

**STATE OF MAINE
BOARD OF ENVIRONMENTAL PROTECTION**

IN THE MATTER OF

NORDIC AQUAFARMS, INC.)
Belfast and Northport)
Waldo County, Maine)
)
A-1146-71-A-N)
L-28319-26-A-N)
L-28319-TG-B-N)
L-28319-4E-C-N)
L-28319-L6-D-N)
L-28319-TW-E-N)
W-009200-6F-A-N)
)

**PROPOSED FINDINGS OF FACT AND
CONCLUSIONS OF LAW**

I. PROJECT DESCRIPTION:

Nordic Aquafarms, Inc. (“Nordic”) wishes to build and operate a land-based salmon rearing and processing facility on U.S. Route One on the southern extreme of the City of Belfast, Maine along the northern boundary of the Town of Northport. The proposed site is separated from Penobscot Bay by U.S. Route One and a residential property. An application for a Maine Pollutant Discharge Elimination System Permit/Waste Discharge License (“MEPDES/WDL”) was submitted to the Maine Department of Environmental Protection (“Department” or “DEP”) on October 19, 2018 and accepted as complete for processing on November 9, 2018. On May 17, 2019, Nordic submitted a Site Location of Development Act (“SLODA”) application, a Natural Resources Protection Act (“NRPA”) application, a Chapter 115 Air Emission License application, and an addendum to the MEPDES/WDL application. Those permit applications were processed in the normal course and Commissioner Gerald Reed referred them to the Board of

Environmental Protection (“Board” or “BEP”) for the purpose of conducting administrative hearings. Following the submission of petitions under the rules, seven parties were granted status of intervenors in this proceeding. DEP staff reviewed the applications; and, on numerous occasions, requested additional information from Nordic. Nordic provided responses to those requests and on February 11, 2020, BEP commenced a hearing which concluded shortly after noon on Friday, February 14, 2020. The record remained open for comments until the close of business until 5:00 p.m. February 18, 2020, except that BEP was awaiting a report from the Department of Marine Resources (“DMR”) which was to conduct a public hearing on March 2, 2020. Following that public hearing, DMR submitted an “addendum” dated April 7, 2020, which BEP invited responses from Nordic to be filed on or before April 16, 2020, with intervenors responses to be filed within one week after receipt of Nordic’s response. Nordic and the intervenors were invited to submit briefs, findings of fact, and conclusions of law on or before May 4, 2020.

II. FINDINGS OF FACT:

A. TITLE, RIGHT, OR INTEREST (06-096 C.M.R. ch. 2, § 11(D)):

1. The SLODA Application, Section 2, requires the applicant to demonstrate the right to land use.

2. Ownership of the intertidal zone where Nordic proposes to bury intake and discharge pipes is in dispute and currently under judicial review. (DEP Acceptance Letter dated June 13, 2019, p.1) (K. Tucker, Telephonic BEP Public Hearing, Apr. 16, 2020)

B. FINANCIAL CAPACITY (06-096 C.M.R. Ch. 373, § 2):

1. The SLODA Application, Section 3 requires the applicant to provide evidence of financial capacity.

2. Required documentation of financial capacity includes “Estimated Costs.” Nordic provided a chart tracking only ten (10) categories of estimated development costs through six (6) phases. (Prefiled Testimony, B. Chandler, at 2, Table 3.1)

3. Required documentation includes evidence of “Financing.” Nordic chose to document financing according to option 3, “Other.”

4. This option requires demonstrating (a) cash equity commitment to the development, with 20% considered normal. Nordic has not documented or claimed any cash equity committed to this development beyond the permitting process. 2/11/20 Tr. 81:25-82:13 (M. Reeve).

5. This option requires a “Financial Plan” for the remaining financing. SLODA Application, Sec. 3. Nordic says that financing will be 40% equity, 50% debt, and 10% from working capital. Nordic has presented no plan for form, sources or timing of debt financing, and no plan to generate working capital. Rebuttal Testimony of M. Reeve, at 1-3.

6. Documenting financing also required a letter from an appropriate financial institution indicating an intention to provide financing. SLODA Application, Sec. 3. NAF has not provided any letter indicating an intent to provide financing. (Rebuttal Testimony of M. Reeve, at 1).

