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1 NOTICE OF PUBLIC INFORMATIONAL MEETING 2 3 IN RE NORDIC AQUAFARMS, INC. 4 5 Public Meeting At The Hutchinson Center 6 7 Reported by Robin J. Dostie, a Notary Public and 8 court reporter in and for the State of Maine, on 9 March 26, 2019, at the Hutchinson Center, 80 Belmont 10 Avenue, Belfast, Maine, commencing at 6:00 p.m. 11 12 LEE WOODWARD, ESQ. - MODERATOR 13 14 REPRESENTING NORDIC AQUAFARMS, INC. 15 ERIK HEIM, NORDIC AQUAFARMS ED COTTER, NORDIC AQUAFARMS 16 17 ELIZABETH RANSOM, RANSOM CONSULTING 18 MARK JOHNSON, SMRT DAVID NOYES, NORDIC AQUAFARMS 19 20 MAUREEN MCGLONE, RANSOM CONSULTING 21 MIKE MOBILE, MCDONALD MORRISSEY ASSOCIATES 22 23 24 25

1 MR. WOODWARD: Welcome, I would say everyone 2 take their seat, but that's kind of physically 3 impossible. My name is Lee Woodward. I've agreed to act as the moderator here, which means I'll be 4 working for about the first two minutes and then 5 6 watching the presentation for two hours and then 7 there will be a question and answer period when we 8 will try to get as many intelligent questions asked 9 as possible. We're going to have approximately one 10 hour at the end for that and I think the way we'll 11 measure the success of the meeting from that point of 12 view is both the quality of the questions and the quality of the answers. 13

14 This is part of a rather extensive public 15 process. Nordic in going forward with this project is going to have to seek permits at three different 16 levels; federal, local and state. What you have here 17 18 today is the public information meeting, which is required before they file four state permits dealing 19 with site location, Natural Resources Protection Act, 20 air emissions and pollution discharge. It's kind of 21 counter intuitive that they have to have the public 22 23 meeting before they even file their applications, but 24 that's what state law requires.

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When it comes to the format of the meeting,

Nordic will be presenting information on all four of 1 the permit applications they will be submitting. 2 3 There is a court reporter here and both during the two hour presentation and during the question and 4 5 answer period, it's important that everyone before they speak recites their name and also that you speak 6 7 into a microphone. During the presentation, I'm going to be sitting over as near to the court 8 9 reporter as I can and I'm going to figure that if I can't hear what's going on, she cannot hear what's 10 11 going on and I'll signal to whoever is speaking to 12 come to the microphone and to announce their name and to do it as loudly as possible. 13

So without any further adieu, I'll have Erikcome forward.

Good evening. Thank you all for 16 MR. HEIM: coming and spending your evening with us. I believe 17 18 we have a lot of good information to share tonight. 19 It's been quite a journey also for me personally. I remember I was three years old when I caught my first 20 fish and I was scared to death. And, in fact, over 21 22 the years I have normalized sort of my relationship 23 to fish also and in the end that's part of the reason why we are here today. 24

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So this company, I'm going to just recap a

1 little bit about the background for why we are here because there may be new people who have not attended 2 3 our meetings before. Part of the reason we are here is that we live in a world with rapid change all 4 around us and also a growing population and we have 5 6 major environmental challenges to confront and they 7 affect our food systems and will for decades to come. And our company has been founded to address some of 8 these issues in the future, it's not the only 9 solution, but it's a part of the solution and that's 10 11 why we'll also be seeing across the U.S. a rapidly 12 growing interest for the potential of the type of production we are working on. 13

14 So I am going to just see if -- do we have a 15 pointer or the laser because we slip -- we are skipping some slides here. Okay. We are a pure-play 16 17 land-based producer. What you're seeing here is 18 actually our latest facility now finished in Norway. This has been funded in part by grants from the EU 19 and Norwegian government, environmental grants, and 20 21 this is the third project we've done. This will be the fourth. 2.2

I want to recap a little bit what this is
all about. We have previously presented our
discharge applications showing how we have gone

1 further down the industry in terms of treating for 2 nutrients and discharge and so on. The systems we 3 are having developing over years and are looking to propose here in Maine is a new generation of food 4 5 systems and also ocean protection standards when you 6 look at the value of treatment that we are 7 introducing into this industry. And it's interesting 8 to look at the U.S. as the single largest consumption market in the Western World of salmon, which we are 9 10 looking at here. A 30-acre footprint will produce 7 11 percent of U.S. consumption in a multi-stage 12 development project. That tells you something about the potential in the U.S. and the future also to 13 14 develop food systems on low carbon footprints. It's 15 also interesting to see that we are connecting our European and U.S. interests. We are working -- we 16 have had a very good relationship with UNE. 17 We are 18 developing one with UMaine. There is connections to academic institutions in the Nordics as well and I 19 20 see a lot of interesting potential for institutions 21 also to connect as a consequence of what's happening. 22 We have been consistently promoting Maine as 23 a seafood state because we believe in Maine and the potential in the state. And we are also working with 24 25 many initiatives to protect the environment and wild

1 salmon populations. That's also why, for example, 2 the Atlantic Salmon Federation is supporting this 3 project. We are trying to do good in the communities 4 we work in as we do in Europe. We are working to 5 conserve lands here in town. We are working with the 6 lobster industry to provide bait and also we've been 7 working with various community support projects.

8 What is land-based production? Just a few words about that in case not everybody knows that. 9 10 Everything is happening indoors, so from egg to harvest size fish is all indoors in one site and that 11 12 gives complete traceability. I read an article lately that up to 30 percent of the fish being served 13 14 in North America can actually end up being a 15 different product than what's on the menu. So traceability is going to be increasingly important in 16 the future for this country and also other countries 17 18 in terms of knowing what we are actually eating and where it's from and its full history. 19

Ideal conditions for fish. What we are doing is we are basically enclosing these fish in barriers of water coming in, so we're removing parasites, pathogens, so we are protecting the fish from this. This has been a major challenge for the fish farming industry so far and now new solutions 1 are coming on the table. We are also introducing a 2 new industry standard for nutrient discharge. We 3 have already done this in Europe and we're taking it 4 further here. And this was a part of our application 5 where we had two meetings last fall presenting that 6 information. We will recap that today as well.

7 What we are doing with this project is we're 8 recapturing and recycling and creating new business 9 opportunities from waste resources. What we're 10 doing -- proposing to do with the lobster industry is 11 one example and there are many other examples also. And that also shows as additional farms or companies 12 are looking at operations like this in Maine we will 13 14 see more opportunities for businesses to emerge 15 downstream from this kind of industry. We have no commingling with live species in these systems. 16 They're all in the tank systems. We have a 17 18 significantly lower Co2 footprint than the several hundred thousand metric tons of salmon being 19 20 airfreighted into the U.S. today. And as we said 21 many times, our production does not use GMO, no 22 growth hormones and antibiotics and so on in our 23 daily productions. These are key points that are 24 important to impress.

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We have served our fish a number of times in

1 the U.S. as recently as Boston last week at the 2 Seafood Expo there. We have been up at Sunday 3 River's Resort and served a crowd of 250 people and 4 also in Portland in an arrangement down there. And 5 last we had the pleasure of serving our fish to Janet 6 Mills, the Governor. So we've been busy.

7 Let's see. Just about -- shortly about the 8 permit applications for Belfast. This is a rigorous 9 process. We permitted in Denmark and Norway before. 10 This is the third country we've done it in and we 11 also learned all of the requirements there. And as 12 our applications show, we have gone above and beyond many of the requirements here in Maine in terms of 13 the environmental requirements. 14 And a process like this is extensive, months and months of data 15 collection, engineering and integrations to optimize 16 and always try to seek the best solutions on any 17 18 given site that we work on, in this case Belfast. So 19 we have solved many, many challenges along the way to make sure that this project works for this community. 20 21 And we have taken in large amounts of input along the 22 way and some of it has been very constructive. And it's like this -- a project like this always leads to 23 many adjustments along the way, but we had our 24 25 guiding stars to be true to our commitment in terms

1 of setting environmental standards for this industry and our documentation will also show that. 2 And this 3 is also been recognized by a number of leading environmental organizations in Maine who we subjected 4 5 our applications to peer reviews; among those, Conservation Law Foundation, the Atlantic Salmon 6 7 Federation and the Resource Institute of Maine, GMRI 8 in Portland.

9 This is our U.S. team as we are here. We have as of today six U.S. employees, one Norwegian 10 11 and sort of a mix of the two. We also have an Irish gentleman moving into the area this summer. And so 12 this is the organization that we have invested in and 13 built up in Maine before we have permits. 14 And this 15 is just showing our commitment to doing economic development in Maine. Also of interest may be that 16 we have behind us a world class engineering team. 17 18 They have built facilities for Grieg Seafood, Marine Harvest, Cooke, all over the word. 19 We have a total of 14 specialized engineers behind this effort here 20 in Maine. Some of them are shown here. And a part 21 22 of this team is also the U.S. employees were Ed 23 Cotter, John Hessler, again, David Noyes have been the people driving the engineering effort with local 24 25 vendors here in Maine. And you see some of their

1 names here of the vendors here, well-known vendors in 2 Maine, solid companies. 3 So undertaking engineering for a 30-acre footprint is a large effort and engineering drafts 4 5 for the applications are now complete and today we 6 are presenting the final details of our proposal and 7 taking questions also from all of you. So, again, 8 thank you for coming. And I'm going to leave this 9 now to the next person in line. 10 (Applause.) 11 MR. COTTER: Thank you, Erik. Thank you 12 everybody for being here. It's a pleasure to see such a great turnout. I know that there is obviously 13 a lot of interest in the information and the best 14 15 thing we can do is to present what you're going to see in the applications so that we can give you a 16 chance for questions now, we can be clear, and 17 18 anything that isn't clear enough we have an 19 opportunity to clarify and to improve in our application so that when you see it you'll have good 20 21 solid information that you have seen before and that 22 you'll be able to follow along. Just a quick review of the timetable of this 23 project, both how we've gotten here and where we're 24 25 going to be going from here. So we've been going on

1 this for, as Erik might have mentioned, over a year Now, we're to the point where we are in the 2 now. 3 midst of our permitting and engineering effort. Even though we are now ready to submit our permits it's 4 really just the, you know, the mid-point of that 5 6 process. We expect there will be a lot more review, 7 a lot more questions and more public input opportunities through that. We'll also continue 8 through our engineering. We're not done with that 9 yet. We're going to be getting to final design 10 details. We've got to meet with the city planning 11 12 and that public input process, so there is still more work to do. Finally, as you see here the start of 13 14 the construction right now we anticipate to be end of 15 second quarter, beginning of third quarter 2019. So that's the beginning of site work as we see the 16 schedule right now. 17

18 I'll give you a guick run down on the 19 project layout. What we've got here is a very 20 compact design. Although the site does seem like a 21 large site considering the amount of output and 22 product that we're able to develop on this site it is extremely efficient and compact. The site that 23 you'll see that I'll go through in more detail 24 25 minimizes impacts to the public and through --

1 through significant buffers and visual buffers as well as requirements and other code compliant site 2 3 selection and site layout. Architectural details are still in progress as I mentioned. What we have here 4 is a site layout design, which is required for the 5 state at this point. The architectural details that 6 7 are being developed will be submitted shortly through 8 the city planning board and you'll see those coming 9 up shortly.

10 So the project layout, I just want to go 11 through the buildings really guickly. We've got here 12 nine buildings, 10 buildings including the gate So Building 1 and 2 are the largest buildings 13 house. 14 on this footprint. Those are the modules, the 15 production modules that we call them, and you can see those at the top here on the northern end of the site 16 and the southern end of the site. 17 Those are our 18 production modules. In the middle of the building -in the middle of the site is our smolt building. 19 This is our hatchery and our pre-smolt stage where 20 the first life stages of the fish are before they're 21 22 transported to the production modules. That's 23 Building 3 is Phase 1. Sorry, 3 is Phase 1 and 2 together. Building 4 is fish processing. 24 That's 25 where we process our final product and ship it out to

1 our local vendors. Building 5, central utility utilities plant includes back-up generation, 2 chillers, boilers for the building and our electrical 3 systems. Building 6 is our oxygen generation --4 building might be a little bit of a misnomer, it's 5 6 really a series of oxygen generation facilities and tanks. Building 7 is our office and administration 7 8 building. We'll get into that a little bit more. 9 That's going to be right in front of Building 1. And 10 then Building 8 is our water treatment plant. That's 11 the closest building to Route 1 down near the 12 entrance to the site. And you'll see more of these buildings both renderings and details on the 13 Finally, Building 9 is a small 14 following slides. gate house. And Building 10 is the existing Belfast 15 Water District building, which is going to be 16 renovated and used as an information space and public 17 18 space.

