherinops affinis* (Larval Survival and Growth Test Method 1006.0).
- 4.1.4.2. A static non-renewal toxicity test with the purple sea urchin, *Strongylocentrotus purpuratus*, and the sand dollar, *Dendraster excentricus* (Fertilization Test Method 1008.0), or a static non-renewal toxicity test with the mussel, *Mytilus spp* (Embryo-Larval Shell Development Test Method).
- 4.1.4.3. A static non-renewal toxicity test with the giant kelp, *Macrocystis pyrifera* (Germination and Growth Test Method 1009.0).
- 4.1.5. **Species Sensitivity Screening**

Species sensitivity screening shall be conducted during this permit's first required sample collection. The Permittee shall collect a single effluent sample and concurrently conduct three chronic toxicity tests using the fish, an invertebrate, and the alga species identified in section V.A.4, above. This sample shall also be analyzed for the parameters required for the discharge. The species that exhibits the highest<sup>1</sup> "Percent (%) Effect" at the discharge IWC during species sensitivity screening shall be used for routine monitoring during the permit term.

4.1.6. **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 specified below.

- 4.1.6.1. The discharge is subject to determination of "Pass" or "Fail" and "Percent (%) Effect" for chronic toxicity tests using the TST approach described in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R10-003, 2010), Appendix A, Figure A-1, and Table A-1. The null hypothesis ( $H_0$ ) for the TST approach is: Mean discharge IWC response  $\leq 0.75 \times$  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". The relative "Percent (%) Effect" at the discharge IWC is defined and reported as:  $((\text{Mean control response} - \text{Mean discharge IWC response}) \div \text{Mean control response}) \times 100$ . The IWC for the chronic toxicity test is 0.87 percent effluent.
- 4.1.6.2. If the effluent toxicity test does not meet the minimum effluent or reference toxicant test acceptability criteria (TAC) specified in the referenced test method, then the Permittee shall re-sample and re-test within 14 days.

- 4.1.6.3. Dilution water and control water, including brine controls, 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.
- 4.1.6.4. Monthly reference toxicant testing is sufficient. All reference toxicant test results should be reviewed and reported.
- 4.1.6.5. The Permittee shall perform toxicity tests on final effluent samples. Ammonia shall not be removed from the effluent sample prior to toxicity testing, unless explicitly authorized under this section of the MRP and the rationale is explained in the Fact Sheet (Attachment F).

4.1.6.6. **Ammonia Removal.**

Except with prior approval from the Executive Officer of the Regional Water Board, ammonia shall not be removed from bioassay samples. The Permittee must demonstrate the effluent toxicity is caused by ammonia because of increasing test pH when conducting the toxicity test. It is important to distinguish the potential toxic effects of ammonia from other pH-sensitive chemicals, such as certain heavy metals, sulfide, and cyanide. When it has been demonstrated that toxicity is due to ammonia because of increasing test pH, pH may be controlled using appropriate procedures that do not significantly alter the nature of the effluent. The following may be steps to demonstrate that the toxicity is caused by ammonia and not other toxicants before the Executive Officer would allow for control of pH in the test.

- 4.1.6.6.1. There is consistent toxicity in the effluent and the maximum pH in the toxicity test is in the range to cause toxicity due to increased pH.
- 4.1.6.6.2. Chronic ammonia concentrations in the effluent are greater than 4 mg/L total ammonia.
- 4.1.6.6.3. Conduct graduated pH tests as specified in the toxicity identification evaluation methods. For example, mortality should be higher at pH 8 and lower at pH 6.
- 4.1.6.6.4. Treat the effluent with a zeolite column to remove ammonia. Mortality in the zeolite treated effluent should be lower than the non-zeolite treated effluent. Then add ammonia back to the zeolite-treated samples to confirm toxicity due to ammonia.

4.1.7. **Notification**

The Permittee shall notify the Regional Water Board verbally within 72 hours and in writing within 14 days after the receipt of a result of "Fail" during routine or accelerated monitoring.

#### 4.1.8. 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 “Percent (%) Effect” is  $\geq 0.50$ . Within 24 hours of the time the Permittee becomes aware of a summary result of “Fail”, the Permittee shall implement an accelerated monitoring schedule consisting of four toxicity tests—consisting of 5-effluent concentrations (including the discharge IWC) and a control—conducted at approximately 2-week intervals, over an 8-week period. If each of the accelerated toxicity tests results is “Pass,” the Permittee shall return to routine monitoring for the next monitoring period. If one of the accelerated toxicity tests results is “Fail”, the Permittee shall immediately implement the TRE Process conditions set forth in section V.B, below.

#### 4.1.9. Reporting

##### 4.1.9.1. Routine Reporting

Chronic toxicity monitoring results shall be submitted with the annual self-monitoring report (SMR) for the year in which chronic toxicity was performed. Routine reporting shall include the following in order to demonstrate compliance with permit requirements:

- 4.1.9.1.1. WET reports shall include the contracting laboratory’s complete report provided to the Permittee and shall be consistent with the appropriate “Report Preparation and Test Review” sections of the methods manual and this MRP. The WET test reports shall contain a narrative report that includes details about WET test procedures and results, including the following:
  - 4.1.9.1.1.1. Receipt and handling of the effluent sample that includes a tabular summary of initial water quality characteristics (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, chlorine, ammonia);
  - 4.1.9.1.1.2. The source and make-up of the lab control/diluent water used for the test;
  - 4.1.9.1.1.3. Any manipulations done to lab control/diluent and effluent such as filtration, nutrient addition, etc.;
  - 4.1.9.1.1.4. Tabular summary of test results for control water and each effluent dilution and statistics summary to include calculation of the NOEC, TUc, and IC25;
  - 4.1.9.1.1.5. Identification of any anomalies or nuances in the test procedures or results;
  - 4.1.9.1.1.6. WET test results shall include, at a minimum, for each test:

- 4.1.9.1.1.6.1. Sample date(s);
- 4.1.9.1.1.6.2. Test initiation date;
- 4.1.9.1.1.6.3. Test species;
- 4.1.9.1.1.6.4. Determination of “Pass” or “Fail” and “Percent (%) Effect” following the TST hypothesis testing approach in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, 2010). The “Percent (%) Effect” shall be calculated as follows:  
  
“Percent Effect” (or Effect, in %) = ((Control mean response – IWC mean response) ÷ Control mean response) x 100
- 4.1.9.1.1.6.5. Endpoint values for each dilution (e.g., number of young, growth rate, percent survival);
- 4.1.9.1.1.6.6. NOEC value(s) in percent effluent;
- 4.1.9.1.1.6.7. IC15, IC25, IC40, and IC50 values (or EC15, EC25...etc.) in percent effluent;
- 4.1.9.1.1.6.8. TUc values (100/NOEC);
- 4.1.9.1.1.6.9. Mean percent mortality (±s.d.) after 96 hours in 100 percent effluent (if applicable);
- 4.1.9.1.1.6.10. (10) NOEC and LOEC values for reference toxicant test(s);
- 4.1.9.1.1.6.11. IC50 or EC50 value(s) for reference toxicant test(s);
- 4.1.9.1.1.6.12. Available water quality measurements for each test (e.g., pH, dissolved oxygen, temperature, conductivity, hardness, salinity, ammonia);
- 4.1.9.1.1.6.13. Statistical methods used to calculate endpoints;
- 4.1.9.1.1.6.14. The statistical program (e.g., TST calculator, CETIS, etc.) output results, which includes the calculation of percent minimum significant difference (PMSD); and
- 4.1.9.1.1.6.15. Results of applicable reference toxicant data with the statistical output page identifying the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD and dates tested; the reference toxicant control charts for each endpoint, to include summaries of reference toxicant tests performed by the contracting laboratory; and any information on deviations from standard test

procedures or problems encountered in completing the test and how the problems were resolved.

#### 4.1.9.2. **TRE/TIE Results**

The Executive Officer shall be notified no later than 30 days from completion of each aspect of TRE/TIE analyses. TRE/TIE results shall be submitted to the Regional Water Board within 60 days of completion.

### 4.2. **Toxicity Reduction Evaluation (TRE) Process**

#### 4.2.1. **TRE Work Plan**

The Permittee shall prepare and submit to the Regional Water Board Executive Officer a TRE Work Plan by **October 1, 2023**. The Permittee's TRE Work Plan shall be reviewed and updated as necessary to remain current and applicable to the discharge and discharge facilities.

The Permittee shall notify the Regional Water Board of this review and submit any revisions of the TRE Work Plan within 90 days of the notification, to be ready to respond to toxicity events. The TRE Work Plan shall describe the steps the Permittee intends to follow if toxicity is detected and should include at least the following items:

- 4.2.1.1. A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.
- 4.2.1.2. A description of the Facility's methods of maximizing in-house treatment efficiency, good housekeeping practices, and a list of all chemicals used in the operation of this Facility.
- 4.2.1.3. 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).



#### 4.2.2. Preparation an Implementation of a Detailed TRE Work Plan

If one of the accelerated toxicity tests described in section 5.1.8, above, results in “Fail”, the Permittee shall immediately initiate a TRE using EPA manual Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (EPA/600/2-88/070, 1989) and, within 30 days of receipt, submit the accelerated monitoring results to the Regional Water Board Executive Officer. The Permittee shall also submit a Detailed TRE Work Plan, which shall follow the generic TRE Work Plan revised as appropriate for the toxicity event described in section 5.1.8 of this MRP. The Detailed TRE Work Plan shall include the following information and comply with additional conditions set by the Regional Water Board Executive Officer:

- 4.2.2.1. Further actions by the Permittee to investigate, identify, and correct causes of toxicity.
- 4.2.2.2. Actions the Permittee will take to mitigate effects of the discharge and prevent the recurrence of toxicity.
- 4.2.2.3. A schedule for these actions, progress reports, and the final report.

#### 4.2.3. TIE Implementation

The Permittee 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, EPA manuals: Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures (EPA/600/6-91/003, 1991); Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA/600/R-92/080, 1993); Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA/600/R-92/081, 1993); and Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document (EPA/600/R-96- 054, 1996). The TIE should be conducted on the species demonstrating the most sensitive toxicity response.

- 4.2.4. Many recommended TRE elements parallel required or recommended efforts for source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. As toxic substances are identified or characterized, the Permittee shall continue the TRE by determining the sources and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with toxicity evaluation parameters.
- 4.2.5. The Permittee shall conduct routine effluent monitoring for the duration of the TRE process. Additional accelerated monitoring and TRE work plans are not required once a TRE has begun.

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

**5. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE**

This Order does not authorize discharges to land.

**6. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE**

This Order does not authorize discharges of recycled water.

**7. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER**

**7.1. Surface Water Monitoring – Not Required**

This Order does not require surface water monitoring at this time.

**7.2. Groundwater Monitoring – Not Required**

This Order does not require groundwater monitoring at this time.

