

North Coast Regional Water Quality Control Board

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

NORTH COAST REGION

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ORDER NO. R1-2023-0019

NPDES NO. CA1000003

WDID NO. 1B20161NHUM

Waste Discharge Requirements

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

Permittees	Nordic Aquafarms California, LLC and Humboldt Bay Harbor, Recreation and Conservation District
Name of Facility	Nordic Aquafarms California, LLC
Facility Address	1 TCF Drive Samoa, CA 95501 Humboldt County

Table 1. Discharge Location

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

This Order was adopted on:

October 5, 2023

This Order shall become effective on:

December 1, 2023

This Order shall expire on:

November 30, 2028

The Permittees 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, 2027**. 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: **Major**

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 Permittee shall comply with the requirements in this Order.

I, Valerie M. Quinto, 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.

Valerie M. Quinto, Executive Officer

230201_Nordic_NPDES Permit

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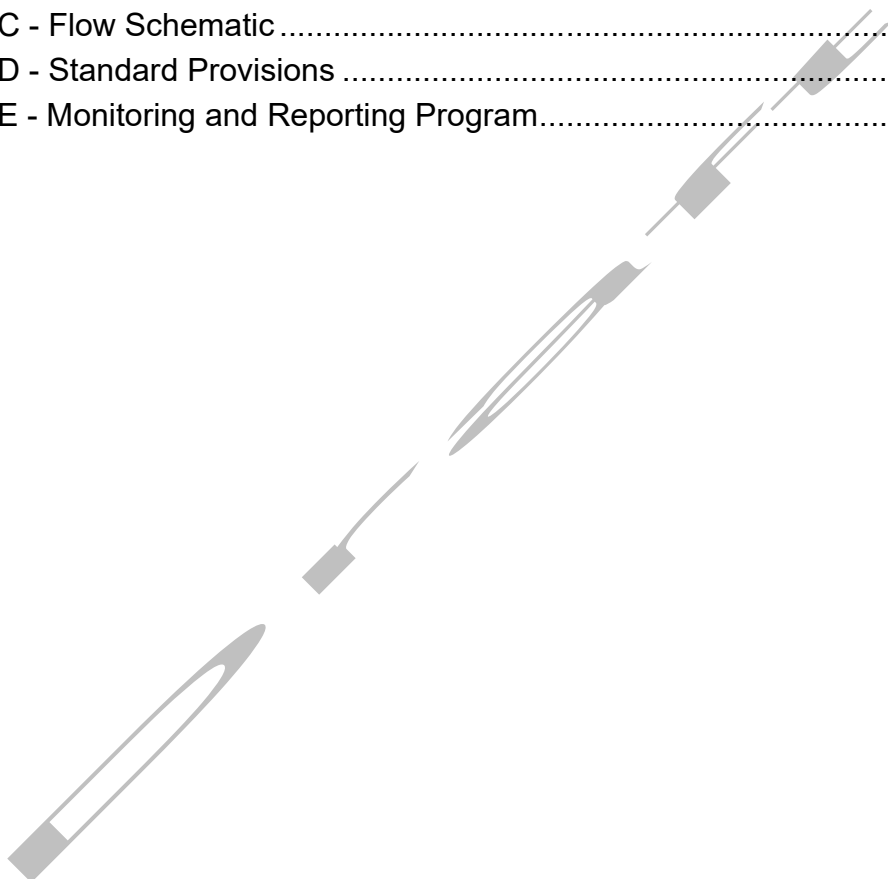
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1. FACILITY INFORMATION

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.

Nordic Aquafarms California, LLC is the owner and operator of Nordic Aquafarms California, LLC, a land-based aquaculture facility. The Humboldt Bay Harbor, Recreation and Conservation District (HBHRCD) is the owner and operator of the Intake System and Ocean Outfall infrastructure that serves the Facility. Upon permit issuance, Nordic Aquafarms California, LLC and HBHRCD will become co-permittees.

HBHRCD is solely responsible for the Construction, Operation and Maintenance Specifications for the Intake System and Ocean Outfall as identified in section 6.3.5. and the Mitigation Project for Intake Structures in section 6.3.7.3 of this Order. All other requirements in this Order are the sole responsibility of Nordic Aquafarms LLC. This Order provides permit coverage for waste discharges from the CAAP and for activities set forth in this Order for the Intake System and Ocean Outfall.

For the purpose of this Order, a co-permittee is only responsible for those permit conditions specifically assigned to that permittee.

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 (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, 5.2 and 6.3.2. through 6.3.7 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 has notified the Permittees 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.

2.6. Anticipated Water Quality Impacts in Disadvantaged or Tribal Communities

The Permittees have redeveloped the site of the decommissioned Freshwater Tissue Samoa Pulp Mill facility 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 10.3 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 0.3 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 0.3 MGD of treated domestic water.