This is the rendering that's created of the 19 most recent design. You see it very closely 20 21 resembles the layout that I just showed you and what 22 you can see here is what we call the 3+1 modular This is based on engineering efforts in 23 design. Norway and Denmark that have been tried and we're 24 25 looking at process improvement at all times. What

we've got is our smolt units are designed and 1 2 maximized for the modules that we're going to be 3 building. The smolts are sized to produce enough fish for three grow-out modules and that's why the 4 The three modules maximizes efficiencies and 5 3+1. 6 maximizes the output of those smolt units and 7 maximizes the investment in the infrastructure as 8 well.

9 On the site -- we've got a 54-acre site. 10 Included in that is our regulatory required 40 foot 11 vegetated buffers and 50 foot zoning setbacks. What 12 you'll see in the design is that we have not only met those in all cases but also exceeded them in almost 13 every case. Our minimum setback -- building setback 14 15 is 100 feet from the property line, which means that on the Little River side between the 250 foot 16 17 shoreland zone buffer that's being transferred to the 18 city and deeded to the city for protection, we also have another 100 feet, so 350 feet minimum to the 19 building from the river. It's also important to note 20 21 that the vegetative buffer that is there is going to 22 be left in tact where possible. At all times it will 23 be replanted where needed because of impacts and we'll also supplement what's there. If there is an 24 25 area that's got gaps in it we'll supplement that with 1 future plantings to maximize that buffer.

2 Project phasing I want to talk about because 3 of the importance to soil erosion during construction. Our soil -- sorry. Our construction 4 5 phasing plan has been designed to minimize areas of disturbed soil. We know that we have a lot of silty 6 7 soils in the area, so what we're going to be doing is 8 impacting only areas that we're ready to protect and build on and leaving all other areas that are not 9 10 ready for construction with vegetation and other 11 stabilization measures so that we don't create a 12 situation where there is over -- an excessive amount of silt and soils to protect. We're going to defer 13 14 removal of vegetation as long as possible and we've 15 also got multiple layers of soil erosion sediment control protections. We're not just relying on a 16 silt fence and a couple of hay bales. We're going to 17 18 have a tool box of other items including retention basins and other tools at our disposal as-needed to 19 20 make sure that erosion is not a problem. Finally, 21 we'll have a third-party soil erosion control monitor 22 that will report to the DEP on a regular basis. 23 The first couple building blocks of the project is the smolt building. Smolt 1 is our Phase 24

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1 smolt building. We're going to excavate that out.

You see that magenta/purple line really represent what's being opened up at this time. Only Smolt 1 at this phase is under construction and that's really all that's being disturbed as well as roads in and out. Other areas we're going to keep vegetated.

6 Then as we move along, Smolt 1 foundation 7 gets built. We no longer have a soil erosion problem 8 We'll move into the support building area there. 9 where we'll open that area up, provide more soil 10 erosion around it and start building there. All 11 areas of open excavation once it's -- once we're done 12 with the excavation we're going to treat the areas with gravel to make sure that we have a stable pad. 13

And then we expand the site in further 14 15 phases. Once the foundation for smolt and support buildings are started we get into the modules. 16 Module 1 on the Building 1 is our first expansion of 17 18 the site. We'll then again expand the soil erosion control measures and start digging out the unsuitable 19 20 soils bringing in structural fill and build Module 1 and then move on to Module 2 and 3 as Phase 1 21 continues. 2.2

Again, it's important to maintain soil erosion sediment control measures along the perimeter as well as the interior ones and then once the

buildings are brought into production and the
 production staff occupies the buildings, we'll remove
 those soil erosion control measures only once final
 finishes and stabilization are in place.

Phase 2 starts only once Phase 1 is fully 5 6 completed with the modules in Building 1 and then 7 we'll expand the site at that point. And at that time, Phase 1 will be completed and all of the 8 finishes and stabilization material will be in place. 9 And then, again, we just move along Building 2, going 10 11 through Module 4, 5 and 6 and then install final site finishes. 12

So we're talking about the seawater intake 13 14 Most people in the room have seen this now. pipe. 15 What you see is our final determination as far as having all of the proper TRI and engineering 16 17 completed. It was obviously a very complicated 18 process with a lot of complex and legal and engineering issues to be considered. What you see 19 here is the shortest route that's available to us. 20 21 This minimizes construction impacts and what we've 22 determined is that any additional length in pipe just 23 does not provide any environmental gain. The discharge point that you see represented here at 24 25 the -- right at the peak of the bend there represents

1 the discharge point that's been consistent throughout 2 the project. This is what everybody saw in the October 2018 DEP submission. We have not changed 3 that discharge point. Final permit applications will 4 address all of the DEP requests for information that 5 6 were provided to us in January. We have met with DEP 7 and explained our responses to those. Thev 8 understand that those will be provided officially through our final submission in a couple weeks. 9 10 Pipe installation details. The first point 11 I just want to mention here is that the top slide 12 shows the installation method on the upland intertidal and shallow waters of the surf zone. 13 The 14 key part here is that, as you can see, the depth 15 varies depending on where we are. This pipe will always be buried. I know some people were concerned 16 17 that they might see the pipe sitting on the intertidal. That won't be the case. We will bury 18 19 the pipe. And the only time that the pipe submerges from the -- from underground will be in approximately 20 21 35 feet of water and at that point we'll switch over 22 to the bottom detail, which is where we lay the pipe 23 on the seabed and protect it with a series of rip rap 24

and other protections and to weigh it down from storm waves and currents. Coastal work out on the water to

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1 be completed during regulatory time frame so the Army 2 Corps of Engineers selects November through April as the time for this kind of work to minimize the 3 environmental impacts and that's the window we will 4 5 be using. And then upland we're going to be using 6 the time frame to integrate with our construction 7 schedule but also looking at traffic impacts and making sure that we have minimal impacts and mitigate 8 all impacts on traffic crossing Route 1. It's not in 9 10 this slide, but you'll see in the application that we 11 are rerouting traffic and maintaining the full 12 traffic route so that there won't be big traffic problems in that area. 13

14 Finally, the pipe installation at the 15 termination of the pipes. We've got the intake structure. We've got two intake pipes, 30 inch pipes 16 and both of those will have this assembly that you 17 18 see here, which is provided to mitigate impingement 19 risks. We're going to maximize the surface area and reduce the velocity of the flow there. And then down 20 21 at the bottom you see the discharge pipe with 22 baffles, which are designed to improve the diffusion 23 of the effluent coming out of those pipes. So that's the construction methodology and 24

25 phasing. I'm going to pass it over to SMRT for

1 visual impacts. Thank you.

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(Applause.) MR. JOHNSON: Good evening. Thank you, Ed.

My name is Mark Johnson. I'm with SMRT architects 4 and engineers. We're based in Portland. 5 I am a 6 landscape architect and I have been practicing in 7 Maine since 1986, so I've had the pleasure of doing 8 products throughout the state in my time here. My 9 role on this project has been multifaceted. I've 10 been involved with site planning and design 11 throughout and what I'd like to speak to you tonight 12 about is my role with the visual impact assessment for the project. 13

The diagram -- well, let me first start by 14 15 saying I want to outline what the actual purpose of a visual impact assessment is relative to this process, 16 the methodology that is used for such an assessment 17 18 and our findings of course. Per state law, and as you know, we are submitting for Site Location of 19 20 Development Act with the state as well as Natural Resource Protection Act and those are the two arenas 21 22 within with I am working primarily. Chapter 315 of 23 state law mandates that we perform an assessment to evaluate whether a new facility will have an 24 25 unreasonable adverse effect on existing uses and

scenic character and specifically whether it will be
 unreasonably interfere with views from established
 public viewing areas, again, in accordance with
 Chapter 315 Assessing and Mitigating Impacts to
 Existing Scenic and Aesthetic Uses.

6 Well, what does that really mean? The 7 chapter goes on to define a scenic resource as public 8 natural resources or public land visited by the 9 general public in part for the use, observation, enjoyment and appreciation of natural or cultural 10 11 visual qualities. The attributes, characteristics 12 and features of the landscape of a scenic resource provide varying responses from and varying degrees of 13 benefits to humans. 14

15 So what we -- what we had to do and in getting into the methodology is to first canvas the 16 area, assess the area surrounding the site to 17 18 determine even if these public resources exist. And we have to be careful about the definition here 19 because the public resource that I just defined is 20 21 different from a place from which you can actually 22 view the project and I'll get into that distinction 23 here in a minute. So what we had to do -- and hopefully can I kind of beam over here. This is the 24 25 project site and Route 1 is right along here.

1 Perkins Road is around here. This is the Belfast Reservoir Number 1 of the water district. 2 So what we did was to traverse that area to determine where 3 potentially the project could be seen. And indeed we 4 all know that the McLellan-Poor Preserve over in 5 6 Northport exists on the south side of the reservoir 7 and the Little River Community Trail on now city land 8 lies on the north shore. We know that these are 9 public resources. We also know that the views are 10 potential from Route 1 looking across below the 11 church here and from Perkins Road.

What we do then is take digital images from 12 these -- from these locations, digital camera like 13 many of you have with a, quote, unquote, normal lens, 14 50 millimeter or so, to establish a -- what would be 15 viewed as a normal -- a normal view. We did these 16 two times back last fall with leaf-on and in January 17 18 with leaf-off to simulate a worst case condition. Computer models of the -- of the buildings were 19 20 generated using building information modeling software including Auto CAD, Revit, et cetera, to 21 2.2 create models of the buildings, place them in 23 relation to proposed topography, calibrate viewpoints for our visual simulations and generate views. 24 These 25 views from that software were then integrated into

1 the photographic representation from the various 2 viewpoints using Photoshop and the like to create 3 what's known as a photo montage mixing that model 4 with what is viewed out in the landscape.

As a check, we took weather balloons, $5 \ 1/2$ 5 foot diameter weather balloons and floated them at 6 7 these four corners of Building 1. Why just those four corners? Well, we know that that's in an open 8 cleared area existing already and so if -- if the 9 10 building is going to be seen it's going to be seen 11 there and -- number one; and number two, what those 12 allowed us to do was to create a data in the Those locations were surveyed by a 13 landscape. 14 surveyor. We set the balloons to the projected 15 height of the building and then used that to coordinate our imagery. What you see here is an 16 existing view. This is a before view from the 17 18 existing Belfast Water District entrance. This will show where the bidding will be and then this is the 19 modeling. Now, you can see here the lines of the 20 21 building beyond, these are the grow modules beyond, 22 this is the waste water treatment plant. We are 23 necessarily showing basic boxes for the buildings at this point. They are -- they are based on the 24 25 general footprints that are shown for the buildings

1 and the allowable heights.

2	This is shown from Route 1 below the church.
3	You can see the Matthew's Brothers Plant up here.
4	This line here shows the elevation of the balloons
5	and that line was calibrated right to them. This is
б	a view in there and you can see how this is setting
7	within the context of existing trees. This is from
8	Perkins Road, again, before shot. This is on the
9	east end. You can see the level of the balloons and
10	the level of the building is relative to that.
11	As we move west on the site, we're up and in
12	a denser break of trees here. And we also have grade
13	advantage too so the building is essentially settling
14	down into the landscape there and you can see the
15	line beyond. This gives you an indication from the
16	community trail of the density of vegetation in
17	between user of the trail. And the this was done
18	we had a safety yellow vest that we hung about 100
19	feet up from the trail here and you can barely
20	barely see that.
21	So just to wrap up, the conclusions are,
22	number one, the proposed development, number one,
23	meets city requirements for space in bulk. The city
24	land, the Belfast reservoir land, the 250 feet,
25	provides a minimum of 250 feet of vegetated buffer

between the public viewing sources and indeed because 1 2 of city requirements of a 40 foot undisturbed buffer 3 within the property we have at a minimum 290 feet of 4 existing vegetation between a potential trail user 5 and the development. The views past 100 feet, again, 6 are extremely dense and will be -- it will be all but occluded. So the conclusion is -- is that indeed 7 8 there would be no unreasonable adverse effect to public viewing sources. And with that, we have 9 10 Alternatives Analysis. Thank you. 11 (Applause.) 12 MS. RANSOM: Good evening. My name is Elizabeth Ransom with Ransom Consulting. 13 Many of you have been in this room listening to me previously. 14 15 I've presented at a number of the other Nordic Aquafarms meetings -- public meetings we've had. 16 As you've heard from the previous speakers, we are 17 18 speaking about several applications tonight and I'm going to take a little bit of a step backwards and 19 20 just run through a little bit of what those 21 applications are. 22 The first application we are going to be 23 speaking about is -- quite extensively is the site law or Site Location of Development Act, sometimes 24 25 abbreviated SLODA application. And just to give you

an idea there are between 25 and 30 sections to the 1 2 SLODA application and obviously we're trying to give 3 you the most information we can in a two hour meeting about those sections, so we've tried to highlight a 4 5 lot of the ones that we think are, A, integral to that application or, B, things that we think the 6 7 community is going to have a lot of interest in. In addition, we're trying to present information to you 8 about National Resources Protection Act or NRPA. 9 And the alternatives analysis that I'm going to start 10 11 with is a big component of the NRPA application. In 12 addition, we're go to touch briefly on the air permitting and also just quick refresher on the 13 14 MEPDES or discharge permitting that we've presented 15 in previous meetings.

