



BOARD ORDER

Nordic Aquafarms Inc.
Waldo County
Belfast, Maine
A-1146-71-A-N

BOARD ORDER
Air Emission License

BOARD ORDER

After review of the air emission license application of Nordic Aquafarms Inc. (Nordic or applicant), along with the supportive data, party comments, public comments, hearing materials, and other related materials on file in the Bureau of Air Quality (BAQ), pursuant to 38 Maine Revised Statutes (M.R.S.) §§ 344 and 590, the Maine Board of Environmental Protection (Board) finds the following facts:

I. REGISTRATION

A. Introduction

Nordic has applied for an air emission license for the operation of emission sources (equipment) associated with its land-based salmon aquaculture farm.

The equipment addressed in this license will be located at 285 Northport Avenue, Belfast, Maine.

B. Title, Right, or Interest

Pursuant to Department of Environmental Protection (Department) rules, Ch. 2 § 11(D), prior to acceptance of an application, the applicant must demonstrate to the Department's satisfaction sufficient title, right or interest (TRI) in all of the property that is proposed for development or use. An applicant must maintain sufficient TRI throughout the entire application processing period. Evidence of TRI may include deeds, easements, option agreements, and any other such evidence the Department deems acceptable to demonstrate sufficient TRI. When the project requires a submerged lands lease from the State, evidence must be supplied that the lease has been issued or that an application is pending.

Nordic submitted initial evidence of TRI in its October 19, 2018 MEPDES/WDL application, including purchase and sale agreements for easements and relevant parcels as well as evidence of a pending submerged lands lease application before the Bureau of Parks and Lands. The Department determined that this demonstrated sufficient TRI and accepted the application on November 9, 2018. Individuals and entities who later became intervenors to this proceeding submitted evidence challenging the sufficiency of TRI. In response to these filings, the Department requested additional information in a January 22, 2019, letter from Brian Kavanah. Specifically, the letter requested confirmation that an easement option providing waterfront access included intertidal rights,

specific locations of intake and outfall pipes, identification of any implicated property boundaries in the intertidal area, and evidence of sufficient rights to cross Route 1. The applicant proposed consolidating the existing application with Site Location of Development Act, Natural Resources Protection Act, and Air Emissions applications it planned to submit and petitioned for Board assumption of jurisdiction to review all of the applications. Intervenors again commented, submitting new challenges to the sufficiency of the evidence, including arguments concerning the ownership of the intertidal area and allegations that Nordic was withholding evidence that would undermine its claim of TRI.

On May 17, 2019, Nordic submitted consolidated applications that contained additional evidence supportive of a demonstration of sufficient TRI for all four applications, including responses to the Department's January 22, 2019 letter. In a May 29, 2019 letter from Deputy Commissioner Melanie Loyzim, the Department requested "all information illustrating NAF's TRI that is in NAF's possession or control" including information the applicant had referenced but did not provide in prior submittals. Nordic provided a response to the Department on June 10, 2019. Intervenors submitted additional information regarding TRI on June 12, 2019. After considering all information received, the Department accepted the consolidated applications as complete for processing on June 13, 2019.

Pursuant to Chapter 2, the Department may return an application after it has been accepted as complete for processing if the Department determines that the applicant did not have, or no longer has, sufficient TRI. Invoking this provision, intervenors have requested multiple times that the Department, and then the Board, return the application for lack of TRI. The Department initially addressed these requests in its June 13, 2019 letter accepting the applications, and the Board denied subsequent similar requests throughout the proceeding, including: in the 2nd Procedural Order (responding to July 12, 2019 motion), in the 5th Procedural Order (responding to a filing entitled "Notice of NAF's Lack of [TRI]" based on a remand in a Bureau of Public Lands proceeding), in the 9th Procedural Order (following a request to return the applications based on statements made in an oral argument in related quiet title proceedings), in the 20th Procedural Order (following a request that the applications be returned based on the Maine Supreme Court decision in *Tomasino v. Town of Casco*, 20 ME 96), in a vote following oral argument at an April 16th Board meeting (in response to February 14 & 18, 2020 motions to return the applications), and in a letter from the Presiding Officer dated August 27, 2020 (responding to the August 16, 2020 "Renewed Motion to Stay the Board's Proceedings or Dismiss Nordic's Applications"). An appeal of the Board's April 16, 2020 decision was filed in Waldo County Superior Court and subsequently dismissed by the Court on July 14, 2020.

In its June 13, 2019 acceptance letter, the Department addressed and interpreted its TRI requirements as follows:

A determination that an applicant has demonstrated TRI sufficient for an application to be processed requires a showing of a legally cognizable expectation of having the power to use the site in the ways that would be authorized by the

permits being sought. The purpose of this requirement is to allow the Department to avoid wasting its finite resources reviewing applications for projects that can never be built. If the applicant is unable to show a sufficient property interest in the site proposed for the project, pursuant to the TRI threshold requirement in Chapter 2 §11(D), the Department can return the application at the outset without devoting time and resources to its processing. In any TRI analysis under Chapter 2, the Department may look beyond an applicant's initial submissions and may request additional information and consider submissions of interested persons as necessary to judge whether adequate credible evidence has been submitted by the applicant and a sufficient showing of TRI has been made to warrant expending Department resources to process the application. The TRI provision cannot, however, be interpreted as compelling the Department to perform an exacting legal analysis of competing ownership claims to determine the ultimate ownership of the property. That ultimate conclusion can only be made by a court. Moreover, the Department rejects any such interpretation as directly counter to the purpose of the TRI provision and cannot afford to allow its permitting proceedings to be transformed into the equivalent of an administrative agency quiet title action. So long as the applicant is able to make a showing of TRI in the subject property that is sufficient to justify the processing of the application, the Department will generally consider this threshold requirement to be satisfied and move to evaluate the merits of the application.

With respect to the intertidal portion of the property proposed for use, the Department finds that the deeds and other submissions, including NAF's option to purchase an easement over the Eckrote property and the succession of deeds in the Eckrote chain of title, when considered in the context of the common law presumption of conveyance of the intertidal area along with an upland conveyance, constitute a sufficient showing of TRI for the Department to process and take action on the pending applications.

The Intervenors raised the issue of whether the Purchase and Sale Agreement between Janet and Richard Eckrote and Nordic applied to the intertidal zone. The Board examined the evidence pertaining to the Purchase and Sale Agreement and finds that the initial Purchase and Sale Agreement, dated August 6, 2018, together with the March 3, 2019 letter from Ed Cotter of Nordic with an acknowledgement signed by Janet and Richard Eckrote extending the deadline for the closing and clarifying the intent of the parties to the easement as to its scope and location are a sufficient demonstration of the scope of the easement agreement between the Eckrotes and Nordic for the purposes of processing the permit applications. The Board finds that the evidence reflects no dispute between the parties to the easement as to its scope or location.

The Board continues to concur with the Department's interpretation of Chapter 2's TRI provisions and its analysis with respect to the intertidal portion of the property proposed for use as set forth in the June 13, 2019 acceptance letter. As explained in the Department's acceptance letter, this conclusion is not an adjudication of property rights and does not

grant legal ownership or right to use land. That determination can only be made by a court. The Board has reviewed the evidence in the record and has again considered the arguments raised regarding TRI pursuant to the Department's Chapter 2 and its TRI provisions. Pursuant to the Board's interpretation of these TRI provisions, the Board finds that the applicant has made a sufficient showing of TRI to develop the property as proposed for the applications to be processed and decided. As the Department found in its June 13, 2019 acceptance letter, the deeds and other submissions, including Nordic's options to purchase, and the analysis of the chain of title remain unchanged and remain a sufficient showing for the Board to act on the applications.

C. Emission Equipment

The following equipment is addressed in this Air Emission License:

Stationary Engines

Equipment	Max. Input Capacity (MMBtu/hr)	Rated Output Capacity (kW)	Fuel Type, % sulfur	Firing Rate (gal/hr)	Date of Manuf.	Date of Install.	Stack #
Generators #1 - 8	19.91	2050	Distillate Fuel, 0.0015%	142.2	2020, or later	TBD*	Individual

* To be determined

In addition to the stationary engines described above, Nordic may engage in "insignificant activities," as defined in the Department's *Definitions Regulation*, 06-096 Code of Maine Rules (C.M.R.) ch. 100, which are categorically exempt from inclusion in a Chapter 115 license. A complete listing of insignificant activities can be found in Appendix B of *Major and Minor Source Air Emission License Regulations*, 06-096 C.M.R. ch. 115 (Appendix B). These insignificant activities include, but are not limited to:

- The operation of stationary engines smaller than 0.5 MMBtu/hr. Although these engines are considered insignificant activities pursuant to Chapter 115 and are not required to be included in this license, they are still subject to applicable State and Federal regulations. More information regarding requirements for small stationary engines is available on the Department's website at the following link: www.maine.gov/dep/air/publications/docs/SmallRICEGuidance.pdf.
- The operation of portable engines used for maintenance or emergency-only purposes. Although these portable engines are insignificant activities pursuant to Chapter 115 and are not required to be included in this license, they are still subject to applicable State and Federal regulations.

Fuel Storage Tanks

The application for an air emission license listed eight generators as the only licensable sources of air emissions, a maximum of seven of which are to run concurrently. The applicant plans to use underground storage tanks to store and supply fuel to the generators. These fuel storage tanks are not subject to the air emission licensing requirements of Chapter 115, Appendix B.

D. Definitions

Distillate Fuel means the following:

- Fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials (ASTM) in ASTM D396;
- Diesel fuel oil numbers 1 or 2, as defined in ASTM D975;
- Kerosene, as defined in ASTM D3699;
- Biodiesel, as defined in ASTM D6751; or
- Biodiesel blends, as defined in ASTM D7467.

Portable or Non-Road Engine means an internal combustion engine which is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform. This definition does NOT include engines which remain or will remain at a location (excluding storage locations) for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source. A seasonal source is a source that remains in a single location for two years or more and which operates for fewer than 12 months in a calendar year. If an engine operates at a seasonal source for one entire season, the engine does not meet the criteria of a non-road (portable) engine and is subject to applicable stationary engine requirements. A location is any single site at a building, structure, facility, or installation. Any engine that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period.

Particulate Matter (PM) is any airborne, finely divided solid or liquid material with an aerodynamic diameter smaller than 100 micrometers as measured by applicable reference methods or an equivalent or alternative method specified in 40 Code of Federal Regulations (C.F.R.) Part 51.

PM₁₀ means particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers as measured by a reference method based on 40 C.F.R. Part 50, Appendix J and designated in accordance with 40 C.F.R. Part 53. PM₁₀ emissions include gaseous emissions from a source or activity which condense to form particulate matter at ambient temperatures.

PM_{2.5} means particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers as measured by the reference method based on 40 C.F.R. Part 50, Appendix L and designated in accordance with 40 C.F.R. Part 53. PM_{2.5} emissions include gaseous emissions from a source or activity which condense to form particulate matter at ambient temperatures.

E. Application Classification

All rules, regulations, or statutes referenced in this air emission license refer to the amended version in effect as of the date this license was issued.

