STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BOARD OF ENVIRONMENTAL PROTECTION

	IN THE MATTER OF
	:
NORDIC AQUAFARMS, INC.	:APPLICATIONS FOR AIR EMISSION,
Belfast and Northport	:SITE LOCATION OF DEVELOPMENT,
Waldo County, Maine	:NATURAL RESOURCES PROTECTION
	:ACT, and MAIN POLLUTANT
	:DISCHARGE ELIMINATION SYSTEM
	:(MEPDES)/WASTE DISCHARGE
A-1146-71-A-N	:LICENSE
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	:

EXHIBIT NVC/UPSTREAM 6
TESTIMONY OF *MICHAEL LANNAN*

TECH environmental
FOCUSED KNOWLEDGE. REAL SOLUTIONS.

December 12, 2019

Cynthia S. Bertocci
Executive Analyst
Board of Environmental Protection
17 State House Station
Augusta, Maine 04333-0017

Ref. 4518

Re:
Nordic Aquafarms, Inc., Site Location/NRPA, Waste Discharge, and Air Emissions Applications; Response to Letter of November 26, 2019

Dear Cindy:

As we stated in our letter, dated November 15, 2019, Tech Environmental, Inc. (Tech) had been waiting patiently to receive the noise source data that DEP has requested in writing from the proponent on multiple occasions, so that Tech can provide Upstream Watch with an evaluation of potential adverse impacts.

This letter is provided to address a number of concerns with respect to the noise discussions to-date. We hope that these concerns can be resolved by formally extending the deadline for all air emissions, noise, and visual impacts, to coincide with the Chapter 115 air emissions testimony submission due by January 17, 2020. A summary of this letter is:

1. The Applicant understood that construction, operations, and industrial noise was a topic for SLODA discussion, as demonstrated within their noise impact assessment, which referenced and discussed Construction, Operations, and Maintenance sound. Their sound report erroneously suggests that construction noise was "exempt", simply based upon Belfast ordinances, but it was included for informational purposes anyway. This letter will not focus on their sound statements, as that will be in future testimony after we receive clarification on this reconsideration request, but it does note that Operation noise is still included as a topic, and unless the model files are provided for the record, the application must be rejected for not satisfying the burden of proof.

2. The Board upheld Upstream Watch's request for reconsideration, but then later "clarified" that noise would not be a hearing topic. Yet, this subsequent exclusion of sound was not suggested during the appeal hearing at any time, so this clarification is in essence a "finding" after the Hearing. After reviewing the recording of the hearing, it is clear to Upstream Watch that there was a point where the Board specifically acknowledged that the bullet from the Third Procedural Order, bullet 5 under the SLODA topics, "*Impacts to existing uses from construction: including odor and blasting"* had time set aside for "Impacts to existing uses from construction: **and**

including odor and blasting" and that the next topic of discussion was the actual air permit application "**itself**".

3. If the Board had specifically noted that noise was excluded from the SLODA hearing process on "Impacts to existing uses", Upstream Watch would not have suggested that the air application be added to the hearing process. Upstream Watch testified at the hearing that the air application should be included because of the combined relationship with noise. Furthermore, it is challenging to consider how one could discuss odor in testimony, which is the impact of airborne contaminants, without discussing air emissions in a hearing as well.

4. Humans and animals develop concerns about threats to health and safety, or self-determine nuisance concerns, through combined impacts; not a single sensory pathway. All sensory information is combined together in the brain. Olfactory, auditory, somatosensory, visual and gustatory senses are combined together[1]. The actual physical design parameters that lead to potential nuisance exposure to a project can be additive, inversely-related, or independent, so one must discuss the potential together with the public.

5. The air impact assessment will not be completed until January 17, 2020, so it makes sense that the applicable SLODA air emissions and noise assessment be delayed to that submission date as well, especially given the requirement in 06-096 Chapter 2, that all applications proceed at the rate of the slowest one. This does not suggest that the testimony need be presented at the same time only that the same snapshot in time be used for the testimony.

6. To address the focus of the "Control of Noise" section in Chapter 375, which states in the preamble that ***"The Department recognizes that the construction, operation and maintenance of developments may cause excessive noise that could degrade the health and welfare of nearby neighbors. It is the intent of the Department to require adequate provision for the control of excessive environmental noise from developments…"*** Hence, it can only be addressed by considering the potential for nuisance impacts. Whether this potential comes from construction, operations, or maintenance activities is not relevant.

7. There was a finding that construction noise is "exempt" from SLODA. Since this word is not included in the regulations referenced, this statement must be considered a "finding".

8. There was a second finding in a response to Upstream Watch's data request that suggested that there is a conflict between the statute and the Department of Environmental Protection's (herein referred to as DEP or Department) noise rules, and therefore the statute governs. Upstream Watch does not see a conflict. In fact, from a scientific perspective, they make perfect sense together.

[1] The effects on smell, hearing, nervous system, visual and taste.

9. Again, because the interrelationship between air, odor, noise, dust, visual impacts, etc. are best understood by the Board, Upstream Watch would prefer that the Board retract its "finding" of construction noise being "exempt" from review, and have the proponent provide a true construction sequencing and construction noise impact assessment along with specific Best Management Practices it will implement to minimize construction noise over its multiple year construction proposal.