C. TECHNICAL ABILITY (06-096 C.M.R. Ch. 373, § 3):

1. The SLODA Application, Section 4, addresses technical ability to undertake the development.

2. Nordic Aquafarms, AS, the applicant's parent corporation, currently operates three fish-raising facilities in Norway and Denmark: Fredrikstad Seafoods, Sashimi Royal, and Maximus AS. (SLODA Application, Sec. 4, Technical Ability, at p. 1)

3. Nordic proposes to produce 33,000 metric tons of salmon per year in Belfast. (SLODA Application Sec. 1, p.1)

D. AIR QUALITY (06-096 C.M.R. Ch. 375, § 1):

1. Chapter 375, Section 1 of the Department regulations requires the applicant demonstrate no unreasonable adverse effect on ambient air quality, through point or non-point sources of chemical pollutants or particulate matter from commercial or industrial developments.

2. The SLODA application, Section 21, requires identification of "all point source and non-point source air emissions deriving from the development, including but not limited to stacks, unpaved roads or areas and vehicular traffic."

3. Nordic identified only one source, eight (8) generators to be used for "peak-shaving" during periods of high public electric demand. 2/13/20 Tr. 213:25-214:2 (S. Whipple).

4. Nordic states that no more than seven (7) generators will run concurrently, with one reserved as "back-up." (SLODA Application, Sec. 21, Appendix 21-A, at 1-2).

5. DEP air dispersion models are based on seven (7) generators as the sole source of emissions for the entire facility. (Mar. 13, 2020 Air Dispersion Modeling at 3). Modelling does

not allow for ancillary equipment such as mufflers (SLODA Application Sec. 05, Appendix 5-A, at 6).

6. The generators can supply power needs for several days during power outages. (2/13/20 Tr. 258:12–259:3 (E. Cotter).

7. DEP air dispersion models predicted that emissions from the power plant alone will quadruple the ambient 1-hour NO² concentrations in the area and consume at least 85% of the allowable ambient NO² emissions. (Apr. 2, 2020 Upstream/NVC Comment, Michael Lannan/Tech Environmental, at 7)

8. Nordic is subject to Standard Condition 4, which addresses ongoing fugitive dust. (SLODA Application, Sect. 21, Air, Text, p. 1).

9. Site preparation will involve excavating to over 40 ft. deep, including, according to Nordic, blasting 18,000 tons of bedrock. (SLODA Application., Sect. 20, Text, at. 1-2).

10. Stephen Whipple, the Professional Engineer responsible for identifying applicable Clean Air Act requirements for Nordic, (Rebuttal Testimony of S. Whipple at 1) was not aware of plans to operate an on-site cement plant during construction. 2/13/20 Tr. 234:15-18 (S. Whipple).

11. Construction and operations will generate fugitive dust. (SLODA Application, Sec. 21, Air, Appendix 21-B at 1).

12. No sources of dust were identified for or included in air dispersion models.

E. DRAINAGE WAYS (06-096 C.M.R. Ch. 375, § 3):

1. Chapter 375, Section 3 of the Department rules requires demonstration by the applicant that the proposed development will have no unreasonable alteration of natural drainage ways.

2. NAF proposes to fill or disrupt eight of the nine streams on site. (NRPA Application Sec. 13, Appendix 13-A, Impact Compensation Plan at 7-9, Fig. 2; Nov. 5, 2019 NAF Response (incl. Att. A-F), p.17)

3. Stream 9 will be excavated for 145 feet, and artificially restored and planted as a drainageway. (*Id.* at 9)

4. In place of natural drainage, NAF proposes to intercept surface water from surrounding upland areas and divert it, along with on-site precipitation, to the Little River below the lower dam. (Prefiled Testimony of M. McGlone at 1-2 (#3, #4))

F. INFILTRATION (06-096 C.M.R. Ch. 375, § 4):

1. Chapter 375, Section 4 of the Department rules requires demonstration by the applicant that the proposed development will have no unreasonable effect on runoff/infiltration relationships, including evidence that the stormwater management system will be fully coordinated with project site plans.