**8. OTHER MONITORING REQUIREMENTS**

**8.1. Disinfection Process Monitoring for UV Disinfection System**

**8.1.1. Monitoring**

The UV transmittance of the effluent from the UV disinfection system shall be monitored continuously and recorded at Monitoring Location INT-001. The operational UV dose shall be calculated from UV transmittance and flow.

**8.1.2. Compliance**

Unless otherwise approved by the Regional Water Board Executive Officer, the UV dose shall not fall below 250 millijoules per square centimeter (mJ/cm<sup>2</sup>) at any time and the flow shall not exceed 12.5 mgd.

**8.1.3. Reporting**

The Permittee shall report daily average and lowest daily transmittance and operational UV dose on its monthly monitoring reports. The Permittee shall report daily average and minimum flow through the UV disinfection system. If the UV transmittance falls below 250 mJ/cm<sup>2</sup>, the event shall be reported to the Regional Water Board by telephone within 24 hours.

## 8.2. Biological Survey

The Humboldt Bay Harbor District is pursuing a plan that would combine three separately permitted NPDES waste streams through the outfall at Discharge Point 001. Currently, the DG Fairhaven Power Facility and the Samoa Wastewater Treatment Plant are permitted to discharge wastewater through the same ocean outfall at Discharge Point 001.

The Permittee, either separately or in coordination with the Humboldt Bay Harbor District, DG Fairhaven Power, LLC, Samoa Wastewater Treatment Plant and any additional dischargers that utilize the ocean outfall at Discharge Point 001, shall conduct a comparative evaluation of indigenous biota in the vicinity of the outfall using a qualified aquatic biologist, at least once every 5 years. The biologist shall prepare a report of observations, including objectionable aquatic growths, floating particulates or grease and oil, aesthetically undesirable discoloration of the ocean surface, color of fish or shellfish, and any evidence of degradation of indigenous biota attributable to the rate of deposition of inert solids, settleable material, nutrient materials, increased concentrations of organic materials, or increased concentrations of Ocean Plan Table 1 substances. The Permittee shall submit to the Regional Water Board Executive Officer for approval a Biological Survey Work Plan no later than **August 1, 2023**, in order to complete the survey and prepare a final report by the due date for receipt of an application for permit renewal. The final report shall be submitted no later than **August 1, 2024**.

## 8.3. Solids Monitoring

- 8.3.1. Solids sampling shall be conducted according to the requirements specified by the location and type of disposal activities undertaken.
- 8.3.2. Sampling records shall be retained for a minimum of 5 years. A log shall be maintained for sludge quantities generated and handling and disposal activities. The frequency of entries is discretionary; however, the log must be complete enough to serve as a basis for developing the Solids Handling and Disposal Report that is required as part of the Annual Report.

## 9. REPORTING REQUIREMENTS

### 9.1. General Monitoring and Reporting Requirements

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

### 9.2. Self-Monitoring Reports (SMRs)

The Permittee shall submit electronic Self-Monitoring Reports (eSMRs) using the [State Water Board's California Integrated Water Quality System \(CIWQS\) Program Website](#). The CIWQS Website will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal. The

Permittee shall maintain sufficient staffing and resources to ensure it submits eSMRs that are complete and timely. This includes provision of training and supervision of individuals (e.g., Permittee personnel or consultant) on how to prepare and submit eSMRs.

The Permittee shall report in the SMR the results for all monitoring specified in this MRP under sections 3 through 9. The Permittee shall submit monthly 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 Permittee monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

All monitoring results reported shall be supported by the inclusion of the complete analytical report from the laboratory that conducted the analyses. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

**Table E-3: Monitoring Periods and Reporting Schedule**

<b>Sampling Frequency</b>	<b>Monitoring Period Begins On...</b>	<b>Monitoring Period</b>	<b>SMR Due Date</b>
Continuous	Permit effective date	All	First day of second calendar month following the end of each quarter <sup>1</sup> (February 1, May 1, August 1, November 1)
Weekly	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	First day of second calendar month following the end of each quarter (February 1, May 1, August 1, November 1)

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Monthly	First day of calendar month following permit 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)
Once per permit term	Permit effective date	All	March 1 following the year that monitoring is completed (with annual report) and at least 180 days prior to permit expiration

### 9.2.1. Reporting Protocols.

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

- 9.2.1.1. 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).
- 9.2.1.2. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

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

- 9.2.1.3. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
- 9.2.1.4. The Permittee is 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.

## 9.2.2. Self-Monitoring Reports

The Permittee shall submit SMRs in accordance with the following requirements:

- 9.2.2.1. The Permittee 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, taking of a median, or other computation. The Permittee is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Permittee shall electronically submit the data in a tabular format as an attachment.
- 9.2.2.2. The Permittee shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify:
- Facility name and address;
  - WDID number;
  - Applicable period of monitoring and reporting;
  - Violations of the WDRs (identified violations must include a description of the requirement that was violated and a description of the violation);
  - Corrective actions taken or planned; and
  - The proposed time schedule for corrective actions.
- 9.2.2.3. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the [CIWQS Program Website](#). In the event that an alternate method for submittal of SMRs is required, the Permittee shall submit the SMR electronically via [e-mail](#) to 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](#).

### 9.2.3. Discharge Monitoring Reports

DMRs are U.S. EPA reporting requirements. The Permittee shall electronically certify and submit DMRs together with SMRs using Electronic Self-Monitoring Reports module eSMR 2.5 or any upgraded version. DMRs shall be submitted quarterly on the first day of the second calendar month following the end of each quarter (February 1, May 1, August 1, and November 1). Electronic DMR submittal shall be in addition to electronic SMR submittal. Information about electronic DMR submittal is available at the [DMR website](#).

### 9.3. Other Reports

#### 9.3.1. Special Study Reports and Progress Reports

**Table E-4: Reporting Requirements for Special Provisions Reports**

<b>Order Section</b>	<b>Special Provision Requirement</b>	<b>Reporting Requirements</b>
Special Provision 6.3.2.1	Disaster Preparedness Assessment Report and Action Plan	<b>August 1, 2024</b>
Special Provision 6.3.3.2	Pollutant Minimization Program	<b>March 1</b> , annually, following development of Pollutant Minimization Program
Special Provision 6.3.4.2	Operation and Maintenance Manual	<b>30 days prior to first discharge</b>
Special Provision 6.3.4.3	New Facility Certification Report	<b>Once construction is complete and prior to first discharge</b>
MRP WET Testing Requirement 5.2.1	TRE Work Plan	<b>October 1, 2023</b>
MRP Other Monitoring Requirement 9.2	Biological Survey Workplan	<b>October 1, 2023</b>
MRP Other Monitoring Requirement 9.2	Biological Survey Report	<b>October 1, 2024</b>

## ATTACHMENT F - FACT SHEET

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## ATTACHMENT F - FACT SHEET

As described in section 2.2 of this Order, the Regional Water Board incorporates this Fact Sheet as findings of the Regional Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

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

### 1. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

**Table F-1. Facility Information**

<b>WDID</b>	1B20161NHUM
<b>Discharger</b>	Nordic Aquafarms California, LLC
<b>Name of Facility</b>	Nordic Aquafarms California, LLC
<b>Facility Address</b>	1 TCF Drive Samoa, CA 95501 Humboldt County
<b>Facility Contact, Title and Phone</b>	David Noyes, Vice President of Technology, 1 207-505-5728
<b>Authorized Person to Sign and Submit Reports</b>	Marianne Naess, Executive Vice President, 1 207-323-6733
<b>Mailing Address</b>	911 Third Street, Eureka, CA 95501
<b>Billing Address</b>	Same as Mailing Address
<b>Type of Facility</b>	Aquaculture Facility, SIC Code 0273 Animal Aquaculture
<b>Major or Minor Facility</b>	Minor
<b>Threat to Water Quality</b>	2
<b>Complexity</b>	B
<b>Pretreatment Program</b>	Not Applicable
<b>Recycling Requirements</b>	Not Applicable
<b>Facility Permitted Flow</b>	12.5 MGD
<b>Facility Design Flow</b>	12.5 MGD

<b>Watershed</b>	Eureka Plain
<b>Receiving Water</b>	Pacific Ocean
<b>Receiving Water Type</b>	Ocean Waters

Nordic Aquafarms California, LLC (hereinafter Permittee) is the owner and operator of Nordic Aquafarms California, LLC (hereinafter Facility), a land-based aquaculture facility.

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Permittee herein.

The Permittee is authorized to discharge subject to waste discharge requirements (WDRs) in this Order at the discharge location described in Table 1 on the cover page of this Order. The Code of Federal Regulations at 40 C.F.R. section 122.46 limits the duration of National Pollutant Discharge Elimination System (NPDES) permits to be effective for a fixed term not to exceed five years. Accordingly, Table 2 of this Order limits the effective period for the discharge authorized by this Order. Pursuant to California Code of Regulations (CCR), title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending issuance of a new permit if all requirements of the federal NPDES regulations on continuation of expired permits are complied with.

The Permittee proposes to acquire water from a sea chest owned by the HBHRCD. The sea chest consists of a screened marine intake and pumping infrastructure, which provides bay water to the Facility via dock-mounted piping. HBHRCD intends to retrofit the sea chest and associated infrastructure as part of the project.

The Facility discharges filtered, ultraviolet (UV) disinfected wastewater to the Pacific Ocean, a water of the United States. This is a new NPDES permit for the Permittee and Facility. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

The Permittee filed a report of waste discharge and submitted an application for issuance of its waste discharge requirements (WDRs) and NPDES permit on August 17, 2020. Supplemental information was submitted on August 31, 2020 and November 9, 2020. The application was deemed complete on December 4, 2020.

## **2. FACILITY DESCRIPTION**

The Facility is bounded on the west by the Pacific Ocean and the east by Humboldt Bay. The Facility is located on the eastern shore of the Samoa Peninsula, east of New Navy Base Road, and due west, across Humboldt Bay, from the City of Eureka. The Facility is accessed from Vance Avenue via New Navy Base Road and LP Drive.

The Permittee has redeveloped the site of the decommissioned Freshwater Tissue Samoa Pulp Mill facility in order to construct a land-based finfish recirculating aquaculture system (RAS) facility and install a three to five-megawatt photovoltaic solar panel array covering approximately 690,000 square feet of the facility roofs. The Facility consists of 36 acres that will be used for the land-based finfish aquaculture facility and associated infrastructure.

The proposed total water volume of effluent discharge is 12.5 million gallons per day (MGD), which would be comprised of 10 MGD seawater legally sourced from Humboldt Bay (salinity 30.0 to 33.5 parts per thousand (PPT)) and 2.5 MGD of freshwater sourced from the Humboldt Bay Municipal Water District (HBMWD) via the Mad River pumping station (salinity 0 PPT). Freshwater sourced from the HBMWD will include approximately 2 MGD of untreated Mad River surface water and approximately 0.5 MGD of treated domestic water.