It is understood that the Applicant must demonstrate compliance with the clear and concise numerical operational noise limits, since these impacts will be in perpetuity, but that cannot be done without providing the sound model, at a minimum. Upstream Watch is not focused on the numerical limits during construction as much as the potential adverse impacts that could occur without proper analysis and mitigation. Regardless of the applicability of SLODA rules, it is the Board's responsibility to have the proponent demonstrate that construction noise will provide "No undue adverse effect on existing uses, scenic character, and natural and historic resources". If the Applicant has not demonstrated that construction sound will not disrupt activities at existing uses nearby, their burden of proof is not complete. The proponent must at minimum demonstrate that it will not disrupt the sleep pattern of residents within its construction impact zone. It must not adversely impact existing farm animals within its construction impact zone. And it must not prevent people from enjoying the property outside of their dwelling, or on the existing nature trails, fields, woodlands, and waterways. A list of construction equipment with 8-hour sound averages, as submitted in their SLODA Application, does not provide that burden of proof.

An in-depth discussion of each of the above stated issues is presented below.

1: Nordic has not met its Burden of Proof with Respect to "Control of Noise"

The applicant submitted a summary of a sound study in its SLODA application. Their sound submission report referenced Construction, Operations, and Maintenance sound, and then briefly discussed each. Their sound report relied on the Cadna-A model to "demonstrate" its burden of proof.

There were numerous requests for information with respect to operational sound data used in this model from DEP. None were provided. At this point, the real question is "why?" Instead of simply forwarding a model, a long-winded generic statement of 180 sound sources was provided in an RFI response. Within that statement, the Applicant admitted to some sources requiring mitigation for "control of noise", but did not identify which ones would require mitigation, or how the mitigation would be adequate as equipment sound varies over its lifetime.

The Applicant seems to focus on the fact that the applications have been accepted as complete, but that does not mean that all the information to accept the demonstration as sufficient and satisfy the burden of proof has been provided. Ironically, as you know, the Department is actually restricted from reviewing the application until it has been accepted as complete, therefore the burden of proof determination can only come after the application has been accepted.

Without the model and data available for DEP, the City of Belfast, and the Town of Northport, it is possible that many, many hours could be wasted trying to determine where the facility "went wrong" with respect to their initial assumptions in the event that there is a noise exceedance. There is simply no need for the local government agencies to risk that level of involvement, or for the existing uses nearby to have

to accept any extra time for compliance adjustments, simply because the Applicant has decided not to provide the required data to justify their compliance assessment. Without this data provided, the proponent has not met its burden of proof for "control of noise" from construction or operations.

2 and 3: Our Understanding of the Hearing for Reconsideration

As noise is a topic of concern for existing uses, it was anticipated that construction and operations noise would be included in the hearing process. When the Third Procedural Order came out, we read it two ways, and therefore, filed the appeal to have the Board clarify that all controversial topics (air and noise in particular) that could impact existing uses were included with odor and blasting. We thought that when the Board announced at the hearing that the board "upheld the Upstream Watch appeal" that it meant that Bullet 5 included all nuisance topics together (i.e. air, noise, dust, scenic, and including odor and blasting). We were therefore somewhat surprised by the "clarification" added to the Fourth Procedural Order, as this appeared to be new information to Upstream Watch, so a copy of the hearing recording was requested.

Thank you for providing a copy of the recording from the hearing. After reviewing the transcript, we think we understand the difference in understanding.

These two sentences from the Fourth Procedural Order include two distinct findings, or clarifications, that were written together in one paragraph, but they are broken out here to discuss separately:

1. ***"To further clarify, pursuant to the Third Procedural Order, noise from the proposed development is not an issue for the hearing." and***

2. ***"Parties may submit written comments on whether the proposed project meets the noise criteria under Site Law, but the parties should be aware 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. Odor is listed in the Third Procedural Order as one of the issues that may be addressed at the hearing under the Site Law criteria, as further set forth in Chapter 375, §17 of the Department's rules."***

In Upstream' s request for reconsideration, Upstream stated ***"The Third Procedural Order, under Site Location of Development/Natural Resources Protection Act, "bullet" 5, includes in permitted testimony: "Impacts to existing Uses from construction and operations, <u>including</u> blasting and odor." Upstream Watch reads that language to <u>include</u> Air Pollution, Dust, Noise, Odor, and Blasting. If Upstream is correct, no appeal is necessary. Should Upstream have misunderstood the Presiding Officer's intent in this regard, please consider this an appeal of the omission from the hearing process of the items that the Presiding Officer deleted from the above list."***

The second appeal hearing was framed in the opening statement differently however. ***"The second appeal before the Board this afternoon is filed by Interveners Upstream Watch and Northport Village Corporation. And they are requesting that the air emission license be a subject of testimony at the hearing. Under the Procedural Order before the Board, only aspects of the site, NRPA application and the wastewater discharge application are actually identified as hearing issues. And in front of you, you have in your packet the appeal and Nordic's response to that appeal."***

This was clearly the first misunderstanding, as Upstream Watch's request was for clarification to confirm that air, odor, noise and dust were to be considered together in the SLODA hearings process, Bullet 5, and since the vote was to "uphold the appeal" the word including was intended to include interrelated "Impacts on Existing Uses" that appears in the SLODA rules. In hindsight it appears that the information we provided prior to the hearing that was intended to demonstrate that a potential exceedance of the Clean Air Act with a 15 foot stack height would create a ripple effect in multiple SLODA impact assessments, was misconstrued as a singular desire to add the air permit into the hearing process.