So with that, so what exactly is an 16 Alternatives Analysis? Well, an Alternatives 17 18 Analysis is a document that the applicant has to put 19 together to state his proposal because remember at this point in time we're talking about a proposal. 20 21 It's not an actual project until that application has 22 been finalized and approved by the appropriate 23 agencies. So in this proposal and in our Alternatives Analysis the project applicant has to 24 25 analyze whether or not there is a practicable

1 alternative that can meet their project purpose, and 2 we'll talk in a minute about what that project 3 purpose is, but we have to define whether or not we could have done this by either utilizing or expanding 4 on or managing some other site that would avoid the 5 6 impacts to wetlands; whether it is way to reduce or 7 change the project density as we propose and 8 therefore reduce our impacts to wetlands; and is there some other sort of design we could have 9 10 considered that would still meet our project purpose 11 but avoid or lessen the impacts to wetlands; and then 12 also we obviously need to define, you know, do we really need this project and why do we have to do the 13 proposed alterations to the land. 14

15 So what is Nordic's project purpose? Why are we here? I think you've been hearing pretty 16 consistently the message that we're here because 17 18 there is a strong need for safe, high quality, traceable and sustainable seafood. We can accomplish 19 that goal with a lower carbon footprint if we do it 20 21 here in the U.S. versus shipping it from overseas. 22 By doing it here, we can improve our traceability, we 23 can understand what's going into the fish, we can understand the genetic origin of those fish and we 24 25 have better control of the environmental impacts of

1 the growing of those fish and what we put in 2 ourselves when we eat them. So this facility's project purpose is to provide up to 7 percent of the 3 U.S. salmon consumption from a single and grow 33,000 4 metric tons of fish and to provide that to consumers 5 6 within a day's drive of the facility and serve the 7 northeast markets. And in order to do that, we need 8 certain things like the clean, clear seawater and fresh water that we have in the Belfast area and a 9 number of other criteria that we'll be talking about 10 11 later.

12 As a part of our Alternatives Analysis we also go in and define what the project benefits are, 13 what are we bringing along with this project besides 14 seafood and in this case it's the direct creation of 15 over 100 jobs as well as the ancillary industries. 16 Erik spoke about it earlier some of the things that 17 18 will come up from the additional products that will be produced besides fish including things like 19 20 lobster bait and other things from our cuttings. There is work force development opportunities with 21 22 some of the Maine universities. There is a \$500 23 million investment in the local Maine economy. There will be long-term, non-residential tax revenue in the 24 25 City of Belfast and a significant cash influx to the

1 Belfast Water District from the purchase of their land to be used for infrastructure developments. And 2 3 obviously there is the safe, high quality seafood that will improve U.S. food security and, you know, 4 promote a lower environmental footprint from the fish 5 6 we're consuming. And obviously I already mentioned 7 that there is the potential for a lot of these salmon 8 cuttings to be used as lobster bait, which most people in this room probably are aware is a real need 9 in the State of Maine. 10

11 So how do we evaluate the criteria for the 12 projects and what are we doing when we do that? Well, the state establishes basically four large 13 criteria by which all projects are evaluated and then 14 15 within that we break it into subcategories to look at those things in more details. So the first one is, 16 17 you know, can we meet site requirements. Do we have 18 the legal title, right and interest to acquire the 19 land or the rights to the land or the rights to the development? Can we do it in a way that meets 20 21 existing zoning or existing fire code? So what are 22 some of these siting requirements and legal 23 requirements and can we meet those for our project in the location we're looking at? 24 25 Another big one is what are the

1 environmental impacts and are they reasonable So in that we evaluate what are the 2 impacts? 3 wetlands? What are the streams? What is the use of ground water and surface water? A third criteria or 4 5 group of criteria is about the engineering 6 feasibility of the proposed project. So that 7 includes not only can we build it, but also can we 8 operate it. So we look at things like what are the 9 geotechnical considerations of the site? Can we put 10 our layout and design in a way that's functional? 11 You know, if you're building -- if you're building 12 furniture you're not going to build half the chair in a building on one side of the site and then truck it 13 across town to build the rest of the chair. 14 It's the same way with growing fish. We need to find a place 15 where we can actually have the logistics and 16 operations work out for our facility as well. 17 And 18 lastly, one of the criteria that the state has that we can evaluate projects on is what's the financial 19 20 impact of that alternative. So does a proposed 21 project have the capacity to absorb that financial 22 impact of a particular decision and still move 23 forward.

24So what are the different things that we25looked at in the Alternatives Analysis? For a

1 complex project like this we felt it was necessary to 2 break things down into sort of three different key 3 analyses. One is on-site selection. Why are we here? Why did we choose Belfast? The other piece is 4 site layout. Is there a different way of looking at 5 6 the site layout that would perhaps be less impact? 7 How many buildings do we need? What are those buildings and how do we arrange them on the available 8 site? And then the third thing was the piping 9 layout. You know, how do we access seawater? There 10 11 is obviously a lot of different ways you can get from 12 the Belfast Water District property and out to sea. And in all cases everything gets evaluated against a 13 no action alternative. What if we didn't do it? And 14 15 in some cases it's pretty obvious. If there is no pipe there is no way to get water to and from the 16 17 site so it can't meet our project purpose, but in all 18 cases we take a look at what happens if we didn't do 19 it that the way at all.

So I'm not going to go through every last detail of the Alternatives Analysis tonight because if I did you'd still be here in three hours, but we do this by looking at decision matrix. We group the criteria under legal and environmental and engineering feasibility and so forth that I talked
about. We weight those criteria. Obviously some 1 2 things are completely non-starters for the project 3 and other things are areas where there is more or 4 less importance attached to them. So we give those 5 things a numerical score and we give them some supporting information as to why we score things in 6 7 the way that we do and in our applications you'll be 8 able to read those details if you're interested.

9 So with site selection, how did we get to Belfast? I think a number of you in the room have 10 11 heard us talk about this before, so I'm not going to 12 go into extreme detail, but as you've probably heard before we've gone through a process, it took many 13 months where we looked at the coastline from Canada 14 15 to Washington DC and we used geospatial analysis, state online databases, real estate searches and 16 field visits to ultimately find locations that 17 18 provide a clean, cold, fresh and seawater, nearby 19 access to three-phase power, an attractive community, a suitable place to build what we needed to build and 20 21 centrally located. These were a few of the criteria 22 that we were looking at.

This is a map that shows all of the coastal towns in Maine as well as all of the communities in pink where we identify potential sites in our initial

1 geographic search. At the end of the day, we kind of narrowed that down to four locations and put those 2 3 four locations through more rigorous analyses and at the end of the day Belfast was the one that was our 4 5 preferred alternative and because it can provide all 6 of the things that we were looking for in a project 7 site. So Belfast is the one out of all those red sites on the previous map that actually met our 8 9 project purpose.

10 For the site layout we actually looked at a 11 variety of different options as well. Many of you 12 will remember at probably our first public meeting we only had the Belfast Water District property. 13 That 14 water district property was 39 acres. We looked at 15 that and said it was also -- for those of you who aren't familiar with it it's somewhat of an L-shaped 16 17 property, so it's quite narrow in places and we 18 looked at those and said how are we going to put these six modules that we want to grow the 33,000 19 metric tons of fish onto that land and we found that 20 21 we couldn't. It was physically impossible to get six modules onto 39 acres of land and have the buildings 22 23 So then we looked at can we do something fit. smaller. What happens if you make three modules on 24 25 39 acres of land? So number one, that didn't, again,

meet our project's purpose because it wouldn't supply 1 us with the same amount of fish. 2 It wouldn't allow us to do the same 3+1 modular design that Ed showed 3 you earlier. And in spite of the fact we had fewer 4 buildings it still didn't fit without hanging over 5 6 lot lines. So in terms of the setback requirements 7 that Ed was showing you earlier with 40 foot setback 8 and 50 foot setbacks and 75 foot setback from 9 wetlands we couldn't even get three modules to do 10 that because of the configuration of the land. So at 11 that point in time we needed to look at are there 12 larger sites available and can we acquire more land to make this work. And ultimately that answer was 13 yes and we got this up to a 54-acre site and we 14 evaluated whether or not six modules or five modules 15 16 could ultimately meet the project purpose. And ultimately due to the configuration of what we need 17 18 and the 3+1 modular design only six modules ultimately meets the project purpose and so it also 19 meets the siting requirements, it reduces our impacts 20 21 to the natural resources and preserved the eastern 22 stream because of the ability now that we have a 23 little bit more land to condense the buildings into 24 the center of that land and maximize the buffers to 25 our neighbors and to the Little River Trail. It will

also allow us to have process piping and other 1 engineering components fit within the buffer zones, 2 3 so, you know, for a -- for process piping and getting fish from building to building we needed to have 4 things centralized and having the 54 acres allows us 5 6 to do that. And that, again, using that 3+1 modular 7 design helps offset the cost for the needed infrastructure and piping. So six modules is our 8 preferred alternative and that's what we'll be 9 putting in our Alternatives Analysis as part of the 10 11 NRPA application.

12 The other thing that we were evaluating as part of our Alternatives Analysis is what are the 13 different ways to get a pipeline out to sea and for 14 this we looked at, again, five options that we 15 compared to the no action alternative and these 16 17 include direct from the site property, so the site 18 into the Little River does abut the site and in 19 theory one could take a pipe straight from where the water district's building is right now and go down 20 the Little River and out to sea. I think it's not 21 22 hard for everyone in this room to understand that that alternative as shown here in yellow would be 23 quite long and with guite long comes the potential 24 25 for environmental impacts, but that was one of the

alternatives we felt important to evaluate because we
had the right, title and interest with the land
ownership to consider that.

4 I'm going to go back a slide here. The other route we looked at is the southern route that 5 leaves shoreland from an area where we have a 6 7 property owner who is working with us for rights to 8 go through their land and we looked at that. It's also a fairly long route. I'm going to talk about 9 that a little bit later. We also looked at a 10 11 straight route. What happens if you kind of come 12 straight out the coast? We looked at going up off of And then we looked at sort of a curved 13 Tozier Road. 14 alternative. And, again, these are all shown on this 15 map and I'm going to kind of go through them briefly one by one. 16

17 So as I said, Option 1 was straight from the 18 property shown in yellow. It's the longest route and 19 with that comes a long area to have environmental impacts. Obviously as you construct you are at least 20 21 temporarily disturbing the biota that are there and 22 the longer you're doing the construction the more 23 opportunity you have to cause an impact, so we felt 24 that this was not favorable from the ecological 25 perspective. In addition, right, title and interest

1 is a complicated question and it's difficult to make 2 sure you have that when your route is going right 3 down a town line. So the right, title and interest considerations for this would have gotten tricky. 4 Τn addition, the engineering feasibility and operations 5 6 would be challenging with the longer pipe route as well as the fact that the Little River itself has got 7 a fair bit of bedrock in it and so for that reason 8 this just didn't seem like a favorable alternative, 9 10 so we were looking for others. It's also the most 11 expensive given its length.

12 So another route that was considered is the southerly route shown in blue. It's still quite a 13 long route with environmental impacts. We were able 14 15 to obtain right, title and interest for this route through the intertidal zone, but due to the bends in 16 the pipeline we think from an engineering and 17 18 operation standpoint it's not ideal and it is still costly so we have a number of strikes that -- against 19 it that we keep it from being something we would 20 21 prefer.

We looked at the straight route. Obviously the straight route is the shortest and has the -therefore the most desirability from an ecological point of view. It's also, you know, easier to

1 engineer and to operate when something is a straight 2 pipe, but we didn't have the intertidal rights that 3 we needed to make this option work.