Intake water will be treated in the following order to ensure that the water used in the Facility is of high quality.

- First stage drum filter filtration
- Ozone treatment
- Fine filtration
- Ultraviolet (UV-C) disinfection

The Facility will be developed in two phases and will have an annual production capacity of approximately 33,000 metric tons of whole fish. The Facility will include a complete process, from egg to harvestable fish in a single indoor location, and contains the following elements:

- A hatchery operation where eggs are hatched, and fish fry grow to juvenile size.
- A grow-out operation with large tanks where fish are grown to market size.
- A fish processing facility from which fish are processed and fresh product is shipped out five days a week while coproducts are chilled and stored for sale.
- Backup system to enable Facility functions to operate for many days in the event of a power outage.
- Oxygen generation plant and liquid oxygen storage.
- Water intake treatment to ensure clean water for the fish.
- An advanced wastewater treatment plant to treat the discharge water, including a Moving Bed Biofilm Reactor (MBBR), a membrane bioreactor (MBR) and UV-C disinfection.

The Facility will be built in two phases. Construction work associated with Phase 1 is anticipated to begin in 2021 and extend through 2023. Phase 1 will include construction of the Phase 1 hatchery and production modules and the central utility structures, including connection to the necessary intake and discharge infrastructure needed to bring water to the facility. Following the construction of the Phase 1 production modules, construction will commence on the fish processing and administrative building. Access roadways will be built and expanded during each phase of construction, as construction proceeds along the site. As the construction footprint expands, a corresponding expansion of the stormwater systems will be implemented to account for the increase in impervious surfaces.

Once Phase 1 construction and equipment installation is complete, commissioning and startup of the facility will begin. As the commissioning process is underway, the aquaculture facility site will undergo permanent stabilization measures including seeding of disturbed areas and slopes, establishment of the permanent stormwater system and native landscaping. Only once the Phase 1 region is fully stabilized and the facility is independently operating, will Phase 2 construction commence.

Construction work associated with Phase 2 is expected to begin one year after completion of Phase 1 (tentatively in 2025 and extend through 2027). Prior to the beginning of Phase 2 construction, additional clearing and demolition infrastructure within the proposed footprint will occur. An overall construction perimeter will be established to prevent impacts from development on the surrounding areas, and localized erosion and sediment control measures will be implemented as construction proceeds across the Project Site. The Phase 2 grow-out building footprint will be prepared for foundation and envelope construction. Access roads and supporting infrastructure will be expanded to facilitate the construction effort. The stormwater system developed for the Phase 1 facility will also be extended to encompass the Phase 2 area, with proper sediment collection basins established downgrade of the site. Once Phase 2 building construction is completed the site will undergo permanent stabilization measures similar to those implemented in Phase 1, and the permanent stormwater system will be established.

The largest buildings at the proposed aquaculture facility contain the grow-out modules. Maximum building height within the facility is expected to be approximately 60 feet. The footprint of the Phase 1 production modules is approximately 284,332 square feet, and the Phase 2 production module footprint is approximately 295,733 square feet. Construction of the grow-out modules will occur over two construction phases. Egg raising in the hatchery will begin as early as feasible during Phase 1, followed thereafter by the completion of remaining Phase 1 construction. The hatchery facility, located in the center of the site, will raise the fish from egg to juvenile stage, after which they will be transported to the grow-out modules via underground pipes to be raised to market size. The Facility will subject all influent and wastewater to a stringent treatment process, including fine filtration, biological treatment, and UV disinfection.

Saltwater will be supplied to the aquaculture facility from the HBHRCD sea chests located at the Facility and Red Tank docks. The sea chest pumps will supply seawater through piping affixed to the existing docks. The piping infrastructure will extend onshore underground at least 50 feet from the RMT II dock terminus. The aquaculture facility will tie into the sea chest piping at the northeast corner of the RMT II building.

## 2.1. Description of Wastewater and Solids Treatment and Controls

The Facility is designed to remove nutrients and provide UV disinfection before discharging to the Pacific Ocean.

The Facility will include biological anoxic denitrification of nitrate with an external carbon source, biological aerobic biochemical oxygen demand and ammonia removal, ferric coagulation for phosphorus removal, ultra-filtration membrane systems with 0.04 um pore openings and UV-C disinfection using a 300 mJ/cm<sup>2</sup> designed for 99.9 percent virus removal. This level of treatment is highly sophisticated and provides a high level of treatment before discharge.

If electrical power supply is shut down to the aquaculture facility, an onsite emergency backup power system would activate to maintain all critical functions for the fish and wastewater treatment. The Permittee will be constructing several natural gas turbines with a maximum capacity of up to 30 MW to supply emergency power to the fully developed facility. The fuel source will be natural gas from the existing 4-inch main on site. The backup generation system will be designed to rapidly respond to interruptions in the power supply to the facility and maintain critical equipment and infrastructure. Additional onsite power will be generated by the rooftop solar installation.

Dewatered sludge (feces and feed) will be a byproduct of the wastewater treatment process. The sludge will be recycled for other uses such as fertilizer, biogas, etc. The sludge is stored in sealed tanks for regular out-shipment and will not result in local odors or discharge from stormwater runoff.

## 2.2. Discharge Points and Receiving Waters

Process wastewater will be discharged at Discharge Point 001 at 40° 49' 10" N latitude and 124° 13' 32" W longitude to the Pacific Ocean. HBHRCD owns and maintains the 48-inch diameter outfall line with 64 diffuser ports that terminates approximately 1.5 miles off-shore.

HBHRCD acquired the ocean outfall during a property acquisition of Freshwater Tissue/Freshwater Pulp property in August 2013. The Permittee has entered into a lease agreement with the HBHRCD that allows the Permittee use and access to the outfall for Facility operations.

### **2.3. Summary of Existing Requirements and SMR Data**

Since the Permittee is proposing a new discharge, there was no previous permit and, therefore, no existing requirements and SMR data.

### **2.4. Compliance Summary**

Since the Permittee is proposing a new discharge, there was no previous permit and, therefore, no compliance history for the Facility.

### **2.5. Planned Changes**

The Permittee will be constructing Phase 1 of the Facility once the permit is adopted. The Permittee is planning to construct Phase 2 of the Facility toward the end of this permit term.

## **3. APPLICABLE PLANS, POLICIES, AND REGULATIONS**

The requirements contained in this Order are based on the requirements and authorities described in this section.

### **3.1. Legal Authorities**

This Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit authorizing the Permittee to discharge into waters of the United States at the discharge location described in Table 1 subject to the WDRs in this Order.

### **3.2. California Environmental Quality Act (CEQA)**

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code.

### **3.3. State and Federal Laws, Regulations, Policies, and Plans**

#### **3.3.1. Water Quality Control Plan**

The Regional Water Board adopted a Water Quality Control Plan for the North Coast Region (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan. In addition, the Basin Plan implements State Water Board Resolution 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or

potentially suitable for municipal or domestic supply. Beneficial uses applicable to the Pacific Ocean are as follows:

**Table F-2. Basin Plan Beneficial Uses**

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	<p>Existing:            Navigation (NAV);            Water contact recreation (REC-1);            Non-contact water recreation (REC-2);            Commercial and sport fishing (COMM);            Wildlife habitat (WILD);            Rare, threatened, or endangered species (RARE);            Marine habitat (MAR);            Migration of aquatic organisms (MIGR);            Spawning, reproduction, and/or early development (SPAWN);            Shellfish harvesting (SHELL); and            Aquaculture (AQUA).</p> <p>Potential:            Industrial water supply (IND);            Industrial process supply (PRO); and            Preservation of Areas of Special Biological Significance (ASBS)</p>
---	Groundwater	<p>Existing:            Municipal and domestic supply (MUN);            Agricultural supply (AGR);            Industrial service supply (IND); and            Native American Culture (CUL).</p> <p>Potential            Industrial Process Supply (PRO); and            Aquaculture (AQUA)</p>

**3.3.2. Thermal Plan**

The State Water Board adopted the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan) on January 7, 1971 and amended this plan on September 18, 1975.

The Thermal Plan is applicable to the discharge from the Facility. The discharge from the Facility is considered to be a New Discharge of Elevated Temperature



Waste to Coastal Waters, as defined by the Thermal Plan. The Thermal Plan in section 3.B contains the following temperature objectives for new discharges to coastal waters:

- 3.3.2.1. *Elevated temperature wastes shall be discharged to the open ocean away from the shoreline to achieve dispersion through the vertical water column.*

The proposed discharge at Discharge Point 001 will occur through an existing outfall located 1.5 miles offshore, which meets the requirement of an open ocean discharge away from the shoreline.

- 3.3.2.2. *Elevated temperature wastes shall be discharged a sufficient distance from areas of special biological significance to assure the maintenance of natural temperatures in these areas.*

The Facility will not discharge in the vicinity of an area of special biological significance (ASBS).

- 3.3.2.3. *The maximum temperature of thermal waste discharges shall not exceed the natural temperature of receiving waters by more than 20°F.*

The proposed Facility will not discharge thermal waste, which is defined as cooling water and industrial process water used for the purposes of transporting waste heat. Therefore, this Thermal Plan requirement is not applicable to discharges from the Facility.

- 3.3.2.4. *The discharge of elevated temperature wastes shall not result in increases in the natural water temperature exceeding 4°F at (a) the shoreline, (b) the surface of the ocean substrate, or (c) the ocean surface beyond 1,000 feet from the discharge system. The surface temperature limitation shall be maintained at least 50 percent of the duration of any complete tidal cycle.*

These Thermal Plan requirements are established as receiving water limitations in this Order, as described in section 5.1.2. of this Fact Sheet.

- 3.3.2.5. *Additional limitations shall be imposed when necessary to assure protection of beneficial uses.*

This Order establishes effluent monitoring requirements for temperature to characterize the effluent temperature and potential impacts to water quality.

### 3.3.3. **California Ocean Plan**

The State Water Board adopted the *Water Quality Control Plan for Ocean Waters of California, California Ocean Plan* (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, 2005, 2009, 2012, and 2015. The State Water Board adopted the latest amendment on May 6, 2015, and it became effective on January 28, 2016. The Ocean Plan is applicable, in its

entirety, to point source discharges to the Pacific Ocean. In order to protect the beneficial uses, the Ocean Plan establishes water quality objectives and a program for implementation. The Ocean Plan identifies the beneficial uses of ocean waters of the state to be protected as summarized below:

**Table F-3: Ocean Plan Beneficial Uses**

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pacific Ocean	Existing: Industrial Water Supply; Water contact and non-contact recreation, including aesthetic enjoyment; Navigation; Commercial and sport fishing; Mariculture; Preservation and enhancement of designated Areas of Biological Significance (ASBS); Rare and endangered species; Marine habitat; Fish migration; Fish spawning; and Shellfish harvesting.