Before I spoke at the hearing, the Presiding Officer added some clarification: "***…I think one of the things that I was confused about when I was reading the response from the Appellant is the difference between what would be covered under the Procedural Order under the conversation about site law versus the -- what the Air Bureau would do on its licensing permits because those are really two separate criteria that we're -- and we'll have to rule on both."***

At the hearing, I focused on the fact that the only thing provided in the air emissions section for SLODA was the air application for Chapter 115 in the appendix, so the air permit discussion and the air emissions in SLODA had to be discussed together, but again, what was really important was how potential impacts fit together. "…***in the SLODA permit the entire air emissions section is the appendix, which is the air application. So those right away are already sort of tied together because when we're talking about - about the potential impacts to the area nearby, we're really talking about all the potential things and how they fit together."*** Air emissions from SLODA should discuss adverse impacts while air emissions in a Chapter 115 application focus more on the specific permitting requirements.

I then offered an example of not only how the air application and SLODA are tied together, but how noise and air quality are tied together. ***"A good example would be the power plant that's the subject of the air emissions discussion. When I first looked at it, I said oh, it's located in the middle of the site. That's great from a noise perspective because it's kind of shielded somewhat. And then I said okay, well, the buildings are pretty large next to them. What's the potential for downwash from those stacks?"*** Downwash is the premature touch down of an emission plume because of nearby building influences. This association was mentioned to illustrate the inverse relationship with respect to air and noise for this facility source. The explanation then flowed into a discussion of why air emissions and noise are important topics to discuss together. Again, this use of the power plant exhaust to show the interrelationship between noise and air quality impacts on uses may have again reinforced the very first misunderstanding that Upstream was formally appealing the air application itself as a hearing topic rather than the air emissions in general, and clearly as part of the SLODA bullet from the Third Procedural Order ***"Impacts to existing uses from construction and operations, including blasting and odor."***

At this juncture, it appears that Assistant AG Besinger may be the first to fully grasp the misunderstanding and she provides the following question: "***So in trying to determine what the exact question is, I think it is -- I understand the confusion in that the site location -- the site law does have some aspects of this in it. But you are focusing on and you -- it seems that you want to be able to examine witnesses and you want live testimony on air emissions. And that is in the air emission license application. Is that correct?"***

To which Attorney Losee replies ***"If I may -- Attorney Besinger, looking at the scope of review of under SLODA, "In determining whether the proposed development will have an unreasonable adverse effect on ambient air quality, through point or non-point sources of chemical pollutants, or particulate***

matter, the Department shall consider all relevant evidence to that effect." So it seems like -- whether it's a good idea or a bad idea, it seems like we're all in the -- in the pool together." The point made here was that SLODA must also make a determination of the potential for adverse air emissions "Impacts on Existing Uses", regardless of the formal air permitting process necessary to meet the Department's State Implementation Plan (SIP) with respect to air quality attainment status. In other words, the data needs and analyses for both SIP compliance and impacts to local uses may overlap.

To which Assistant AG Besinger replied: ***"Right. But that wasn't one of the issues that the Presiding Officer named as an issue for the hearing -- the air emissions. The Presiding Officer named odor, but not air emissions."*** This statement implied that the bullet in SLODA specifically named odor and blasting, but did not specifically name air emissions. Again, to Upstream the bullet had less to do with what was formally included and more to do with the intent of the bullet itself "Impacts to existing uses from construction and operations…." At this point, I attempted to clarify the SLODA bullet again: ***"I read it as basically things that could affect nearby uses <u>including</u> [emphasis added in testimony] odor and -- odor and I think it was blasting."*** This comment with the emphasis on <u>including</u> was intended to demonstrate that the interactive impacts that could affect nearby uses was not an exhaustive list of odor and blasting only, but included other interactive topics. At this point, it seemed to Upstream that the Presiding Officer then did agree that the word including was not an exhaustive restriction by including the words "add" and itself (the words are underlined below for clarity).

Then the Presiding Officer stated: "***I think the question we're trying to get to is what kind of time should we consider allocating during the actual live portion of the hearing? And I noticed that in the Procedural Order 3, it included site location impacts to existing uses from construction and operations; <u>and</u> including blasting and odor. So that's already something that's been carved out for having live testimony, live rebuttal, etcetera. So we -- I've allocated time for that. The question before us is should we open up some additional time for the air license <u>itself</u> and then under how -- and what will we be discussing and -- we will have to make a decision about how much time we allot for that."***

Based upon the acknowledgement above, and the statement ***"the air license itself"*** it was clear to Upstream Watch that the bullet did mean what it said ***"Impacts to existing uses from construction and operations, <u>including</u> blasting and odor"*** It confirmed that "including" meant "including" and not an alternative interpretation of "an exhaustive list" or "limited to".

3: A Determination of Hearing or No Hearing is Less Important than Evaluating Interactive Topics Together at One Time

It was Upstream' s understanding that after the Board made its last statement about the fifth SLODA bullet, the hearing then pivoted to a discussion of the air license itself, which was never a formal topic of the Upstream appeal. Throughout the remainder of the hearing, Upstream continued to discuss the relationship between noise and air emissions (nitrogen oxides (NO_x), dust, odor, etc.) to justify that there were concerns with the potential "Impacts to existing uses" from all potential nuisance factors combined. When the DEP recommended that the air license be part of the hearing process, Upstream again agreed as the interrelationship between the air permitting analysis and the other airborne emission concerns should be ideally discussed together.