The Facility will serve as an aquaculture facility for raising fish in a land-based system while processing fish for sale. Permitting the facility is consistent with the North Coast Water Board's Basin Plan and the *Water Quality Control Plan for Ocean Waters in California*. Pursuant to Water Code section 13149.2, the Regional Water Board has reviewed readily available information and information raised to the Board by interested persons concerning anticipated water quality impacts in disadvantaged or tribal communities resulting from adoption of this

Order. The Board also considered environmental justice concerns within the Board's authority and raised by interested persons with regard to those impacts. Near and far field modeling performed shows all numeric water quality objectives in the Ocean Plan and the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan) will be met within five feet of the diffuser. With the minimal impacts to water quality described in the Fact Sheet of this Order, water quality for disadvantage communities or tribal communities in and around Humboldt Bay is not anticipated to be negatively impacted from the Facility's discharge. The Regional Water Board publicly noticed the permit and provided opportunities for public comment. Public notice was provided to interested persons, Tribes, and public agencies in the region with jurisdiction over natural resources in the affected area. Based on the facility design and proposed operation, and requirements included in the permit, the discharge regulated by this Order is not expected to result in a disproportionate impact to tribal or disadvantaged communities. The Regional Water Board has satisfied the outreach requirements set forth in Water Code section 189.7.

3. 3. DISCHARGE PROHIBITIONS

3.1. Discharge Prohibition 3.1

The discharge of any waste not disclosed by the Permittees 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 Permittees or under agreement to use by the Permittees 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 10.3 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**

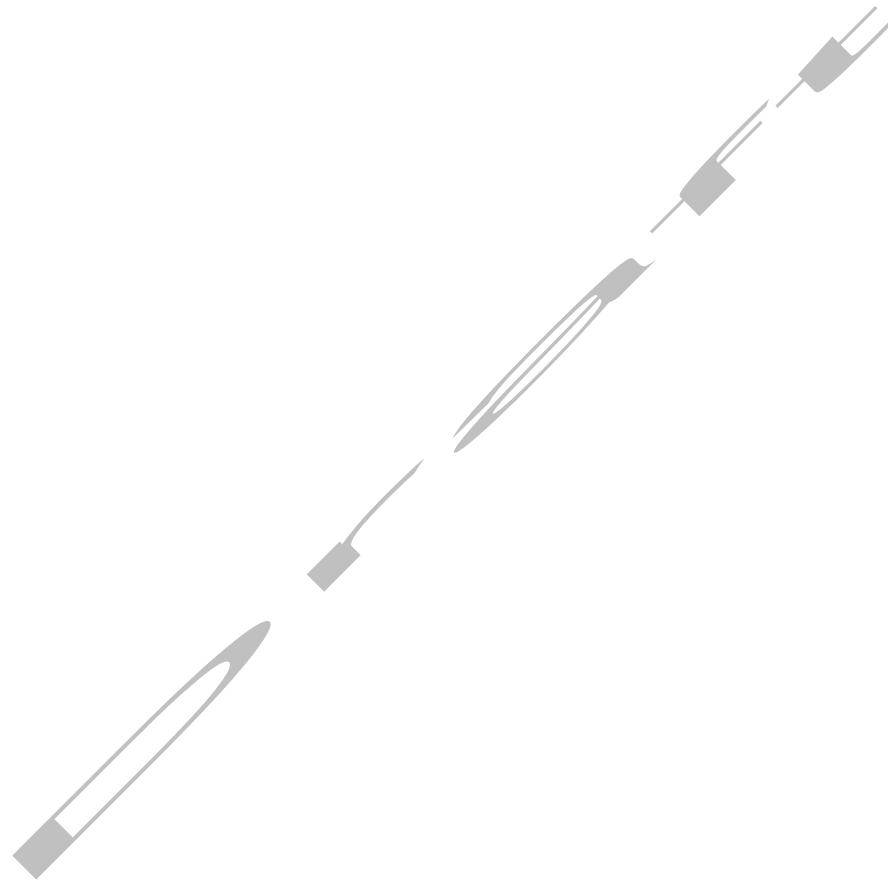
The discharge of treated wastewater shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location Eff-001, as described in the Monitoring and Reporting Program (MRP) (Attachment E).

Table 2. Effluent Limitations

Parameter (Table Note 1)	Units	Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow	mgd			10.3		
Biochemical Oxygen Demand 5-day @ 20°C (BOD ₅)	lbs/day			295		
Total Suspended Solids	mg/L					60
Total Suspended Solids	lbs/day			337		
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.



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**

Nordic Aquafarms, LLC, 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, Nordic Aquafarms, LLC, 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. Nordic Aquafarms, LLC, must demonstrate compliance with the UV dose requirement.
- 4.4.1.3. Operate the UV disinfection system to provide a minimum UV dose for treated effluent of 250 millijoules per square centimeter (mJ/cm²) 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. Nordic Aquafarms, LLC, 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. Nordic Aquafarms, LLC, 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. Nordic Aquafarms, LLC, 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. 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. Ocean Plan

5.1.1. Physical Characteristics

- 5.1.1.1. Floating particulates and oil and grease shall not be visible.
- 5.1.1.2. The discharge of waste shall not cause aesthetically undesirable discoloration of the ocean surface.
- 5.1.1.3. Natural light shall not be significantly reduced at any point outside the initial dilution zone as the result of the discharge of waste.
- 5.1.1.4. 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.