2. Nordic intends to intercept all surface groundwater with perimeter drains before it enters the site. 84% of the precipitation falling on the developed area within the site would be collected and diverted off-site. (SLODA Application, Sec. 1, Project Overview, at 4)

3. Nordic proposes to withdraw 455 gallons per minute of groundwater from on-site wells. (SLODA Application Sec. 15, Groundwater, Appendix 15-A, Investigation Report, at 3)

4. Recharge from precipitation represents the major source of water to Nordic's modeled groundwater system. (Prefiled Testimony of M. Mobile, at 4 (#12))

G. GROUND WATER QUANTITY (06-096 C.M.R. Ch. 375, § 8):

1. Chapter 375, Section 8 of the Department rules requires demonstration by the applicant that the proposed development will have no unreasonable effect on ground water quantity. The depletion of ground water resources can result in the intrusion of saltwater into potable ground water supplies, affect the assimilative capacity of surface water bodies, and compromise neighboring wells.

2. Nordic anticipates using approximately 1,205 gallons per minute (gpm) of freshwater from three sources: 500 gpm purchased from the Belfast Water District (BWD), 250 gpm of surface water from the reservoir, and 455 gpm of groundwater from onsite wells. (SLODA Application, Sec. 16, Text, at 1; Appendix 15-A, at 3)

4. 500 gpm is the maximum amount that the BWD could provide without prohibitively expensive new infrastructure. (Prefiled Testimony of B. Bryden at 10)

5. Surface water from the reservoir is reliant on the lower dam. The lower dam is in poor repair with no plans for maintenance. (Prefiled Testimony, GEI, at. 23, Lower Dam Observation)

6. Surface water is contaminated and requires sophisticated treatment measures. (Prefiled Testimony of B. Bryden at 4).

7. Ground water, as noted above, depends on recharge from precipitation that will be intercepted and rerouted off-site by perimeter drains and an extensive storm-drainage system. Nordic has experienced saltwater intrusion into one of its wells. 2/11/20 Tr.160:17-19 (T. Neilson).

8. Nordic testing indicates that existing, neighboring wells will experience a 10-14 ft. drop in water level. (Prefiled Testimony of M. Mobile, at15, and Fig. 14A (Simulated Maximum Drawdown Scenario within Model Layer 3))

H. BUFFER STRIPS (06-096 C.M.R. Ch. 375, § 9)):

1. Chapter 375, Section 9 of the Department rules recognizes the importance of natural buffer strips to protect water quality and wildlife habitat. Buffer strips can serve as visual screens which can serve to lessen the visual impact of incompatible or undesirable land uses.

2. The site includes diverse wildlife habitats, connecting fields, wetlands, and mature woodland to shoreland and intertidal environments. (Prefiled testimony of A .Fiorillo, at 3-4, (#8),4 (#12))

3. Proposed development of the site would retain no natural buffer strips. A strip of land 250-500 feet wide along the reservoir and the Little River, traversed by the Little River public trail, would be retained by the Belfast Water District (SLODA Application, Sec.1, Text, p.2)

4. This conserved land has no corridor to the shore. (Id. at p. 21)

5. The strip of conserved woodland is proposed to serve to visually screen the 1,200+ ft.-long, 40 ft.-high buildings (SLODA Application Sec. 1, Text, p.21) with eight 65-ft.-high emissions stacks (Nov. 19, 2019 – Nordic Response to 11/8/19 DEP Request, p.2, #3) from the public recreational trail. (SLODA Application Sec. 6, Text, p.2)

6. Young trees up to 12-feet tall, including many deciduous trees, will be planted to visually shield the to “40-foot-high buildings” from Route 1 and Perkins Road. Bushes and trees will be planted along Stream 9. (SLODA Application, Civil Engineering Drawings, LP501; NRPA Application, Att. 13, Appendix 13-A, at 2526 (Appendix B); SLODA Application, Sec.1, Text, p.21)

I. NOISE (06-096 C.M.R. Ch. 375, § 10 and 38 M.R.S § 484 (3)):

1. During the prehearing conference, Nordic asserted that “pursuant to the Site Law, 38 M.R.S. § 484 (3)(A), construction noise generated between the hours of 7 a.m. and 7 p.m. or during daylight hours, whichever is longer, is exempt from review by the Board.”