One could argue that all topics could be hearing topics, for this project simply because of its complexity, but Upstream Watch understands that hearing time must be limited. When Upstream Watch was asked

directly after the SLODA clarification was made, if the Air Application should be a Hearing Topic, the response was "yes", not because it needed to be discussed in public directly, but because it was our understanding at the time that noise was going to be discussed. If Upstream Watch had not thought that noise was a hearing topic, the response would likely have been "no". It is more important that these two topics are evaluated together instead of whether they are part of a public hearing or not.

Upstream totally understands that the Chapter 115 License discussion itself must be limited to the information provided by the applicant, but this statement should not directly restrict the Bureau of Air Quality from providing conditions with respect to sound as they relate to the combustion source, and therefore it is important to consider these topics together. For example, the proponent has proposed "mufflers" on the air exhausts. The shape and configuration of the muffler will affect the ultimate tonal or total sound reduction. This reduction, however, comes at a price with respect to stack temperature. The better the muffler the lower the stack temperature, the larger impact on stack tip buoyancy and building downwash. Again, these topics are interrelated.

Frankly, much of this analysis is technical and not an ideal topic for public comment, but if one is included the other should be as well, so Upstream Watch requests that the Board either add noise to the hearing and make the testimony due at the same time as the air emission testimony, or remove both and complete the testimony through written testimony.

4: Bullet 5 in the Third Procedural Order was where Nuisance is to be addressed

It becomes obvious when the topics include "Odor and Blasting" that this is the bullet the Board included to publically discuss nuisance potential. While this letter is not intended to fully define environmental nuisance concerns, it is important to discuss the differences between completing nuisance determinations for burden of proof in permitting, and traditional permitting requirements. It is important to note that impacts from blasting and odor are human or animal reactions caused by exposure to unfavorable sensory stimuli. There are not direct "air contaminants", "water contaminants", or even "solid contaminants". As a result, one might try to justify that nuisances don't belong specifically in any one of the three DEP Bureaus, or conversely, in all three of the DEP Bureaus. These conversations are not unique to Maine. All states struggle with how to properly address nuisances to protect the public health and welfare.

All sensory information is combined together in the brain. Olfactory, auditory, somatosensory, visual and gustatory senses are experienced together. The actual physical design parameters that lead to potential nuisance exposure to a project can be additive, inversely-related, or independent, so one must discuss the potentials together with the public. Because human and animal reactions are different and based upon personal experiences, they are not consistent for everyone, or every creature. We are all wired differently, so variability and interactive stimuli must be considered. The best way to do that is to consider what we commonly call "FIDO" which is an acronym for "frequency", "duration", "intensity", and "offensiveness". While most of the public seems to think of "FIDO" in "silos" of unique vertical topics independent of each other, since in many cases one sensory pathway may dominate, exposures of air, odor, noise, dust, blasting, light, vibration, shadow, etc. actually work together with respect to establishing and remaining below nuisance thresholds. A good example would be when one explores the potential for a nuisance condition from a solid waste transfer station. At a transfer station, trucking or processing noise, waste odor, and fugitive dust, often combine together to establish the potential "***Impacts to existing uses from construction and operations.***" In this proposed project, there are multiple sensory pathways.

5 and 6: Whether Sound is Experienced from Construction, Operations, or Maintenance activities is not relevant

Three very similar nuisance topics that are nearly always additive are impacts from blasting, noise, and vibration. They are all caused by energy experienced as jolts, sound, or internal feelings. While one can discuss the adverse physical impacts of blasting, sound, or vibration independently by exploring how structures are damaged by the jolts, hearing is impacted by the sound, or objects move as a result of vibration, their physiological and psychological impact must be considered together. And, if one throws in a dusty car from fugitive or power plant emissions, truck traffic, lights from a facility, a giant wall or building where a nature trail used to be, the smell of fish or fish waste, or residual aerosols on the bay surface creating a sheen, the sensory impacts can again be additive. While none of these examples have been proven to be a concern in this application, the proponent has really provided nothing concrete, other than that the top level of the soils throughout the site will be completely unsuitable for support, and must be removed.

Humans and animals develop concerns about health and safety, or self-determine nuisance concerns through combined impacts, not a single sensory pathway. Potential nuisance impacts will be additive from construction, operations, and maintenance. We tend to think of them as different, but that is more related to the differences in FIDO than the sound itself. While they have different sources at different phases of construction and operation, none can be excluded if one wants to truly demonstrate that the impacts to existing uses will not create nuisance conditions.

Not including air and noise together in the submittal timeline from construction and operations for a facility that will take at least six years to construct and will include at least 180 definite sound sources, restricts the potential discussion of the interaction of nuisance conditions, making it very hard for the Applicant to demonstrate burden of proof.

7: The "Finding" that Construction Noise will not be considered by the Board

Again the Presiding Officer stated: "***I think the question we're trying to get to is what kind of time should we consider allocating during the actual live portion of the hearing? And I noticed that in the Procedural Order 3, it included site location impacts to existing uses from construction and operations; and including blasting and odor. So that's already something that's been carved out for having live testimony, live rebuttal, etcetera. So we -- I've allocated time for that."***

Since construction noise is clearly a potential "Impact on existing uses", we were surprised that the Board elected to "exempt review from the Board", at this time without requesting a construction sequencing plan, required mitigation, or schedule with respect to truck traffic on-site, mobile equipment, earth movement, cement manufacturing, deliveries, etc. To be clear, the referenced statute, 38 M.R.S. §484 (3)(A), does not contain the word "exempt". To better understand and discuss (3)(A) all of 38 M.R.S. §484 (3) is provided below:

> ***"3. No adverse effect on the natural environment. The developer has made 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.