5.1.2. Chemical Characteristics

- 5.1.2.1. 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.
- 5.1.2.2. The pH shall not be changed at any time more than 0.2 units from that which occurs naturally.
- 5.1.2.3. The dissolved sulfide concentration of waters in and near sediments shall not be significantly increased above that present under natural conditions.
- 5.1.2.4. 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.
- 5.1.2.5. The concentration of organic materials in marine sediments shall not be increased to levels that would degrade marine life.
- 5.1.2.6. Nutrient materials shall not cause objectionable aquatic growths or degrade indigenous biota.
- 5.1.2.7. 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.
- 5.1.2.8. Discharge of radioactive waste shall not degrade marine life.

5.1.3. Biological Characteristics

- 5.1.3.1. Marine communities, including vertebrate, invertebrate and plant species, shall not be degraded.
- 5.1.3.2. The natural taste, odor, and color of fish, shellfish, or other marine resources used for human consumption shall not be altered.
- 5.1.3.3. 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.

5.1.4. **General Standards**

- 5.1.4.1. 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.
- 5.1.4.2. 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.
- 5.1.4.3. Waste discharged to the ocean must be essentially free of:
 - 5.1.4.3.1. Material that is floatable or will become floatable upon discharge.
 - 5.1.4.3.2. Settleable material or substances that may form sediments which will degrade benthic communities or other aquatic life.
 - 5.1.4.3.3. Substances which will accumulate to toxic levels in marine waters, sediments or biota.
 - 5.1.4.3.4. Substances that significantly decrease the natural light to benthic communities and other marine life.
 - 5.1.4.3.5. Materials that result in aesthetically undesirable discoloration of the ocean surface.
- 5.1.4.4. Waste effluents shall be discharged in a manner which provides sufficient initial dilution to minimize the concentrations of substances not removed in the treatment.
- 5.1.4.5. Location of waste discharges must be determined after a detailed assessment of the oceanographic characteristics and current patterns to assure that:
 - 5.1.4.5.1. 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.

- 5.1.4.5.2. 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.
- 5.1.4.5.3. Maximum protection is provided to the marine environment.
- 5.1.4.5.4. The discharge does not adversely affect recreational beneficial uses such as surfing and beach walking.

5.2. Thermal Plan

5.2.1. Temperature Objectives

- 5.2.1.1. Elevated temperature wastes shall be discharged to the open ocean away from the shoreline to achieve dispersion through the vertical water column.
- 5.2.1.2. Elevated temperature wastes shall be discharged a sufficient distance from areas of special biological significance to assure the maintenance of natural temperature in these areas.
- 5.2.1.3. The maximum temperature of thermal waste discharges shall not exceed the natural temperature of receiving waters by more than 20°F.
- 5.2.1.4. 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 Permittees shall comply with all Standard Provisions included in Attachment D of this Order.

6.1.2. Regional Water Board Standard Provisions

The Permittees 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 Permittees 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 Permittees 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

Nordic Aquafarms, LLC, 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.

6.3.1.5. **Co-Permittee Status**

If the Humboldt Bay Harbor, Recreation and Conservation District (HBHRCD) pursues and is issued an individual NPDES permit for future NPDES discharges using the intake structure and/or the Ocean Outfall, this Order may be reopened to remove HBHRCD as a co-permittee.

HBHRCD is solely responsible for the Construction, Operation and Maintenance Specifications for the Intake System and Ocean Outfall as identified in section 6.3.5. and the Mitigation Project for Intake Structures in section 6.3.7.3 of this Order. All other requirements in this Order are the sole responsibility of Nordic Aquafarms LLC.

6.3.1.6. **Mitigation Project**

- 6.3.2. If Regional Water Board staff, in consultation with State Water Board staff and other agencies having authority to condition approval of the project, determine that further mitigation beyond what is identified in this Order is necessary to minimize or prevent adverse impacts to beneficial uses, this Order may be reopened to include additional mitigation measures to address impacts due to the intake system. **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 Permittees 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 Permittees 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.

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 Permittees 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 Nordic Aquafarms, LLC, in its 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% (¼-4 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.

6.3.2.2.2.2. 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 (O₂) 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.

6.3.2.2.4. Drugs for Fish Treatment

6.3.2.2.4.1. 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.

6.3.2.2.4.2. 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).

6.3.2.2.4.3. 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 Nordic Aquafarms, LLC, 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.

Nordic Aquafarms, LLC, 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 the most sensitive species from the approved tests in Table III-1 of the Ocean Plan 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 Nordic Aquafarms, LLC,.

6.3.2.3. Monitoring of Coastal Oceanography and Water Quality

This additional monitoring program shall be carried out to understand interannual variability (e.g., cool vs warm years) and shall commence with pre-discharge baseline monitoring. Baseline monitoring shall commence one to two years prior to the discharge from the facility. Post-discharge receiving water monitoring would commence following completion of Phase 2 operations (full facility discharge) following the same methodology as the baseline monitoring. The post-discharge monitoring shall continue for three years to provide “before-after-control impact” or “before-after-gradient” design for the biological monitoring program. The monitoring program shall be conducted during the summer/fall period of upwelling “relaxation,” when conditions are least energetic, and dilution of the discharge would thus be lowest. Two annual surveys shall occur during the summer/fall period, ideally in August or September, separated by at least two weeks.