**3.3.4. Antidegradation Policy**

Federal regulation 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California’s antidegradation policy in State Water Board Resolution 68-16 (“Statement of Policy with Respect to Maintaining High Quality of Waters in California”). Resolution 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board’s Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16.

**3.3.5. Anti-Backsliding Requirements**

Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which

limitations may be relaxed. Since this Order is a new NPDES Permit, anti-backsliding is not applicable to the issuance of this permit.

### **3.3.6. Endangered Species Act Requirements**

This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, §§ 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. §§ 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state, including protecting rare, threatened, or endangered species. The Permittee is responsible for meeting all requirements of the applicable Endangered Species Act.

### **3.4. Impaired Water Bodies on the CWA section 303(d) List**

Section 303(d) of the federal CWA requires states to identify water bodies that do not meet water quality standards and are not supporting their beneficial uses after implementation of technology-based effluent limitations on point sources. Each state must submit an updated list, the 303(d) List of Impaired Water Bodies, every two years. In addition to identifying the water bodies that are not supporting beneficial uses, the 303(d) list also identifies the pollutant or stressor causing impairment and establishes a schedule for developing a control plan to address the impairment. The CWA requires development of a total maximum daily load (TMDL) or alternate program of implementation for each 303(d)-listed pollutant and water body to remedy the impairment. TMDLs establish the maximum quantity of a given pollutant that can be added to a water body from all sources without exceeding the applicable water quality standard for that pollutant and determine waste load allocations (the portion of a TMDL allocated to existing and future point sources) and load allocations (the portion of a TMDL attributed to existing and future nonpoint sources).

On April 6, 2018, the U.S. EPA provided final approval of the 2014 and 2016 303(d) List of Impaired Water Bodies prepared by the state. The Pacific Ocean, in the vicinity of the discharge, is not listed as an impaired water body on the 303(d) list.

### **3.5. Other Plans, Policies and Regulations**

- 3.5.1. Coverage under State Water Board Water Quality Order No. 2014-0057-DWQ, NPDES General Permit No. CAS000001, General Permit for Storm Water Discharges Associated with Industrial Activities (Industrial Storm Water General Permit) is required. The Permittee meets the requirements for enrollment under the Industrial Storm Water General Permit due to storm water not being contained to the Facility property.

- 3.5.2. Coverage under State Water Board Water Quality Order No. 2009-0009-DWQ, NPDES General Permit No. CAS000002, General Permit for Discharges of Storm Water Associated with Construction Activities (Construction Storm Water General Permit) is required. The Permittee meets the requirements for enrollment under the Construction Storm Water General Permit for are of disturbed earth during construction of the Facility.

#### **4. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS**

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the C.F.R.: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where a reasonable potential to exceed those criteria exist.

##### **4.1. Discharge Prohibitions**

###### **4.1.1. Discharge Prohibition 3.1**

The discharge of any waste not disclosed by the Permittee or not within the reasonable contemplation of the Regional Water Board is prohibited.

This Prohibition is based on the Basin Plan and State Water Board Order No. WQO 2002-0012 regarding the petition of WDRs Order No. 01-072 for the East Bay Municipal Utility District and Bay Area Clean Water Agencies. In State Water Board Order No. WQO 2002-0012, the State Water Board found that this prohibition is acceptable in Orders, but should be interpreted to apply only to constituents that are either not disclosed by the Permittee, or are not reasonably anticipated to be present in the discharge but have not been disclosed by the Permittee. It specifically does not apply to all constituents in the discharge that do not have “reasonable potential” to exceed water quality objectives.

The State Water Board has stated that the only pollutants not covered by this prohibition are those which were “disclosed to the permitting authority and...can be reasonably contemplated.” [In re the Petition of East Bay Municipal Utilities District et al., (State Water Board, 2002) Order No. WQO 2002-0012, p. 24]. In that Order, the State Water Board cited a case which held the Permittee is liable for the discharge of pollutants “not within the reasonable contemplation of the permitting authority...whether spills or otherwise...” [Piney Run Preservation Assn. v. County Commissioners of Carroll County, Maryland (4th Cir. 2001) 268 F. 3d 255, 268.] Thus, the State Water Board authority provides that, to be

permissible, the constituent discharged (1) must have been disclosed by the Permittee and (2) can be reasonably contemplated by the Regional Water Board.

#### 4.1.2. **Discharge Prohibition 3.2**

Creation of pollution, contamination, or nuisance, as defined by Water Code section 13050, is prohibited.

This prohibition is based on section 13050 of the Water Code and section 5411 of the California Health and Safety Code.

#### 4.1.3. **Discharge Prohibition 3.3**

The discharge of waste to Humboldt Bay is prohibited.

This prohibition is consistent with the Water Quality Control Policy for the Enclosed Bays and Estuaries of California (EBE Policy), established in 1974 and amended in 1995. The EBE Policy prohibits point source discharges to enclosed bays and estuaries unless specific exemption criteria are met.

#### 4.1.4. **Discharge Prohibition 3.4**

The discharge of domestic waste, treated or untreated, to surface waters is prohibited.

This prohibition is based on the Basin Plan policy on the control of water quality with respect to on-site waste treatment and disposal practices.

#### 4.1.5. **Discharge Prohibition 3.5**

The discharge of waste to land that is not owned by the Permittee or under agreement to use by the Permittee is prohibited.

This prohibition is established to prohibit unauthorized discharges to land.

#### 4.1.6. **Discharge Prohibition 3.6**

The discharge of waste at any point not described in Finding 2.2 of the Fact Sheet or authorized by a permit issued by the State Water Resources Control Board or Regional Water Quality Control Board is prohibited.

This prohibition is established as a general prohibition that allows the Permittee to discharge waste only in accordance with WDRs. It is based on sections 301 and 402 of the Federal CWA and section 13263 of the Water Code.

#### 4.1.7. **Discharge Prohibition 3.7**

The maximum daily flow of waste through the Facility in excess of 12.5 mgd is prohibited. Compliance with this prohibition shall be determined as defined in sections 7.7 of this Order.

This prohibition is established based on the maximum flow through the Facility as submitted in the Permittee's report of waste discharge. This prohibition, along with the flow effluent limitation, is established to protect water quality objectives and beneficial uses in and around the diffuser.

#### 4.1.8. **Discharge Prohibition 3.8**

The discharge of any radiological, chemical, or biological warfare agent into waters of the state is prohibited.

This prohibition is based on the discharge prohibitions contained in section III.I of the Ocean Plan and section 13375 of the Water Code.

#### 4.1.9. **Discharge Prohibition 3.9**

The discharge of waste resulting from cleaning activities is prohibited.

This prohibition applies to the direct discharge of untreated cleaning waste to waters of the United States and is based on the Basin Plan's Policy on the Regulation of Fish Hatcheries, Fish Rearing Facilities, and Aquaculture Operations.

#### 4.1.10. **Discharge Prohibition 3.10**

The discharge of detectable levels of chemicals used for the treatment and control of disease, other than salt (NaCl), is prohibited.

This prohibition is based on the Basin Plan's Policy on the Regulation of Fish Hatcheries, Fish Rearing Facilities, and Aquaculture Operations. When chemicals and aquaculture drugs used for the treatment and control of disease are used, the Permittee is required to submit a chemical use report documenting the method used to determine compliance with this prohibition.

### 4.2. **Technology-Based Effluent Limitations**

#### 4.2.1. **Scope and Authority**

Section 301(b) of the CWA and implementing U.S. EPA permit regulations at 40 C.F.R. section 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based

requirements based on Effluent Limitations Guidelines and Standards for the Concentrated Aquatic Animal Production Point Source Category in 40 C.F.R. part 451 and Best Professional Judgment (BPJ) in accordance with 40 C.F.R. section 125.3.

The CWA requires that technology-based effluent limitations be established based on several levels of controls:

- Best practicable treatment control technology (BPT) represents the average of the best existing performance by well-operated facilities within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.
- Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.
- Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering a two-part reasonableness test. The first test compares the relationship between the costs of attaining a reduction in effluent discharge and the resulting benefits. The second test examines the cost and level of reduction of pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources. Effluent limitations must be reasonable under both tests.

New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires U.S. EPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and 40 C.F.R. section 125.3 authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the Regional Water Board must consider specific factors outlined in 40 C.F.R. section 125.3.

## 4.2.2. **Applicable Technology-Based Effluent Limitations**

### 4.2.2.1. **Best Management Practices (BMP) Plan**

On August 23, 2004, U.S. EPA published ELGs for the Flow-Through and Recirculating Systems Subcategory of the Concentrated Aquatic Animal Production Point Source Category at 40 C.F.R. part 451, subpart A. The ELGs became effective on September 22, 2004. The ELGs establish national technology-based effluent discharge requirements for CAAP facilities that produce 100,000 pounds or more of aquatic animals in flow-through and recirculation systems based on BPT, BCT, BAT and NSPS. In its proposed rule, published on September 12, 2002, U.S. EPA proposed to establish numeric limitations for TSS while controlling the discharge of other constituents through narrative requirements. In the final rule, however, U.S. EPA determined that, for a nationally applicable regulation, it would be more appropriate to promulgate qualitative TSS limitations in the form of solids control BMP requirements.

In the process of developing the ELG, U.S. EPA identified an extensive list of pollutants of concern in discharges from the aquaculture industry, including several metals, nutrients, solids, BOD, bacteria, drugs, and residuals of federally registered pesticides. U.S. EPA did not include specific numeric limitations in the ELG for any pollutants on this list, believing that BMPs would provide acceptable control of these pollutants. U.S. EPA did conclude during the development of the ELG that control of TSS would also effectively control concentrations of other pollutants of concern, such as BOD, metals and nutrients, because other pollutants are either bound to the solids or are incorporated into them. And, although certain bacteria are found at high levels in effluents from settling basins, U.S. EPA concluded that disinfection is not economically achievable. U.S. EPA also allowed permitting authorities to apply technology-based limits for other pollutants and WQBELs for pollutants considered in the ELGs in order to comply with applicable water quality standards.

The ELGs at 40 C.F.R. part 451, subpart A require implementation of BMPs, including solids control, materials storage, structural maintenance, recordkeeping, and training requirements, to represent the application of BPT. Consistent with the ELGs at 40 C.F.R. part 451, subpart A, Special Provision 7.3.3.2 of this General Order requires the Permittee to maintain a BMP Plan.

EPA promulgated Seafood Processing Effluent Guidelines and Standards (a.k.a. Canned and Preserved Seafood Category; [40 CFR Part 408](#)) in 1974 and 1975. The regulation covers wastewater discharges from facilities that preserve and can seafood. Specifically, Part 408 subpart S regulates “West Coast Mechanized Salmon” that this Facility will be processing.