A new source is considered a major or minor source based on whether total licensed annual emissions exceed the “Significant Emissions” levels as defined in 06-096 C.M.R. ch. 100.

Pollutant	Total Licensed Annual Emissions (TPY)	Significant Emission Levels
PM	0.6	100
PM ₁₀	1.0	100
PM _{2.5}	1.0	100
SO ₂	0.1	100
NO _x	13.3	100
CO	50.0	100
VOC	2.9	50

The Department has determined Nordic’s facility is a minor source, and the application has been processed through *Major and Minor Source Air Emission License Regulations*, 06-096 C.M.R. ch. 115 (Chapter 115).

F. Timeline of Proceedings

Nordic applied for a new minor source air emission license pursuant to Chapter 115 for air emission sources associated with a proposed land-based, salmon aquaculture facility in Belfast. Nordic submitted an application in electronic format to the Department on May 17, 2019, and the Department received an original signed form, completing the application package, on June 4, 2019. The Department accepted the application as complete for processing on June 13, 2019.

On June 20, 2019, the Board assumed jurisdiction over the application pursuant to 38 M.R.S. § 341-D(2).

Notice of opportunity to petition to intervene in the Board’s proceeding was published on June 27, 2019, and was also mailed to the applicant, government officials, and interested

persons in accordance with the Maine Administrative Procedure Act, 5 M.R.S. § 9051-A(1) and *Rules Governing the Conduct of Licensing Hearings*, 06-096 C.M.R. ch. 3, § 12(A). At its meeting on August 15, 2019, the Board granted certain parties intervenor status.¹ Intervenors subsequently submitted lists of topics that they requested be addressed at the Board hearing.

Topics to be addressed at a public hearing were identified in the Board's Third Procedural Order dated November 1, 2019. This original Board list of hearing topics did not include the air emission license application. The deadline for submitting written direct testimony prior to the public hearing was December 13, 2019, and the deadline for submission of rebuttal testimony was January 17, 2020.

During a pre-hearing conference on November 7, 2019, the Board heard oral arguments from the applicant and intervenors about adding the issue of air quality as a public hearing topic. Intervenors made this request due to concerns over potential impacts of air emissions from the proposed facility and associated construction activities that had been raised by an intervenor's claim that emissions from the project would cause ambient pollutant concentrations greater than the national ambient air quality standards (NAAQS). Department staff could not confirm the validity of the intervenor's claim, as the modeling was not provided for Department review. Because the proposed project emissions did not exceed thresholds for mandatory modeling under Chapter 115, the Department had not previously performed modeling for this project, nor had it required the applicant to perform modeling as part of the air emission license application. After hearing oral arguments and consulting with Department staff, the Board voted to add the air emission license application as a public hearing topic, limiting the scope of the air emissions hearing topic to licensing criteria set forth in Chapter 115.

On November 8, 2019, Department staff requested the applicant provide equipment specifications and site-specific inputs for the Department to conduct modeling. Upon receipt of the requested information, Department staff conducted ambient air dispersion modeling for the project in accordance with all applicable BAQ and the United States Environmental Protection Agency (EPA) requirements. The results from the Department's modeling were entered into the record on December 19, 2019.

The deadline for submittal of direct testimony relating to the air emission license application was January 17, 2020. Rebuttal testimony pertaining to pre-filed direct testimony on the air emission license application was set to be heard orally at the public hearing.

¹ These parties were: Maine Lobstering Union (IMLU), Wayne Canning, and David Black; Upstream Watch; Jeffrey R. Mabee and Judith B. Grace; Eleanor Daniels and Donna Broderick; Northport Village Corporation; The Fish Are Okay; Lawrence Reichard; Gulf of Maine Research Institute (GMRI); and University of New England (UNE).

For all non-hearing issues, written submissions from the applicant, intervenors, and the public were accepted for consideration by the Board until the close of the record on February 18, 2020.

The public hearing on all Nordic applications pending before the Board was held February 11-14, 2020, at the Hutchinson Center in Belfast. An evening session, held at the same venue on February 11, 2020, provided opportunity for members of the public to testify.

During the public hearing, specific information relating to building profiles and fence lines for the project was presented by the applicant that conflicted with information the Department had earlier received from the applicant and used as modeling inputs. Department staff therefore requested that the Board keep the hearing record open so that Department staff could perform additional modeling using updated information. After the public hearing, the Board closed the record on February 18, 2020, on all but four specific topics, one of which was ambient air dispersion modeling. Department staff performed a second modeling analysis using updated information and submitted results into the record on March 13, 2020. Parties were subsequently provided opportunity to submit comments on the updated modeling.

On May 20, 2020, the Board held a deliberative session with Department staff to review project applications and discuss evidence in the record.

On July 17, 2020, the Department posted its initial Staff Recommendation/Draft Board Order for public comment. The public comment period closed on August 17, 2020. A number of issues raised by parties throughout these licensing proceedings are addressed below. The Board's response to additional issues raised during the public comment period can be found in the attached Response to Comments document, Addendum A to this Order.

G. Analysis of Evidence and Issues Raised by Parties

The relevant statutory and regulatory criteria for review of the Nordic air emission license application are *Protection and Improvement of Air*, 38 M.R.S. §§ 581-610-D, and Department regulations adopted pursuant to the above laws, including Chapter 115.

In addition to information in the air emission license application submitted by Nordic, the Board considered the following issues, among others, raised by Intervenors and members of the public during the processing of the application. (See attached Response to Comments document.)

1. Ambient Air Dispersion Modeling

In pre-filed testimony, in person at the hearing, and in other submissions, Upstream Watch asserted that emissions from alternative operating scenarios for the generators

(e.g., startup/shutdown events), emissions from mobile sources (exhaust from construction equipment), and emissions from fugitive sources related to the construction, operations, and maintenance of the facility had not been adequately represented in the modeling conducted by Department staff. (See Section III below for a summary of the Department's modeling efforts and results.) The Board finds that the Department staff's model was correctly done, and the inclusion of these other sources was not required or warranted for the following reasons:

- The Department was conservative in its approach to evaluating potential ambient air quality impacts from the proposed facility by modeling all seven generators operating at maximum load for 24 hours per day and 365 days per year. This scenario overpredicts the likely short-term emission rates and long-term ambient air quality impacts from the generators, even after consideration of different operating loads and startup/shutdown events.²
- As engine emissions are a function of the amount of fuel fired, engines operating at lower loads would consume less fuel and result in lower emissions.
- Each generator will be installed as an independent unit with its own stack designed for its range of flow conditions. Therefore, the temperatures and flows of one generator's exhaust emissions would not be affected by the emissions, or lack thereof, from another unit.
- The engines will be subject to an annual fuel limit of 900,000 gallons per year, equivalent to combined operating time for all engines of approximately 900 hours per year running at 100% capacity. This equates to the units running for slightly over 10% of the time. In the Department's modeling analysis, however, seven of the eight engines were assumed to be operating at maximum capacity 100% of the time.
- The Department obtained information on exhaust flows and temperatures directly from the proposed engine manufacturer. This data was used in the second ambient air dispersion modeling run by Department staff and the Board finds that it is more accurate than values originally included.
- Mobile sources used during the construction phase are considered intermittent, temporary sources and have not historically been included by the Department in either ambient air quality demonstrations or air emission licenses for minor sources. Consistent with its longstanding practice for minor sources, the Department did not consider mobile sources in the modeling for this project due to their intermittent, temporary operation. These activities are addressed by the Board in its consideration of the application for a Site Location of Development Act (Site Law)

² Although eight generators are proposed to be installed at this facility, a maximum of seven units will be allowed to operate concurrently per license conditions.

permit pursuant to the Board's authority set forth in Chapter 375 of the Board's rules, *No Adverse Environmental Effect Standard of Site Location Law*, 06-096 C.M.R. ch. 375.

- The sources that produce fugitive dust (such as roads and stockpiles) are easily identified, but their emissions are not readily quantifiable. Every Chapter 115 air emission license issued addresses fugitive dust in a Standard Condition requiring the licensee to establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust.

2. Noise and Odor

Prior to the public hearing, the intervenors questioned whether noise and odor impacts would be considered during the evaluation of Nordic's Chapter 115 air emission license application. Chapter 115 has no provisions or requirements for regulating noise or odor. While this air emission license does not address either noise or odor, those issues may be considered by the Board in its analysis of the Site Law permit application.

3. Portable Concrete Batch Plant

Intervenors asserted that a portable concrete batch plant may be sited at the proposed project location during construction and its emissions should be addressed in Nordic's air emission license. Such a concrete batch plant would be required to be licensed by the batch plant owner/operator independently of the Nordic license, via either a Chapter 115 air emission license or a Chapter 164 general permit. The licensing of any portable concrete batch plant at Nordic's facility would generally be the responsibility of the batch plant owner/operator and is therefore not required to be a part of Nordic's air emission license application.

5. Wastewater Treatment Plant, Fish Processing, and HVAC System

In its post-hearing brief, Northport Village Corporation argued that in addition to mobile sources and the concrete batch plant, the license should address air emissions from the wastewater treatment plant, the fish processing facility, and the HVAC system for the facility. The Board finds that any potential emissions from those components of Nordic's facility are not required to be addressed in an air emission license.

H. Facility Classification

With the annual fuel use limit on the engines, the Board has reviewed and is licensing the facility as follows:

- As a synthetic minor source of air emissions, because Nordic is subject to license restrictions that keep facility emissions below major source thresholds for criteria pollutants set forth in *Definitions Regulation*, 06-096 C.M.R. ch. 100; and
- As an area source of hazardous air pollutants (HAP), because the licensed emissions are below the major source thresholds for HAP set forth in 06-096 C.M.R. ch. 100.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license, the applicant must control emissions from each unit to a level considered by the Board to represent Best Practical Treatment (BPT) as defined in 06-096 C.M.R. ch. 100. Separate control requirement categories exist for new and existing equipment.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT) as defined in 06-096 C.M.R. ch. 100. BACT is a top-down approach to selecting air emission controls considering economic, environmental, and energy impacts.

B. Facility Overview

Nordic is requesting approval for a salmon aquaculture facility that is an end-to-end operation, from eggs to market-size salmon, using Recirculating Aquaculture System (RAS) tank technology for maintaining optimal water quality for fish production. When completed, the plant will be designed to produce up to 33,000 tons of salmon per year.

The RAS utilizes mechanically forced cleaning and degassing/aeration to replace carbon dioxide with oxygen that is vital for fish health and growth. The RAS modules' water circulation, cleaning, degassing, and aeration systems require electricity to operate. Plant electrical needs will be mainly supplied by the local utility; however, Nordic proposes to supplement this with up to 14 megawatts (MW) of electrical capacity provided by on-site generators driven by distillate fuel-fired reciprocating engines. Building and process heating for the facility will be provided by electrical heaters.

C. Non-Emergency Generators

Nordic proposes to install eight (8) 2 MW generators, each consisting of an electrical generator driven by an engine that fires distillate fuel. Only seven of the eight generators will run concurrently, with the eighth unit to be available as an installed backup. The generators will be used as emergency back-up during power outages and for peak shaving during times of high energy demand on the grid. Nordic has requested a combined annual fuel limit of 900,000 gallons of distillate fuel per year for the generators to keep their potential to emit regulated pollutants below major source thresholds.