We looked at the option of what happens if 4 you go further up and look at Tozier Road. 5 Part of 6 the perspective there is that, you know, there have 7 been properties for sale, perhaps it would have been a possibility to look at acquiring the right, title 8 and interest there. You get into deep water quite 9 quickly up there. The water depth changes more 10 11 rapidly. There is not as much of a mud flats to go 12 through, so we thought that might be something favorable to look at. And what we ultimately figured 13 out, however, is that there is an increased height of 14 15 land on Tozier Road. It's higher than the elevation of the water treatment plant that's planned on the 16 17 site, so we would have had to pump the water up hill 18 for a longer run and, you know, down the street 19 toward the waste water treatment plant and what that 20 does is it means you have to create a pump station. 21 Because of that long run there would have been a need 22 for a pump station in a residential neighborhood, 23 which isn't really something that's appropriate in a residentially zoned neighborhood. So we looked at 24 25 that and said although it's feasible from an

1 engineering standpoint and an operations standpoint 2 it's not desirable, so it also has, you know, a 3 moderate cost associated with it because you have a 4 longer distance to take a pipe on land.

So where did that leave us? That left us 5 6 with the curved route, Option 5. It has a lower 7 ecological impact in both the intertidal and subtidal because it is reasonably shorter. It's it a route --8 it's a route for which we have a right, title and 9 interest. The engineering is straightforward. 10 The 11 construction timeline will be minimized and helps us 12 meet our project purpose. And then just for everybody's benefit I'm going to put that up there 13 14 one more time. So the green route is our preferred alternative. 15

I'm going to take a brief break and I'm 16 17 going to introduce Maureen McGlone, who is going to 18 talk to you a little bit about our stormwater 19 planning and then I'm going to come back up. 20 (Applause.) 21 MS. MCGLONE: Hi, there. As Elizabeth 22 mentioned, I'm Maureen McGlone. I'm with Ransom Consulting also. I am going to talk very briefly 23 about stormwater. Stormwater doesn't appear to be 24 25 nearly as sexy as the rest of the things on the

1 agenda.

2	This is a real rudimentary diagram of the
3	site kind of just showing the buildings, some of the
4	access roads around the buildings, but what it also
5	shows are some of the treatment methods that we're
6	looking at using on the site to treat any of the
7	impervious surfaces and landscaped areas. First and
8	foremost, Ed showed a diagram earlier of the erosion
9	control and actually multiple diagrams of the erosion
10	control. The first part of the erosion control is to
11	sort of cutoff the stormwater from more upland areas,
12	mainly from Perkins Road and beyond. So in oh,
13	there we go. They usually don't give me a pointer
14	that actually works. This is great.
15	So right along this border up in here we'll
16	be having what I like to call an intercepter channel,
17	which is essentially we're capturing the stormwater
17 18	
	which is essentially we're capturing the stormwater
18	which is essentially we're capturing the stormwater from upland areas and we're going to reroute it
18 19	which is essentially we're capturing the stormwater from upland areas and we're going to reroute it around the site so it doesn't become an erosion
18 19 20	which is essentially we're capturing the stormwater from upland areas and we're going to reroute it around the site so it doesn't become an erosion issue. Treatment of the impervious surfaces, which
18 19 20 21	which is essentially we're capturing the stormwater from upland areas and we're going to reroute it around the site so it doesn't become an erosion issue. Treatment of the impervious surfaces, which is the pavement and rooftops as well as any grassed
18 19 20 21 22	which is essentially we're capturing the stormwater from upland areas and we're going to reroute it around the site so it doesn't become an erosion issue. Treatment of the impervious surfaces, which is the pavement and rooftops as well as any grassed landscaped areas will be done at every storm. It's a

the site. We're going to try and keep them local to
where the stormwater has been generated.

3 First, I'm going to identify -- oh, jeez, 4 wrong button. All right. The green roofs here are 5 exactly that, green roofs. So on some of the flatter 6 roofs that don't have as many penetrations or as many 7 mechanical units on top we've proposed using 8 vegetated roof cover and that provides us an 9 opportunity to treat the stormwater before it actually gets to the ground surface. We looked into 10 11 using it also on the much larger buildings here, but 12 those buildings, and I don't know that Erik has mentioned it, but those buildings are going to be 13 14 supporting some solar panels so it became another --15 we came up with another option for treatment of And in these buildings here, each one of 16 those. these different modules because they're being built 17 18 in separate -- in succession, we've come up with these subsurface sand filter locations. 19 Now, a subsurface sand filter is basically going to take the 20 21 roof runoff and it's going to put it through a filter 22 system that is below grade. You're not even going to see it. 23

24In these areas here, this gray, this is what25we call our vegetated or grassed underdrain filter.

We're going to take some of the impervious area, 1 which is your pavement, as well as some of the 2 3 landscaped area, we're directing it to these soils, if you will, with filter systems in them, we'll treat 4 5 the water there and pipe it around. In blue, there we go, these are in mostly parking areas but also 6 7 around the perimeter of some of -- some of the other areas where we have more pavement we're putting 8 impervious pavers. An impervious paver system is a 9 means to take water that will filter down through the 10 11 pavers rather than collect on top, filters down 12 through, we have a filter system below it, we collect it and then transport it. 13

14 These are some pretty pictures. This here 15 is a snapshot really of what the porous pavers or impervious pavers will look like. We're proposing to 16 use those primarily around the outer edges of many of 17 18 the parking areas as well as in the parking stalls themselves. This is a simulation of what a green 19 roof will look like. We're looking at different 20 21 vegetated options. And this is more like what your grass underdrain filter will look like. I don't have 22 23 a system -- I don't a picture for the subsurface sand filters because they're, well, subsurface. 24 25

Key points that you really want to Okay.

1 take away from this. There is a DEP requirement to 2 treat 95 percent of your impervious surfaces. We're 3 exceeding that. There is also a DEP requirement to 4 treat 80 percent of your developed areas, which is 5 all of your landscaped area and all of your 6 impervious surfaces. We're far exceeding that. 7 We're at 86 percent currently. Any of the stormwater treatment methodologies that we're looking at are 8 9 tried and true methods and they're all approved by 10 DEP. 11 I quess if there are any questions you can hit me up later. I hope you enjoyed your break, 12 Elizabeth. 13 14 (Applause.) 15 Thank you, Maureen. Yeah, you MS. RANSOM: quys are going to get tired of hearing my voice, so 16 I'm happy to give her a chance to talk for a little 17 18 while and we'll have somebody else coming in a little bit as well. 19 20 So I'm going to speak briefly about noise, 21 odor and air. They are important, but I'm going to 22 give them a pretty guick summary that I think will 23 tell you what you are interested in hearing. So noise. Everybody wonders, there is a new 24 25 thing coming to town, what kind of noise is it going

1 to make? As part of the SLODA permit we are required The -- in addition, during the city 2 to look at that. 3 permitting process there are city regulations governing sound. One of the things that is an easy 4 way to think about sound is we're all familiar with 5 6 the typical noise level of some of the things that 7 are listed on the bar chart here. So we're required 8 in the state to keep below 55 decibels during the daytime and below 45 decibels at night and lower in 9 10 certain protected areas. And we've done a noise 11 evaluation that will be a piece of our application to 12 study what is going to be the impact of the facility, where does the sound that's generated go and what are 13 14 the resources in the area that might be receiving 15 those sounds and what we want to emphasize with this slide is that Nordic's project is going to meet the 16 state and local regulations for the permissible noise 17 18 thresholds. In, general, just to give you an idea, 19 I'm probably talking at something that's around 60 decibels, maybe louder because I've got the 20 21 microphone. So I'm talking at a volume that's louder 22 than what their operation it going to be permitted to 23 emit during the course of the daytime. And at night it would drop to something like this. 24

One of the other things that people are

25

1 obviously concerned about when you hear that something related to fish is coming to town is is 2 3 this going to smell? What's the odor? So the first point I think we all want to understand is in 4 5 Nordic's case everything they generate is a product and when we think of odor and fish we're usually 6 7 thinking about waste. The thing that's causing that 8 odor is some product is out -- some moist product is 9 out where bacteria can grow outside in the sunshine 10 and it makes that odor. Their product is going to be 11 indoors. They have potential sources of odor, but 12 it's how you manage that odor that keep it from being an issue. So the potential sources, they're required 13 14 to identify what those sources are in their 15 application and the potential sources are the wastewater treatment plant, fish feed, fish 16 processing and mortalities. Fish sometimes die 17 18 unexpectedly. So those are all things that could 19 cause an odor.

What are the control measures? How do they keep that from being an issue to the neighborhood? Well, first of all, everything is indoors, so right there you have a barrier that keeps the odors from getting outside where people in the general public might smell them. But beyond that, they are taking

1 additional measures to make sure that odor doesn't 2 become a problem. So their wastewater treatment 3 plant, for example, they're dewatering it, so they're 4 taking right away one of the steps that would 5 potentially lead to bacteria growing and making that 6 odor. And they are -- they're dewatering it and then 7 they're taking that and sealing it in the tank and transporting it off-site because, again, that 8 filtrate is a product. It's a product that there is 9 need for. It's got agricultural applications, for 10 11 example. So that's something that they're not going 12 to allow it to sit there and develop odor. In addition, the feed that they bring in is 13 going to be stored in enclosed silos inside their 14 15 buildings, so there will be multiple barriers to something that you might smell so it's not like it's 16 going to be sitting outside their facility on a 17 18 pallet. Mortalities, should they occur, they're 19 going to, again, remove those from the tanks, preserve them and ship them off-site. So, again, 20 21 everything that they do, their processing, fish 22 processing, the cuttings that they take, those are

24 transported off-site because that's valuable product 25 as well.

going to be sealed and vacuum packaging, frozen and

23

So the way that we avoid odors is through best management practices, good employee training, the fact they have staff with decades of industry experience, they're doing this in other facilities, and then we have trusted local partners who want these products and are going to remove and recycle those potential sources of odor.

8 Air is a real brief one. In Maine, there is a licensing requirement for certain thresholds of use 9 10 of different equipment and those fall under Chapter 11 115, the Minor Source Air Emissions Application is 12 what we're going to be submitting. Our application will cover two things that might require air 13 permitting and air licensing and that's the fact that 14 should the power go out, which it tends to do here on 15 the coast of Maine, there will be a back-up generator 16 that will need to come on to provide life support for 17 18 the fish and those generators will be fueled by 19 diesel and so that it something that could ultimately 20 require air emissions permitting. In addition, there will be a 6 million BTU, British Thermal Unit, per 21 22 hour boiler. And those pieces of equipment when 23 operated to meet the needs of the facility or the potential needs of the facility during a power outage 24 25 would require some air licensing. So each piece of

1 equipment is going to be designed to meet the best 2 available control technologies as specified by the 3 Maine regulations, that includes particulate control 4 measures, but in, general, the air licensing 5 requirements for the facility are quite simple.

6 So we're now going to go into a little bit 7 of a discussion about the water supply. I'm going to 8 talk briefly about how we initiated a field program 9 to look at the water resources for the project and 10 then I'm going to introduce Mike Mobile to come up 11 and talk a little bit about our modeling efforts to 12 look at that in greater detail.

So why did we do this? Well, first of all, 13 a project like this does need water. We've done a 14 15 significant amount of engineering since the last time Nordic has been up here talking about water and we've 16 looked at different ways to reduce the project's 17 18 needs for why we need to take fresh water and we have looked at what the available sources of water in the 19 project site are and those include what the state 20 21 terms significant groundwater wells and there is an 22 application that goes in as part of SLODA for the 23 significant groundwater wells. The project will also be a Belfast Water District customer. They will be 24 25 acquiring a certain amount of their fresh water

1 through the city's supply and then they'll be looking 2 at a surface water withdrawal as a back-up source. 3 And what our project was designed to do is look at 4 can we use these water resources assignability and 5 what is the appropriate way to study the water 6 resources today so that we can demonstrate whether or 7 not our future use is going to cause harm.

8 So how did we do that? Well, it's been 9 nearly a year of studying it to stand up here and 10 tell you about it and to put this application in and have it be complete. We did a series of different 11 12 testing out there. We started with geophysical physical testing. 13 The diagram you see here on the right is looking at the resistivity of the rock and 14 we look for variations of the resistivity of the rock 15 to point out where we might have more fractured rock 16 17 versus we have more competent rock. And it's those 18 fractures in the rock that are telling us where we 19 might see water because we don't want to just put holes and look for water arbitrarily. We want to go 20 21 where we think that we have a good chance of finding 22 fresh water, so we started that with that geophysical 23 survey.