A. In making a determination under this subsection, the department may consider the effect of noise from a commercial or industrial development. 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. [1993, c. 383, §21 (NEW); 1993, c. 383, §42 (AFF).]

B. In determining whether a developer has made adequate provision for the control of noise generated by a commercial or industrial development, the department shall consider board rules relating to noise and the quantifiable noise standards of the municipality in which the development is located and of any municipality that may be affected by the noise. [1993, c. 383, §21 (NEW); 1993, c. 383, §42 (AFF).]

C. Nothing in this subsection may be construed to prohibit a municipality from adopting noise regulations stricter than those adopted by the board. [1993, c. 383, §21 (NEW); 1993, c. 383, §42 (AFF).]"

Based on the fact that the statute in the Third Procedural Order, 38 M.R.S. §484 (3)(A), does not "exempt review from the Board", Upstream requests that the Board reconsider this Order and revise it accordingly. If it is not revised, then the only assumption can be that the Board is making a finding with respect to whether the six year construction noise from this industrial project, "may" or "may not" be considered prior to the submission of sworn testimony.

8 and 9: There is no Construction Noise Conflict between the Statute and Site Law Rules

In the Board letter response dated, November 20, 2019, there was further clarification of the finding on construction impact being exempt. It says:

D. While the Board added testimony on Nordic's Air Emissions application to the list of hearing issues, parties are advised that examination of Nordic's Air Emissions application is limited to the licensing criteria set forth in Chapter 115 of the Department's rules. The issues of noise and odor that were included in Upstream Watch's submissions regarding air emissions are not licensing criteria under Chapter 115. To further clarify, pursuant to the Third Procedural Order, noise from the proposed development is not an issue for the hearing. Parties may submit written comments on whether the proposed project meets the noise criteria under Site Law, but the parties should be aware 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. Odor is listed in the Third Procedural Order as one of the issues that may be addressed at

> ***the hearing under the Site Law criteria, as further set forth in Chapter 375, §17 of the Department's rules.***

Chapter 115 is intended for permitting minor sources of air pollution. As Upstream Watch has said all along, there is no problem with the Applicant restricting its fuel usage to qualify as a synthetic minor for its engine emissions, and therefore, qualify for a Chapter 115 license, but air emissions may or may not end at this one potential source. Permits are issued site-wide for facilities and are based on the actual sources. To find one's place in the permitting process, the potential to emit is calculated first. There are many exclusions included in that calculation to make it easier for smaller sources to get to establish that they are under the minimum thresholds quickly. However, in the actual permit, all sources of air emissions must be included. It is understood that Chapter 115 does not require odor and noise permitting directly, but if these items are to be addressed as part of the design of the combustion source, then they may need to be included in the conditions. Again, the examples of stack emissions or engine radiation sound reductions changing dispersion parameters interlocks noise and air emissions. Furthermore, the facility must demonstrate that it will not exceed other ambient air quality standards regardless of whether they formally submitted them in their Chapter 115 permit application or not.

And after Bullet D it says:

> ***"Consistent with the Board's vote on November 7th and the Fourth Procedural Order, noise from Nordic's proposed project is not a subject for the Board's hearing on Nordic's applications. The Board's granting of the appeal on November 7th was limited to standards relevant to the Chapter 115 Air Emissions application. The hearing topic concerning impacts to existing uses from construction and operations includes blasting and odor. The Presiding Officer determined that the requested topics of noise, recreational uses, and scenic and aesthetic uses would not be topics for the hearing."***

Again, this in not consistent with the Board's vote for the discussion. Upstream Watch's "appeal" was a request to clarify that all potential interactive Impact "topics" are examined together, as per the information provided earlier in this letter. Any determination of excluding noise, recreational uses, and scenic and aesthetic uses is a new finding made outside of the public comment process.

The letter goes on to refuse to provide a request for sound data, again, to the Applicant. Once more, the rationale is that construction sound is exempted, but that word is not used in the law. The finding then goes further to suggest a conflict between the Statute and Site Law rules, and declares that the Statute governs.

> ***With respect to your request that the Presiding Officer ask the applicant to submit additional information pertaining to sources of sound and provide additional time for the filing of testimony on the issue of noise from the proposed facility, the Presiding Officer declines to do so. Much of the requested information pertains to construction that would occur during daylight hours and which, as stated in the Fourth Procedural Order, is specifically exempted from regulation under the Site Law. Although Chapter 375, §10 of the Department's rules contains provisions pertaining to construction noise during daylight hours, the Site Law itself, in 38 M.R.S. § 484(3)(A) states that "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 [the Site Law] may not be regulated under this subsection [No Adverse Effect on the Natural Environment]." Where, as here, there is a conflict between the governing statute and a rule implementing it, the statute controls, and the exception set forth in statute takes precedence over the rule's stated restrictions. Also, in this case the statutory exemption for daytime construction noise was enacted by the Legislature after that section of the rule was in place, so the Legislature is presumed to be aware of the rule when it enacted the exemption. The Board cannot, therefore, consider evidence on the issue of daytime construction noise. Evidence pertaining to operational noise and nighttime construction noise may be submitted in writing while the record is open, but the topic is not a hearing issue.***

While Upstream Watch understands that Statutes can preempt older Department Rules if there is a conflict, but there is no conflict. In subsection A., there are two distinct thoughts in two different sentences, separated by a period. The first sentence discusses commercial and industrial development and the second discusses residential development. The clause referring to construction appears in the second sentence (residential) and is separated by a comma. Therefore, construction in the second sentence refers to residential construction only.