The ELGs at 40 C.F.R. part 408, subpart S require NSPS facilities to meet mass loading effluent limitations for BOD<sub>5</sub>, TSS, oil and grease and pH. Phase 1 will process approximately 165,000 lbs of salmon daily while Phase 2 will process approximately 330,000 lbs of salmon daily. Consistent with 40 C.F.R. part 408, subpart S, mass-based effluent limitations for BOD<sub>5</sub>, TSS, oil and grease have been established per 1,000 lbs of fish processed daily in Table 2 of this Order for both Phase 1 and Phase 2 of build-out.

#### 4.2.2.2. **Flow**

A flow limitation of 12.5 mgd has been established as the maximum daily flow to be discharged per information provided in the Permittee's report of waste discharge. The flow limitation is required to ensure that the proper dilution ratio is achieved, water quality objectives are maintained, and beneficial uses are protected.

### 4.3. **Water Quality-Based Effluent Limitations (WQBELs)**

#### 4.3.1. **Scope and Authority**

CWA Section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) of 40 C.F.R. requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water, as specified in the Ocean Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the Ocean Plan.

#### 4.3.2. **Applicable Beneficial Uses and Water Quality Criteria and Objectives**

##### 4.3.2.1. **Beneficial Uses**

Beneficial use designations for receiving waters for discharges from the Facility are presented in section 3.3.1 and 3.3.3 of this Fact Sheet.

##### 4.3.2.2. **Ocean Plan Water Quality Objectives**

Water quality criteria applicable to ocean waters of the Region are established by the Ocean Plan, which includes general provisions and water quality objectives for bacterial characteristics, physical characteristics, chemical characteristics, biological characteristics, and radioactivity. These water quality objectives from the Ocean Plan are incorporated as receiving water limitations in section V.A of the Order. Table 1 of the Ocean Plan contains numeric water quality objectives for 83 toxic pollutants for the protection of marine aquatic life and human health. Pursuant to NPDES regulations at 40 C.F.R. section 122.44(d)(1), and in accordance with procedures established by the Ocean Plan, the Regional Water Board has performed an Ocean Plan reasonable potential analysis (RPA) to determine the need for effluent limitations for the Table 1 toxic pollutants.

##### 4.3.2.3. **Minimum Initial Dilution**

WDRs Order Nos. R1-2010-0033, R1-2018- 0013 and R1-2020-0005 for the Freshwater Tissue Company's Samoa Pulp Mill, DG Fairhaven Power, LLC, and the Samoa Community Services District and Samoa Pacific Group were previously regulated, or are currently regulated, for discharge out of the Ocean Outfall where the Permittee propose to discharge at Discharge Point 001. These previous Orders applied a minimum initial dilution of 115:1 (i.e., 115 parts ocean water to 1 part effluent) for discharges from the ocean outfall.

In 2020, the Permittee submitted a Numeric Modeling Report with their ROWD that included near field and three-dimensional modeling for dilution analysis to characterize the mixing zone at the Facility. The 2020 Report concludes that the proposed commingled discharge will be readily mixed within less than five feet of the diffuser with an exit velocity of approximately ten feet per second, which should keep the ports clear of sediment build-up and biofouling to maintain optimal levels of jet-induced near-field mixing.

A February 2016 Diffuser Performance Assessment Report for the Redwood Marine Terminal II Ocean Outfall prepared for the County of Humboldt and the Harbor District conducted on this outfall and diffuser suggest that a minimum initial dilution of 115:1 is appropriate for the discharge. The 2016 report indicated that greater than 100:1 dilution could be achieved for flows ranging up to 40 MGD, except where the effluent salinity is greater than 30 practical salinity units (similar to seawater) and effluent temperature is similar to the receiving water temperature. These high salinity/low temperature conditions

are not anticipated from the combined discharge from the existing dischargers and the Facility; therefore, this Order utilizes a minimum initial dilution of 115:1.

#### 4.3.3. **Determining the Need for WQBELs**

NPDES regulations at 40 C.F.R. section 122.44(d) require effluent limitations to control all pollutants which are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard.

##### 4.3.3.1. **Ocean Plan Reasonable Potential Analysis (RPA)**

Procedures for performing an RPA for ocean dischargers are described in section III.C and Appendix VI of the Ocean Plan. In general, the procedure is a statistical method that projects an effluent data set while taking into account the averaging period of water quality objectives, the long-term variability of pollutants in the effluent, limitations associated with sparse data sets, and uncertainty associated with censored data sets. The procedure assumes a lognormal distribution of the effluent data set and compares the 95<sup>th</sup> percentile concentration at 95 percent confidence of each Table 1 pollutant, accounting for dilution, to the applicable water quality criterion. The RPA results in one of three following endpoints.

- Endpoint 1: There is “reasonable potential,” and a WQBEL and monitoring are required.
- Endpoint 2: There is “no reasonable potential.” WQBELs are not required, and monitoring is required at the discretion of the Regional Water Board.
- Endpoint 3: The Ocean Plan RPA is inconclusive. Existing WQBELs are retained, and monitoring is required.

The State Water Board has developed a reasonable potential calculator. The calculator ([RPcalc 2.2](#)) shall be used in conducting the RPA and considers several pathways in the determination of reasonable potential.

##### 4.3.3.1.1. **First Path**

If available information about the receiving water or the discharge supports a finding of reasonable potential without analysis of effluent data, the Regional Water Board may decide that WQBELs are necessary after a review of such information. Such information may include: the facility or discharge type, solids loading, lack of dilution, history of compliance problems, potential toxic effects, fish tissue data, 303(d) status of the receiving water, or the presence of threatened or endangered species or their critical habitat, or other information.

#### 4.3.3.1.2. **Second Path**

If any pollutant concentration, adjusted to account for dilution, is greater than the most stringent applicable water quality objective, there is reasonable potential for that pollutant.

#### 4.3.3.1.3. **Third Path**

If the effluent data contains three or more detected and quantified values (i.e., values that are at or above the ML), and all values in the data set are at or above the ML, a parametric RPA is conducted to project the range of possible effluent values. The 95th percentile concentration is determined at 95 percent confidence for each pollutant and compared to the most stringent applicable water quality objective to determine reasonable potential. A parametric analysis assumes that the range of possible effluent values is distributed lognormally. If the 95th percentile value is greater than the most stringent applicable water quality objective, there is reasonable potential for that pollutant.

#### 4.3.3.1.4. **Fourth Path**

If the effluent data contains three or more detected and quantified values (i.e., values that are at or above the ML), but at least one value in the data set is less than the ML, a parametric RPA is conducted according to the following steps:

- If the number of censored values (those expressed as a “less than” value) account for less than 80 percent of the total number of effluent values, calculate the ML (the mean of the natural log of transformed data) and SL (the standard deviation of the natural log of transformed data) and conduct a parametric RPA, as described above for the Third Path.
- If the number of censored values account for 80 percent or more of the total number of effluent values, conduct a non-parametric RPA, as described below for the Fifth Path. (A non-parametric analysis becomes necessary when the effluent data is limited, and no assumptions can be made regarding its possible distribution.)

#### 4.3.3.1.5. **Fifth Path**

A non-parametric RPA is conducted when the effluent data set contains less than three detected and quantified values, or when the effluent data set contains three or more detected and quantified values but the number of censored values accounts for 80 percent or more of the total number of effluent values. A non-parametric analysis is conducted by ordering the data, comparing each result to the applicable water quality objective, and accounting for ties. The sample number is reduced by one for each tie,

when the dilution adjusted method detection limit (MDL) is greater than the water quality objective. If the adjusted sample number, after accounting for ties, is greater than 15, the pollutant has no reasonable potential to exceed the water quality objective. If the sample number is 15 or less, the RPA is inconclusive, monitoring is required, and any existing effluent limitations in the expiring permit are retained.

#### 4.3.3.2. Reasonable Potential Determination

Since no effluent data is available for the proposed discharge to the Pacific Ocean at Discharge Point 001, a qualitative RPA using RPAcalc 2.2 could not be conducted. The Monitoring and Reporting Program (MRP) (Attachment E) for this Order requires the Permittee to conduct monitoring for the parameters subject to water quality objectives in Table 1 of the Ocean Plan within 1 year following commencement of discharges from the Facility at Discharge Point 001 in order to obtain representative data to conduct an RPA. Results from the RPA will be used to determine the need for effluent limitations, in the next permit term, for Table 1 parameters given in the Ocean Plan. This Order may be reopened to establish new effluent limitations based on the monitoring results.

The Facility is a land-based aquaculture facility as defined in 40 C.F.R., part 451. Pollutants of concern from aquaculture facilities include conventional pollutants and certain toxic pollutants, such as ammonia. U.S. EPA's September 2010 NPDES Permit Writer's Manual, states, "*State Implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available...A permitting authority might also determine that WQBEL's are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBEL's for pathogens in all permits for POTW's discharging to contact recreational waters).*" U.S. EPA's Technical Support Document for Water Quality Based Toxics Control (TSD) also recommends that factors other than effluent data should be considered in the RPA, "*When determining whether or not a discharge causes, has the reasonable potential to cause, or contributes to an excursion of a numeric or narrative water quality criterion for individual toxicants or for toxicity, the regulatory authority can use a variety of factors and information where facility specific effluent monitoring data are unavailable. These factors also should be considered with available effluent monitoring data.*"

Based on the Permittee's design specifications, the Proposed Facility will be designed to achieve treatment of total ammonia nitrogen (as N) to concentrations of 0.004 mg/L in the effluent. Table 1 of the Ocean Plan includes 6-month median, daily maximum, and instantaneous maximum effluent limitations of 0.6 mg/L, 2.4 mg/L and 6.0 mg/L, respectively. It is uncertain whether the discharge from the Facility will exhibit reasonable

potential to cause or contribute to an exceedance of the water quality objectives in the Ocean Plan for ammonia. Therefore, this Order requires the Permittee to conduct monthly effluent monitoring for total ammonia nitrogen (as N) to collect sufficient data for conducting an RPA prior to the next permit renewal.

#### 4.3.3.3. **Non-Table 1 Water Quality Objectives**

##### 4.3.3.3.1. **Temperature**

The Ocean Plan has the following temperature water quality objective:

The discharge shall not result in increases in the natural water temperature exceeding 4°F at (a) the shoreline, (b) the surface of any ocean substrate, or (c) the ocean surface beyond 1,000 feet from the discharge system. The surface temperature limitation shall be maintained at least 50 percent of the duration of any complete tidal cycle.