All eight of the generator engines will be certified by the manufacturer as compliant with EPA Tier 4 emission standards for nonroad, compression ignition, internal combustion engines. The proposed engines each have the potential to emit the following criteria air pollutants: particulate matter (PM/PM₁₀/PM_{2.5}), sulfur dioxide (SO₂), nitrous oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC).

The air pollution control options available for generator engines of this size include the installation of add-on pollution control devices, the use of clean fuels, and good combustion practices. The technologies listed in the table below have been determined to be potentially available control technologies for emissions from distillate fuel-fired engines.

Pollutant	Control Technology
PM / PM ₁₀ / PM _{2.5}	- Add-On Controls (i.e., Particulate Filter) - Combustion Control Technologies
SO ₂	- Low Sulfur Fuel
NO _x	- Add-On Controls (i.e., Selective Catalytic Reduction) - Combustion Control Technologies
CO	- Oxidation Catalyst - Combustion Control Technologies
VOC	- Oxidation Catalyst - Combustion Control Technologies

1. BACT Findings

a. Particulate Matter (PM / PM₁₀ / PM_{2.5})

PM, PM₁₀, and PM_{2.5} from firing distillate fuel is formed from non-combustible material in the fuel as well as from incomplete combustion. Potential control technologies for PM / PM₁₀ / PM_{2.5} emissions from diesel engines include add-on controls and good combustion practices. Nordic has elected to control the particulate matter emissions from each of the engine sets by purchasing engines equipped with Diesel Particulate Filters (DPF). With these filters, particulate matter being carried in the engine's exhaust stream is trapped inside the DPF where it is later oxidized during regeneration, thus preventing its release into the atmosphere. The Board finds that the use of engines having DPF will ensure that particulate emissions will meet the proposed limits of 0.2 lb/hr for PM and 0.3 lb/hr (includes filterable plus condensable) for both PM₁₀ and PM_{2.5}.

The proposed limits are more stringent than applicable limits found in *Fuel Burning Equipment Particulate Emission Standard*, 06-096 C.M.R. ch. 103. Therefore, the Board finds that BACT for PM, PM₁₀, and PM_{2.5} emissions from the engines is the use of certified Tier 4 engines equipped with DPF, and limitation of emissions to 0.2 lb/hr for PM and 0.3 lb/hr each for PM₁₀ and PM_{2.5}.

b. Sulfur Dioxide (SO₂)

The quantity of SO₂ generated from distillate fuel combustion is directly proportional to the sulfur content of the fuel being fired. These non-emergency engines will be licensed to only fire ultra-low sulfur distillate fuel having a maximum sulfur content of 0.0015% by weight. Additionally, Nordic has requested an annual fuel limit of 900,000 gallons per year for the engines, which further limits the potential to emit SO₂. Based on these factors, the Board finds that BACT for SO₂ emissions from the engines is the firing of only distillate fuel having a maximum sulfur content of 0.0015% by weight, the proposed annual fuel limit, and an emission limit of 0.03 lb/hr.

c. Nitrous Oxides (NO_x)

NO_x emissions from distillate fuel-fired engines are created through the conversion and release of nitrogen bound in the fuel (fuel NO_x) and/or by the thermal combustion process (thermal NO_x). Fuel NO_x is produced from the reaction of fuel-bound nitrogen compounds with oxygen and typically occurs in negligible quantities when distillate fuel is combusted. Thermal NO_x is the primary mechanism of NO_x formation from distillate fuel combustion and occurs when nitrogen and oxygen molecules in combustion air react together at elevated temperatures and pressures in the combustion chamber.

Technologies for controlling NO_x emissions from distillate fuel-fired engines may include add-on controls such as Selective Catalytic Reduction (SCR), combustion control technologies (such as injection timing retard, air-to-fuel ratio optimization, or cooled intake air), and the combustion of clean fuels. Nordic proposes to use engines equipped with add-on controls to control NO_x emissions and comply with Tier 4 emission standards for 40 C.F.R. Part 60, Subpart IIII engines.

Each of these engines will be fitted with an SCR catalyst, an Ammonia Oxidation Catalyst (AMOX), and a Pump Electronics Tank Unit (PETU). These systems work together by injecting a small amount of Diesel Exhaust Fluid (DEF) into the exhaust stream which chemically reacts with NO_x emissions to convert them into nitrogen and water. Any DEF not consumed in the chemical reaction would pass through the SCR catalyst as ammonia. To prevent this ammonia from being discharged to atmosphere, the exhaust stream from the SCR is directed into the AMOX, which reduces ammonia to nitrogen and water by reacting it with oxygen in the presence of a catalyst. Proper operation of the add-on controls is necessary to ensure that each engine will meet Nordic's proposed NO_x emission limit of 4.2 lb/hr.

The proposed limit of 4.2 lb/hr is more stringent than the limit required of Tier 4 engines of this size. Consequently, the Board finds that BACT for NO_x emissions from the engines is the use of certified Tier 4 engines equipped with SCR, AMOX, PETU, and DEF, the combustion of distillate fuel, and an emission limit of 4.2 lb/hr.

d. Carbon monoxide (CO) and Volatile Organic Compounds (VOC)

CO and VOC emissions from distillate fuel-fired engines are the result of the incomplete combustion of fuels, specifically when there is insufficient residence time or oxygen available to complete oxidation.

Potential control technologies for CO and VOC emissions from these engines include add-on controls such as catalytic oxidation and combustion control technologies (such as fuel injection timing, air-to-fuel ratios, or cooled intake air)

The engines selected by Nordic will be equipped with Diesel Oxidation Catalysts (DOC), which use a chemical process to reduce carbon monoxide and hydrocarbons in the exhaust stream. This technology will limit CO and VOC emissions from the engines to 15.8 and 0.9 lb/hr, respectively.

These limits are compliant with the limits required for emissions of CO and VOC from Tier 4 engines. Therefore, the Board finds that BACT for CO and VOC emissions from the generator engines is the utilization of certified Tier 4 engines equipped with DOC on their exhaust streams, and emission limits of 15.8 lb/hr for CO and 0.9 lb/hr for VOC.

2. Emission Limits

The BACT emission limits for the eight non-emergency generators are based on the following:

PM	- 0.2 lb/hr, based on engine manufacturer's performance data, BACT
PM ₁₀	- 0.3 lb/hr, based on engine manufacturer's performance data, BACT
PM _{2.5}	- 0.3 lb/hr, based on engine manufacturer's performance data, BACT
SO ₂	- 0.03 lb/hr, based on combustion of distillate fuel with a maximum sulfur content not to exceed 15 ppm (0.0015% sulfur by weight), BACT
NO _x	- 4.2 lb/hr, based on engine manufacturer's performance data, BACT
CO	- 15.8 lb/hr, based on engine manufacturer's performance data, BACT
VOC	- 0.9 lb/hr, based on engine manufacturer's performance data, BACT
Visible Emissions	- 06-096 C.M.R. ch. 115, BACT

The BACT emission limits for each of the engines are the following:

Units	Pollutant	lb/MMBtu
Generators #1 - 8	PM	0.01

Units	PM (lb/hr)	PM ₁₀ (lb/hr)	PM _{2.5} (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generators #1 - 8	0.2	0.3	0.3	0.03	4.2	15.8	0.9

Visible emissions from each of the engines shall not exceed 20% opacity on a six-minute block average basis.

3. 40 C.F.R. Part 60, Subpart IIII

Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, 40 C.F.R. Part 60, Subpart IIII is applicable to the eight non-emergency engines listed above since the units were ordered after July 11, 2005, and manufactured after April 1, 2006. [40 C.F.R. § 60.4200] By meeting the requirements of 40 C.F.R. Part 60, Subpart IIII, the units also meet the requirements found in *National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, 40 C.F.R. Part 63, Subpart ZZZZ. [40 C.F.R. § 63.6590(c)]

A summary of currently applicable federal 40 C.F.R. Part 60, Subpart IIII requirements is listed below.

a. Manufacturer Certification Requirement

The engines must be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in 40 C.F.R. § 60.4201(a). [40 C.F.R. § 60.4204(b) and § 60.4211(c)]

b. Ultra-Low Sulfur Fuel Requirement

The fuel fired in the engines shall not exceed 15 ppm sulfur (0.0015% sulfur). [40 C.F.R. § 60.4207(b)]

c. Operation and Maintenance Requirements

The engines shall be operated and maintained according to the manufacturer's emission-related written instructions. Nordic may only change those emission-related settings that are permitted by the manufacturer. [40 C.F.R. § 60.4211(a)(1) and (2)]

d. Owner and Operator Requirements

The eight engines shall achieve the emission standards established in § 60.4204 over the entire life of the engines. [40 C.F.R. § 60.4206]

e. DPF Backpressure Monitoring Requirement

The DPF that are installed on the engines to ensure compliance with the emissions standards in § 60.4204(b) shall be equipped with backpressure monitors to notify the owner or operator when the high backpressure limit of the engine is approached. [40 C.F.R. § 60.4209(b)]

f. Recordkeeping Requirements

(1) Whenever a backpressure monitor for a DPF on one of the engines has alerted the owner or operator that the high backpressure limit of an engine has been approached, the owner or operator shall document the event in a log, either written or electronic, detailing the engine it occurred on and the date and time the alert was activated. [06-096 C.M.R. ch. 115, BACT]

(2) Whenever a backpressure monitor for a DPF on one of the engines has alerted the owner or operator that the high backpressure limit of an engine has been approached, the owner or operator shall keep records documenting any corrective action(s) taken to resolve the backpressure event. [40 C.F.R. § 60.4214(c)]

g. Initial Notification Requirement

No initial notification is required under 40 C.F.R. Part 60, Subpart IIII for non-emergency, stationary, compression ignition, internal combustion engines that are rated at less than 2,237 kW. [40 C.F.R. § 60.4214(a)]

D. Fugitive Emissions

Visible emissions from any fugitive emission source (including stockpiles and roadways) shall not exceed 20% opacity on a five-minute block average basis.

E. Annual Emissions

The table below provides an estimate of facility-wide annual emissions for the purposes of calculating the facility's annual air license fee. Only licensed equipment is included; emissions from insignificant activities are excluded. Similarly, unquantifiable fugitive particulate matter emissions are not included. Maximum licensed annual emissions were calculated based on firing a combined total of 900,000 gal/year of distillate fuel in the engines.

This information provides the basis for fee calculation only and should not be construed to represent a comprehensive list of license restrictions or permissions. That information is set forth in the Order section of this license.