2. Paragraph A, referenced above, consists of two sentences: (1) In making a determination under this subsection, the department may consider the effect of noise from a commercial or industrial development; (2) Noise from a residential development approved under this article may not be regulated under this subsection, and noise generated between the hours of 7 a.m. and 7 p.m. or during daylight hours, whichever is longer, by construction of a development approved under this article may not be regulated under this subsection.

3. Nordic proposes a commercial, not a residential, development, and is thus regulated by sentence 1. Sentence 2 is not relevant to this development.

4. 38 M.R.S. § 484(3) requires the development to have no adverse effect on the natural environment, including adequate provision for fitting the development harmoniously into the existing natural environment and that the development will not adversely affect existing uses, scenic character, air quality, water quality or other natural resources in the municipality or in neighboring municipalities.

5. The project is located near undeveloped woodlands (home to wildlife including bird and bat species of special concern (Prefiled Testimony of A. Fiorillo at 5 (#15)), residential areas, and farms. (SLODA Application, Sec. 5, Appendix 5-A, Fig. 1, p. 9)

6. Construction activities will include blasting 18,000 cubic yards of bedrock and excavating to depths of over 40 feet (SLODA Application., Sec. 20, Text, p. 1-2) and construction of 19.6 acres of buildings (SLODA Application, Sec. 1, Text, p.3)

7. The SLODA application, Section 5, Noise, requires a full noise study prepared by a qualified professional to enable the Board to evaluate a major, commercial noise impact. The study must include analysis of: 1) the baseline, including current uses, zoning and comprehensive plans, and nearby protected locations and quiet areas, and 2) noise generated by the development, including type, source and location, sound levels, control measures, and comparisons with regulatory and local limits.

8. Nordic's application submissions do not include such a study. The noise impact report prepared by Acentech concludes "It is expected that regulated equipment during routine operation will produce sound levels that are equal to or lower than the applicable noise level limits contained in Chapter 375.10 of Maine's Site Location of Development Law Regulations." (emphasis added) (SLODA Application, Sec. 5, Appendix 5-A, p.8)

J. SCENIC CHARACTER (06-096 C.M.R. Ch. 375, § 14):

1. Chapter 375, Section 14 of the Department rules recognizes scenic character is one of Maine's most important assets and requires provisions to minimize the visual impact on the surrounding area and preserve existing elements to maintain scenic character.

2. The site is located in a residential/rural area with one commercial building (Mathew's Brothers window manufacturer) that is low and inconspicuous. (SLODA Application, Sec. 1, Text, p. 2)

3. Heading north on Rt. 1, this is the entry to Belfast, with Penobscot Bay visible to the east and the historic brick pumphouse standing above the waterfall of the lower dam to the west. (SLODA Application, Sec.1, Text, p.18)

4. The 57-acre site is currently woods and some fields except for approximately 2.4 acres of buildings and driveways. The public-use Little River Trail skirts the south and west edges of the site, along the lower reservoir and the Little River. (Id. p.2)

5. The ends of the intake and discharge pipes are located less than $\frac{3}{4}$ mile north of Northport's elementary school and less than $1\frac{1}{2}$ miles from the Village of Bayside's swim beach and pier. (Prefiled Testimony E. Ransom, at 42 (Fig. 2-6); Site Visit Oct. 24, 2019)

6. A 14-acre corridor approximately 250-500 feet wide will be retained by the City of Belfast along the reservoir and the river containing the public-access Little River Trail. (SLODA Application, Sec.1, Text, p.2)

7. The development would include ten buildings that would largely fill the 57-acre parcel. The two proposed grow-out modules are each over 1,200 feet long and 40 feet high. (SLODA Application, Sec. 1 Text, p.21)

9. Eight proposed emissions stacks are each over 65 feet high. (Nov. 19, 2019 – Nordic Response to 11/8/19 DEP Request, p.2, #3). Architectural styles are not presented with the application.

K. WILDLIFE AND FISHERIES (06-096 C.M.R. Ch. 375, § 15):

1. Chapter 375, Section 15 of the Department rules seeks to “protect wildlife and fisheries by maintaining suitable and sufficient habitat...”