Coastal oceanographic data shall be gathered with an acoustic doppler current profiler (ACDP) to measure current velocities (deployment and retrieval during the first and second surveys of each year, respectively), and the use of a conductivity, temperature, and depth (CTD) profiler to characterize spatial patterns of temperature and salinity of the ambient waters and any effects in proximity to the discharge. CTD profiles shall be collected at approximately 100 to 300 feet (near diffuser) to approximately 500 to 1,000 feet (distant from diffuser), and reference profiles shall be collected greater than one mile from the diffuser. The deployment of the ADCP shall be within 0.5 mile of the diffuser at a similar depth.

Water quality monitoring of nutrients (NH_x, NO_x, TN), suspended solids and turbidity, and chlorophyll a shall be conducted during each survey to confirm the predicted area of effect. Near surface (~1-3 ft below surface and near seabed (approximately 5 feet above bottom) grab samples shall be collected at half of the profiling stations (proportionally by near the diffuser, far from the diffuser, and reference profiles) and analyzed by an appropriately accredited laboratory.

In addition to the sampling required in Attachment E of this Order, supplemental biological surveys shall be conducted to determine if effluent discharge is having a significant effect on biota in the Ocean Discharge Study Area, defined as the proximal marine waters. Supplemental biological surveys shall occur concurrently with water quality monitoring. The study approach shall utilize visual methods, either a remotely operated vehicle (ROV) and/or a

drop camera with laser lights for scale. Transects and point surveys shall be conducted at a height of two to five feet above the bottom. Surveys shall be conducted outside of the zone of influence for this time period (e.g., reference sites), and within the zone of influence, and along the discharge pipe, at approximately the 82 feet (25 meter) isobath.

Annual reporting shall be completed following each post-discharge monitoring event by a qualified consultant, submitted as part of the Annual Report and reflective of seasonal variations.

6.3.3. Best Management Practices and Pollution Prevention

6.3.3.1. Best Management Practices (BMP) Plan

Nordic Aquafarms, LLC, 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. Nordic Aquafarms, LLC, 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. Nordic Aquafarms, LLC, 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. Nordic Aquafarms, LLC, 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. Nordic Aquafarms, LLC, 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 for the Facility**

6.3.4.1. **Proper Operation and Maintenance**

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

6.3.4.2. **Operation and Maintenance Manual**

The Nordic Aquafarms, LLC, shall maintain an updated Operation and Maintenance (O&M) Manual for the operational components of the Facility. Nordic Aquafarms, LLC, 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. Nordic Aquafarms, LLC, 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, Nordic Aquafarms, LLC, 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. Nordic Aquafarms, LLC, 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. Construction, Operation and Maintenance Specifications for the Intake System and Ocean Outfall

6.3.5.1. Ocean Outfall

Operation and Maintenance of the Ocean Outfall shall be conducted in accordance with sections 1 through 11 of the California State Lands Commission Lease No. PRC 3186.1 for the Humboldt Bay Harbor, Recreation and Conservation District. The term of the lease is 25 years, beginning August 14, 2013; ending August 13, 2038, unless sooner terminated as provided under the Lease. The following sections from the Lease are specified as follows:

- 6.3.5.1.1. Within 90 days of the completion of repair work, HBHRCD shall provide the Regional Water Board a set of updated "as-built" drawings, certified by a California registered Civil/Structural Engineer, showing the pipeline's horizontal alignment and vertical profile through the lease area with all pertinent existing features such as diffusers, valves, flanges, reducers, pipeline anchors, supports, thrust blocks etc., and with all horizontal survey control points referenced to the California Coordinate System 1983 revision (CCS83) and vertical profile data with elevations referenced to Mean Lower Low Water (MLL W) datum or otherwise to the local elevation control datum. The drawings are to provide information such as outfall/pipeline grade and material specifications, cathodic protection (CP) information, delineation of the ordinary high water line and the offshore 3-mile limit line (State Lands Commission boundary) where applicable.
- 6.3.5.1.2. HBHRCD shall conduct external inspections of the lease facilities using diver/ROV video or high-resolution side-scan sonar at least once every two years and when warranted by extraordinary circumstances such as an accident or a significant seismic event unless the schedule is modified by mutual agreement among the parties involved in the Lease. The first inspection shall be performed prior to placing the outfall into service. Copies of the results of all external inspections including reports, analyses, recommendations, and inspection video with voice overlay shall be submitted promptly to Regional Water Board. The inspections can be combined with inspections required for State Lands Commission Lease.
- 6.3.5.1.3. HBHRCD shall conduct an integrity assessment of the facilities by a California registered Civil/Structural Engineer at least once every five years and when warranted by extraordinary circumstances such as an accident or a significant seismic event unless the schedule is modified by mutual agreement among the parties hereto. The first integrity assessment shall be performed prior to placing the outfall into service. Copies of the results of all integrity assessment reports including internal inspection reports (if any), analyses, and recommendations shall be submitted promptly to Regional Water Board.
- 6.3.5.2. Intake System
- 6.3.5.2.1. Fish Screens shall be automatically cleaned as frequently as necessary to prevent accumulation of debris. The cleaning system and protocol must be effective, reliable, and satisfactory to the Regional Water Board. Proven cleaning technologies are preferred.
- 6.3.5.2.2. The head differential to trigger screen cleaning for intermittent type systems shall be a maximum of 0.1 feet (0.03 m), unless otherwise agreed to by the Regional Water Board.