From there, we started to drill and we drilled wells, we drilled small diameter multi-level

1 piezometers designed to look at some of the more 2 superficial features, but we looked at both the overburden and the bedrock. We looked at the 3 interaction between the shallow water and the streams 4 the surface water features on-site. We measured the 5 surface water features on-site. We had staff gauges 6 7 and other ways of measuring what was actually moving 8 through the Little River and in the reservoir itself. 9 We conducted four pumping tests over the span of a year. We started with one last April and we 10 11 concluded with one in January/February of this past 12 winter. So that's a significant amount of time and a significant amount of datapoints to measure and 13 14 inform our conceptual site model and set up the 15 groundwater modeling for the project. With that, Mike is going to come up and talk 16 about that model. 17 18 (Applause.) 19 MR. MOBILE: Good evening, everyone. My 20 name is Michael Mobile of McDonald Morrissey 21 Associates and it's really -- I appreciate the 22 opportunity to be here tonight and to describe the numerical or mathematical groundwater modeling we 23 performed for Ransom and Nordic -- the proposed 24 25 Nordic facility in Belfast. I realize we're running

a little bit late on time, so I'm going to shorten a
couple of my slides. I'm happy to answer more
questions on the stuff I skip through a little bit,
but I want to make sure there is ample time to answer
your questions at the end of this.

6 So I'm going to start off with a guick 7 executive summary to touch on kind of the key take 8 away's from my presentation tonight. As Elizabeth 9 just alluded to there has been a significant volume 10 of information and data gathered through a detailed 11 hydrogeologic investigation that's been conducted 12 over the past year or so. With that volume of information and data we've created a mathematical 13 model to support estimates of aquifer responses, 14 15 particularly the bedrock aquifer below the site to 16 propose withdrawals meaning pumping from bedrock soils on-site. What the model results indicate is 17 18 that proposed withdrawals are not anticipated to influence current use of domestic wells to 19 neighboring properties meaning domestic private wells 20 21 located on properties abutting the site. Going 22 forward there is data gathering to do to help 23 establish baselines and to help in the form of a proposed monitoring program that will accompany the 24 25 permit applications.

1 Subjectives and approach. It's interesting 2 the color change on that slide, but number one is to 3 construct a groundwater flow model, right. And to construct a model we need to demonstrate it's 4 consistent with the data that have been collected and 5 6 adequately represents the responses that were 7 observed during hydraulic testing. With that model 8 in hand, we want to ask questions of the mode, right. What if. What if Nordic pumps -- what happens in 9 10 off-site locations. What we're going to look at 11 changes in terms of is going to be a term called 12 drawdown, so that's a change, a decrease in water level due to that pumping. 13

14 In performing our assessment approach-wise we used common modeling software MODFLOW USG. That's 15 a software that's publicly available from the 16 U.S.G.A. survey. We also followed common modeling --17 18 a common modeling approach that the diagram on the right-hand side describes. So we start off with a 19 conceptualization of a system, we build that's called 20 a conceptual model. With that model in hand, we use 21 22 it to guide how we actually build a computer model. 23 Then we enter a phase called calibration and verification. In calibration you're basically 24 25 anchoring the model using data. You want to, excuse

me, you want to alter or you want to modify the 1 2 values of key hydraulic parameters to develop 3 agreement between what the model is predicting and what the data that are collected at the site say. 4 And then in verification you're basically taking that 5 6 calibrated model and running it versus an independent 7 or different dataset to ensure that similarity is 8 maintained. And then in application, that's the what 9 if phase, right. So you can test the model, test 10 different pumping scenarios to see how the model 11 responds.

12 So I'm going to shorten it here. The one thing to touch on here in terms of conceptualization 13 is that what we know about the site is that it's 14 about 50 acres in area, but the area that influences 15 groundwater flow at the site is really much greater 16 so we had to look at a much broader area. 17 And one 18 key kind of feature of the study area is the recharge and that's defined as water that occurs at the 19 20 surface, infiltrates and ultimately becomes 21 groundwater so the main driver is precipitation, 22 What we know about the site, again, is that right. 23 the nature of the superficial deposits here are such that they don't convey water easily. If you think 24 25 about a sand and water gravel deposit that conveys

easily, you can get up to 50 percent of your annual recharge of coming -- or annual precip becoming recharge. In this area we have a silt and clay dominated glacier marine deposit called the Presumpscot Formation that really limits the amount of recharge and we've accounted for that in terms of our conceptualization.

8 So model representation. This is that step of converting our conceptual model to the actual 9 10 mathematical model. On the right-hand side you see 11 lines basically breaking the area up in blocks, that's actually a finite difference grid. That's 12 what we call a finite difference grid. It's breaking 13 up space and actually the volume into finite volumes 14 15 where governing equations are being solved by It's calculating the water level or 16 MODFLOW. hydraulic head at each location and groundwater flow 17 18 is being calculated between each one of these cells, 19 so it's a complicated process, but we're good at it. 20 So calibration and verification. When we build our calibration run, we build it around the 21 22 first three pumping tests that were conducted at the 23 site. We take those data and we feed them into the model and we build the model to represent the pumping 24 25 steps that occur during those tests. The three

1 tests, March/April of 2018, August/September of 2018 and November of 2018. All different forms of tests 2 that we built into the calibration run. When we run 3 the verification period, we take a fourth pumping 4 test, so four pumping tests during this hydrogeologic 5 6 investigation. We take that fourth pumping test 7 worth of data and we build the verification run 8 around that.

9 When we perform calibration we start with manual parameter adjustments. We make small changes 10 11 and make sure the model is reacting the way we expect 12 it to and then we use a process called automated brand parameter estimation. 13 It's actually supported 14 by a separate utility and we use a network system of 15 computers that runs the model comparatively, actually running the model thousands of times to reduce that 16 difference between measured conditions and simulated 17 18 conditions, so a really powerful tool that we apply.

And then the final two notes just talk about the fact that we really considered a large number of hydraulic parameters in this process and more meaningful is that we considered a tremendously robust dataset, so a lot of data collected during the hydrogeologic investigation, pressure transducers in wells collecting water levels at a high frequency

1 route, we rolled that into the model so overall 2 comprehensively between the calibration run and the 3 verification run we considered more than 200,000 4 individual datapoints, so a really robust dataset 5 that we used.

6 I'll be somewhat short here, but what do the calibration and verification results look like. 7 Τn 8 one word, they're good. There is good agreement between what we collected in the field in terms of 9 10 water levels and what the model predicts. Flow rates 11 agree well where we have gauging data in the Little 12 River stretch between the upper and lower reservoirs, good agreement there and good agreement in terms of 13 verification, so that consistency was maintained in 14 15 the verification step.

So then we go into model application. 16 What we do is we take the model and we feed in what's 17 18 called a pumping scenario. That means pumping rates and location in terms of pumping wells on the 19 proposed site. The pumping scenario that we tested, 20 21 it was 455 gallons per minute distributed amongst 22 three bedrock supply wells at the site and then we 23 performed two forms of simulation. On one side of this graphic you see transient, that's the time 24 25 during the simulation and what that simulation gives

us in terms of an answer is an idea of the rate of 1 2 change, the rate that drawdown develops. Results on 3 that end are that the model suggests that drawdown is relatively slow at off-site locations. So locations 4 5 that coincide with private supply wells and adjoining 6 properties we see that it takes several to many years 7 for that condition to really develop and start to 8 stabilize. Then we run what's called a steady state simulation. That's an unvarying condition and really 9 what it does is it projects the results out that 10 11 maximum change condition. We wanted to be 12 conservative. We didn't want to just put out the end of the transient results as results because we knew 13 14 there was still room to change and that's what the 15 steady state simulation gets us to is that stabilized result. And on that end what we see in terms of our 16 17 results is that it varies by location, so, you know, 18 areas west of the site show a different result than 19 areas to the south or to the north. The range of results is really from no change, no measurable 20 21 change, zero drawdown up to an overall maximum of 15 22 feet. In areas of the highest density of the 23 public -- or private supply wells, so areas west of the site, we see around 10 feet of stable drawdown in 24 25 that area.

1 So those are just numbers, right, no 2 So what we did is we put this slide context. 3 together to give you some context. So what we know about wells in this area, private supply wells, is 4 5 that the average well is approximately 150 feet deep 6 from land surface. So that's the graphic you see 7 here, that well penetrating into the fractured bedrock aquifer. We also know from available 8 information that the depth to water in these wells 9 ranges from approximately 5 feet to approximately 30 10 11 feet, so if you do the math there and subtract those 12 numbers you get a standing water column, ambient water column in that well approximately 120 feet to 13 14 145 feet, okay. So that's the level you see in that 15 graphic.

On the right-hand side is something else we 16 know, that when you pump these wells, as an 17 18 individual pumps their own supply well the water level changes. So that water level in that bore hole 19 is drawn down by the pump that's inside the well. 20 So 21 what you're seeing is real data. This is data that 22 was collected during the hydrogeologic investigation 23 from one of the private supply wells adjacent to the site and you see that domestic use cycling, changing 24 25 the water level and that signature. And you can

1 basically think about that blue line as being coincident with this level in this graphic, okay. 2 So we see about 5 feet of change in this example. 3 We have other examples where we've collected data where 4 it's a bit more up to 10 or a little bit more feet, 5 6 but that's a fluctuation around that ambient water 7 level. What I'm talking about in terms of steady 8 seeing results from the model is that really what we're talking about is a shift down depending on 9 location by a relatively small amount in this well, 10 11 so it could be up to 15 feet and the maximum overall 12 case areas west of the site we're talking more about like 10 feet under average annual recharge 13 conditions, but it's a relatively small change. 14 15 There is still ample water column left in that well. Now, there is still more information to 16 collect, baselines to set and monitoring programs to 17 18 be proposed as part of a permit application, but the 19 results of this modeling and the data that we have 20 suggests that there would be no impact from the 21 proposed pumping to private supply wells in the area. 22 So to summarize, we successfully created our groundwater model, common techniques were supplied 23 and we used a significant amount of field data that 24 25 was collected during hydrogeologic investigation.

1 Calibration and verification were also successful 2 indicating the models were a reasonable representation of hydraulic responses and site 3 withdrawals. As I just mentioned, the model results 4 5 indicate that a proposed withdrawal scenario of 455 6 gallons per minute at the site is not anticipated to 7 influence the current use of domestic wells at 8 adjoining properties. And to wrap up, still data 9 gathering, we're going to establish thresholds and a monitoring program will accompany the permit 10 11 application and Elizabeth will talk about that a in 12 little bit. Thank you. 13 (Applause.) 14 MS. RANSOM: Thank you. I'm just going to go back to one of Mike's slides briefly in case the 15 point wasn't clear. One of the things that you're 16 looking at here on this graph to the right, those 17 18 are -- those fluctuations you're looking at are daily 19 fluctuations in the use -- typical use of a private 20 well. So when you turn on your washing machine or 21 faucet or take a shower, that's when you see the 22 downward dip on that graph and it comes back up again 23 as your well responds to you turning off the faucet. So in case that wasn't clear, some of the 24 25 fluctuations you're seeing there are what occur

during the daily use of a private well. I would -- I do want to also thank the neighbors who participated in our study so far and for their continued willingness to participate in monitoring going forward. It's really helpful to have your participation so that we can better understand the aquifer as it's being changed around the site.

8 So now I'm going to give you a very brief overview of the monitoring plan. We will be as part 9 10 of our application submitting a monitoring plan and 11 that monitoring plan will be to cover a couple of different things. One is obviously to cover the 12 groundwater withdrawal and make sure that we continue 13 to withdraw groundwater in a way that doesn't affect 14 the neighbors. But it is also there to monitor water 15 quality in the area surrounding the site, so we 16 17 obviously are -- as we develop and as we do 18 construction we want to make sure that we're not 19 affecting the water quality or the habitat in the 20 areas adjacent to the property.

So we identify as part of our monitoring program what are the sensitive receptors that might be monitoring, that includes things like those private water supply wells that we were just talking about, which is primarily located to the west of the

1 site in the direction of Herrick Road, it includes wetlands, streams, the lower reservoir in the Little 2 River. And we'll be evaluating those through a 3 series of different monitoring points, those include 4 our own production wells on-site, bedrock monitoring 5 6 wells, overburden monitoring wells, the private water 7 supply wells in the neighborhood, those narrow diameters, small multi-level piezometers adjacent to 8 the surface water features. It will include surface 9 water stages so we can actually measure what's going 10 on in the Little River and the reservoir. And we'll 11 12 be looking at precipitation data for the Belfast area as a whole as well as biological monitoring. 13 We'll be looking at not just water levels, as I 14 15 mentioned, water quantity but also water quality. So we'll be looking at things like conductivity, 16 nitrogen, phosphorus, bacteria, common drinking water 17 18 parameters that some of you might be familiar with if you have a home well, things like hardness and pH and 19 dissolved solids. We'll be looking at vegetation, 20 21 aquatic macroinvertebrates, insects and, as I 22 mentioned, precipitation records. And that ongoing 23 monitoring program is something that not only is it a state requirement but it's helpful for Nordic as 24 25 well, so we're going to be trying to establish a

baseline and get some monitoring done prior to 1 operations and they'll be keeping that monitoring 2 3 going as they ramp up because remember they're not going to start with 33,000 metric tons on day one, 4 5 they're going to start this slowly. So as they get 6 going, we'll be able to look at that impact of the 7 start of their operations to better influence how 8 they operate during the latter stages of their operations 9

10 So how do we -- how do we do that? Well, 11 first, as I mentioned, we do a -- we do have some 12 data that we've started to collect and we're going to look at what are some things we can do now to 13 establish baseline conditions and develop a robust 14 15 monitoring program and in an ongoing basis do data evaluation. What is that data telling us? What are 16 we learning about the site conditions? 17 What are we 18 learning about the neighbors' wells and the various 19 surface water features around the site? We're going to have established performance criteria. 20 Some of 21 those are things that are regulatory thresholds, but 22 some of those might be thresholds we set ourselves 23 where we say, you know what, we get to this condition we want to take some sort of an action and then we're 24 25 going to develop that action plan.