Total Licensed Annual Emissions for the Facility
Tons/year
 (used to calculate the annual license fee)

Units	PM	PM ₁₀	SO ₂	NO _x	CO	VOC
Generators #1 - 8	0.6	1.0	0.1	13.3	50.0	2.9
Total TPY	0.6	1.0	0.1	13.3	50.0	2.9

Pollutant	Tons/year
Single HAP	9.9
Total HAP	24.9

III. AMBIENT AIR QUALITY ANALYSIS

A. Overview

The level of ambient air quality impact modeling required for a minor source is determined by the Department on a case-by case basis. In accordance with Chapter 115, an ambient air quality impact analysis (modeling) is not required for a proposed minor source if the total licensed annual emissions of any pollutant proposed to be released will not exceed the following levels and there are no extenuating circumstances:

Pollutant	Tons/Year
PM _{2.5} (direct emissions)	15
PM ₁₀	25
SO ₂	50
NO _x	50
CO	250

This project does not exceed the pollutant threshold levels that automatically trigger modeling requirements. However, the Department opted to perform modeling in response to significant public concerns regarding the project’s potential impact on air quality within local communities. The Department first completed a refined modeling analysis of the proposed project’s air emissions in December of 2019, the results of which indicate that no ambient air quality standards would be exceeded as a result of the facility’s operation.

During the proposed project’s public hearing, Department staff members noted inconsistencies between some of the modeling inputs and parameters that were used in the December 2019 analysis and some of the specific testimony that was provided by the applicant’s witnesses during examination. Once the inconsistencies in information were clarified through testimony, the Department requested that the Board allow a second round of dispersion modeling to be performed using the updated and corrected modeling inputs

and parameters, and that the hearing record be kept open until the second analysis could be completed and the parties had had the opportunity to respond. Parties were subsequently provided opportunity to submit comments on the updated modeling. Although these intervenor comments reiterated concerns that dispersion modeling did not include all emission sources or operating scenarios, the comments provided no new information to support changes to the underlying premises or conclusions of the Department's analysis.

The Board finds that the results of the second analysis conducted by Department staff showed that emissions from Nordic will not cause or contribute to violations of NAAQS for SO₂, PM₁₀, PM_{2.5}, or NO₂.

Since Nordic has been determined to be a new minor source, an assessment of Class I Air Quality Related Values (AQRVs) was not required.

B. Model Inputs

The AERMOD³ dispersion model was used to address NAAQS and increment impacts in all areas. The modeling analysis accounted for the potential of building wake and cavity effects on emissions from all modeled stacks that are below their calculated formula good engineering practice (GEP) stack heights.

Modeling was performed in accordance with all applicable requirements of the BAQ and the EPA. The most recent regulatory version of the AERMOD model and its associated processors were used to conduct the analyses.

A valid five-year hourly meteorological database was used in the modeling analysis. The monitored parameters and their associated heights, as found in Table III-1, were collected at the Verso Bucksport meteorological multi-level monitoring site during the five-year period from January 1, 1988 to December 31, 1992.

TABLE III-1: Meteorological Parameters and Collection Heights

Parameter	Sensor Heights
Wind Speed	15 & 100 meters
Wind Direction	15 & 100 meters
Standard Deviation of Horizontal Wind Direction (Sigma Θ)	15 & 100 meters
Standard Deviation of Vertical Wind Direction (Sigma W)	15 & 100 meters
Temperature	15 & 100 meters

³ In 1991, the American Meteorological Society (AMS) and the EPA collaborated to design improved regulatory dispersion models. A working group of AMS and EPA scientists (AMS/EPA Regulatory Model Improvement Committee, **AERMIC**) created the **AERMIC Model**, or AERMOD modeling system. This system consists of two pre-processors - a meteorological pre-processor (AERMET) and a terrain pre-processor (AERMAP), and the dispersion model (AERMOD).

Each year of Verso Bucksport meteorological data met the 90% data recovery requirement, both singularly and jointly.

Surface data collected at the Bangor National Weather Service (NWS) site were substituted for any missing data in the Verso Bucksport surface dataset. All other missing data were interpolated or coded as missing, per EPA guidance. In addition, hourly Bangor NWS data from the same time period were also used to supplement the primary surface dataset for the required variables that were not explicitly collected at the Verso Bucksport meteorological monitoring site.

The surface dataset was combined with concurrent hourly cloud cover and upper-air data obtained from the Portland NWS. Missing cloud cover and/or upper-air data values were interpolated or coded as missing, per EPA guidance.

Both the surface and upper-air meteorological data were concurrently processed using the AERMET meteorological pre-processor.

AERMET also requires that site-specific surface characteristics surrounding the meteorological and application sites be evaluated. Accordingly, the site surface characteristics values for albedo (r), surface roughness (z_o) and Bowen Ratio (B_o) were calculated using EPA's AERSURFACE program for each of the 12 30-degree sectors.

Point-source parameters, used in the modeling for Nordic, are listed in Table III-2.

TABLE III-2: Nordic Point Source Stack Parameters

Stack	Stack Base Elevation (m)	Stack Height (m)	GEP Stack Height (m)	Stack Diameter (m)	UTM Easting NAD83 (m)	UTM Northing NAD83 (m)
CURRENT/PROPOSED						
• Engine Stack #1	18.28	20.57	34.29	0.41	500542	4915990
• Engine Stack #2	18.28	20.57	34.29	0.41	500541	4915990
• Engine Stack #3	18.28	20.57	34.29	0.41	500545	4915990
• Engine Stack #4	18.28	20.57	34.29	0.41	500545	4915991
• Engine Stack #5	18.28	20.57	34.29	0.41	500548	4915992
• Engine Stack #6	18.28	20.57	34.29	0.41	500548	4915993
• Engine Stack #7	18.28	20.57	34.29	0.41	500551	4915993
• Engine Stack #8	18.28	20.57	34.29	0.41	500551	4915994
2012 BASELINE (PM_{2.5} INCREMENT)						
• Nordic did not exist during the 2012 baseline year, no PM _{2.5} credits to be taken.						
1987 BASELINE (NO₂ INCREMENT)						
• Nordic did not exist during the 1987 baseline year, no NO ₂ credits to be taken.						
1977 BASELINE (SO₂/PM₁₀ INCREMENT)						
• Nordic did not exist during the 1977 baseline year, no SO ₂ /PM ₁₀ credits to be taken.						

Nordic emission and stack data for NAAQS and increment modeling are listed in Table III-3. These parameters are based on the maximum (100%) operation of each engine.

For the purpose of determining maximum predicted impacts, the following assumptions were used:

- NO_x emissions were assumed to convert to NO₂ using EPA’s Tier II Ambient Ratio Method (ARM2) minimum and maximum ratios of 0.5 and 0.9, respectively; and
- All particulate emissions were conservatively assumed to convert to PM₁₀ and PM_{2.5}.

TABLE III-3: Nordic Stack Emission Parameters

Stack	Averaging Periods	SO ₂ (g/s)	PM ₁₀ /PM _{2.5} (g/s)	NO _x (g/s)	CO (g/s)	Stack Temp (K)	Stack Velocity (m/s)
MAXIMUM LICENSE ALLOWED							
• Engine Stack #1	All	0.004	0.038	0.530	2.030	752.04	60.64
• Engine Stack #2	All	0.004	0.038	0.530	2.030	752.04	60.64
• Engine Stack #3	All	0.004	0.038	0.530	2.030	752.04	60.64
• Engine Stack #4	All	0.004	0.038	0.530	2.030	752.04	60.64
• Engine Stack #5	All	0.004	0.038	0.530	2.030	752.04	60.64
• Engine Stack #6	All	0.004	0.038	0.530	2.030	752.04	60.64
• Engine Stack #7	All	0.004	0.038	0.530	2.030	752.04	60.64
• Engine Stack #8	All	0.004	0.038	0.530	2.030	752.04	60.64
2012 BASELINE (PM_{2.5} INCREMENT)							
• Nordic did not exist during the 2012 baseline year, no PM _{2.5} credits to be taken.							
1987 BASELINE (NO₂ INCREMENT)							
• Nordic did not exist during the 1987 baseline year, no NO ₂ credits to be taken.							
1977 BASELINE (SO₂/PM₁₀ INCREMENT)							
• Nordic did not exist during the 1977 baseline year, no SO ₂ /PM ₁₀ credits to be taken.							

C. Single Source Modeling Impacts

The AERMOD modeling results for Nordic are shown in Table III-4. Maximum predicted impacts that exceed their respective significance level are indicated in boldface type. No additional NAAQS modeling was required for pollutants that did not exceed their respective significance levels.

TABLE III-4: Maximum AERMOD Significant Impact Results

Pollutant	Averaging Period	Max Impact ($\mu\text{g}/\text{m}^3$)	Receptor UTM E (m)	Receptor UTM N (m)	Receptor Elevation (m)	Class II Significance Level ($\mu\text{g}/\text{m}^3$)
SO ₂	1-hour	1.59	500550	4915830	15.55	7.9
	3-hour	1.33	500550	4915830	15.55	25
PM ₁₀	24-hour	4.27	500550	4915850	14.24	5
	Annual	0.60	500630	4915850	15.61	1
PM _{2.5}	24-hour	4.27	500550	4915850	14.24	1.2
	Annual	0.60	500630	4915850	15.61	0.2
NO ₂	1-hour	120.62	500550	4915830	15.55	7.5
	Annual	7.36	500630	4915870	15.61	1
CO	1-hour	963.42	500550	4915850	14.24	2,000
	8-hour	512.53	500550	4915850	14.24	500

D. Combined Source Modeling Impacts

For pollutants that exceeded their respective significance level, as indicated in boldface type in Table III-4, other sources not explicitly included in the modeling analysis must be accounted for by using representative background concentrations.

Background concentrations, listed in Table III-5, are derived from representative rural background data for use in the Midcoast Maine region.

TABLE III-5: Background Concentrations

Pollutant	Averaging Period	Background Concentration ($\mu\text{g}/\text{m}^3$)	Monitoring Site, Year(s)
PM _{2.5}	24-hour	15	Kennebec County, 2016-2018
	Annual	6	
NO ₂	1-hour	39	Presque Isle, 2016/2017
	Annual	4	
CO	8-hour	460	Hancock County, 2018

Department staff examined other nearby sources to determine if any impacts would be significant in or near the facility's significant impact area. Due to the location of the Nordic facility, the extent of its predicted significant impact area, and other nearby source's emissions, Department staff determined that no other sources would be included in combined-source AERMOD modeling analysis.

The maximum AERMOD modeled impacts were added with conservative representative background concentrations to demonstrate compliance with NAAQS, as shown in Table III-6. Because all significant pollutant/averaging period impacts using this method meet NAAQS, no further NAAQS modeling analyses need to be performed.

TABLE III-6: Maximum Combined Source Impacts ($\mu\text{g}/\text{m}^3$)

Pollutant	Averaging Period	Max Impact ($\mu\text{g}/\text{m}^3$)	Receptor UTM E (m)	Receptor UTM N (m)	Receptor Elevation (m)	Back-Ground ($\mu\text{g}/\text{m}^3$)	Total Impact ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)
PM _{2.5}	24-hour	4.27	500550	4915850	14.24	15	19.27	35
	Annual	0.60	500630	4915850	15.61	6	6.60	12
NO ₂	1-hour	120.62	500550	4915830	15.55	39	159.62	188
	Annual	7.36	500630	4915870	15.61	4	11.36	100
CO	8-hour	512.53	500550	4915850	14.24	460	972.53	10,000

E. Secondary Formation of PM_{2.5}

Since potential emissions of SO₂ and NO₂ for Nordic are each less than 40 tpy, per EPA guidance, evaluation of secondary impacts due to PM_{2.5} precursor emissions is not required.