This makes sense, as residential construction is fairly consistent and normalized, and of a limited duration. Commercial or industrial construction can be very different, and compliance with the intent of 38 M.R.S. Sec. 484(3), as described in the first sentence, ("The developer has made adequate provision for fitting the development harmoniously into the existing natural environment and that the development will not adversely affect existing uses…") in a commercial or industrial setting can only be determined on a case-by-case basis.

In 1991, when noise was still included in 38 M.R.S. Sec. 482-A, residential construction noise was broken out into its own separate line item. Commercial and Industrial noise was discussed in Statutory inconsistencies in Chapters 680 and 890 in 1989 were remedied in 1991. The pertinent section of Title 38 MRSA §482-A was then amended to read:

> ***§482-A. Noise effect***
>
> *2.* ***Consideration of local ordinance****. In determining whether a developer has made adequate provision for the control of noise generated by a commercial or industrial development, the ~~board~~ department shall consider ~~its own regulations~~ rules adopted under this section and the quantifiable noise standards of the municipality in which the development is located and of any municipality ~~which~~ that may be affected by the noise.*
>
> *4.* ***Construction noise; residential developments****. Between 7 a.m. and 7 p.m. or during daylight hours, whichever is longer, noise generated by construction of developments approved under this article is exempt from regulation under this section. Noise from residential developments approved under this article is exempt from regulation under this section.*

Please note that, in 1991, the word "exempt" was added to the new "**Construction noise; residential development"** bullet, so it is now understood why the Board kept using the word "exempt". At one time, the word exempt was added as shown above, but the word "exempt" was deliberately removed when the

noise Site Law in 38 M.R.S. Sec. 482-A was repealed and replaced by new language in M.R.S. Sec. 484 in 1993. Please also note that at that time the construction noise exemption was not specific to the type of facility. In 1993, the construction sentence was also purposely moved to after the introduction of residential development to make it clear that it now refers only to the residential development.

1993 - Chapter 383 of Public Law as passed by 116th Legislature

In 1993, 38 MRSA §482-A was repealed, and 38 MRSA §484 sub-§3, ¶¶A to C was enacted to read:

> ***§484 sub-§3, ¶¶A to C.***
>
> *A. In making a determination under this subsection, the department may consider the effect of noise from a commercial or industrial development. 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.*
>
> *B. In determining whether a developer has made adequate provision for the control of noise generated by a commercial or industrial development, the department shall consider board rules relating to noise and the quantifiable noise standards of the municipality in which the development is located and of any municipality that may be affected by the noise.*
>
> *C. Nothing in this subsection may be construed to prohibit a municipality from adopting noise regulations stricter than those adopted by the board.*

Specifically, ¶¶A. was largely adapted from §482-A sub-§4, with the following amendments:

> *A. In making a determination under this subsection, the department may consider the effect of noise from a commercial or industrial development. Noise from a residential developments approved under this article is exempt from regulation 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, noise generated by construction of a developments approved under this article is exempt from regulation may not be regulated under this subsection.*

Specifically, ¶¶B. was largely adapted from §482-A sub-§2, with the following amendments:

> *B. In determining whether a developer has made adequate provision for the control of noise generated by a commercial or industrial development, the department shall consider rules adopted under this section board rules relating to noise and the quantifiable noise standards of the municipality in which the development is located and of any municipality that may be affected by the noise.*

Specifically, ¶¶C. was adapted from §482-A sub-§3, with the following minor amendment:

> *C. Nothing in this subsection may be construed to prohibit a municipality from adopting noise regulations stricter than those adopted by the board.*

In §484 sub-§3, ¶¶A, the intentional addition of the phrase, "*In making a determination under this subsection, the department may consider the effect of noise from a commercial or industrial development*", demonstrates that the intent of ¶¶A was not to exempt commercial and industrial developments from regulation of construction noise, but to clarify ahead of the residential development provisions, that the department maintains the option to consider noise from commercial and industrial development.

This is further exemplified in the discussion of construction noise from residential developments beyond 7 a.m. and 7 p.m., where the phrase "*is **exempt** from regulation*", is replaced with "***may** not be regulated*". Even if the second sentence of the condition in its new form, in which "residential" was pulled to the front of the compound sentence, is intended to pertain to both residential and commercial/industrial developments, the phrasing was very clearly changed to adjust the absoluteness of the condition; therefore, giving more flexibility to unique developments that do warrant construction noise regulation beyond non-daytime hours in the rules.

From a nuisance science basis this rolling back of the absolute exemptions is consistent with the understanding of general trends of "FIDO" for construction and operation, and for residential versus industrial and commercial. When someone discusses "construction noise" the FIDO assumption or understanding is often large outdoor sounds during a short site prep activity and foundation phase, a short structural erection duration, intermittent impact sounds as the project progresses, variable sounds as the construction progresses on different façades, and eventually sound is mostly limited to indoors until the final site driveway and landscaping work occurs.