The Facility's effluent will range in temperature of from 68° F to 72° F. The Permittee performed near and far field dilution analysis for temperature discharged from the Facility combined with the current discharges from the Ocean Outfall.

$$\frac{(12.5 \text{ MGD} * 72 \text{ }^{\circ}\text{F}) + (1,425 \text{ MGD} * 46.6 \text{ }^{\circ}\text{F})}{1440.5 \text{ MGD}} = 46.7 \text{ }^{\circ}\text{F}$$

$$46.7 \text{ }^{\circ}\text{F} - 46.6 \text{ }^{\circ}\text{F} = 0.1 \text{ }^{\circ}\text{F} < 4 \text{ }^{\circ}\text{F}.$$

Based on these near field temperature calculations, temperature will not be included as an effluent limitation but continuous effluent monitoring will be required under this Order to collect sufficient data for conducting an RPA prior to the next permit renewal.

##### 4.3.4. **WQBEL Calculations**

At this time, no effluent data for Ocean Plan Table 1 pollutants are available since the Facility has yet to be constructed. Therefore, this Order does not establish WQBELs applicable to the discharge to the Pacific Ocean at Discharge Point 001.

##### 4.3.5. **Whole Effluent Toxicity (WET)**

Whole Effluent Toxicity monitoring triggers protect the receiving water from the aggregate effect of a mixture of pollutants that may be present in the effluent. There are two types of WET tests – acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic test is conducted over a longer period of time and may measure mortality, reproduction, and/or growth.

WET requirements are derived from the CWA, and the Basin Plan. The Basin Plan establishes a narrative water quality objective for toxicity that states “*All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, or aquatic life.*” Detrimental responses may include, but are not limited to, decreased growth rate, decreased reproductive success of resident or indicator species, and/or significant alterations in population, community ecology, or receiving water biota. For compliance with the Ocean Plan’s narrative toxicity objective (Waste discharged to the ocean must be essentially free of: (3) Substances which will accumulate to toxic levels in marine waters, sediments or biota), this Order requires the Permittee to conduct WET testing for chronic toxicity, as specified in the MRP (Attachment E, section 5).

The Ocean Plan contains toxicity testing requirements based on minimum initial dilution (Dm) factors in section III.C.4.c. Following the implementation procedures of the Ocean Plan, dischargers with Dm factors ranging from 100:1 to 350:1 are required to conduct chronic toxicity testing and may be required to conduct acute toxicity testing as necessary for the protection of beneficial uses of ocean waters. This Order allows for a Dm of 115 for the acute and chronic conditions. The Permittee has not completed construction of the Facility; therefore, neither acute nor chronic WET data representative of the permitted Facility is available. Since the planned Facility is an aquaculture and fish processing facility with a high level of treatment, and drugs will be used on an infrequent basis, there is a low potential for acutely toxic substances to be present in the treated industrial wastewater. Therefore, acute toxicity testing requirements are not required in this Order. In accordance with the Ocean Plan (section III.C, Implementation Provisions for Table 1), this Order establishes chronic toxicity monitoring requirements for the discharge at Discharge Point 001.

### **Test of Significant Toxicity (TST)**

The Ocean Plan establishes a daily maximum chronic toxicity objective of 1.0 TU<sub>c</sub> = 100/NOEC, using a five-concentration hypothesis test, and a daily maximum acute toxicity objective of 0.3 TU<sub>a</sub> = 100/LC50, using a point estimate model. In 2010, U.S. EPA endorsed the peer-reviewed TST two-concentration hypothesis testing approach in National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document (EPA 833-R-10-003, 2010) as an improved hypothesis-testing tool to evaluate data from U.S. EPA’s toxicity test methods. The TST hypothesis testing approach more reliably identifies toxicity—in relation to the chronic (0.25 or more) and acute (0.20 or more) mean responses of regulatory management concern—than the current NOEC hypothesis-testing approach used in the Ocean Plan.

This Order does not include effluent limitations for toxicity based on the TST approach. However, this Order does require the Permittee to monitor and report

results in a manner that will allow the Regional Water Board to conduct an RPA in accordance with the TST approach at the time of the next permit renewal.

The State Water Board is developing a toxicity amendment to the Water Quality Control Plan for Enclosed Bays and Estuaries of California that will standardize the regulation of aquatic toxicity for all non-oceanic surface waters. U.S. EPA's TST approach is an essential component of this draft toxicity amendment as it forms the basis for utilizing numeric water quality objectives and acts as the primary means of determining compliance with the proposed effluent limitations.

In a letter dated February 12, 2014, the State Water Board submitted an alternative test process (ATP) request to U.S. EPA Region 9 for the statewide use of a two-concentration toxicity test design when using the TST approach. This two-concentration test design is composed of a single effluent concentration and a control concentration. U.S. EPA approved the ATP request on March 17th, 2014. In June 2014, the approval was challenged in court on procedural grounds under the Administrative Procedures Act by the Southern California Alliance of Publicly Owned Treatment Works (SCAP) and the Central Valley Clean Water Association (CVCWA). U.S. EPA withdrew the approval and notified State Water Board in a memo dated February 11, 2015.

It is important to note that U.S. EPA's rescission of its approval of the ATP is not based on the substantive TST statistical analysis or the scientific validity of a two-concentration test design. The withdrawal letter also states that currently there is a proposed rulemaking to change the language in the ATP regulations at 40 C.F.R. part 136.

The benefits of requiring the TST in new or amended permits include improving the statistical power of the toxicity test and simplifying the analysis as compared to the traditional hypothesis statistical approaches or point estimates. The calculations are straightforward and provide a clear pass/fail result. With the withdrawal of the two-concentration test design approval, an NPDES permit can still require the TST for statistical analyses. If the two-concentration test design is approved at a future date, the MRP may be modified to remove the need for a five-concentration test. Toxicity tests shall be run using a multi-concentration test design in accordance with 40 C.F.R. section 136.3, and the TST shall be utilized with the biological responses from the permitted in-stream waste concentration (IWC) and the control (effluent concentration of zero). However, even with only two of the five concentration biological responses being used, cost savings in the form of time and effort are still realized for the statistical analysis and data interpretation carried out by the permittee, laboratory, and permit manager. This Order requires application of the TST for statistical analysis of whole effluent toxicity data.



## **Test of Significant Toxicity (TST) Design**

The TST's null hypothesis for chronic toxicity is:

H0: Mean response (In-stream Waste Concentration (IWC) in % effluent)  $\leq$  0.75 mean response (control)

Results are analyzed using the TST approach and an acceptable level of chronic toxicity is demonstrated by rejecting the null hypothesis and reporting "Pass" or "P".

The chronic IWC (in % effluent) for Discharge Point 001 is 0.87%.<sup>1</sup> The chronic toxicity trigger for Discharge Point 001 is expressed as a null hypothesis (H0) and regulatory management decision (b value) of 0.75 for the chronic toxicity methods in the MRP. The null hypothesis for this discharge is:

H0: Mean response (0.87% effluent)  $\leq$  0.75 mean response (control)

The Permittee has not conducted chronic toxicity testing prior to construction of the Facility and reasonable potential to cause or contribute to an exceedance of water quality objectives for chronic toxicity cannot be assessed using the TST toxicity.

This Order requires monitoring for chronic toxicity twice during the permit term, within the first 2 years following commencement of discharges from the Facility at Discharge Point 001. Results shall be analyzed using the TST hypothesis testing approach in section V.A.6.a of the MRP. Compliance with this chronic toxicity limitation is demonstrated by rejecting the null hypothesis and reporting "Pass" or "P".

When the chronic toxicity test results in a "Fail" or "F," the Permittee must initiate accelerated monitoring as specified in the MRP (Attachment E, section V). After accelerated monitoring, if conditions of chronic toxicity are found to persist, the Permittee will be required to conduct a TRE, as described by the MRP.

Notification requirements for chronic WET testing include a 72-hour verbal notification requirement and a 14-day written report requirement, if test results indicate toxicity. The 14-day written notification is established in the U.S. EPA WET Guidance documents cited in the MRP. The 72-hour verbal notification requirement is being added to provide the Regional Water Board with knowledge of the toxicity in advance of the written report. The 72-hour requirement is intended to give the Permittee sufficient time to make a telephone call to Regional Water Board staff and accounts for non-working days (e.g., weekends). Verbal notification of WET test exceedances may be left by voice mail if the Regional Water Board staff person is not immediately available by telephone.

This Order requires the Permittee to conduct a screening test using at least one vertebrate, invertebrate, and plant species. After the screening test is completed, monitoring can be reduced to the most sensitive species.

Chronic WET limitations will be established if future monitoring results demonstrate that discharges from the Facility are causing or contributing to chronic toxicity in the receiving water.

#### 4.4. Final Effluent Limitation Considerations

##### 4.4.1. Anti-Backsliding Requirements

Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. Anti-backsliding requirements do not pertain to this Order, since the planned Facility is a newly regulated discharge.

##### 4.4.2. Antidegradation Policies

The Permittee has requested authorization to discharge up to a maximum daily flow of 12.5 mgd from the Facility to the Pacific Ocean. As discussed below, the Regional Water Board conducted an antidegradation analysis to evaluate whether changes in water quality associated with the proposed discharge of treated wastewater to the Pacific Ocean is consistent with the antidegradation provision of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16. The Regional Water Board followed the procedures established in State Water Board Administrative Procedures Update (APU) 90-004 to conduct the antidegradation analysis.

APU 90-004 specifies that a simple antidegradation analysis is sufficient and a complete antidegradation analysis is not required under certain conditions, including where a Regional Board determines that the proposed action will produce minor effects which will not result in a significant reduction in water quality and where the Regional Board determines that the reduction of water quality will be spatially localized or limited with respect to the waterbody; e.g., confined to the mixing zone. Based on the level of treatment provided, the use of an approved BMP Plan and modeling performed that shows the constituents of concern are below the water quality objectives within five feet of the diffuser, the Regional Water Board finds that the proposed discharge will produce minor effects which will not result in a significant reduction in water quality.

Additionally, construction of the Facility on the Samoa peninsula was evaluated as part of the **Nordic Aquafarms California, LLC Land-based Aquaculture Project** (State Clearinghouse No. 2021040532). Therefore, the Regional Water Board determined that a simple antidegradation analysis is sufficient. Findings of the antidegradation analysis are summarized below.

4.4.2.1. **Water Quality Parameters and Beneficial Uses Which Will be Affected by the Proposed Expansion and the Extent of the Impact.**

Compliance with this Order will not adversely impact beneficial uses of the receiving water. All beneficial uses will be maintained and protected. 40 C.F.R. section 131.12 defines the following tier designations to describe water quality in the receiving water body.

*Tier 1 Designation: Existing instream water uses, and the level of water quality is necessary to protect the existing uses shall be maintained and protected. (40 C.F.R. §131.12)*

*Tier 2 Designation: Where the quality of waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully. Further, the State shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control. (40 C.F.R. §131.12)*

The tier designation is assigned on a pollutant-by-pollutant basis. Pollutants of concern in aquaculture facilities include conventional pollutants and certain toxic pollutants, such as ammonia. The Pacific Ocean is not identified on the 2014 and 2016 3030(d) list as impaired. Therefore, the Pacific Ocean is considered a Tier 2 receiving water for all pollutants considered.