F. Class II Increment

AERMOD was also used to predict maximum Class II increment impacts. Results of the Class II increment analysis are shown in Tables III-7. All modeled maximum increment impacts were below increment standards. Because all predicted increment impacts met increment standards, no additional Class II SO₂, PM₁₀, PM_{2.5}, or NO₂ increment modeling needed to be performed.

TABLE III-7: Class II Increment Consumption

Pollutant	Averaging Period	Max Impact ($\mu\text{g}/\text{m}^3$)	Receptor UTM E (km)	Receptor UTM N (km)	Receptor Elevation (m)	Class II Increment ($\mu\text{g}/\text{m}^3$)
SO ₂	3-hour	1.33	500550	4915830	15.55	512
	24-hour	1.20	500570	4915810	14.71	91
	Annual	0.06	500630	4915870	15.61	20
PM ₁₀	24-hour	4.27	500550	4915850	14.24	30
	Annual	0.60	500630	4915870	15.61	17
PM _{2.5}	24-hour	8.46	500550	4915850	14.24	9
	Annual	0.60	500630	4915870	15.61	4
NO ₂	Annual	7.36	500630	4915870	15.61	25

Federal regulations and 06-096 C.M.R. ch. 140 require that any new major source or major source undergoing a major modification provide additional analyses of impacts that would occur as a direct result of the general, commercial, residential, industrial, and mobile source growth associated with the construction and operation of that source. Since Nordic has been determined to be a new minor source, no growth analyses were required.

G. Summary

In summary, the Board finds that the Department staff's modeling demonstrates that the Nordic facility as licensed herein will not cause or contribute to a violation of any SO₂, PM₁₀, PM_{2.5}, NO₂, or CO ambient air quality standards or to Class II increments for SO₂, PM₁₀, PM_{2.5}, or NO₂.

ORDER

Based on the above Findings and subject to conditions listed below, the Board concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards, and
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Board hereby approves the air emission application of Nordic Aquafarms, Inc. and grants Air Emission License A-1146-71-A-N subject to the following conditions.

Severability. The invalidity or unenforceability of any provision of this License or part thereof shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S. § 347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 C.M.R. ch. 115]

- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 C.M.R. ch. 115]
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 C.M.R. ch. 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S. § 353-A. [06-096 C.M.R. ch. 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 C.M.R. ch. 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 C.M.R. ch. 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 C.M.R. ch. 115]
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 C.M.R. ch. 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 C.M.R. ch. 115]

- (11) In accordance with the Department's air emission compliance test protocol and 40 C.F.R. Part 60 or other method approved or required by the Department, the licensee shall:
- A. Perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 - 1. Within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
 - 2. Pursuant to any other requirement of this license to perform stack testing.
 - B. Install or make provisions to install test ports that meet the criteria of 40 C.F.R. Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - C. Submit a written report to the Department within thirty (30) days from date of test completion. [06-096 C.M.R. ch. 115]
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- A. Within thirty (30) days following receipt of the written test report by the Department, or another alternative timeframe approved by the Department, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 C.F.R. Part 60 or other method approved or required by the Department; and
 - B. The days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
 - C. The licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.
[06-096 C.M.R. ch. 115]

- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or license requirement. [06-096 C.M.R. ch. 115]
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emissions and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 C.M.R. ch. 115]
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 C.M.R. ch. 115]
- (16) The licensee shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 M.R.S. § 605). [06-096 C.M.R. ch. 115]

SPECIFIC CONDITIONS

(17) Generators #1 - 8

A. Fuel

1. Total combined fuel use for Generators #1 - 8 shall not exceed 900,000 gal/yr of distillate fuel, on a 12-month rolling total basis. [06-096 C.M.R. ch. 115, BACT]
2. The facility shall not purchase or otherwise obtain distillate fuel with a maximum sulfur content that exceeds 0.0015% by weight (15 ppm). [40 C.F.R. § 60.4207(b) and 06-096 C.M.R. ch. 115, BACT]
3. Compliance shall be demonstrated by fuel records showing the quantity, type, and percent sulfur of the fuel delivered. Records demonstrating compliance with the annual fuel use limit shall be kept on both a monthly and 12-month rolling total basis. Fuel sulfur content compliance shall be demonstrated by fuel delivery receipts from the supplier, fuel supplier certification, certificate of analysis, or testing of the tank containing the fuel to be fired. [06-096 C.M.R. ch. 115, BACT]

B. Nordic shall not operate more than seven of the eight generator engines simultaneously. [06-096 C.M.R. ch. 115, BACT]

C. Emissions shall not exceed the following:

Unit	Pollutant	lb/MMBtu	Origin and Authority
Generators #1 - 8	PM	0.01	06-096 C.M.R. ch. 115, BACT

D. Emissions shall not exceed the following [06-096 C.M.R. ch. 115, BACT]:

Units	PM (lb/hr)	PM ₁₀ (lb/hr)	PM _{2.5} (lb/hr)	SO ₂ (lb/hr)	NO _x (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generators #1 - 8	0.2	0.3	0.3	0.03	4.2	15.8	0.9

E. Visible Emissions

Visible emissions from each of the generators shall not exceed 20% opacity on a six-minute block average basis. [06-096 C.M.R. ch. 115, BACT]

F. To demonstrate compliance with the licensed emission limits, Nordic shall conduct an initial performance test on the first generator commissioned for service. The testing shall include PM, PM₁₀, PM_{2.5}, NO_x, and CO, and shall take place within 90 days of the first commissioned startup or 200 hours of runtime after commissioning, whichever comes later. Results of the testing shall be submitted to the Department within 60 days of the test completion date.

G. The engines shall meet the applicable requirements of 40 C.F.R. Part 60, Subpart III, including the following: [incorporated under 06-096 C.M.R. ch. 115, BACT]

1. Manufacturer Certification

The engines shall be certified by the manufacturer as meeting the emission standards for new nonroad compression ignition engines found in 40 C.F.R. § 60.4201(a). [40 C.F.R. § 60.4204(b) and § 60.4211(c)]

2. Ultra-Low Sulfur Fuel

The fuel fired in the engines shall not exceed 15 ppm sulfur (0.0015% sulfur). Compliance with the fuel sulfur content limit shall be demonstrated by fuel delivery receipts from the supplier, fuel supplier certification, certificate of analysis, or testing of the tank containing the fuel to be fired. [40 C.F.R. § 60.4207(b) and 06-096 C.M.R. ch. 115, BACT]

3. Operation and Maintenance Requirements

The engines shall be operated and maintained according to the manufacturer's emission-related written instructions. Nordic may only change those emission-related settings that are permitted by the manufacturer. [40 C.F.R. § 60.4211(a)(1) and (2)]

4. Owner and Operator Requirements

The eight engines shall achieve the emission standards established in § 60.4204 over the entire life of the engines. [40 C.F.R. § 60.4206]

5. DPF Backpressure Monitoring Requirement

The diesel particulate filters installed on the engines to ensure compliance with the emissions standards in § 60.4204(b) shall be equipped with backpressure monitors to notify the owner or operator when the high backpressure limit of the engine is approached. [40 C.F.R. § 60.4209(b)]

6. Recordkeeping Requirements

- a. Whenever a backpressure monitor for a DPF on one of the engines has alerted the owner or operator that the high backpressure limit of an engine has been approached, the owner or operator shall document the event in a log, either written or electronic, detailing the engine it occurred on and the date and time the alert was activated. [06-096 C.M.R. ch. 115, BACT]
- b. Whenever a backpressure monitor for a DPF on one of the engines has alerted the owner or operator that the high backpressure limit of an engine has been approached, the owner or operator shall keep records documenting any corrective action(s) taken to resolve the backpressure event. [40 C.F.R. § 60.4214(c)]

Nordic Aquafarms Inc.
Waldo County
Belfast, Maine
A-1146-71-A-N

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BOARD ORDER
Air Emission License

(18) **Fugitive Emissions**

Visible emissions from a fugitive emission source (including stockpiles and roadways) shall not exceed 20% opacity on a five-minute block average basis.
[06-096 C.M.R. ch. 115, BACT]

DONE AND DATED IN AUGUSTA, MAINE THIS 19th DAY OF NOVEMBER , 2020.

BOARD OF ENVIRONMENTAL PROTECTION

BY: 
ROBERT DUCHESNE, PRESIDING OFFICER

The term of this license shall be ten (10) years from the signature date above.

[Note: If a renewal application, determined as complete by the Department, is submitted prior to expiration of this license, then pursuant to Title 5 M.R.S. § 10002, all terms and conditions of the license shall remain in effect until the Department takes final action on the license renewal application.]

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of full application: June 4, 2019

Date of application acceptance: June 13, 2019

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Maine Department of Environmental Protection Response to Comments on the Nordic Draft Board Order A-1148-71-A-N

October 5, 2020

During the public comment period, the Department received numerous comments from interested parties and intervenors regarding the Draft Board Order dated July 17, 2020 (Draft Order) for a Chapter 115 air emission license for Nordic Aquafarms (Nordic). See 06-096 C.M.R. ch. 115, *Major and Minor Source Air Emission License Regulations* (Ch. 115). Many of the comments received were similar in content and/or concern. Similar comments have been summarized collectively below and are followed by the Department's responses.

The Board considered the comments received alongside information in the record. Based on its review and analysis, the Board finds that the Nordic facility would be a minor source and that their application for a Ch. 115 air emission license should be processed in accordance with the requirements of Ch. 115 for minor sources, which is consistent with the Department's established practice and professional judgment.

The Clean Air Act (CAA) and federal air regulations contain requirements specific to the licensing of major sources and major modifications. The United States Environmental Protection Agency (EPA) relies on state, tribal, and local permitting authorities to adopt and implement permitting programs for minor sources. Maine has delegated authority from EPA for its minor source permitting program as approved under its State Implementation Plan (SIP). These requirements are contained in Ch. 115.

The Board concurs with and adopts the Department's responses below, including any findings or conclusion therein.

Comments received from Amy Grant, President of Upstream Watch, in a letter to the Honorable Robert S. Duchesne, Presiding Officer, dated August 15, 2020

TOPIC: MINOR SOURCE VS. SYNTHETIC MINOR SOURCE VS. MAJOR SOURCE

COMMENT #1: The application seems to have been processed in a manner simply for compliance with the Maine SIP as if it were a "true" minor source and the only source, but not for demonstrating compliance with the state ambient air quality standards as one of many sources in the area.

RESPONSE #1: The term "true" minor source is not a defined term in Maine's air licensing program and has no bearing on how an application is processed pursuant to Ch. 115. The term "true" minor source refers to a source that does not require specific license restrictions to maintain emissions below major source threshold levels. The terms "minor source" and "major source" are defined in 06-096 C.M.R. ch. 100, *Definitions Regulation* (Ch. 100). Ch. 115 provides for different application and licensing process requirements depending on whether a source is a "minor source" or a "major source." Nordic applied for a minor source air emission license, and the Department processed the application in accordance with Ch. 115.