6.3.5.2.3. The completed screen and bypass facility shall be made available for inspection by the Regional Water Board, to verify compliance with design and operational criteria.

6.3.5.2.4. Screen and bypass facilities shall be evaluated for biological effectiveness and to verify that hydraulic design objectives are achieved.

6.3.5.3. Ocean Outfall Flushing

HBHRCD shall use up to 2.0 mgd of raw water from the Mad River as provided by the Humboldt Bay Municipal Water District to flush the Ocean Outfall and keep the pipe operating in good working order.

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

6.3.7. **Other Special Provisions**

6.3.7.1. **Sludge Disposal and Handling Requirements**

6.3.7.1.1. 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 California Code of Regulations, title 27, division 2, subdivision 1, section 20005, et seq.

6.3.7.1.2. 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 Order. The report may be submitted in conjunction with Nordic Aquafarms, LLC, BMP Plan.

6.3.7.1.3. All aquaculture drugs and chemicals not discharged in accordance with the provisions of this Order shall be disposed of in an environmentally safe manner, according to label guidelines, MSDS guidelines, and Nordic Aquafarms, LLC, BMP Plan. Any other form of disposal requires approval from the Executive Officer.

6.3.7.1.4. 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.

6.3.7.1.5. 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.

- 6.3.7.1.6. 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.
- 6.3.7.1.7. 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.

6.3.7.2. Storm Water

For the control of storm water discharges from the Facility Nordic Aquafarms, LLC, 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 Nordic Aquafarms, LLC, 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 (CGP). A new CGP, Order No WQ 2022-0057-DWQ, will become effective September 1, 2024, for new enrollments. Those enrolled under Order 2009-0009-DWQ will stay enrolled until September 2025.

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 Nordic Aquafarms, LLC, 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.

6.3.7.3. Mitigation Project for Intake Structures

HBHRCD shall complete the mitigation project described in Fact Sheet section 2.1.3. The mitigation project is consistent with section III.M.2.e.(2) of the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (2015) (Ocean Plan) for compliance with Water Code section 13142.5.¹ The mitigation project must satisfy the following provisions:

¹ Water Code section 13142.5 applies to the facility because it is a new industrial facility that uses seawater for industrial processing. The Ocean Plan provisions that implement Water Code section 13142.5 do not specifically apply to this facility because those

- 6.3.7.3.1. HBHRCD shall submit a mitigation plan by **July1, 2024**. The Mitigation Plan shall include: project objectives, site selection, site protection instrument (the legal arrangement or instrument that will be used to ensure the long-term protection of the compensatory mitigation project site), baseline site conditions, a mitigation work plan, a maintenance plan, a long-term management plan, an adaptive management plan, performance standards and success criteria, monitoring requirements, and financial assurances.
- 6.3.7.3.2. The mitigation project must meet the following requirements:
- 6.3.7.3.2.1. Mitigation shall be accomplished through expansion, restoration or creation of one or more of the following: kelp beds, estuaries, coastal wetlands, natural reefs, MPAs, or other projects approved by the Regional Water Board that will mitigate for intake and mortality of all forms of marine life associated with the facility.
- 6.3.7.3.2.2. HBHRCD shall demonstrate that the project fully mitigates intake-related marine life mortality by including expansion, restoration, or creation of habitat based on the APF acreage calculated in the Marine Life Mortality Report. HBHRCD using surface water intakes shall do modeling to evaluate the areal extent of the mitigation project's production area to confirm that it overlaps the facility's source water body. Impacts on the mitigation project due to entrainment by the facility must be offset by adding compensatory acreage to the mitigation project.
- 6.3.7.3.2.3. HBHRCD shall demonstrate that the project also fully mitigates the discharge-related marine life mortality projected in the Marine Life Mortality Report.
- 6.3.7.3.2.4. HBHRCD shall demonstrate that the project also fully mitigates the construction-related marine life mortality identified in the Marine Life Mortality Report.
- 6.3.7.3.2.5. For in-kind mitigation, the mitigation ratio shall not be less than one acre of mitigation habitat for every one acre of impacted habitat.
- 6.3.7.3.2.6. For both in-kind and out-of-kind mitigation, the Regional Water Board may increase the required mitigation ratio for any species and impacted natural habitat calculated in the Marine Life Mortality Report when appropriate to account for imprecisions associated with mitigation

provisions apply to the intake of seawater for desalination. Staff have determined that the impacts due to the seawater intake for aquaculture are comparable to those of a desalination facility and it is appropriate to require mitigation measures consistent with those outlined in the Ocean Plan.

including, but not limited to, the likelihood of success, temporal delays in productivity, and the difficulty of restoring or establishing the desired productivity functions.