It is easy to see how someone might have thought previously that most residential, industrial and commercial construction projects for a cul-de-sac of new residential dwellings, a new drug store or gas station, or a mixed use building would follow the same pattern so an exemption should apply to all for construction. But, it is also just as easy to visualize how projects, like a large power plant, a huge wastewater treatment plant, a water treatment plant, or a food processing plant would not follow that trend. In these cases, extending the hours of construction for all daylight hours provides no immediate relief for nearby uses. It really makes no immediate difference to the impacted uses nearby that extending the construction hours to start at 5 AM and run until 10 PM, and/or operating on Saturday or Sunday may shorten a construction project from eight years to six years. The relative immediate and negative impact on quality of life for many years is substantial. For one to get eight hours sleep they must try to sleep through an hour of construction on one of the two ends, or more than one hour if they do not time their sleep perfectly with the project schedule.

A construction noise exemption for a project of this size and scope could very well result in unbearable living conditions for years for nearby residents of Belfast and Northport without careful review, and a commitment to construction mitigation, and planning.

Nordic proposes to construct a power plant, a wastewater treatment plant, a water treatment plant, a food processing plant, millions of gallons of process tanks, hundreds if not thousands of miles of utility piping, ducting, wiring, etc., millions of cubic feet of soil excavation, countless cement trucks, supply delivers, equipment delivers, and a major road diversion and construction project and a significant pump station

and outfall project. Each one of these could cause an adverse impact, and suggesting in their report that the site is large and that there is plenty of space for sound to dissipate is simply not a mitigation strategy. It provides no solace when the entire site is essentially earmarked to be developed.

The sheer magnitude of this project is absolutely amazing, and at times hard to fathom. It will all be substantially clearer after hearing testimony is provided, the hearing occurs, and additional written testimony is provided. In the end, the Board may still find that construction sound will not create an adverse impact, but why make that finding now, before the Board review process?

A simple change to allow construction and operations noise as a hearing topic would be to require the Applicant to submit its sound model this week, and then to allow testimony to be submitted along with the air quality testimony, and to accept that although at least some construction noise was exempt at one time, it was deliberately changed with a small window for case-by-case exceptions for a reason. The reason that makes the most sense is that eventually there would be a construction project that is so intense that it must be examined and vetted for potential impact at the permitting stage so that the local municipal officials can have the required understanding to enforce any construction BMPs to limit nuisance potential during construction.

Clearly, a project as intense as this one should be THE exception. A project that will be so involved and concentrated that it will require construction over many years, in multiple areas simultaneously with power, water, and wastewater infrastructure that alone could support a mid-size city, while functioning and operating at times, while generating power to sell to the grid at times, while excavating tens of thousands of truckloads of unsuitable soils in Phase 1 alone, while installing large diameter piping under a major highway, and so on.

By far, the best place for this construction and sound noise assessment is at the Board of Environmental Protection during permitting. The Board's skill sets best match the understanding of the environmental protection needs of the neighbors that could be potentially impacted. As a result, Upstream Watch is hopefully that the Board will reconsider the previous construction exemption finding at this time, and also make a determination to either include all interactive air quality and nuisance topics in the hearing process, or simply pull them all out and discuss them all in the written testimony.

Thank you for your time. I apologize for the length of this letter, but it took a while to understand and then explain exactly how two very different points of view could have been developed from reading the same regulations and attending the same hearing.

Again, while we do not expect a detailed response immediately, we wanted to get this out there as a possibility, while there is still time to implement a change in course and stay on schedule.

Thank you for your time.
-Michael Lannan

NVC/UPSTREAM 6

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

Date: 12/16/2019

Printed Name: Michael Lannan

Title: President

Parties Assisting:

Name: Address: Signature:_____

Name: Address: Signature:_____

NVC/UPSTREAM 6

STATE OF MASSACHUSETTS

COUNTY OF Middlesex

PERSONALLY APPEARED, Michael Lanza, WHO, UNDERSTANDING THE MEANING OF AN OATH, SWORE THAT THE FORGOING TESTIMONY IS TRUE TO THE BEST OF HIS/HER KNOWLEDGE AND BELIEF, THIS 16th DAY OF DECEMBER 2019.

NOTARY PUBLIC

MY COMMISSION EXPIRES:

MELINDA GLADDEN
Notary Public
Commonwealth of Massachusetts
My Commission Expires January 23, 2026

Michael T. Lannan, P.E.
President

Education
B.S. Chemical Engineering
Northeastern University,
1991

M.S. Environmental
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1993

Certification
Professional Engineer:
Maine
Vermont
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New York

Affiliations
New England
Environmental Business
Council,
Air Quality Committee
Past Chair

Northeast Biosolids and
Residuals Association,
Board of Directors

Fiberglass Reinforced
Plastics Institute,
Board of Advisors Chair

New England
Environmental Business
Council,
Solid Waste and C & D
Committees

Water Environment
Federation, Air Quality
Committee

New England Water
Environment Association
Residuals Management
Committee

Air and Waste Management
EE-6 Odors Committee,
Past Chair

Air and Waste Management
AE-2 Odors, Solvents, and
Gases Committee

SWANA Air Quality
Committee

Michael T. Lannan is an environmental engineer who has identified nuisance conditions for owners, operators, and regulators alike for close to 30 years. He started his career exploring proposed projects for airborne nuisance, and for facilities experiencing nuisance complaints, but over the years, his expertise has expanded into all types of compliance concerns. He has testified at dozens of hearings and court cases on ordinances, regulations, due diligence, and compliance. He has assisted many cities and towns with ordinance development, and is currently assisting about six municipalities and public organizations with specific procedures for compliance with state and their local ordinances.