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Department staff examined other nearby sources to determine if any impacts would be significant in or near the facility's significant impact area. Due to the location of the Nordic facility, the extent of its predicted significant impact area, and other nearby source's emissions, Department staff determined that no other sources would be included in combined-source modeling analysis.

COMMENT #2: The applicant has elected to take a "synthetic minor" designation to reduce the annual emissions to levels below the major source threshold. Although this restricts annual emissions, it does not restrict short-term emissions. The commenter further stated that the paragraph in the Draft Order explaining how the Department distinguishes between a major or a minor source needs modification because it does not include a discussion about synthetic minor sources.

RESPONSE #2: The term "synthetic" minor source is not a defined term in Maine's air licensing program and has no bearing on how an application is processed pursuant to Ch. 115. The term refers to a source that has accepted license restrictions that limit annual emissions to below major source threshold levels, thereby making the source a minor source. Maine's licensing program allows a source to accept license restrictions in order to be licensed as a minor source. The annual fuel use limit included in the Draft Order is enforceable as a practical matter. It is also federally enforceable and sufficient to restrict Nordic's annual emissions to minor source levels. By accepting an annual fuel use limit for the generators, Nordic meets the criteria of a minor source.

COMMENT #3: The commenter stated that the limitations on a facility that enable it to be classified as a "synthetic" minor source must be "enforceable throughout the life of the facility as proposed," and that the license must specify a practical method to limit emissions.

RESPONSE #3: There is no provision in Ch. 115 that states that license conditions cannot be changed through future licensing actions to amend or modify an existing license. As discussed above, the annual fuel use limit conditioned in the Draft Order is sufficient to restrict Nordic's annual emissions and is enforceable. Absent a license amendment or modification, that fuel use limit will continue to be in effect and enforceable. Any amendment or modification to that limit would be subject to additional permitting requirements and actions, as required by Ch. 115.

COMMENT #4: The commenter asserted that the word "synthetic" is missing from a discussion about additional analyses of impacts that would be required if the facility were a major source. In making this point, the commenter alleges the facility would be required to perform further analyses of short-term emissions if the wording were changed to include "synthetic."

RESPONSE #4: As discussed above, the term "synthetic" minor source is not a defined term in Maine's air licensing program and has no bearing on how an application is processed pursuant to Ch. 115. Because the project's calculated annual emissions did not exceed the modeling thresholds, Ch. 115 did not require

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the applicant to perform or submit an ambient air dispersion modeling analysis. The Department conducted its own ambient air quality analysis of the proposed source due to concerns raised by the public. The Department's modeling showed that emissions from Nordic's facility would not exceed National Ambient Air Quality Standards (NAAQS). Ch. 115 did not require further restrictions on short term limits from Nordic's facility.

TOPIC: INSIGNIFICANT SOURCES

COMMENT #5: The commenter stated that Nordic's application is incomplete because it did not contain the proper application materials, including those listing insignificant sources. The commenter also stated that insignificant activities and/or units are still a part of the facility's emissions and must be included in the application, and that it is not possible to determine if the facility would trigger de minimis thresholds for criteria or hazardous air pollution emission thresholds without the inclusion of insignificant activities in the application and analysis.

RESPONSE #5: Ch. 115 states, "Once a source requires an air emission license, all emissions units which emit regulated pollutants at the source must be included in the license, except the following: insignificant activities listed in Appendix B of this Chapter; activities which the Department has determined in writing on a case-by-case basis to be substantially equivalent to the insignificant activities specified in Appendix B of this Chapter; and those activities which are clearly trivial." Ch. 115 does not require that all insignificant activities at a source be identified or that emission information be provided in the application. The Department has added language to the Draft Order to clarify this point.

COMMENT #6: The commenter stated that small stationary engines were not identified in Nordic's application, and therefore they cannot be properly conditioned. The commenter also stated that it is not sufficient to simply add in the draft license that any engines (such as maintenance units, emergency engines, and portable units) not specifically listed therein are still subject to applicable State and Federal regulations.

RESPONSE #6: Stationary engines smaller than 0.5 MMBtu/hr (approximately 70 HP) are listed in Ch. 115, Appendix B, (B)(3) as insignificant units. Portable engines smaller than 0.5 MMBtu which are used for maintenance or emergency-only purposes only were excluded from licensing in writing by the Department in a policy memorandum dated July 13, 2017¹, consistent with federal engine regulations, because they are substantially equivalent to the insignificant activity described in Appendix B, (B)(3). As insignificant activities, these engines are not required to be included in a minor source license, nor are their emissions required to be included in any NAAQS or increment air dispersion modeling analysis. The language contained in the Draft Order addressing small stationary and portable engines is standard language that

¹ Link to *Policy on Portable Reciprocating Internal Combustion Engines*
<https://www.maine.gov/dep/air/publications/index.html>

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is included in every minor source air emission license where appropriate. Although these small engines are considered “insignificant activities” under Chapter 115 and require no changes to the air emission license to operate on site, the language serves as a reminder to facilities that these engines are still subject to all applicable state and federal requirements, meaning those requirements that may be applicable even though licensing may not be required. For example, these insignificant activities are subject to rules such as fuel sulfur content requirements of 06-096 C.M.R. ch. 106 and visible emissions requirements of 06-096 C.M.R. ch. 101.

COMMENT #7: The commenter stated that Nordic incorrectly omitted significant hazardous air pollutants (HAPs) emission units from their Ch. 115 air emission license application that should have been reviewed as part of the application process. The commenter alleged that processes such as fish rearing, slaughtering, and removal of products and byproducts involve HAPs emission units that are not “insignificant activities” and should be a part of the application review process. They further stated that since no HAP emission units were provided in the application, there is an expectation that no HAPs will be emitted, and that this should be added to the Findings of Fact.

RESPONSE #7: The Department does not consider the lack of HAP emission units in the Ch. 115 air emission license application to indicate that the application is incomplete. The Department considered the application as complete regarding sources and units subject to licensing based on information in the application as well as evidence in the record. HAP may be emitted from various equipment and activities at the facility, but based on the Department’s experience and professional judgement, any HAP emitted would occur at levels consistent with an area source of HAP. Since no sources of HAP subject to any HAP-specific applicable requirements were identified for the project, the Draft Order does not contain specific conditions relative to HAP emissions. However, by definition, facilities that are not major sources of HAP are area sources of HAP by default, and the Draft Order limits facility emissions to not exceed area source levels of HAP.

TOPIC: SECONDARY AND CONSTRUCTION EMISSIONS, ODOR, AND CONTAMINANTS

COMMENT #8: The commenter stated that the Ch. 115 application is deficient because it doesn’t include all of the other significant or insignificant sources, other ancillary utility sources on-site, secondary emissions, construction emissions, odor control emissions, direct vent emissions, etc. that are necessary to condition the overall facility.

The commenter stated that the DEP is required to address the potential for “air pollution” that includes air contaminants such as dust, odor, vehicle emissions, construction emissions, emissions from maintenance equipment, noise, etc.

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The commenter stated that no air contaminant emission sources have been identified by the applicant for several components of the facility, such as the fish hatchery and associated equipment, chemical storage and processing areas, odor control units, dredging operations, etc.

The commenter proposed that the draft air emission license be redrafted, but only after the applicant has provided information from all air contaminant sources of air, odor, noise, and dust emissions that could cause air pollution.

RESPONSE #8: As an applicant for a minor source air emission license and pursuant to Ch. 115, Nordic is not required to list insignificant activities. Consistent with Ch. 115 and longstanding Department practice, construction activities, mobile source emissions, and secondary emissions need not be addressed in this Draft Order. Pursuant to Ch. 115 and 40 Code of Federal Regulations (C.F.R.) § 52.21(b)(4), the Department does not consider secondary emissions in determining whether a source is a major source. Additionally, except for specific source categories as identified in Ch. 115 and the Clean Air Act (CAA), the Department does not consider fugitive emissions in determining whether a source is a major source. A land-based fish farm does not fall within not one of those excepted source categories identified by Ch. 115 or the CAA.

Although “air contaminants” are defined in state statute Title 38 § 582, noise and odor are not regulated under Ch. 115; therefore, there is no authority to address them in this Draft Order. Additionally, concerns raised by the commenter about indoor air quality at an industrial facility fall outside the scope of Ch. 115 and are typically regulated by the Occupational Safety and Health Administration (OSHA)

Pursuant to Ch. 115, sources of air pollutants that are not vented directly to the ambient air are generally considered insignificant activities and are not addressed in an air emission license. Pursuant to the CAA, emissions from mobile sources (both on and off-road) are regulated by EPA and are not addressed in state-issued, minor source air emission licenses. Emissions from mobile sources are addressed at new major sources and major modifications at existing major sources, but these are addressed qualitatively on a case-by-case basis as part of a Growth Analysis as required by the 1990 *New Source Review Workshop Manual* (Draft), not in a minor source ambient air quality modeling analysis such as the one performed here by the Department. Regulated air pollutants emitted from insignificant activities, such as water and wastewater treatment equipment and activities, are not addressed in minor source air emission licenses.

COMMENT #9: The commenter stated that the applicant must demonstrate compliance with ambient air quality standards by submitting a study that includes secondary emissions, fugitive emissions, and insignificant sources that were omitted from the initial information supplied.

The commenter asserted that the Draft Order is incomplete because it does not include analysis of potential exposure from dust; discussion of how the generators’ emissions would combine with construction emissions, secondary emissions, or insignificant sources; or discussion of how air emissions would be impacted if Phase II of the project was never developed.

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The commenter asserted that their initial request of the Board was to have all air-related activities be included as a topic at the public hearing and that all air contaminants be considered together. They further stated that odor emissions from vents and odor control exhaust are not exempt from permitting or conditioning.

RESPONSE #9: As discussed above, air contaminants other than regulated air pollutants are not subject to Ch. 115 licensing. Because Nordic's proposed annual emissions were below the modeling threshold levels contained in Ch. 115, the applicant was not required to conduct or submit a modeling analysis. The Draft Order addresses those air pollutants that are regulated by Ch. 115.

Please see Response #17 below for a discussion of implications if the project does not reach Phase II.

TOPIC: MODELING

COMMENT #10: The commenter stated that it is impossible to impose appropriate and reasonable conditions to ensure that the facility complies with ambient air quality standards if the conditions used to limit the facility to a synthetic minor classification allow most or nearly all of the allowable emissions to be consumed.

RESPONSE #10: The minor source dispersion modeling performed by the Department for the Nordic facility in response to concerns raised by intervenors and the public was conducted in a manner consistent with analyses for other minor source applications. Department staff examined other nearby sources to determine if any impacts would be significant in or near the facility's significant impact area. Due to the location of the Nordic facility, the extent of its predicted significant impact area, and other nearby source's emissions, Department staff determined that no other sources would be included in combined-source modeling analysis.