Monitoring data for the pollutants of concern is not available to characterize the extent of their impact since the Facility has yet to be constructed. Nevertheless, this Order establishes terms and conditions to ensure that the discharge does not unreasonably affect the present and anticipated beneficial uses of the Pacific Ocean, including effluent limitations for TSS, oil and grease, settleable solids and pH. This Order includes effluent monitoring for ammonia, temperature and Ocean Plan Table 1 parameters. This Order may be reopened to include effluent limitations for ammonia and any parameters that indicate reasonable potential to cause or contribute to and exceedance of a water quality objective.

As discussed below, the antidegradation analysis evaluated whether allowance of the proposed discharge and associated increase in concentration and mass loading in this Order will result in the best practicable treatment or control of the discharge necessary to assure a pollution or

nuisance will not occur and the highest water quality consistent with the maximum benefit of the people of the State will be maintained.

#### **4.4.2.2. Scientific Rational for Determining Potential Lowering of Water Quality**

The Rationale used in the Antidegradation Analysis is based on 40 C.F.R. section 131.12, U.S. EPA Region 9 Guidance on Implementing the Antidegradation Provisions of 40 C.F.R. section 131.12 (U.S. EPA 1987), State Water Board Resolution No. 68-16, a State Water Board 1987 policy memorandum to the Regional Water Boards, and APU 90-004 issued by the State Water Board to the Regional Water Boards.

#### **4.4.2.3. Alternative Control Measures Considered**

The Regional Water Board has considered the feasibility of alternative treatment and control methods which might reduce, eliminate, or compensate for the negative impacts of the proposed discharge, including discharge to land and discharge to Humboldt Bay, under the Enclosed Bays and Estuaries Policy.

The land discharge alternative would require a higher level of treatment (i.e. Full Advanced Treatment) as compared to the proposed discharge. However, without Full Advanced Treatment, land discharge would have the potential to cause adverse effects to the municipal and domestic supply uses of the underlying groundwater. Furthermore, a discharge to Humboldt Bay would require the Permittee to develop a project that meets the criteria for a Enclosed Bays and Estuaries discharge prohibition exemption. The exemption project would increase construction and maintenance costs associated with showing that beneficial uses are promoted or enhanced further than without the proposed discharge.

The Regional Water Board finds that the environmental impacts associated with the proposed discharge alternative are lower than those associated with the land discharge alternative and the Humboldt Bay alternative. The treatment system is designed to achieve compliance with the requirements of the Ocean Plan. The utilization of UV disinfection on influent and effluent, along with micro-filtration of the effluent, will ensure compliance with applicable water quality objectives for those parameters in the Ocean Plan. Therefore, the Regional Water Board finds that the proposed discharge alternative will provide for the best practicable treatment or control of the discharge.

#### **4.4.2.4. Socioeconomic Evaluation**

The Regional Water Board performed a socioeconomic analysis to determine if the lowering of water quality in the Pacific Ocean is in the maximum interest of the people of the state. For the socioeconomic evaluation, the Regional Water Board considered:

- The social benefits and costs based on the ability to accommodate socioeconomic development in the Nordic ROWD and the Humboldt County Master Plan;
- The anticipated change in water quality from existing conditions, the water quality impacts, and expected effects on beneficial uses of the Pacific Ocean;
- The feasibility and effectiveness of reducing the lowering of water quality by implementing alternatives to lowering of Pacific Ocean water quality; and
- The economic costs of alternatives compared to the costs of the proposed discharge.

#### 4.4.2.5. **Justification for Allowing Degradation**

The Regional Water Board finds that the proposed discharge and associated degradation is appropriate, as follows:

- The proposed discharge will accommodate important economic and social development in the area and provide maximum benefit to the people of the state. Specifically, the proposed discharge will provide 130 to 150 full-time jobs and increased tax revenue for Humboldt County, which supports multiple disadvantaged communities.
- The cleanup and redevelopment of an environmentally impacted site at the former Samoa Pulp Mill.
- The new discharge will not adversely affect existing or probable beneficial uses of the Pacific Ocean, nor will it cause water quality to fall below applicable water quality objectives.

The Regional Water Board finds that the proposed discharge of 12.5 mgd from the Facility is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16. Compliance with these requirements will result in the best practicable treatment or control of the discharges from the Facility.

#### 4.4.3. **Stringency of Requirements for Individual Pollutants**

This Order contains technology-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on total suspended solids, settleable solids and pH. Restrictions on total suspended solids, settleable solids and pH are discussed in section 4.2 of the Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order

contains effluent limitations for pH, TSS and settleable solids that are more stringent than the minimum, federal technology-based requirements but are necessary to meet water quality standards.

#### **4.5. Interim Effluent Limitations**

This Order does not establish interim effluent limitations or schedules for compliance with final effluent limitations.

#### **4.6. Land Discharge Specifications**

This Order does not establish land discharge specifications.

#### **4.7. Recycling Specifications**

This Order does not establish recycling specifications.

#### **4.8. Other Requirements**

##### **4.8.1. Disinfection Process Requirements for Ultraviolet Light (UV) Disinfection System**

This Order contains monitoring requirements for the UV disinfection system in section 4.4.1. These requirements are needed to ensure that the disinfection process achieves effective pathogen reduction per the design of the system.

UV system operation requirements are necessary to ensure that adequate UV dosage is applied to the wastewater to inactivate pathogens (e.g., viruses, bacteria) in the wastewater. UV dosage is dependent on several factors such as UV transmittance, UV power setting, and wastewater flow through the UV system. Minimum dosage requirements are based on the Permittee's proposed design specifications for the UV disinfection system, which identify site-specific UV operating specifications for virus inactivation necessary to protect Beneficial Uses. Minimum UV dosage requirements specified in section 4.4.1 of the Order ensure that adequate disinfection of wastewater will be achieved.

### **5. RATIONALE FOR RECEIVING WATER LIMITATIONS**

#### **5.1. Surface Water**

CWA section 303 (a-c) requires states to adopt water quality standards, including criteria, where they are necessary to protect beneficial uses. The State Water Board adopted water quality criteria as water quality objectives in the Ocean Plan. Receiving water limitations within this Order reflect all applicable, general water quality objectives in the Ocean Plan.

The Ocean Plan includes numeric and narrative water quality objectives for various beneficial uses. This Order contains receiving water limitations for

discharges to the Pacific Ocean based on the Ocean Plan numerical and narrative water quality objectives for dissolved oxygen, floating particulates, oil and grease, pH, discoloration, natural lighting, deposition of solids, dissolved sulfides, organic materials in sediments, Table 1 parameters, nutrient materials, radioactive wastes, and biological characteristics.

## **5.2. Thermal Plan**

The Thermal Plan is applicable to the discharge from the Facility. The discharge is considered to be a New Discharge of Elevated Temperature Waste to Coastal Waters, as defined in the Thermal Plan. Therefore, as described in section 3.3.2 of this Fact Sheet, the water quality objectives for new discharges to coastal waters at section 3.B.(4) of the Thermal Plan have been established as receiving water limitations in this Order.

## **6. RATIONALE FOR PROVISIONS**

### **6.1. Standard Provisions**

#### **6.1.1. Federal Standard Provisions**

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42. The rationale for the special conditions contained in the Order is provided in section 6.2, below.

Sections 122.41(a)(1) and (b) through (n) of 40 C.F.R. establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) of 40 C.F.R. allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

#### **6.1.2. Regional Water Board Standard Provisions**

In addition to the Federal Standard Provisions (Attachment D), the Permittee shall comply with the Regional Water Board Standard Provisions provided in Standard Provisions 6.1.2 of this Order.

- 6.1.2.1. Order Provisions 6.1.2.1 identifies the State's enforcement authority under the Water Code, which is more stringent than the enforcement authority specified in the federal regulations (e.g., 40 C.F.R. sections 122.41(j)(5) and (k)(2)).
- 6.1.2.2. Order Provisions 6.1.2.2. requires the Permittee to notify Regional Water Board staff, orally and in writing, if the Permittee does not comply or will be unable to comply with any Order requirement. This provision requires the Permittee to make direct contact with a Regional Water Board staff person.

## 6.2. Special Provisions

### 6.2.1. Reopener Provisions

#### 6.2.1.1. Standard Revisions (Special Provision 6.3.1.1)

Conditions that necessitate a major modification of a permit are described in 40 C.F.R. section 122.62, and include the following:

- 6.2.1.1.1. When standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision. Therefore, if revisions of applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such revised standards.
- 6.2.1.1.2. When new information that was not available at the time of permit issuance would have justified different permit conditions at the time of issuance.

#### 6.2.1.2. Reasonable Potential (Special Provision 6.3.1.2)

This provision allows the Regional Water Board to modify, or revoke and reissue, this Order if present or future investigations demonstrate that the discharge governed by this Permit is causing or contributing to excursions above any applicable priority pollutant criterion or objective, or adversely impacting water quality and/or the beneficial uses of receiving waters.

#### 6.2.1.3. Whole Effluent Toxicity (WET) (Special Provision 6.3.1.3.)

This Order may be reopened to include a narrative or numeric chronic toxicity limitation and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity objective is adopted by the State Water Board, this Order may be reopened to include numeric chronic toxicity effluent limitations based on that objective.



#### 6.2.1.4. **303(d)-Listed Pollutants (Special Provision 6.3.1.4.)**

This provision allows the Regional Water Board to reopen this Order to modify existing effluent limitations or add effluent limitations for pollutants that are subject of any future TMDL action.

#### 6.2.2. **Special Studies and Additional Monitoring Requirements**

##### 6.2.2.1. **Disaster Preparedness Assessment Report and Action Plan (Special Provision 6.3.2.1)**

Natural disasters, extreme weather events, sea level rise, and shifting precipitation patterns, some of which are projected to intensify due to climate change, have significant implications for wastewater treatment and operations. Some natural disasters are expected to become more frequent and extreme according to the current science on climate change. In order to ensure that Facility operations are not disrupted, compliance with conditions of this Order are achieved, and receiving waters are not adversely impacted by permitted and unpermitted discharges, this Order requires the Permittee to submit a Disaster Preparedness Assessment Report and Action Plan. The Permittee may complete the Disaster Preparedness Assessment Report and Action Plan as part of a collaborative effort with DG Fairhaven Power, LLC and any additional dischargers that utilize the ocean outfall.

##### 6.2.2.2. **New Chemical and Aquaculture Drug Use Reporting**

The Effluent Limitation Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category at 40 C.F.R. part 451 include the following reporting and narrative requirements for CAAP facilities:

- Each facility must notify the permitting authority of any INAD or extra-label drug use where the use may lead to a discharge to waters of the United States.
- Each Facility must report for failure in or damage to the structure of an aquatic animal containment system, resulting in an unanticipated material discharge of pollutant to waters of the United States.
- Each facility must develop a BMP Plan for solids control, material storage, structural maintenance, record keeping and training.