- 6.3.7.3.3. The Mitigation Plan is subject to approval by the Regional Water Board or its Executive Officer² in consultation with State Water Board staff and with other agencies having authority to condition approval of the project and require mitigation.

6.3.8. 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, Nordic Aquafarms, LLC, 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, Nordic Aquafarms, LLC, shall compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or ND. In those cases, Nordic Aquafarms, LLC, 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.

² The Executive Officer is delegated the authority to take actions on behalf of the Regional Water Board.

- 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 Nordic Aquafarms, LLC, 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, Nordic Aquafarms, LLC, will be considered out of compliance for that calendar month. Nordic Aquafarms, LLC, 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, Nordic Aquafarms, LLC, 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, Nordic Aquafarms, LLC, 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, Nordic Aquafarms, LLC, 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 Nordic Aquafarms, LLC, monitors pH continuously, pursuant to 40 C.F.R. section 401.17, Nordic Aquafarms, LLC, 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, Nordic Aquafarms, LLC, 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 Nordic Aquafarms, LLC, monitors pH continuously, pursuant to 40 C.F.R. section 401.17, Nordic Aquafarms, LLC, 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 10.3 MGD will be measured at monitoring location EFF-001.

ATTACHMENT A - 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.

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.

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 Executive Officer 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.<

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 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 (Σ)

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

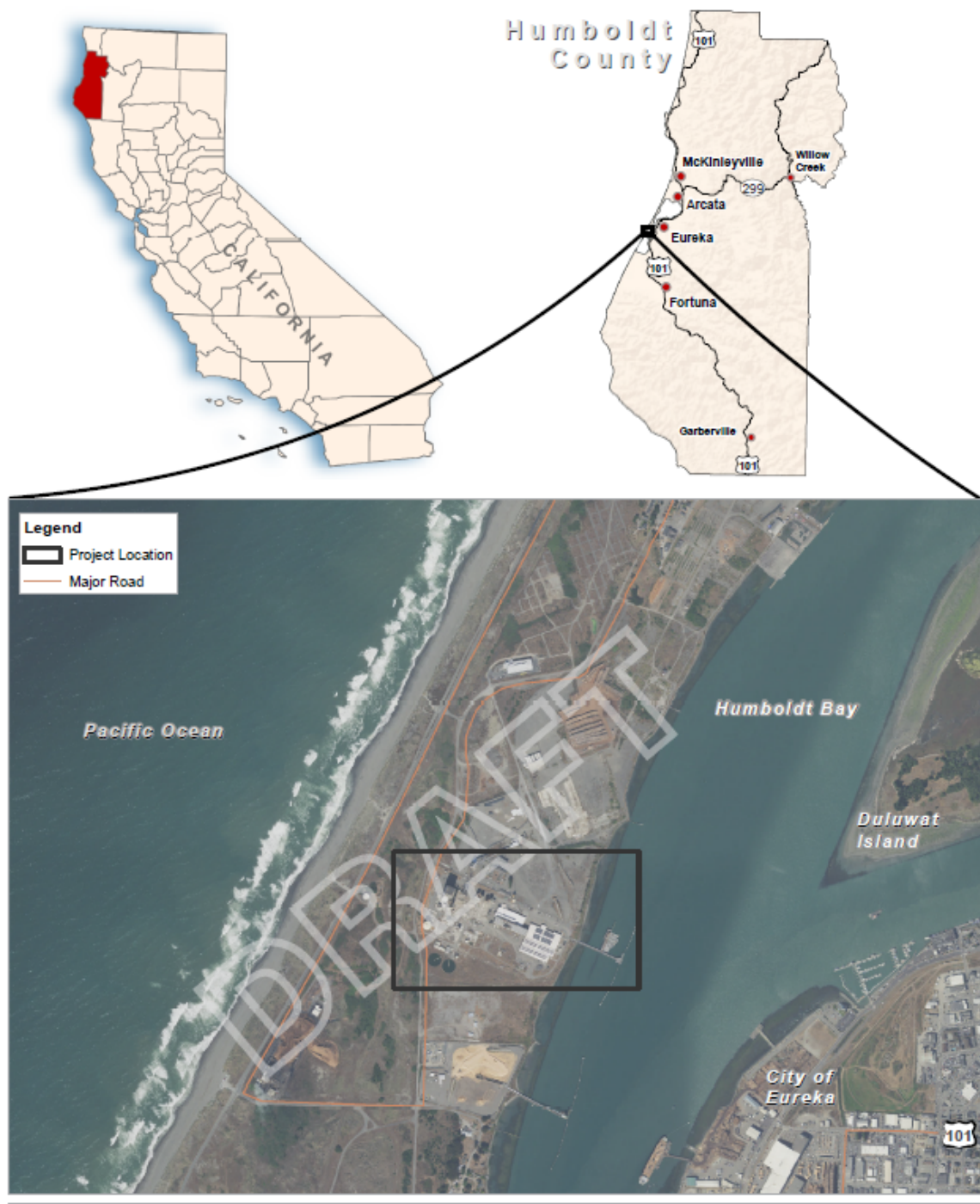
$$\text{Standard Deviation } (\sigma) = \frac{\Sigma(X-\mu)^2}{(n-1)^{0.5}}$$