2. This area of Penobscot Bay is likely to be used by three species that are federally listed, Atlantic salmon (endangered), shortnose sturgeon (endangered), and the Gulf of Maine population of Atlantic sturgeon (threatened, at risk of becoming endangered). (Prefiled Testimony, T. Parent, at 4-7)

3. The Maine Department of Marine Resources also requested consideration of eel, alewife, blueback herring, winter flounder, and rainbow smelt populations, as well as scallops, blue mussels, softshell clams, and lobster. (Prefiled Testimony, T. Parent, at.2)

4. Larval and egg stages of marine organisms would be swept into the intake pipe. (Prefiled Testimony, T. Parent, at 8 (#21))

5. The Penobscot River hosts the largest run of Atlantic salmon left in the United States. Federal and state agencies have been collaborating towards the recovery of endangered Atlantic salmon, and the 2019 salmon run in the Penobscot River was the highest since 2011. 2/12/20 Tr. 114:11-18 (T. Parent says that the Penobscot has populations of endangered salmon and the Penobscot River is "the place for salmon these days."); 2/14/20 Tr. 160:25-161:3 (B. Bryden refers to "our last 1,100" salmon).

6. Turbidity will increase during construction from soft sediments. (Prefiled Testimony, T. Parent at 9, (#24))

7. This area has been found by studies conducted for a federal court to have significant HoltraChem mercury deposits. 2/12/20 Tr. 348:10-13 (Bernacki).

8. Nordic's depth-composite sediment core, sample #B3 contained 267 nanograms per gram of mercury. (Prefiled Testimony, Ransom, at 43,48, Exhibit 7, 18.0, Solid Waste, 18.1.1, Table 18-3). Background mercury level in this area is estimated to be 51-55 nanograms/gram. (Prefiled Testimony, Ransom, at 43,48, Exhibit 7, 18.0, Solid Waste, 18.1.1, Sediment, p. 4, par. 2)

9. Wastewater effluent is projected to release, at full plant capacity, Nitrogen (1,484 lbs. per day), Phosphorus (13 lbs. per day), Formalin/Formaldehyde, (925 gal. per year) (MEPDES Form 2D, P. 3&4, pp. 206-207,238), and various cleaners and medications, periodic use (MEPDES application, Ques. #10 & 11, Att. 3, p. 216,238).

10. Wastewater effluent will contain contagions, especially viruses. 2/13/20 Tr. 384:2-22 (I. Bricknell) (“[T]here is no way to totally eliminate those risks.”)

11. Facility effluent would affect the water quality for some distance from the point of discharge, creating a “plume” with different chemistry and temperature from surrounding waters. (Prefiled Testimony N. Dill, Ex. 23, Figure 1 depicts dilution for 2 days)

12. Wastewater effluent is projected to be generally warmer, 2/13/20 Tr. 318:16-319:9 (E. Cotter), and less saline id. 319:10-15, than ambient conditions.

13. Water of this temperature, 2/14/20 Tr. 50:22-51:1 (T. Parent), and salinity, 2/13/20 Tr. 34:7-8 (J. Tourangeau) attracts lobsters to the chemically altered plume.

14. The upland portion of the site includes thirty-four (34) acres of forest, along with open fields and freshwater wetlands. (Prefiled Testimony of A., Fiorillo , at 3, (#8))

15. According to E-Bird, eight (8) bird species of Maine Special Concern and five (5) species of Maine Species of Greatest Conservation Need use this site. (Prefiled Testimony of A. Fiorillo, at 4, (#11))

16. Seven (7) species of bats are likely to use the site, including four (4) species of Special Concern, one (1) State Threatened, and two (2) State Endangered, one of which is federally threatened. (Prefiled Testimony A. Fiorillo at5(#15)). A project-specific avian survey was not conducted (Prefiled Testimony A. Fioriollo at4 (#10)), nor was a bat survey.