He has presented seminars on nuisance science and control to colleges, regulators, facility operators, consultants, and neighbors. He has trained MaineDEP, NHDES, MassDEP, Allegheny County Health officials, the Puget Sound Clear Air Agency in Seattle, and the Oregon DEQ, on nuisance monitoring and response procedures. Most of the performed training has resulted in changes to nuisance, zoning, or permitting regulations. The training for the Oregon DEQ resulted in a very proactive 10-year project for the regulators to completely revamp their approach to compliance, and to proactively employ scientific monitoring with facilities, before the issues become political and legal concerns.

He has worked on hundreds of nuisance related projects and can quickly and effectively identify areas of concern. He has provided site assignment and nuisance testimony for facilities or proposed regulations predominantly focused in Maine, New England, throughout the northeast, but also throughout the country at request. He assisted Maine DEP when a specific nuisance policy was required, after a legislative initiative was passed. He is currently assisting one Maine area with seafood processing odor concerns, and another with a noise assessment for refrigerated seafood transfer and trucking operation.

Recently, he trained a number of federal contractors on odor detection procedures at a federal facility in Colorado that is biologically degrading old mustard gas munitions. It was important that the procedures not only address the science of the concern, but the potential public outcry detectable emissions from an old nerve gas munition facility could produce. He recently also provided training for those odor nuisance monitoring thresholds and odor complaint response procedures personnel in September at, or near, NYSDEC headquarters in Albany and at another location in upstate NY.

For over a decade he has been reviewing potential air, odor, noise, dust, lighting, and vibration adverse impacts on a fast track basis for residential, commercial, and industrial mixed used projects for compliance with a regional planning

commission's Industrial Performance Standards. The commission has been tasked with redeveloping an old Air Force base that spans three municipalities.

Noise and Blasting - Impact Analysis for Gilboa Dam Reconstruction Project, Gilboa, NY. The Gilboa Dam, on the Schoharie Reservoir collects and supplies nearly 10% of the total fresh water to New York City. The dam located upstate, in Gilboa, New York, required extensive repairs. Mr. Lannan was asked to perform noise, vibration, and impact sound analyses caused by the reconstruction of the dam, from building roads during site preparation, blasting, jack hammering and demolition, on-site cement production, trucking and spoils disposal, since the dam was going to be reconstructed 24 hours a day in a rural area for a number of years. Mr. Lannan's sound assessments included a mixture of standard and site specific usage factors for various construction activities, and an extensive noise compliance monitoring program that covered all surrounding residences and municipal structures (e.g. schools and museums). Mr. Lannan was able to work directly with the contractor to determine the maximum amount of construction flexibility for day and night operations over the different project phases. The noise impact analysis included a variety of noise sources that were modeled with the CadnaA model and the Federal Highway Administration Transportation Noise Model (TNM).

Odor - Public Testimony for Addressing Odor Control at a Municipal Landfill in Newfoundland. Mr. Lannan was retained by the City of St. John's, Newfoundland to examine odor emissions from its older downtown landfill and to develop an odor reduction strategy to eliminate a public odor concern. Mr. Lannan was brought in as an outside expert on odor control. Mr. Lannan's testimony was presented at a press conference where local groups where he was able to identify the cause of the spike in odor, and recommended a number of operational changes and public outreach programs to eliminate the concern. Mr. Lannan developed a comprehensive odor control strategy and defended it in a confrontational environment that was broadcast on TV to the province.

Vibration - Residential Impact Study for Train Sound. A new residential development was proposed in Massachusetts for a site adjacent to an area where Amtrak and commuter trains travelled, and commuter trains typically idled all night. The developers were concerned that potential sound and vibration from train traffic, especially the idling, would adversely affect potential future residents. Mr. Lannan used Tech Environmental's database of noise factors and train schedules to examine the acoustic impacts of train traffic within the proposed residential dwellings. Although the initial findings were excessive low frequency sound potential, Mr. Lannan specified a sound mitigation wall solution specifically for the low vibrational frequencies of concern.

Air Pollution Control - Industrial Interceptor Emission Estimation and Reduction for 80 Chemical Processing Industries. Mr. Lannan used chemical fate modeling to determine the potential emissions from the largest industrial sewer in Houston, TX. The BIOSAN interceptor collects wastewater from Houston's chemical processing and manufacturing clients and transports it to its own industrial wastewater treatment plant. Mr. Lannan discovered many air emission hotspots during the fate modeling and recommended a combination of covering and ventilation, siphon systems, and air pollution control technologies to reduce the air emission potential to a low level so complete covering, ventilating, and air pollution control of the entire system was not necessary.

Air Emissions Assessment - Department of Energy Emissions Inventory. Mr. Lannan performed an emissions inventory for approximately 200 emission points at the Department of Energy's Savannah River (GA) Site in Georgia. He examined emission operating and monitoring data for boilers and emergency generators, and estimated vapor phase chemical transport for research laboratories and batch chemical

facilities using chemical properties and EPA-approved emission models. The emission inventory proved the facility's claim that total annual air emissions had been reduced by an order of magnitude in recent years

Employment History

2018 to present	Tech Environmental, Inc., Belfast, Maine President
2015 to 2018	Tech Environmental, Inc., Waltham, Massachusetts President
2004 to 2015	Tech Environmental, Inc., Waltham, Massachusetts Vice President, Air Quality and Nuisance Services
2002 to 2004	Tech Environmental, Inc., Waltham, Massachusetts Associate, Air Quality and Odor Control Services
1991 to 2002	Camp Dresser and McKee, Cambridge, Massachusetts Air Quality and Odor Control Engineer, Air Quality Group Services