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

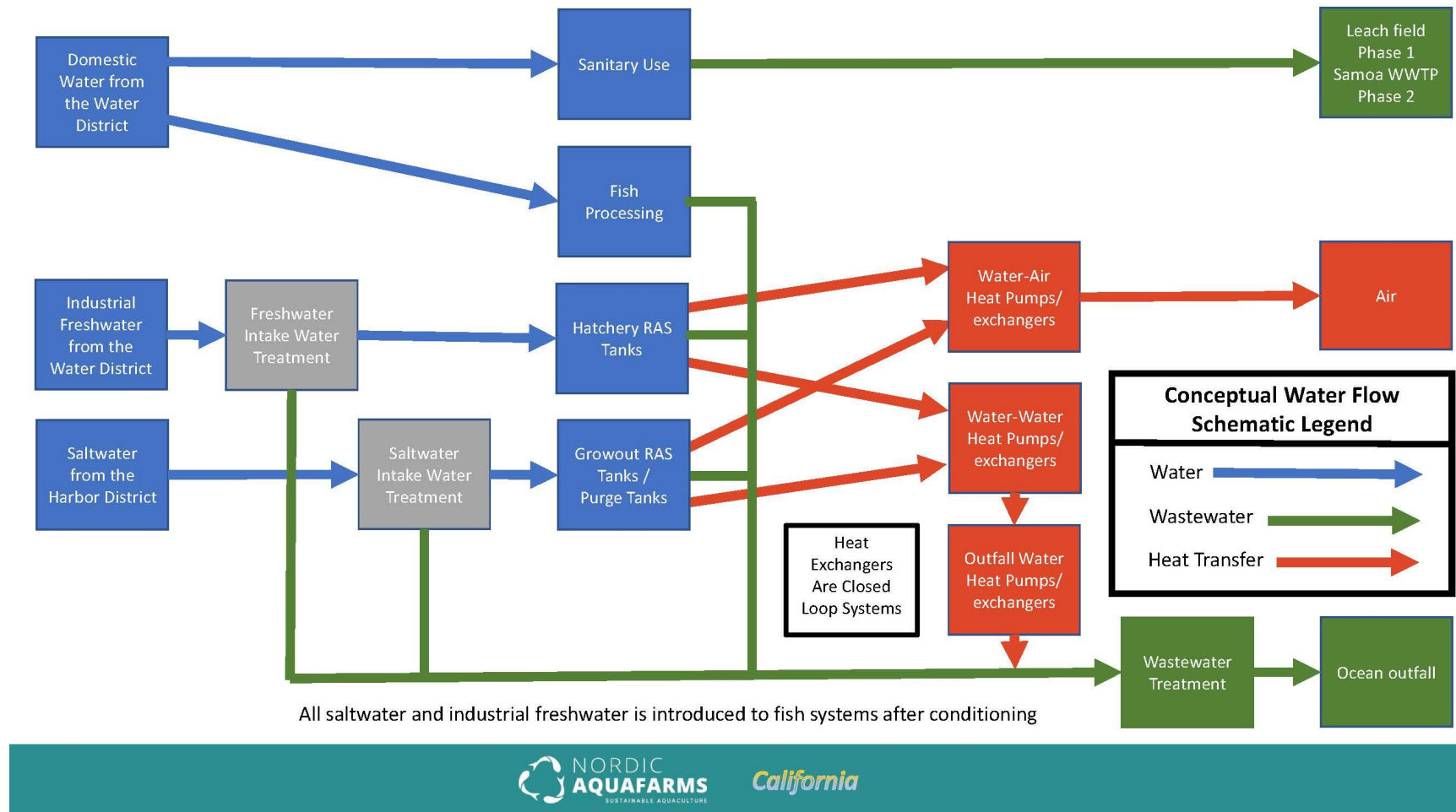
TOXICITY REDUCTION EVALUATION (TRE)

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 - ATTACHMENT B - VICINITY MAP