17. Seventy percent (70%) of the site would be developed (Prefiled Testimony, M. McGlone, Table 1).

18. Natural features of the upland site would be almost eliminated by the development. (SLODA App, Sect. 1, Text, p.21, map AP001)

L. ODORS (06-096 C.M.R. Ch. 375, § 17):

1. Chapter 375, Section 17 of the Department’s regulations require adequate provisions for controlling odors.

2. Nordic proposes that odor will not escape because all processes with the potential for creating odors will take place in completely enclosed buildings. (SLODA Application, Sec. 22, Odors, Text, p. 1)

3. Nordic proposes to control odors with unidentified “proven” air treatment infrastructure in key production buildings, including HVAC systems. Equipment might include multistage scrubbers and/or carbon absorption filters. (Prefiled Testimony of C. Dinneen, at 2 (#5))

4. Nordic lists four potential sources of odor for the land-based aquaculture industry; ensilage of mortalities, fish processing, the wastewater treatment plant, and feed storage. (SLODA Application, Section 22, Text, p. 1, 22.0)

5. Nordic has not identified areas that will be affected by odors, as required 06-096 CMR ch. 375, § 17 (B)(2), except in “enclosed buildings.”

6. Section 17, B (3) requires the description of proposed systems for enclosure of odor-producing materials and processes, and proposed uses of technology to control, reduce or

eliminate odors. Ventilation of buildings, especially those containing large tanks, is essential.
(Prefiled Testimony, M. Lannan, Odor-Upstream 9, p. 4)

7. HVAC systems are not designed to control odor. 2/13/20 Tr. 259:12- 260:2.

8. The carbon in carbon filters has affinity for specific compounds. 2/13/20 Tr. 202:5-7
(M. Lannan).

9. Nordic has not identified specific compounds or specific technology to control any
odor source. 2/13/20 Tr. 143:1-18 (C. Dinneen)

M. SOILS (06-096 C.M.R. ch. 376):

1. Chapter 376 of the Department's regulations addresses the suitability of soils for the
nature of the development.

2. Existing soils at the proposed site are compressible clay that will not support the load
of the buildings, so that material has to come out and be replaced with a more structurally sound
material to put the buildings on. 2/13/20 Tr.124:14-18 (A. Johnston).

3. This will entail, according to Nordic, blasting 18,000 cubic yards of bedrock and
excavating to depths of over forty (40) feet. (SLODA Application., Sec. 20, Text, p. 1)

4. Special measures will be needed when blasting in the vicinity of the lower dam.
2/13/20 Tr. 163: 18-165:9 (B. Doyon).

**N. MAINE POLLUTANT DISCHARGE ELIMINATION SYSTEM ("MEPDES")
PERMIT:**

1. Nordic revealed for the first time at the Maine Department of Marine Resources
(DMR) hearing in Belfast on March 2, 2020 that it intends to carry spoils from the site of

dredging for pipes five (5) miles across Belfast Bay by barge, dewatering the spoils and discharging the waste water into the Bay.

2. Nordic has not complied with permit application requirements (40 C.F.R. § 122.21(f) (viii) information requirements for dredge or fill permits under section 404 of the federal Clean Water Act).

3. Additionally, a permit is required for the point-source effluent associated with the dewatering of dredge spoils.

4. Higher-temperature facility effluent introduces an energy gain into the bay equivalent to burning 10,000 gallons of gasoline every day. 2/14/20 Tr. 131:13-132:24 (J. Krueger)

5. In 06-096 C.M.R. Chapter 582, the Department's Regulations Relating to Temperature, this provision allows a maximum temperature increase of 4 degrees Fahrenheit, and not more than 1.5 degrees Fahrenheit from June 1 to September 1, outside of the effluent mixing zone.

6. Nordic's calculations using a CORMIX model suggest a 3 degree increase in Winter and a 1.2 degree increase in Summer. 2/14/20 Tr. 89:2--92:19) (N. Dill). CORMIX models are +/- 50%. Temperature data used for the CORMIX models were based on previous surveys, and were changed during the application process in response to questions from the DEP. 2/14/20 Tr. 76:9- 78:24 (N. Dill). Nordic did not conduct comprehensive studies of ambient water temperature.

7. Maine Chapter 523, Section 5, permits the application of either technology-based or water-quality-based standards to meet the standard of the Federal Clean Water Act.