Prior to using any new chemical or aquaculture drug at a CAAP facility, a Permittee is required to notify the Regional Water Board of the proposed use. The notification must contain the toxicity testing results of the new chemical or aquaculture drug as specified in Section 10.3.2.1 of this General Order. These reporting and toxicity testing requirements are needed for the Regional Water Board to determine if the discharge of a new drug or chemical by the Facility

has reasonable potential to cause, or contribute to an in-stream excursion above any chemical-specific water quality criteria, narrative water quality objective for chemical constituents from the Basin Plan, or narrative water quality objective for toxicity from the Basin Plan.

### **6.2.3. Best Management Practices and Pollution Prevention**

#### **6.2.3.1. Best Management Practices (BMP) Plan (Special Provision 6.3.3.1)**

Provision 6.3.3.1 is established based on requirements in Effluent Limitations Guidelines and New Source Performance Standards for the Concentrated Aquatic Animal Production Point Source Category at 40 C.F.R. part 451. CAAP facilities are required to develop and maintain a BMP Plan that addresses the following requirements: solids control, material storage, structural maintenance, record-keeping, and training. The Permittee must make the BMP Plan available to the Regional Water Board upon request and submit certification that the BMP Plan has been developed.

#### **6.2.3.2. Pollutant Minimization Plan (Special Provision 6.3.3.2)**

This provision is included in this Order pursuant to section III.C.9 of the Ocean Plan. The Regional Water Board includes provisions in all NPDES permits requiring development of a PMP when there is evidence that a toxic pollutant is present in the effluent at a concentration greater than an applicable effluent limitation.

### **6.2.4. Construction, Operation, and Maintenance Specifications**

#### **6.2.4.1. Operation and Maintenance (O&M) (Special Provision 6.3.4.1)**

40 C.F.R. section 122.41(e) requires proper O&M of permitted wastewater systems and related facilities to achieve compliance with permit conditions. An up-to-date O&M Manual, as required by Provision 6.3.4.1 of this Order, is an integral part of a well-operated and maintained facility.

#### **6.2.4.2. New Facility Certification Report**

This provision requires the Permittee to certify the construction of the Facility and provide the Regional Water Board with as-built plans and records.

#### **6.2.5. Special Provisions for Publicly-Owned Treatment Works (POTWs) – Not Applicable**

## 6.2.6. Other Special Provisions

### 6.2.6.1. Solids Disposal and Handling Requirements (Special Provision 6.3.6.1)

The disposal or reuse of wastewater treatment screenings, or other solids removed from the liquid waste stream is regulated by 40 C.F.R. parts 257, 258, 501, and 503, and the State Water Board promulgated provisions of title 27 of the CCR. Sludge generated at the Facility is currently proposed to be pumped into sealed holding tanks and likely used as a fertilizer/soil amendment, biogas or composting. The Facility will be producing two to four trucks daily at full production.

Dead fish are proposed to be ground and stored in storage tanks with a weak acidic solution to maintain a pH of 4 to prevent odor.

### 6.2.6.2. Storm Water (Special Provision 6.3.6.2)

This provision requires the Permittee, if applicable, to obtain coverage under the State Water Board's Water Quality Order No. 2014-0057-DWQ, NPDES General Permit No. CAS000001, General Permit for Storm Water Discharges Associated with Industrial Activities (or subsequent renewed versions of the NPDES General Permit CAS000001).

The provision also requires the Permittee to obtain coverage under State Water Board Water Quality General Order No. 2009-0009-DWQ, General Permit for Discharges of Storm Water Associated with Construction Activity for control of storm water discharges from construction at the Facility.

The Order requires the Permittee to implement and maintain BMPs to control the run-on and runoff of storm water to the Facility and to describe the effectiveness of these storm water BMPs, as well as activities to maintain and upgrade these BMPs during the previous year, in its Annual Facility Report to the Regional Water Board.

### 6.2.7. Compliance Schedules – Not Applicable

This General Order does not establish interim effluent limitations or schedules of compliance for final numeric effluent limitations.

## 7. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

CWA section 308 and 40 C.F.R. sections 122.41(h), (j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The Monitoring and Reporting Program (MRP), Attachment E of this Order establishes monitoring, reporting, and recordkeeping requirements that implement

federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

### **7.1. Effluent Monitoring**

Effluent monitoring requirements are necessary to determine compliance with prohibitions and/or effluent limitations established by the Order. Monitoring at Monitoring Location EFF-001 is necessary to demonstrate compliance with effluent limitations and demonstrate whether or not the discharge poses reasonable potential for a pollutant to exceed any numeric or narrative water quality objectives for discharges to the Pacific Ocean.

- 7.1.1. Effluent monitoring requirements have been established for flow, oil and grease pH, TSS, settleable solids, and turbidity at Monitoring Location EFF-001 in order to determine compliance with applicable prohibitions and effluent limitations.
- 7.1.2. Ammonia is a pollutant of concern in domestic wastewater and is extremely toxic to aquatic life. The Facility is designed to achieve an ammonia concentration of 0.004 mg/L after dilution. This Order requires monthly effluent monitoring for ammonia to determine if discharges from the Facility exhibit reasonable potential to cause or contribute to an exceedance of the applicable water quality objectives for ammonia.
- 7.1.3. This Order requires effluent monitoring for Ocean Plan Table 1 pollutants annually during the permit term, within the first year following commencement of discharges from the Facility, at Monitoring Location EFF-001 to generate adequate data to perform an RPA. Samples for Ocean Plan Table 1 pollutants shall be collected as 24-hour composites, with the exception that grab samples shall be collected for those priority pollutants that are volatile.

### **7.2. Whole Effluent Toxicity Testing Requirements**

WET monitoring requirements are established for discharges to the Pacific Ocean from Discharge Point 001 at Monitoring Location EFF-001 and are included in the Order to protect the receiving water quality from the aggregate effect of a mixture of pollutants in the effluent. Acute toxicity testing measures mortality in 100 percent effluent over a short test period and chronic toxicity testing is conducted over a longer time period and may measure mortality, reproduction, and/or growth. The Ocean Plan (section III.C.4.c.(3)) requires chronic toxicity testing where the minimum initial dilution of the effluent is between 100:1 and 350:1 and allows for the Regional Water Board to require acute toxicity testing as necessary to protect beneficial uses of ocean waters. This Order allows for a Dm of 115 for the acute and chronic conditions.

As described in section 4.3.5 of this Fact Sheet, since the planned Facility is an aquaculture and fish processing facility with a high level of treatment, and drugs will be used on an infrequent basis, there is a low potential for acutely toxic substances to be present in the treated industrial wastewater. Therefore, the

Regional Water Board has determined that acute toxicity testing requirements are not necessary to protect the beneficial uses of the ocean waters. In accordance with the Ocean Plan, WET monitoring shall consist of chronic toxicity testing only. This Order includes monitoring requirements for chronic toxicity to assess whether there is reasonable potential to exceed the Ocean Plan's narrative water quality objectives for toxicity. Consistent with Appendix III of the Ocean Plan, this Order requires chronic toxicity testing annually following the commencement of discharges at Discharge Point 001.

In addition to routine toxicity monitoring, this Order requires the Permittee to develop a TRE Work Plan, in accordance with appropriate U.S. EPA guidance, to ensure that the Permittee have a plan to immediately move forward with the initial tiers of a TRE in the event effluent toxicity is encountered in the future. The TRE is initiated by evidence of a pattern of toxicity demonstrated through the additional effluent monitoring provided as a result of an accelerated monitoring program.

**7.3. Land Discharge Monitoring Requirements – Not Required**

This Order does not authorize discharges to land.

**7.4. Recycling Monitoring Requirements – Not Required**

This Order does not authorize discharges of recycled water.

**7.5. Receiving Water Monitoring – Not Required**

This Order does not require surface water monitoring at this time.

**7.6. Groundwater – Not Required**

This Order does not require groundwater monitoring at this time.

**7.7. Other Monitoring Requirements**

**7.7.1. Accelerated Monitoring Requirements**

Table E-3 includes accelerated monitoring requirements for parameters that are required to be monitored weekly and monthly.

**7.7.2. Biological Survey**

This Order requires the Permittee to perform a biological survey of the outfall location once every 5 years. The Permittee may complete the biological survey in collaboration with the Humboldt Bay Harbor District, DG Fairhaven Power, LLC, Samoa Wastewater Treatment Plant and any additional dischargers that utilize the ocean outfall.

### 7.7.3. Flow Monitoring

Section I.D of the MRP requires proper installation, calibration, operation, and maintenance of flow metering devices.

## 8. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, North Coast Region (Regional Water Board) has considered the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the Nordic Aquafarms California, LLC and the land-based RAS Facility. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs and has encouraged public participation in the WDR adoption process.

### 8.1. Notification of Interested Parties

The Regional Water Board notified the Permittee and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through the following posting on the [Regional Water Board's Internet](#).

### 8.2. Written Comments

Interested persons were invited to submit written comments concerning these tentative WDRs as provided through the notification process. Comments were due to the Regional Water Board Executive Office electronically via [e-mail](#). The guidelines for electronic submittal of documents can be found on the [Regional Water Board website](#).

To be fully responded to by staff and considered by the Regional Water Board, the written comments were due at the Regional Water Board office by 5:00 p.m. on **June 4, 2021**.

### 8.3. Public Hearing

The Regional Water Board held a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: **August 18, 2021**

Time: 8:30 a.m. or as announced in the Regional Water Board's agenda

Location: Regional Water Quality Control Board  
5550 Skylane Blvd. Suite A  
Santa Rosa, California

Interested persons were invited to attend. At the public hearing, the Regional Water Board heard testimony pertinent to the discharge, WDRs, and permit. For accuracy of the record, important testimony was requested in writing. Please be aware that dates and venues may change. Our [Web address](#) is where you can access the current agenda for changes in dates and locations.

#### **8.4. Waste Discharge Requirements Petitions**

Any aggrieved person may petition the State Water Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be received by the State Water Board at the following address within 30 calendar days of the Regional Water Board's action:

State Water Resources Control Board  
Office of Chief Counsel  
P.O. Box 100, 1001 I Street  
Sacramento, CA 95812-0100

For instruction on how to file a petition for review see this [website](#).

#### **8.5. Information and Copying**

The ROWD, related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address identified in section **8.3**, above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (707) 576-2220.

#### **8.6. Register of Interested Persons**

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this Facility, and provide a name, address, and phone number.

#### **8.7. Additional Information**

Requests for additional information or questions regarding this order should be directed to Justin McSmith at [Justin.McSmith@waterboards.ca.gov](mailto:Justin.McSmith@waterboards.ca.gov) or (707) 576-2082.