1 So what might that action be? Well, if we understand that we're having impact of something it 2 3 might be as simple as, jee, we need to do something to address an erosion issue that we're developing on 4 the corner of the site now that we've had a storm or 5 6 erosion control measure didn't grow in the way we 7 expected it to we need to replant. It might be as 8 simple as addressing a need for a different type of water use at the facility. So we're going to have 9 10 threshold levels and action plans and that will all 11 be part of our application submittal.

12 So you've heard me reference on a few occasions the natural resources on the site. 13 I'm now going to take a little bit of time to help people 14 15 understand where those resources are located, how we went about identifying those resources and how we 16 intend to, you know, modify and move forward with the 17 18 project and compensate for anything that we might be 19 doing.

20 So we looked a variety of different things. 21 One thing we looked at is wetlands, a review of the 22 wetlands was conducted during May, July and August of 23 2018. Normandeau, who is here in the audience, 24 conducted wetland delineation according to the 25 applicable US Army Corps of Engineers delineation manuals. And the determination the jurisdictional
limits of the wetlands were completed using a three
parameter approach in accordance to the guidance
manuals.

5 They also conducted vernal pool studies. 6 Those are also done May 3 and 4 with a return visit 7 on May 18. There were no vernal pools, that's why I 8 don't have a picture on this slide.

9 They also conducted a review of drainages. 10 So not every drainage with flowing water is, in fact, 11 a stream. They conducted a review of the drainages 12 on site in May, July, August and February to observe 13 flows and aid in the determination of whether or not 14 they are, in fact, NRPA jurisdictional streams.

15 So what is a jurisdictional stream? This is a long definition, I'm not going to read the whole 16 thing, but in order to be a stream that is 17 18 jurisdictional that has a defined channel in two or more of the characteristics listed below. 19 I'll give you a second to take a look at that. But when we 20 21 look at that -- I'm going to go back to this. When 22 we look at the bottom slide here, I think most of you 23 can see from that bottom slide that has a clearly defined channel. It's not hard for you to find it 24 25 out in the woods. It clearly stands out to you. Ιt

1 has a mineral bottom. You can see that there is soil 2 on the bottom of that stream and you can see that it 3 has flowing water and we verified whether or not 4 streams out there had running water for six months or 5 more of the year.

6 So with that, we created a map that shows 7 what are the natural resources on the site and from 8 this you can see those sort of lighter green areas are the actual wetland features that were mapped and 9 10 the blue areas are what we consider to be NRPA 11 jurisdictional streams. And the one that I want to 12 point out in particular is the one that kind of forms the eastern boundary of the site. It's the one that 13 14 most of you maybe come out and use the trails will be familiar with that kind of cuts down sort of behind 15 the garage buildings for the Belfast Water District 16 17 and flows out through the grassy swale on the front 18 of the property and then out under Route 1 and 19 through the culvert. That is the mapped resource that if you all kind of looked at a U.S. Geological 20 21 Survey topographic map you would be able to pick out 22 that stream. And so that's the stream we've done our 23 best in our site layouts and our evaluation of how best to use the site that's a resource we've tried to 24 25 steer clear of and enhance as a part of the project.

1 So I'm going to talk to you a little bit 2 about that enhancement. In the State of Maine if 3 your development is causing alteration to the wetland 4 resources there are ways to go about making up for 5 that and we will as part of our application have a 6 proposal for how we intend to compensate for or the 7 things that we couldn't avoid. So if you look at a 8 series of can I avoid it? If I can't avoid it, can I minimize it? If I can't minimize it, how do I 9 10 compensate for it? So some of the compensation that 11 we're going to be proposing include a culvert -- some 12 culvert upgrades to enhance aquatic passage on the wetland features that are on-site. 13 We will be creating a new riparian buffer of approximately 4 1/2 14 15 to 5 acres and restoring approximately an acre of wetland vegetation in the process. Nordic is working 16 with the city to try and acquire and conserve a 17 18 section of land located adjacent to the upper reservoir and then they'll also be participating in 19 the state and federal in lieu fee programs where they 20 will write a check to assist with the conservation of 21 22 land in other locations.

23 So I'm going to show you a little bit of 24 what those look like. This is an existing culvert in 25 the project site that you can see isn't probably in
1 the best shape to convey water nor is it in the best shape to help aquatic life survive in this stream. 2 3 So one of the things that we're proposing is to take that existing structure and build a span that would 4 5 go over the top and allow natural vegetation to grow 6 on the bottom and water to flow more naturally 7 through the feature and provide connectivity to the 8 existing groundwater and so it will enhance this as part of our wetland mitigation. 9

In addition, the area shown here in 10 11 yellow -- on the these yellow features here those 12 yellow areas will be planted and restored with appropriate native wetland vegetation. 13 The picture 14 on the right shows you sort of the front of the 15 Belfast Water District driveway, that drainage area will also be enhanced with plantings and we'll be 16 deed restricting that so that anything within 75 feet 17 18 of that stream on the site property will be deed 19 restricted to keep from having future alterations. In addition, there will be a portion of Mr. Cassida's 20 21 property that will enhance the vegetation there as 22 well, so in total the project will gain close 5 acres 23 of riparian buffer.

And then just briefly, this is a -- I apologize, there is a lot of information on this.

1 This is how it prints out from the State of Maine 2 geographic database, but the conservation parcel is 3 outlined in blue. The large brown area you see to the north of that is actual dear habitat, dear 4 wintering area, but there is a large plot of land 5 6 there that Nordic is working with the city to try and 7 find a way to help preserve and should the state be 8 amenable to that as well it will be considered as part of our wetland compensation. 9

10 I'm now going to very briefly give a guick 11 overview of our MEPDES application. So I'm not going 12 to spend a lot of time on this. I think many of the people in this room have attended previous public 13 meetings and know probably as much or more than you 14 15 want to know about a discharge application. This one slide is intended to provide the details quickly. 16 Ι will say if you do have questions about the MEPDES 17 It's available 18 application it is available online. 19 on the City of Belfast web page as well as I believe through the Maine DEP and I'm happy to answer 20 21 questions that you might have about the MEPDES It's -- in Maine the state administers all 22 permit. discharge permits, not the EPA, and the Maine DEP 23 reviews these permit applications. We have that for 24 25 the facilities discharge and the summary of that

application is that it uses proven wastewater 1 2 treatment technologies. These are not something that 3 Nordic is inventing for their process. They're just 4 taking well-proven processes and applying them to a 5 new industry. The discharge will meet or exceed all 6 applicable water quality standards. There will be a 7 monitoring program both to establish a baseline and 8 to monitor through the life of their facility to ensure compliance with their permit and that data 9 will be submitted through third-party peer reviews, 10 11 so not just that Nordic and the DEP but people out 12 here in the audience will have an opportunity to understand if they're truly doing what they say 13 14 they're going to do. 15 Okay. With that, I think Lee is going to come back up, set the stage for some question and 16 17 answer.

(Applause.)

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MR. WOODWARD: Just to let you know, we only have this location until 9 o'clock, so we do have an hour and 15 minutes for questions. I want to go over some very brief ground rules. If when you approach the microphone, and some already have, if you would state your name and speak directly into the microphone out of respect for our court reporter. If

1 everyone would keep background noise to a minimum so, 2 again, the court reporter can take down the various 3 questions that are being asked. And so that we can 4 address as many as questions as possible, I'm going 5 to give you two minutes to get your questions out, if 6 you would limit the commentary and get right to the 7 question at hand it would maximize the amount of 8 questions that can be asked. The only weapon they've given me up here is a mute button and I can think of 9 10 most city fathers here who would just as soon have 11 used that on me on more than one occasion. 12 So, again, we will start off, I see that people have started to line up. First question. 13 14 AUDIENCE MEMBER: Hi. My name is Jason Ron

15 and I just wanted to thank everybody, I'm not going to take two minutes, thank everybody for being here 16 17 tonight. Some of us are paid to be here, but most of us are here because we care about our homes and 18 that's really important. All of us could be at home 19 drinking beer and watching Netflix or whatever, but 20 21 we're here and we're participating in democracy and 22 that really matters, so thank you.

(Applause.)

24AUDIENCE MEMBER: I'm Sid Block and I'm from25Northport. And I thank the presenters this evening,

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you have presented a very impressive survey of your 1 plans and expectations, albeit necessarily 2 3 superficially, and I accept your sincerity and your Still, I have not made up my mind about 4 qoodwill. 5 the merits of your proposal and I'll tell you why and 6 then get to the question. The reason is that many 7 knowledgeable people at your prior public sessions online and various newspapers have voiced what seem 8 to be reasonable questions about the validity of the 9 10 information you have presented and to date there has 11 been no independent, objective analysis of your data, 12 including right, title and interest, scientific data, environmental projections and economic projections. 13 I am reassured, however, that the Maine Board of 14 Environmental Protection will be holding formal 15 public hearings to review your scientific studies and 16 17 claims.

18 Pending these hearings, I must tell you that I remain especially concerned about our aquifers and 19 your and your discharge, which will amount to 100 20 million gallons of standing effluent only one-half 21 mile of the mouth of the Little River into 40 or 50 22 23 feet depth of water less than a mile from the beaches and the swimming dock along the northern shore of 24 25 Northport directly into the path of migrating elver

1 population, a potential harm to lobster and then down 2 the bay towards other profitable smaller agriculture 3 including oyster farms. And though I have some worries about the effectiveness of our regulatory 4 agencies one only need be reminded of how the FAA did 5 6 not thoroughly investigate and deferred to Boeing's data for the 737 Max 8 jetliners. And now, I'm not 7 8 implying at all that the NAF fish farm will result in any immediate or disastrous loss of human life, 9 rather I am implying the NAF fish farm might result 10 11 in a long-term substantial environmental harm. Those worries aside, I will await the 12 results of the DEP hearings before coming to any 13 further personal conclusions and I urge the 14 15 population here to do the same. My question is that you are presenting 16 information about four permits tonight, all of which 17 18 are guite complicated, and I am asking whether you 19 will give the citizens the opportunity to carefully 20 read and fully digest all of the information by 21 extending time for a public commentary by continuing

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this meeting after 9 o'clock and extending this so

carefully review your data will be able to ask you

citizens who will have had the opportunity to

that there can be another section at which point the

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1 more intelligent and pointed questions. Thank you. 2 (Applause.) 3 MS. RANSOM: Thank you, Sid. I'll try to answer that as best I can. What we -- obviously 4 we've tried to put a lot of information into this 5 6 meeting and some of what may be lost in there is some 7 procedural details. First of all, I will encourage 8 anyone who has a question about either tonight's session or following reading our application, the 9 application itself, to submit written questions. 10 We 11 will be reviewing written questions. We'll be -- no 12 doubt some of those questions will be the same questions that your neighbor has, so feel free to do 13 In addition, the application is going to 14 that. 15 ultimately once submitted be available online through the Maine DEP. I have no doubt the City of Belfast 16 17 will post a copy of it as well. You're welcome to 18 review the application and post questions at that time and we will do our best to answer those 19 questions. So there will be also, just so people 20 21 know, when we submit that application the DEP staff 22 will have a period of time where they are reviewing 23 it and looking at it in great detail before it goes to the Board of Environmental Protection, so there 24 25 will be time between application submittal and that

Board of Environmental Protection hearing for the public to develop their opinions and understand what the contents of the application are. So I hope that answers some of the questions there.

5 AUDIENCE MEMBER: Thank you, Elizabeth. I'm 6 Larry Theye and I live with my wife, Betty, at 286 7 Northport Avenue. Our driveway is directly across 8 the road from the driveway of 285 Northport Avenue, 9 which is, as you probably know, the water district 10 and the future home of Nordic Aquafarms.