8. Water-quality-based standards should be established and applied in this case due to several unique factors: (1) This would be the second largest salmon RAS CAAP facility in the

world (2/14/20 Tr. 125:10-13 (J. Krueger)), with target production of 33,000 metric tons (72,7500,000 pounds) (Prefiled Testimony, E. Ransom, at 2, #6) per year well exceeding the 100,000 pound benchmark for CAAP regulation; (2) Maine has no defined standards for effluent limits except for temperature (06-096 C.M.R. ch. 582); and (3) The outfall is not located in deep water currents and potential behavior of the effluent has not been adequately evaluated. Nordic's models of discharge dilution and behavior are unreliable and conflict with prior, published studies. Far-field models do not account for significant factors such as complexity of currents and wind shear, and have not been verified by contemporaneous, year-round data. (Prefiled Testimony, N. Pettigrew, at 2, 8 (#VI))

9. The location for Nordic's project is a greenfield, undisturbed site that hosts commercial fisheries (2/11/20 Public Testimony Tr. 35:7-16, 36:18-24) and wild fish and shellfish including federally endangered salmon and sturgeon. (Prefiled Testimony, T. Parent, at 3-7 (#10-16)).

10. Nordic has not performed year-round surveys of bird or marine life to establish what wildlife could be affected. (Prefiled Testimony, A. Fiorillo, at. 4; SLODA Application, Sec. 7, Text, p. 12)

11. Better technology, including fully closed RAS technology with zero effluent is available. 2/14/20 Tr. 126:3-128:6 (J. Krueger).

12. Nordic has changed filter size during the application process from 0.4 microns to the "ultra-filtration" level of .04 microns. 2/13/20 Tr. 367:8-370:20 (Noyes/Dunn/Cotter). Nordic has not presented updated engineering plans. 2/13/20 Tr. 369:9-15 (Dunn).

13. Wastewater for the entire facility is centralized (SLODA Application, Sec. 1, Text, p. 21). There is no bypass route for effluent and no contingency plan.

14. In contrast to SC classification for locations farther up the Penobscot River (Title 38, Ch.3, Sect. 469), the waters at the discharge site are classified as Marine Class SB” (Rebuttal Testimony, T. Parent, at 2 (#6)), requiring higher standards for discharges. (Rebuttal Testimony, T. Parent, at 4, Nordic Exhibit 37)

III. CONCLUSIONS OF LAW

BASED on the above findings of fact, and subject to the conditions listed below, the Board of Environmental Protection (“Board”) makes the following conclusions of law pursuant to 38 M.R.S. §481 *et seq.* (the “Site Location of Development Act” or “SLODA”):

- A. Right, Title, and Interest: Nordic has failed to demonstrate right, title and interest in the intertidal lands, where Nordic proposes to lay its intake and discharge pipes.
- B. Financial Capacity/Technical Ability: The applicant has failed to provide adequate evidence of financial capacity and technical ability to develop the project in a manner consistent with state environmental standards. NAF has committed no cash equity to this project, though the rules call for 20% of the project cost up-front. Nordic has presented no financial plan or funding commitment of any kind for this project. NAF has not satisfied the four requirements under SLODA section 3 to demonstrate financial capacity and has not demonstrated that any funding is available for this project.
- C. Harmonious Fit: The applicant has failed to make adequate provision for fitting the development harmoniously into the existing natural environment and the development. The project will adversely affect existing residential and agricultural uses because it would change the scenic character from forest/rural to industrial, will impair the air

quality, will diminish the ground water quality and quantity, and will cause saltwater intrusion into the aquifer on which neighbors are dependent.

D. Air: The Applicant has failed to identify project-wide chemical and particulate emissions from all construction, operations, and maintenance sources. Air dispersion modeling based solely on 7 of 8 project generators is insufficient to meet the applicant's burden of proof with respect to compliance with the federal Clean Air Act and state air quality standards. . Nordic's applications for the requisite air licenses and permit must be denied.

E. Infiltration: The proposed development will substantially alter the infiltration of precipitation into the subsurface. Almost all precipitation will fall on impervious surfaces, be channeled into detention basins and drained into the proposed to be installed perimeter drains and thence to the Little River at its junction with the Atlantic Ocean, precluding almost all infiltration into the subsurface as naturally occurs today.

F. Ground water quantity: Ground water quality will be adversely impacted by the development because Nordic proposes to extract 455 gallons of fresh water per minute from the subsurface which is the maximum their 24-hour pump test suggested they could obtain. Nordic's goal was 1,200 gallons per minute. Nordic will be pumping the maximum it can extract without any study of the safe yield of the aquifer, so it is impossible to know if 455 gallons per minute will cause permanent harm to the aquifer.