In addition, conservative background data values, representative of the existing air quality in the project area, were added to the maximum predicted Nordic facility impacts to account for criteria air pollutants inherent in the ambient airshed not explicitly associated with a single source (i.e., a combination of pollutants from mobile, residential, agricultural, etc.) Ch. 115 does not require evaluation of how close a facility's predicted impacts are to NAAQS, only that it does not exceed the NAAQS. In other words, either the ambient air quality analysis demonstrates that a facility meets the standard, or not. In this case, as explained in the Draft Order, the modeling demonstrated that Nordic meets all applicable NAAQS and increment standards.

COMMENT #11: The commenter asserted that air dispersion modeling performed by the Department for this project was incomplete because it did not include all of the emission sources that the commenter felt should have been included, such as mobile sources, construction activities, insignificant sources, fugitive emissions, etc. This assertion was made or alluded to multiple times throughout the letter.

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RESPONSE #11: As discussed in Response #8 above, an applicant for a minor source air emission license is not required to list insignificant activities pursuant to Ch. 115. Consistent with Ch. 115 and Department established practices, construction activities, mobile source emissions, secondary emissions, noise, and odor need not be addressed in this Draft Order.

COMMENT #12: The commenter stated that the Department did not evaluate a sufficient number of potential equipment combinations and operating scenarios (including startups and shutdowns) of the generators along with the other sources to adequately determine the worst-case conditions for emissions from the facility.

RESPONSE #12: Dispersion modeling is traditionally considered to be a conservative computational method (meaning it typically over-predicts impacts) used to predict local ambient air quality impacts associated with a licensed source of air pollution. Because annual emissions from the Nordic facility were below modeling threshold levels contained in Ch. 115 for all criteria pollutants, a modeling analysis was not required to be submitted. In response to concerns raised by intervenors and the public, the Department conducted air dispersion modeling consistent with EPA and Department guidance, professional judgement, and longstanding Department practices for other minor sources. This includes selecting the operating scenario that the Department believes represents the worst-case scenario for emissions from the facility and selecting conservative background ambient air quality values that are representative of the area. The Department finds that its modeling adequately addressed the worst-case conditions for emissions from the facility as licensed.

TOPIC: TEMPORARY

COMMENT #13: The commenter questioned how “facility’s several year construction phase has been categorized as temporary”.

RESPONSE #13: Construction activities will not be a permanent part of the licensed “source” and therefore are not addressed as specific air emissions units from the “source.” There is, however, a standard condition in every air emission license which requires a source to develop and implement a best management practices plan to minimize fugitive emissions from construction and other related activities.

TOPIC: FUEL

COMMENT #14: The commenter requested that a specific condition be added to the draft air emission license limiting the fuel fired in the generators to low sulfur #2 diesel fuel only.

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RESPONSE #14: Specific Condition 17(A)(2), already included in the Draft Order, limits the facility to only using ultra-low sulfur distillate fuel in the generators. The definition of “distillate fuel” contained in the proposed Draft Order is inclusive of low sulfur #2 fuel oil and low sulfur diesel fuel. It is the same definition the Department includes in all air emission licenses where any form of distillate fuel is utilized at a facility, whether it be diesel fuel, kerosene, or heating oil. (The definition is based on the definition for “distillate oil” contained in 40 C.F.R. Part 60 Subpart Dc, *Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units*.) This Department uses this definition of distillate fuel because the properties and emission profiles for these distillate products have become increasingly similar in recent years, and there is no longer a need to differentiate between them in order to ensure compliance with applicable air emissions limits.

TOPIC: EMERGENCY USE

COMMENT #15: The commenter expressed concern, based on the applicant’s testimony at the hearing in this proceeding, that the non-emergency, peak shaving generator units might potentially be used for emergency power as well.

RESPONSE #15: The Draft Order licenses these units as non-emergency engines, meaning that they are licensed to operate within the constraints of license conditions at any time for any reason, including both for prime power and for emergencies. However, if the Nordic chooses to operate the generators during an emergency, the fuel consumed by the generators during that time still counts against the annual fuel limit for the facility. In other words, whether Nordic uses the fuel for non-emergency peak shaving operation of the generators or for emergency operation of the generators, the facility will be held to the fuel limit in the license. Emergency operation of these generators will not relieve the facility from complying with their annual fuel limit.

COMMENT #16: The commenter expressed concern as to whether “air contaminant sources” will continue to operate in a power outage and how it will affect the facility’s overall emissions on a short-term basis.

RESPONSE #16: The Draft Order provides for the emissions from eight generators, seven of which can be operated simultaneously. As discussed above, the Draft Order does not make any distinction as to the reason that the generators may operate, as they may run either for the generation of prime power or during power outages. The actual short-term emissions will be the same, regardless of the generators’ reason for operating. It is important to note that the dispersion modeling performed by the Department assumed the maximum short-term emissions from each of the seven generators while running at 100% capacity for 24 hours per day for 365 days per modeled year. This modeling assumption is extremely conservative, given that the annual facility-wide distillate fuel use limit of 900,000 gallons

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equates to the generators operating less than 11% of the year at full capacity. Based on that modeling, the Department concluded that operation of the generators during a power outage and within license limits would not cause an exceedance of any NAAQS or increment standards.

TOPIC: AIR QUALITY EXCEEDANCE

COMMENT #17: The commenter expressed concern that if Phase II of the project is not built, it will change the variables used in the air dispersion modeling and could lead to a possible air quality exceedance scenario for multiple criteria pollutants.

RESPONSE #17: The dispersion modeling performed by the Department was based upon the Nordic facility as it was proposed to the Department in its Ch. 115 application. The Department evaluated the proposed facility based on information that was submitted in the application and evidence in the record. The Department did not make any assumptions regarding the various phases of construction/operation at the facility. Should Nordic fail to construct the facility in accordance with the design criteria as modeled, the Department may use its discretion to require Nordic to perform and submit additional updated modeling to demonstrate that the as-built facility will meet all applicable NAAQS and may use its authority to reopen and amend the license, as appropriate.

TOPIC: CLASS I INCREMENT

COMMENT #18: The commenter stated that the “Class I Increments” portion of the Department’s air dispersion modeling has not been confirmed.

RESPONSE #18: The evaluation of Class I increment impacts is only required for new major sources, major modifications to existing sources, or to sources in close proximity to a Class I area, defined in Ch. 100 as a major source located within 10 kilometers of any Class I area. Because the Department determined that the Nordic facility is a minor source, Nordic was not required to conduct a Class I Increment analysis as part of its Ch. 115 application. In addition, given the magnitude of emissions from the proposed Nordic facility and the distance between the proposed facility and the nearest Class I area (Acadia National Park, approximately 50 kilometers away), it is highly unlikely that emissions from the Nordic facility would have any significant Class I impacts.

Email received from Lisa Fryer, dated August 3, 2020

The email, which is addressed to Ms. Bertocci, was submitted on behalf of the Northport Village Corporation (NVC) and includes an attached letter from NVC addressed to Presiding Officer Duchesne dated July 30, 2020.

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COMMENT #19: The commenter stated that based on the application and testimony provided, there are many Findings of Fact missing from the draft Ch. 115 license, making it impossible to condition the permit. It states that the Findings of Fact need to be revised to reflect all submitted information as well as missing permitting information.

RESPONSE #19: The air emission license is not intended to be a historical document capturing all of the testimony and material submitted. It is a document written to clearly identify relevant information about the licensed facility, to identify and stipulate standard and specific statutory and regulatory conditions that apply, and to identify how compliance with these license conditions is to be accomplished and demonstrated. In this case, the Department considered all testimony and information submitted into the record by the applicant and by the intervenors and developed the Draft Order using information identified as relevant, required, and appropriate.

COMMENT #20: The commenter requested a restructuring of the draft review process to a more iterative one, and to coordinate the timelines between processing the Ch. 115 and Site Law applications.

Additionally, the commenter requested the following:

1. A single purpose comment process for the project;
2. That the Findings of Fact be extracted from the draft order and the draft license for comments first with respect to completeness, relevancy, and omission of facts; and
3. A delay of the Ch. 115 comments so that they can be discussed with Site Law air emissions.

RESPONSE #20: In a letter to Mr. John Spritz from Presiding Officer Duchesne dated August 7, 2020, Presiding Officer Duchesne denied the request to restructure the draft review process and to alter the format of the air emission license. Additionally, Presiding Officer Duchesne denied the request to coordinate the timelines of the comment periods for Site Law and the Ch. 115 air emission license review. The Presiding Officer noted that the Board will consider all comments and Draft Orders together before reaching a decision on any one of the permits Nordic has applied for.

Letter from Steven Rea, received by Dept. 8/7/20

COMMENT #21: The proposed stack heights are significantly higher than Belfast zoning regulations allow.

RESPONSE #21: Local zoning requirements are not within the scope of Ch. 115. The Department does not have any authority to intervene in municipal zoning regulations and requirements regarding maximum structure heights. The Department only requires that the Nordic facility construct the dimensions of each stack in accordance with the design criteria as represented in a dispersion modeling analysis that demonstrates compliance with all applicable NAAQS.

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COMMENT #22: The Nordic facility will result in a significant increase of nitrogen oxide pollutants in the air for the surrounding Belfast and Northport communities.

RESPONSE #22: The air dispersion modeling performed by the Department indicated that the facility will comply with all applicable ambient air quality standards.

COMMENT #23: The size of the power plant is out of proportion to any other industrial facility in the area.

RESPONSE #23: The size or proportion of the power plant relative to any other licensed industrial facility in the area is not within the scope of Ch. 115.

COMMENT #24: Nordic has intentionally misled the public and the Board with their renderings of the facility that omit any depiction of smoke stacks.

RESPONSE #24: The Department was made aware of the smoke stacks in the Ch. 115 application and was informed when Nordic requested to increase the design stack height. These parameters were included in the air dispersion modeling performed by the Department. The visual impact of buildings and structures associated with a licensed facility is not within the scope of Ch. 115.

Letter from John Spritz, President of Northport Village Corporation (NVC), dated 8/16/20

COMMENT #25: The commenter affirmed that NVC supports the concerns indicated by Upstream Watch in their communication of August 15, 2020.

RESPONSE #25: Please refer to comments #1 through #18 and their accompanying Department responses.

The commenter also attached letters of concern from Bayside residents Dr. Steven M. Rothman, Mark J Stelmack, P.E. and Paula J. Foley-Stelmack.

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COMMENT #26: Dr. Rothman stated that the true environmental impact of the plant is unknown and that there is no way to accurately model the impact that the plant will have in the area.

He then cited concerns about the following:

1. Waste water discharge having an undetermined effect on animal life in the bay;
2. Alterations in the water in the bay could permanently wipe out jobs of community members on the east and west sides of the bay; and
3. The plant will be an eyesore and impact local businesses in the area which depend on the summer tourist influx.

RESPONSE #26: Items 1, 2, and 3 above are not relevant to the Ch. 115 air emission license application or Draft Order. Because these comments may be relevant to Nordic's applications for a wastewater discharge license or a Site Law or Natural Resources Protection Act license, these comments were forwarded to Department staff in the Bureau of Water Quality and Bureau of Land Resources for consideration.

COMMENT #27: The Stelmacks stated that they support NVC's position on the air permit application.

RESPONSE #27: Please refer to comments #1 through #18 and their accompanying Department responses.