11 We have attended all of the previous 12 meetings that have been called by Nordic, but we have never spoken because we don't wish to be perceived as 13 14 Now that the Nordic Aquafarms project has newbees. 15 extended not only into our back yard but also to our front yard and our side yard it's becoming 16 increasingly difficult for us to sit quitely on the 17 18 sidelines. While we have many concerns regarding 19 this project, others have addressed these concerns, 20 so tonight I am going to focus only on one that 21 affects us directly; the ravine and the stream that 22 serves as the property line between our lot and the 23 neighboring lot to the north which holds Nordic's permit and easement. 24

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When we built a rock seawall to replace the

1 decaying wooden wall, we purchased a temporary 2 easement to cross that same property in order to access the shore. When Nordic's purchase of the 3 easement was announced it made a lot of sense to us 4 because it would follow an already established lane 5 6 to the shore, but we learned just recently that the 7 route of the pipes will not follow that lane but will 8 instead be located to the south of the property's 9 driveway. That will place the construction trench on the steep grade right next to the stream that serves 10 11 as our property line. It will also involve the 12 removal of numerous mature trees whose roots now serve as a stabilizing force that holds the bank and 13 14 prevents erosion. We've already been concerned about 15 erosion along the stream as increased run-off has caused several trees to collapse into the ravine. 16 The stream drains the run-off at snow melt from the 17 18 water district and it was mentioned by Elizabeth as 19 their main focus. When the woods are replaced by impervious structures, very large buildings and paved 20 21 lots that greatly increased run-off will create 22 serious erosion problems in that ravine. Nordic has promised to address this problem on the north side of 23 the stream, but my question is would you also address 24 25 the erosion problems that will be occurring on the

1 south side of the stream on our side of the stream? Moving the piping further south than 2 3 originally planned also apparently moves the water treatment plant, which was tentatively sited in the 4 5 middle of the pine grove next to Route 1. It will now be sited apparently on the south edge of the 6 7 grove, which I think will be in full view of Route 1 and Erik earlier assured the public that we would see 8 no changes from Route 1. Apparently that no longer 9 holds. In the future, the public on entering Belfast 10 11 will immediately gaze upon a water treatment plant 12 across the street from a Welcome to Belfast sign. 13 (Applause.) 14 MR. COTTER: Thank you, Mr. Theye. As we 15 have talked about today, there are significant wetland issues to understand and be part of our 16 application. The ravine and the stream that you 17 18 discuss is obviously a valuable area that we are 19 looking at very hard. The path that the pipeline is going to take will be through -- will not be through 20 the stream, it will be on the north side of the 21 stream. And we've walked that area with DEP 22 23 through -- during pre-application meetings, they have noted the concern for that bank and the current 24 25 erosion as well as the potential future erosion. Our

application will certainly address those through stabilization measures, plantings, rip rap and any other tools that are available to make sure that that area of the ravine is not only as good as it is now, but, in fact, better because it is currently not an acceptable condition in DEP's eyes, so we will be looking at that.

8 As far as quantity of water, we will have a 9 solid understanding and presentation in our application about the amount of run-off that's 10 11 expected and our design will anticipate that and deal 12 with that appropriately. We're more than happy to continue discussions with you about your side of the 13 stream and if we feel -- and we discuss it and it 14 15 seems like there will be an issue, I'm sure there is a way we can solve that and make sure it does not 16 became an issue in the future after construction. 17

18 AUDIENCE MEMBER: (Larry Theye.) Thank you. 19 I think I got everything there. MR. COTTER: 20 Oh, and the wastewater building. I'm going to just 21 look -- go back in the slides a bit here. So the --22 I'm not -- maybe I'm not going to be able to go that 23 fast, but the visual impact study that SMRT provided actually had a very good view of the waste treatment 24 25 plant. The waste treatment plant is -- the location

has really not shifted. What has probably been added 1 2 is that we understand that there is going to be some 3 work in that area because the pipe does need to come out of that building and across Route 1, so the area 4 will be impacted, however, this view is really 5 6 standing at the wooden Belfast Water District sign 7 right now and as you can see the tree stand to the right is substantially impacted. We will have 8 impacts to it and we will also be providing new 9 plantings, not only young saplings but also whatever 10 11 size mature tree we can responsibly produce and ship 12 to the site and plant so that at day one you won't just have a couple tiny little saplings you'll have 13 some cover day one and it's only going to get better 14 15 from there. But this is a true or a best effort of a true rendering of what that site is going to look 16 like not far after completion of construction, so we 17 18 do feel that the visual impacts are pretty well 19 mitigated.

Finally, just so you know, the front face of that building is an area that we're going to give very -- a lot of attention to. You'll get a chance to see what that's going to look like in the Belfast Planning Board sessions and we understand the impacts of that building and we're focusing on it greatly for 1 that reason. Thank you.

2

(Applause.)

AUDIENCE MEMBER: Hello. Thank you very much for having us all here. My name is Garrett Willsednas (phonetic). I'm a resident of resident of Belfast. I am an information architect and I work on conservation technology projects. I appreciate your openness and your willingness to include us Belfasts in a noisy and lively decision-making process.

10 We are building in Northport and we will be 11 about as close to swimming distance to your effluent 12 pipe as you could get and I am comfortable with the figures I've seen so far. I appreciate very much 13 14 what your project will do for the tax base in the 15 area as well as tying the various educational programs in the state to an actual place where you 16 17 can work on aquaculture projects here in Waldo 18 County.

My question for you is really with regards to the energy usage for your recirculating aquaculture system. Growing fish is a lot cheaper carbon-wise than beef or say mutton, but recirculating systems, as you guys know better than I do, use a lot more energy than say most other forms of raising fish or fishing from vessels. My question

to you is how much of that energy do you intend to 1 offset and is it possible, if at all, to make this 2 3 project carbon neutral or carbon negative, net zero? So generally a project like 4 MR. HEIM: Yes. this like we are working with it is to look for any 5 6 source of renewable energy and that's an 7 incorporative part of the project, solar and heat exchangers are key components to that, and those are 8 really the main renewable resources for energy 9 recapture purposes that we have locally for this kind 10 11 of a project.

12 The alternative if you want to look at a totally energy neutral solution would be to fish wild 13 14 salmon off the coast of Maine. Unfortunately, that's 15 forbidden because of endangered populations, so if we can choose a very best alternative that would be the 16 The next best alternative in terms of that will 17 one. 18 be net pens in the ocean in the area and that doesn't seem like a very likely solution either. 19 So the remaining solution you have is basically the 20 21 remaining wild salmon populations in Alaska, which is 22 the majority of your salmon population in the U.S. or 23 airfreighting the fish, which is the remaining. And when you add up the energy equation for airfreighting 24 25 fish into the U.S. it gets pretty messy to put it

1 that way. And that's also when you look at the research airfreighting fish into the U.S. has about 2 15 kilos Co2 emissions per kilo of fish, so that's an 3 issue there. So we are about one-third of that. 4 So 5 in the end, we are implementing all kinds of energy 6 reduction mitigating measures we can with the tools 7 we have available and leaving a significantly reduced 8 footprint compared to what most of the fish in the 9 market today has and that's where we're at right now. 10 Getting into energy neutral is virtually 11 impossible with this scenario, but we are doing 12 everything we can to lower it compared to what you are seeing. I don't know if that answers your 13 14 question. 15 AUDIENCE MEMBER: (Garrett Willsednas.) 16 (Phonetic.) It does. Thank you. 17 (Applause.) 18 AUDIENCE MEMBER: Hi. My name is Trudy 19 Miller. I live in Northport. I just want to start 20 by saying I am not an expert in marine biology or 21 hydrology or aquaculture or wastewater treatment 22 systems or most other things in the world, but I did 23 spend a career working in high technology. I know a lot about the sorts of decision-making processes you 24 25 go through when you're producing cutting edge

1 technology. I understand the planning,

2 considerations, trade-offs. I don't know your 3 specific field, but I know the sorts of things you have to do and I have a lot of respect for it. 4 Т also understand because I worked on the development 5 6 of the internet what comes with things making 7 something scalable, so I find that quite interesting about what you're doing. It's been a pleasure for me 8 9 to hear your presentations, to hear you talk about your systems and your facility as I enjoy hearing 10 11 people talk about their fields of expertise even if they're unfamiliar to me. It reminds me of working 12 in high tech and how exciting that was. And it's 13 14 also a big treat for me to see younger people coming 15 to Belfast to work on this and I hope there will be a lot more of them. 16

17 I think a lot of what the -- I do have a 18 question actually. It's coming. A lot of the 19 discussions that we've gone through in the last year 20 really I think has to do with trust and because I'm not an expert in something I have to decide who I am 21 22 going to trust and why to feel comfortable about 23 what's going on. It's part of what education is I trust right now, I trust Nordic Aquafarms 24 about. 25 to know what you're doing based on both my

observations of these presentations and even more so 1 2 on the common sense fact that if you don't know what 3 you're doing you're going to lose a butt load of I don't understand why that isn't obvious to 4 money. 5 people. So and then I have to trust our local 6 government, which I do because I think they know 7 what's good for Belfast in the terms of balancing 8 growth and stewardship of the environment and I think 9 this has been demonstrated to date. I haven't been here very long, but I've seen this. And I have to 10 11 trust the state and federal permitting agencies to 12 know how to ensure that our environment can be kept safe while the state grows and thrives. 13 Maine is going to die if it doesn't grow and I think we all 14 15 know that.

So, I mean, basically that's what I have to 16 And if something comes up in permitting that 17 sav. 18 shows this is really going to be a real detriment to our local environment of course I'm not going to be 19 in favor of it, but I have nothing to date that would 20 21 prove that's the case. I'll leave out my snarky 22 tweet I was going to read and then I'll get to my question, which is I have read somewhere not too long 23 ago that you are prohibited from selling byproducts 24 25 as lobster bait because of current state regulations

and I want to know is that true and, if so, how
 you -- what you can do about that.

3 MR. HEIM: Yeah, so as of today regulations 4 has been created for net pen operations and regarding the salmon cutoff, so we have been in dialogue with 5 6 the lobster unions and also the DMR of the state and 7 they are favorable to doing this. The basis for 8 doing that and the reason why you want to be rigorous 9 here is that you want to make sure that you do not have the risk of transmitting any disease, so that's 10 11 why a program like this will be subjected to a health 12 certification program according to the same routines as when Maine imports bait fish from, for example, 13 the Pacific Coast into Maine, you would have the same 14 15 issue in that scenario. The reasoning we are different from that net penning is that we have 16 17 strong preventative measures against parasites and 18 pathogens, so the risk is significantly reduced and 19 when you add in addition to that the health certification program that's why they're favorable to 20 move forward on this. 21 22 AUDIENCE MEMBER: (Trudy Miller.) So this 23 is just a regulation issue? 24 MR. HEIM: It's a regulatory issue and we're

25 moving our dialogue with the authorities on this and

we sincerely hope it goes through because there has 1 2 been a big bait challenge in Maine. 3 AUDIENCE MEMBER: (Trudy Miller.) I know. MR. HEIM: And it's a fantastic resource 4 5 that can help this industry, so we hope this synergy 6 can be realized and we're working hard on doing that. 7 AUDIENCE MEMBER: (Trudy Miller.) Thank you 8 very much. 9 The other thing I'd just like to MR. HEIM: say on the trust issue, I fully understand that and 10 11 that's the reason we also have submitted our 12 applications for independent external permit use. So, for example, the discharge we talked about 13 briefly today and also previously has been submitted 14 15 and reviewed by the Conservation Law Foundation, which usually sues companies for environmental 16 17 problems and they have written a letter of support to 18 DEP based on what they have read and the same with the GMRI in Portland and the same with the Atlantic 19 20 Salmon Federation that works to conserve wild salmon 21 populations. So that's a part of the trust building 22 process we want to do in Maine is to say, okay, 23 please do listen to us, but listen to the other people in Maine who have the scientific background to 24 25 assess these things properly. Thank you.

1 AUDIENCE MEMBER: (Trudy Miller.) Thank 2 you. 3 (Applause.) 4 AUDIENCE MEMBER: My name is Rachel Rabinor 5 and I just moved here to Maine in July. 6 AUDIENCE MEMBER: We can't hear. 7 MR. LEE: Speak up. 8 AUDIENCE MEMBER: My name is Rachel Rabinor and I moved to Maine in July. This is the first 9 10 meeting I've been to, so this may have been covered 11 in other meetings, I don't know. I do have environmental concerns, but also I have concerns 12 about the short and long-term effects of traffic. 13 14 I -- first I'll express my concerns and then I'll ask 15 you questions. Okay. So the thing is how much traffic will there be there? Trucks leaving and 16 where do the trucks go? I do know or believe that 17 18 the roads here were not constructed for heavy 19 traffic, so I am assuming that there will have to be road repairs. How often is Route 1, which is a 20 21 cliche I think to say this, but I will say it, I 22 think it is a life-line along the coast here, so I'm 23 concerned about how often it's going to have to be closed for your trucks for repairs. 24 So what size 25 trucks will you be using and during construction how

1 long will construction be? How many trucks will be 2 going on Route 1? Are you going to be closing it 3 down? And then once you are producing your product, 4 again, how many trucks and what are you planning to 5 do about the roads?