G. Soil suitability: The proposed development will be built on soil types which are so completely unsuitable to the nature of the undertaking that Nordic asserts that the existing soils must be removed to a depth of at least 20' over a 35 acre section of the site.

H. Storm water management:

The proposed development meets the standards for storm water management in 38 M.R.S. § 420-D and the standard for erosion and sedimentation control in 38 M.R.S. § 420-C provided that a third party inspector is retained, a pre-construction meeting is held, and construction of stormwater management structures is overseen by a third party and documented.

I. Utilities; sewage: The applicant has made adequate provision of sewerage facilities required for the development and the development will not have an unreasonable adverse effect on the existing or proposed sewage facility in the municipality.

J. Utilities, waste: The applicant has not made adequate provision for the disposal of solid waste, specifically, there is no plan for upland disposal of dredge spoils, nor has Nordic obtained the requisite permit, and Nordic has presented no plan for the disposal of sludge from the bottom of the fish tanks, nor the fish parts and other waste from the fish processing facility other than to provide the names of apparently qualified waste haulers. Thus, there is no way to determine that solid waste management aspect of the development will not have an unreasonable adverse effect on the existing or proposed utilities or disposal facilities in the municipality.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions of law pursuant to the Natural Resources Protection Act: 38 M.R.S. §§ 480A-480-Z and Department Regulations 06-096 C.M.R. Chapters 305-342:

A. Scenic, aesthetic: The proposed activity would convert forty (40) acres of forest and rural land into an industrial site with 40' tall buildings that would consume most of

the site along with eight (8) 62' smokestacks and thus would unreasonably interfere with existing scenic, aesthetic, recreational, or navigational uses.

B. Sediment and erosion control: Properly monitored, the proposed activity will not cause unreasonable erosion of soil or sediment.

C. Habitat: The proposed activity will unreasonably harm all on site significant wildlife habitat, freshwater wetland and animal plant habitat, threatened or endangered plant and animal habitat, aquatic habitat, travel corridor, freshwater, estuarine, or marine fisheries or other aquatic life. Except for one small wetland, 18 of the 19 wetlands on site would be entirely removed. A permanently chemically- and temperature-altered plume effluent plume would be introduced to Penobscot Bay.

D. Surface water flow: The proposed activity will unreasonably interfere with the natural flow of any surface or subsurface waters. The proposed activity will capture with a perimeter drain all the natural flow of water coming onto the site, divert it around the site and deposit it into the Little River near the junction of that river and the Atlantic Ocean. Further, the project would permanently remove 8 of 9 existing on-site streams.

E. Fresh Water Quality: The proposed activity will violate state water quality law including those governing the classifications of the State's waters.

F. Ground water quality: The proposed development will present an unreasonable risk that saltwater intrusion into a significant groundwater aquifer will occur.

G. Flooding: The activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties nor create an unreasonable flood hazard to any structure. However, immediately upstream and up gradient of the proposed development

is a dam evaluated by several authorities as a “high Hazard” meaning that it poses a threat to human life. The development places additional people directly below that troubled dam without any plan to fix the dam, increasing the “hazard”.

H. Sand dunes: The proposed activity is not on or adjacent to a sand dune.

I. Outstanding river segment: The proposed activity is not on an outstanding river segment as noted in 38 M.R.S. § 480-P.

J. Soil transfer: The proposed activity will not unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following further conclusions of law pursuant to the Maine Pollutant Discharge Elimination System Permit/Waste Discharge License 06-096 C.M.R. Chapters 521 and 522:

A. Nordic has failed to obtain the required permits for transportation and dewatering of dredge spoils on a five (5)-mile route across Penobscot Bay to Searsport. Nordic has failed to collect adequate data to demonstrate that facility effluent will not cause temperature increases exceeding the terms of Maine law. Nordic has not demonstrated that it meets the criteria of the federal Clean Water Act or of Maine law. Water-Quality-Based Effluent Standards must be established, and adequate modeling performed to assure that those standards will be met to demonstrate compliance with the federal Clean Water Act and with Maine law.

For these reasons, Nordic’s SLODA, NRPA, and MPDES permits are denied.

Dated: May ____, 2020

State of Maine Board of Environmental Protection