COMMENT #28: The Department owes the citizens an unbiased summation of the application and should not simply suggest foregone conclusions when summarizing its Findings of Fact.

RESPONSE #28: The Department included in its Findings of Fact a complete summation of the record in these proceedings as it is relevant to the requirements of Ch. 115 for an air emission license. The full record is available to the public for inspection. A full recitation of information from the application and this proceeding is neither the purpose of the Findings of Fact nor the appropriate location for such information.

COMMENT #29: Commenters requested a single purpose comment process for project.

RESPONSE #29: Please see the response to Comment #20 above.

COMMENT #30: Commenters requested that the Findings of Fact be extracted from the draft order and the draft license for comments first with respect to completeness, relevancy, and omission of facts.

RESPONSE #30: Please see the response to Comment #20 above.

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COMMENT #31: Commenters asserted that emissions from the entire “facility” or “source” for construction, operations, and maintenance must be examined together, so commenters requested the delay of Ch. 115 comments so they can be discussed with Site Law air emissions.

RESPONSE #31: Ch. 115 does not address secondary emissions from construction, maintenance, and operations, and these emissions are not required to be evaluated in the potential-to-emit calculations or accounted for in minor source air dispersion modeling. Please see the response to Comment #20 above.

COMMENT #32: Commenters requested that Ch. 115 draft FOF comments be extended to coincide with the comments from the SLODA application draft Findings of Fact.

RESPONSE #32: Please see the response to Comment #20 above.

Email from Ms. Tucker dated 8/16/2020

COMMENT #33: The commenter submitted a Comment Objection and renewed motion for stay or dismissal filed by the MGL Intervenors and Interested and Aggrieved Person Friends of the Harriet L. Hartley Conservation Area, focused on Title, Right or Interest (TRI), concluding with the Petitioners moving “for an immediate stay or dismissal without prejudice of Nordic’s permit and license applications currently pending in the Board.”

RESPONSE #33: The document attached in the above-referenced email asserts that the Ch. 115 application should not have been accepted as the applicant has not been able to secure TRI needed to proceed with the project. In a letter dated August 27, 2020, the Presiding Officer ruled on this motion, reiterating the Board’s denial of this motion in the Twentieth Procedural Order. No other comments relative to the Ch. 115 application or Draft Order are contained in this document.

Email from Ms. Tourangeau dated 8/17/2020

The commenter included as an attachment a letter from Mainely Environmental to Presiding Officer Duchesne dated August 14, 2020.

COMMENT #34: The commenter requested that draft condition 17(D) be amended to add language allowing the use of work practice standards in lieu of the stipulated visible emission standard during startups, shutdowns, and malfunctions, consistent with provisions in Ch. 101.

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RESPONSE #34: The Department finds that the engines being proposed/installed for this project are new, state-of-the-art, Tier 4 engines and that they can be expected to meet the visible emission standard at all times. The use of work practices in lieu of meeting the visible emission standard at all times is not considered by the Department to be Best Available Control Technology (BACT). The request to change Specific Condition 17(D) to incorporate work practice standards is therefore denied.

COMMENT #35: The commenter requested that draft be modified to remove the mandatory initial performance test requirement, instead making it conditional upon request by the Department.

RESPONSE #35: The Department will require the facility to demonstrate the engines' ability to meet the manufacturer's stated emission limits within the specified time after commissioning, as detailed in Specific Condition 17(F). This condition eliminates the need for the Department to make a formal request at a later time. The request by the applicant to remove the mandatory initial performance test requirement is therefore denied.

COMMENT #36: The commenter requested the addition of a Specific Condition to limit the number of generators licensed to operate simultaneously to no more than seven (7).

RESPONSE #36: The Board added a specific condition that limits the number of generators licensed to operate at one time to no more than seven, consistent with operating restrictions proposed by Nordic in the application and consistent with the worst case operating scenario modeled by the Department.



DEP INFORMATION SHEET

Appealing a Department Licensing Decision

Dated: November 2018

Contact: (207) 287-2452

SUMMARY

There are two methods available to an aggrieved person seeking to appeal a licensing decision made by the Department of Environmental Protection's (DEP) Commissioner: (1) an administrative process before the Board of Environmental Protection (Board); or (2) a judicial process before Maine's Superior Court. An aggrieved person seeking review of a licensing decision over which the Board had original jurisdiction may seek judicial review in Maine's Superior Court.

A judicial appeal of final action by the Commissioner or the Board regarding an application for an expedited wind energy development (35-A M.R.S. § 3451(4)) or a general permit for an offshore wind energy demonstration project (38 M.R.S. § 480-HH(1)) or a general permit for a tidal energy demonstration project (38 M.R.S. § 636-A) must be taken to the Supreme Judicial Court sitting as the Law Court.

This information sheet, in conjunction with a review of the statutory and regulatory provisions referred to herein, can help a person to understand his or her rights and obligations in filing an administrative or judicial appeal.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

The laws concerning the DEP's *Organization and Powers*, 38 M.R.S. §§ 341-D(4) & 346; the *Maine Administrative Procedure Act*, 5 M.R.S. § 11001; and the DEP's *Rules Concerning the Processing of Applications and Other Administrative Matters* ("Chapter 2"), 06-096 C.M.R. ch. 2.

DEADLINE TO SUBMIT AN APPEAL TO THE BOARD

The Board must receive a written appeal within 30 days of the date on which the Commissioner's decision was filed with the Board. Appeals filed more than 30 calendar days after the date on which the Commissioner's decision was filed with the Board will be dismissed unless notice of the Commissioner's license decision was required to be given to the person filing an appeal (appellant) and the notice was not given as required.

HOW TO SUBMIT AN APPEAL TO THE BOARD

Signed original appeal documents must be sent to: Chair, Board of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017. An appeal may be submitted by fax or e-mail if it contains a scanned original signature. It is recommended that a faxed or e-mailed appeal be followed by the submittal of mailed original paper documents. The complete appeal, including any attachments, must be received at DEP's offices in Augusta on or before 5:00 PM on the due date; materials received after 5:00 pm are not considered received until the following day. The risk of material not being received in a timely manner is on the sender, regardless of the method used. The appellant must also send a copy of the appeal documents to the Commissioner of the DEP; the applicant (if the appellant is not the applicant in the license proceeding at issue); and if a hearing was held on the application, any intervenor in that hearing process. All of the information listed in the next section of this information sheet must be submitted at the time the appeal is filed.

INFORMATION APPEAL PAPERWORK MUST CONTAIN

Appeal materials must contain the following information at the time the appeal is submitted:

1. *Aggrieved Status.* The appeal must explain how the appellant has standing to maintain an appeal. This requires an explanation of how the appellant may suffer a particularized injury as a result of the Commissioner's decision.
2. *The findings, conclusions, or conditions objected to or believed to be in error.* The appeal must identify the specific findings of fact, conclusions regarding compliance with the law, license conditions, or other aspects of the written license decision or of the license review process that the appellant objects to or believes to be in error.
3. *The basis of the objections or challenge.* For the objections identified in Item #2, the appeal must state why the appellant believes that the license decision is incorrect and should be modified or reversed. If possible, the appeal should cite specific evidence in the record or specific licensing requirements that the appellant believes were not properly considered or fully addressed.
4. *The remedy sought.* This can range from reversal of the Commissioner's decision on the license or permit to changes in specific permit conditions.
5. *All the matters to be contested.* The Board will limit its consideration to those matters specifically raised in the written notice of appeal.
6. *Request for hearing.* If the appellant wishes the Board to hold a public hearing on the appeal, a request for public hearing must be filed as part of the notice of appeal, and must include an offer of proof in accordance with Chapter 2. The Board will hear the arguments in favor of and in opposition to a hearing on the appeal and the presentations on the merits of an appeal at a regularly scheduled meeting. If the Board decides to hold a public hearing on an appeal, that hearing will then be scheduled for a later date.
7. *New or additional evidence to be offered.* If an appellant wants to provide evidence not previously provided to DEP staff during the DEP's review of the application, the request and the proposed evidence must be submitted with the appeal. The Board may allow new or additional evidence, referred to as supplemental evidence, to be considered in an appeal only under very limited circumstances. The proposed evidence must be relevant and material, and (a) the person seeking to add information to the record must show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process; or (b) the evidence itself must be newly discovered and therefore unable to have been presented earlier in the process. Specific requirements for supplemental evidence are found in Chapter 2 § 24.

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with all relevant material in the DEP record.* A license application file is public information, subject to any applicable statutory exceptions, and is made easily accessible by the DEP. Upon request, the DEP will make application materials available during normal working hours, provide space to review the file, and provide an opportunity for photocopying materials. There is a charge for copies or copying services.
2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing your appeal.* DEP staff will provide this information on request and answer general questions regarding the appeal process.
3. *The filing of an appeal does not operate as a stay to any decision.* If a license has been granted and it has been appealed, the license normally remains in effect pending the processing of the appeal. Unless a stay of the decision is requested and granted, a license holder may proceed with a project pending the outcome of an appeal, but the license holder runs the risk of the decision being reversed or modified as a result of the appeal.

WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD

The Board will formally acknowledge receipt of an appeal, and will provide the name of the DEP project manager assigned to the specific appeal. The notice of appeal, any materials accepted by the Board Chair as supplementary evidence, any materials submitted in response to the appeal, and relevant excerpts from the DEP's application review file will be sent to Board members with a recommended decision from DEP staff. The appellant, the license holder if different from the appellant, and any interested persons are notified in advance of the date set for Board consideration of an appeal or request for public hearing. The appellant and the license holder will have an opportunity to address the Board at the Board meeting. With or without holding a public hearing, the Board may affirm, amend, or reverse a Commissioner decision or remand the matter to the Commissioner for further proceedings. The Board will notify the appellant, the license holder, and interested persons of its decision.

II. JUDICIAL APPEALS

Maine law generally allows aggrieved persons to appeal final Commissioner or Board licensing decisions to Maine's Superior Court (see 38 M.R.S. § 346(1); 06-096 C.M.R. ch. 2; 5 M.R.S. § 11001; and M.R. Civ. P. 80C). A party's appeal must be filed with the Superior Court within 30 days of receipt of notice of the Board's or the Commissioner's decision. For any other person, an appeal must be filed within 40 days of the date the decision was rendered. An appeal to court of a license decision regarding an expedited wind energy development, a general permit for an offshore wind energy demonstration project, or a general permit for a tidal energy demonstration project may only be taken directly to the Maine Supreme Judicial Court. See 38 M.R.S. § 346(4).

Maine's Administrative Procedure Act, DEP statutes governing a particular matter, and the Maine Rules of Civil Procedure must be consulted for the substantive and procedural details applicable to judicial appeals.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal process, for administrative appeals contact the Board's Executive Analyst at (207) 287-2452, or for judicial appeals contact the court clerk's office in which your appeal will be filed.

Note: The DEP provides this INFORMATION SHEET for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.

Board of Environmental Protection
Nordic Aquafarms, Inc. / Site Law, NRPA, MEPDES/WDL, and Air Applications
Service List rev. September 1, 2020

**Official Copy for Filings by 5:00 pm
to Robert Duchesne, Presiding
Officer c/o Ruth Ann Burke**

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