ATTACHMENT C - ATTACHMENT C - FLOW SCHEMATIC



ATTACHMENT D - ATTACHMENT D - STANDARD PROVISIONS

1. STANDARD PROVISIONS – PERMIT COMPLIANCE

1.1. Duty to Comply

- 1.1.1. The Permittees 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 Permittees 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 the Permittees 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 Permittees 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 Permittees 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 Permittees 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 Permittees 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.** Nordic Aquafarms, LLC, 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 Nordic Aquafarms, LLC, 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. Nordic Aquafarms, LLC, 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, Nordic Aquafarms, LLC, 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 Nordic Aquafarms, LLC, 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.** Nordic Aquafarms, LLC, 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 Nordic Aquafarms, LLC,. 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 Permittees 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 Permittees wish to continue an activity regulated by this Order after the expiration date of this Order, the Permittees 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 Permittees 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 Permittees 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 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 Permittees 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 Permittees 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 Nordic Aquafarms, LLC, 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 Permittees shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Permittees become aware of the circumstances. A report shall also be provided within five (5) days of the time the Permittees become 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 Permittees 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 Permittees 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 Permittees 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 Permittees become 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 Permittees 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 (µg/L) (40 C.F.R. § 122.42(a)(1)(i));
 - 7.1.1.2. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4 dinitrophenol and 2 methyl 4,6 dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 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 (µg/L) (40 C.F.R. § 122.42(a)(2)(i));
 - 7.1.2.2. 1 milligram per liter (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 - 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 Nordic Aquafarms, LLC, 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. Nordic Aquafarms, LLC, may analyze pollutants with short hold times (e.g., pH, chlorine residual, etc.) with field equipment or its on-site laboratory provided that Nordic Aquafarms, LLC, has standard operating procedures (SOPs) that identify quality assurance/quality control procedures to be followed to ensure accurate results. Nordic Aquafarms, LLC, 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 Nordic Aquafarms, LLC, 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

Nordic Aquafarms, LLC, 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. Nordic Aquafarms, LLC, 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 ₅)	mg/L	24-hr Composite	Weekly	Part 136
Biochemical Oxygen Demand 5-day @ 20°C (BOD ₅)	lbs/day	Calculation	Daily	
Oil and Grease	mg/L	Grab	Weekly	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	Weekly	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 edition of Standard Methods for Examination of Water and Wastewater (American Public Health Administration).

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.
3. Sampling shall be conducted within 1 year following commencement of discharges at Discharge Point 001.

4. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

4.1. Chronic Toxicity Testing

Nordic Aquafarms, LLC, shall conduct chronic toxicity testing in accordance with the following chronic toxicity testing requirements:

4.1.1. Test Frequency

Nordic Aquafarms, LLC, 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, Nordic Aquafarms, LLC, 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. Nordic Aquafarms, LLC, 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 "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 Nordic Aquafarms, LLC, 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. Nordic Aquafarms, LLC, 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. Nordic Aquafarms, LLC, 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**

Nordic Aquafarms, LLC, 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 ≥ 0.50 . Within 24 hours of the time Nordic Aquafarms, LLC, becomes aware of a summary result of “Fail”, Nordic Aquafarms, LLC 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,” Nordic Aquafarms, LLC, shall return to routine monitoring for the next monitoring period. If one of the accelerated toxicity tests results is “Fail”, Nordic Aquafarms, LLC, 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 Nordic Aquafarms, LLC, 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**

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

Nordic Aquafarms, LLC, 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 Nordic Aquafarms, LLC, 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”, Nordic Aquafarms, LLC, 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. Nordic Aquafarms, LLC, 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 Nordic Aquafarms, LLC, to investigate, identify, and correct causes of toxicity.
- 4.2.2.2. Actions Nordic Aquafarms, LLC, 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

Nordic Aquafarms, LLC, 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, Nordic Aquafarms, LLC, 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. Nordic Aquafarms, LLC, 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/cm²) at any time and the flow shall not exceed 10.3 mgd.

8.1.3. Reporting

Nordic Aquafarms, LLC, shall report daily average and lowest daily transmittance and operational UV dose on its monthly monitoring reports. Nordic Aquafarms, LLC, shall report daily average and minimum flow through the UV disinfection system. If the UV transmittance falls below 250 mJ/cm², 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.

Nordic Aquafarms, LLC, 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 Nordic Aquafarms, LLC shall submit to the Regional Water Board Executive Officer for approval a Biological Survey Work Plan no later than **December 1, 2026**, 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 **December 1, 2027**.

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. Nordic Aquafarms, LLC, shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

9.2. Self-Monitoring Reports (SMRs)

Nordic Aquafarms, LLC, 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. Nordic Aquafarms, LLC, 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.

Nordic Aquafarms, LLC, shall report in the SMR the results for all monitoring specified in this MRP under sections 3 through 9. Nordic Aquafarms, LLC, 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 Nordic Aquafarms, LLC, 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

Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Continuous	Permit effective date	All	First day of second calendar month following the end of each quarter ¹ (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.

Nordic Aquafarms, LLC, 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.

Nordic Aquafarms, LLC, 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. Nordic Aquafarms, LLC, 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 Nordic Aquafarms, LLC to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

9.2.2. Self-Monitoring Reports

Nordic Aquafarms, LLC, shall submit SMRs in accordance with the following requirements:

- 9.2.2.1. Nordic Aquafarms, LLC, 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. Nordic Aquafarms, LLC, 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, Nordic Aquafarms, LLC, shall electronically submit the data in a tabular format as an attachment.
- 9.2.2.2. Nordic Aquafarms, LLC, 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, Nordic Aquafarms, LLC, 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. Nordic Aquafarms, LLC, 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

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

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