6 MS. RANSOM: Hi. Thank you for coming and 7 participating. It's not always easy to do that as a 8 newcomer in town. I wanted to let you know, first of 9 all, traffic is primarily a concern that will be 10 covered in detail in the city planning meetings, so 11 oddly enough it's not a key component of the state 12 application process, but it figures highly in the city process, so I will give a you wide variety of 13 14 numbers during that process as well. But just to 15 give you a rough idea, we have conducted a traffic study where we look at traffic counts as the existing 16 situation right now on Route 1 and out on Perkins 17 18 Road and at various intersections and we look at the 19 facility's operations and say what's the impact of the increased truck traffic due to their operations. 20 And bottom line is there is not a lot of impacts 21 because there is not a lot of truck traffic and 22 23 because the operation is primarily growing fish, you have a little bit of product that leaves and a little 24 25 bit of feed that comes in and you have the employees

1 which will be between 60 and 100 employees that come to the site, but the impacts are not significant, so 2 3 I think in general you're not going to feel those impacts strongly. The thing that I think people are 4 going to recognize the most will be during the 5 6 construction phase in the early part of the 7 construction as we talked about earlier, when you 8 build a pipeline you have to cross Route 1 with that pipeline and in order to do that you have to alter 9 10 the flow of traffic on Route 1 during the months that 11 you construct that. And the plan is to actually 12 build a small bypass, the road would be diverted up onto the water district property so that the two 13 lanes of traffic can continue to flow in, you know, a 14 lane in the northbound and a lane in the southbound 15 direction while the work is being done in the actual 16 part of Route 1 itself. And then once the work has 17 18 been -- the pipeline has been laid through on Route 1 19 that part would be repaved and restored and the bypass section would be closed and you'd go back to 20 going back and forth on Route 1. And that's a bit of 21 22 an over simplification. If somebody is interested in 23 getting more details, we do have people here that can help you with that, but I do encourage you to come to 24 25 the city planning process as well where we're going

1 to try to cover that in a lot greater detail. We
2 have an independent traffic engineer who was hired as
3 a consultant to the project to conduct that traffic
4 study and there will be a thick report as part of
5 that application that will cover some of that for
6 you. Hopefully that helps.

7 AUDIENCE MEMBER: (Rachel Rabinor.) Okay.
8 It does, yeah. And so then can you just tell us how
9 many trucks when you're in production will be leaving
10 daily?

11MR. HEIM: I think we have the maximum of 1612or 17.

AUDIENCE MEMBER: We can't hear.

13

14 A maximum of 16 to 17 per day. MS. RANSOM: 15 AUDIENCE MEMBER: (Rachel Rabinor.) And then the report that you're telling me to check on 16 17 you've concluded that there won't be problems with 18 heavy traffic heavy trucks on the road on Route 1? It's similar to the size 19 MS. RANSOM: 20 vehicles that currently go up and down Route 1, so 21 the added impact of an additional 16 trucks isn't 22 expected to take -- I want to say there are something 23 like 9,000 vehicle trips per day existing right now on Route 1, so the additional 16 to 17 truck trips 24 25 are not anticipated to have a significant impact.

1 AUDIENCE MEMBER: (Rachel Rabinor.) Okay. 2 Thank you. 3 MS. RANSOM: You're welcome. 4 AUDIENCE MEMBER: My name is Jamila 5 Levasseur. I've just got something quick. You say 6 in your initial presentation you said your goal in 7 raising these fish is to provide sustainable seafood 8 and I don't believe there is anything at all sustainable about this project, but you don't mention 9 the profit is obviously a priority. It has to be. 10 11 Can you tell me why you chose to register and 12 incorporate in the State of Delaware, which is not where you're raising your fish instead of here in 13 14 Maine, the state that you claim to love? 15 MR. HEIM: I think will you find companies throughout the U.S. who register in Delaware for 16 17 many -- a great many reasons because it's a favorable 18 state to be registered in as a business. What you then do is you local register your business where you 19 are actually doing the business. This is very common 20 21 among companies all over the U.S. 22 AUDIENCE MEMBER: (Jamila Levasseur.) I'm 23 very aware of that. MR. HEIM: So and that's typically if you go 24 25 to legal counsel in the U.S. they will often

1 recommend you to do this because they have favorable 2 conditions for setting up a corporation. 3 AUDIENCE MEMBER: (Jamila Levasseur.) Okay. 4 Can you be a little more specific about how -- what 5 those favorable conditions are and how that impacts 6 the State of Maine? 7 MR. HEIM: It doesn't have any impact at

8 It's a matter of ease of procedures and ease of all. 9 registering a company in the state, which are 10 favorable. I don't see any impact at all in terms of 11 doing business in Maine. It's a U.S. registered 12 company. So obviously companies in the U.S. can be registered in any state and can do business across 13 14 any state in the country and so I think every 15 business needs to consider what's the best option for them. 16

17 AUDIENCE MEMBER: (Jamila Levasseur.) Yeah, 18 of course. I really hope that at some point we can 19 hear from a corporate lawyer or a lawyer who has 20 experience in corporate law who perhaps has a 21 different view of this matter because you are trying 22 to set yourselves up as a corporation that's 23 different that's putting the environment and putting sustainability first and yet you're going to be 24 25 registering in a state where you're not raising your

1 fish. I've got some serious questions about that. 2 Okay. I respect that. MR. HEIM: Thank 3 you. (Applause.) 4 Hi there. I am Jackie 5 AUDIENCE MEMBER: 6 Cassida. So I'm going to be your little neighbor and 7 so clearly that would mean I do a lot of research and a lot of reading. And I have to say with all of the 8 research that's been done and all of the work that's 9 been done there has been a tremendous amount of work 10 11 from our city council and from you and I really have 12 a lot of gratitude for a lot of what you've done especially in addressing the concerns that we've had 13 14 preserving the land around our property, the trail, 15 the green buffer zones. Actually, a lot of my questions have already been answered. So my one 16 question that I have, you were talking about 100 17 18 percent use of that valuable product, the fish, and 19 you talked about some of the cutoffs. As far as the 20 waste goes, I know that there is some potential 21 business there. Can you talk a little bit about that 22 part of it as far as, you know, I know that it's 23 going to be packaged up and driven away. What then? So actually one of the first 24 MR. HEIM: 25 things we did was the study in New England in terms

1 of downstream waste resource industries that can be potential business partners. So what we concluded is 2 3 there is a significant potential and there will be 4 more. So typically what we have is a fish processing waste and that's being chilled or frozen. 5 The one 6 that we really hope will come to a conclusion is the 7 lobster industry synergy because I think the State of Maine will benefit greatly from that. 8 Beyond that, 9 you have a large pet food industry, many other types It's a high value protein resource, which 10 of buyers. 11 currently the only available solution that's been 12 used for the most part for the seafood industry in Maine is composting, which in our view is a waste of 13 14 So we've been reaching out broadly and resources. 15 see a great range of opportunities to sell this product and to put it to reuse in a valuable way. 16 The other part is the filtration, the sludge that we 17 18 dewater and then ship out. We have biogas 19 arrangements that we can pursue and also fairly 20 concrete solutions there. You can also compost, but 21 that's a waste of resources in our view. Finally, we 22 are in the process of looking at a micro-algae 23 project that would produce high grade organic algae with one of the leading experts in the U.S. in algae 24 25 production and if that it comes to fruition we hope

to be able to locate that in Waldo County as well 1 with additional jobs for this county. So there is a 2 number of different ways we can proceed on this. 3 (Jackie Cassida.) 4 AUDIENCE MEMBER: Thank 5 And I just, again, want to say I'm looking you. 6 forward to being neighbors and also maybe talk about 7 that green buffer in the back of my garden. 8 MR. HEIM: Okay. AUDIENCE MEMBER: (Jackie Cassida.) 9 It will be up for discussion, right? Thank you very much for 10 11 all of the information, I appreciate it. 12 (Applause.) 13 AUDIENCE MEMBER: Hi. I am Diane Braybrook 14 and I live over the bridge in East Belfast. When I 15 go over that bridge, what a view. I've had a lot of accidents almost just because I drive this way. And 16 17 what do I always see? I see Front Street Shipyard 18 and I'm always so happy to see that they came to 19 Belfast and they made Belfast a better place. I am 20 so excited about you coming to Belfast and making 21 Belfast a better place. I have no qualms --22 (Applause.) 23 AUDIENCE MEMBER: (Diane Braybrook.) _ _ about your licensing. I think you have done your 24 25 research, your due diligence far beyond what could

ever be expected. When Front Street started, I don't 1 2 remember them being put under a microscope the way 3 you have been, but they are there and they are a bonus to Belfast. So in my vision you are there. 4 And tourism is one of the main sources of income in 5 Belfast. I would love to see this be a destination 6 7 for people to come to. Among all your rules and regulations and licenses, how open will you be able 8 to be to welcome tourists, education groups? 9

10 MR. HEIM: I'll take that one as well. That is actually a part of -- we touched upon this in a 11 12 previous meeting in terms of how can we give back to the community. So and it's also been clear that the 13 14 town wants to preserve the water district building, so we combined sort of the idea of a visitor 15 educational center for seafood with that existing 16 building structure and also adding an outdoor salmon 17 18 viewing pool so the public can actually come and see. 19 So what we're doing there is we're giving the 20 easement to cross our property to the trail system. We're adding a visitor educational center that, for 21 22 example, also in low season could be a great 23 destination for school kids and classes. And --AUDIENCE MEMBER: (Diane Braybrook.) 24 As a 25 former educator --

MR. HEIM: Yes.

1

18

2 AUDIENCE MEMBER: (Diane Braybrook.) -- I 3 love that idea.

And so we have also actually 4 MR. HEIM: 5 mentioned this to Duck Trap in terms that maybe we 6 can do something together there and so that's a 7 possibility. And if there is interest maybe we'll 8 end up selling smoked salmon for people who go 9 hiking. And I know our neighbors are producing blueberries, so maybe we'll team up with them as 10 11 well, I can see this. So but we're going to be 12 looking for input also into that project. I want that to be a community focused project that can give 13 14 something back to the community.

AUDIENCE MEMBER: (Diane Braybrook.) I think it's so exciting what can happen because of you being part of Belfast. Thank you for being here.

(Applause.)

19 AUDIENCE MEMBER: Hi. My name is Phyllis 20 Coelho and I am from Belfast. I wonder -- as far as 21 I know you haven't decided on the feed that you will 22 be giving the fish and my concern is how you'll 23 quarantee that the feed will not contain GMOs and other contaminants wildly found in soybean and corn. 24 25 MR. HEIM: So I can comment on that. Beyond

1 that, I think we have an expert from the feed -- a 2 veterinarian from the feed industry here today, so he 3 might be able to shed some light on this as well. The reason we're not choosing our feed yet is 4 because, first of all, we're over a year away or a 5 year-and-a-half away from using any feed and we are 6 7 seeing a fantastic interesting development in this industry right now. The last months have been full 8 of news about innovation in feed ingredients and the 9 reason this is happening is really because the 10 11 industry is growing so fast that feed industry needs 12 to innovate in terms of sustainability and sourcing of ingredients. So just in the last months when we 13 14 were in Boston last week at the seafood expo down 15 there too also you see a whole new range of micro-algae products, the first insect meal 16 ingredients are into the market. So all of these 17 18 developments are happening rapidly right now and that means that we will have other choices one year from 19 today than today in the market and we want to be 20 21 there making the right choices when we need our feed 22 basically.

In terms of you're addressing contamination
issues, would you like to comment to that, please?
You can introduce yourself.

1 MR. RAMIREZ: Hi. Thank you for the 2 I work in a fish food plant company and I question. can tell that all of the tests that we do to the raw 3 4 materials are very intense. All our vendors are 5 certified. We clearly test for PCB, heavy metals, 6 any contaminant that can be in those raw materials. 7 If we find anything, the raw materials are rejected. 8 After we process the feed they are tested again and also tested for bacterial contaminants like 9 salmonella that's a clear concern. All of the feed 10 11 that comes in is made in Canada. That means that we also need to meet all of the EPA requirements and 12 CFIA requirements to grow the corn. 13 CFIA is the 14 Canadian side and they signed all of the permanent 15 documents who allow the feed to come to this country. In terms of raw materials, all raw materials are 16 17 vegetables or animal proteins or fish meal are highly 18 certified and tested many times. 19 AUDIENCE MEMBER: (Phyllis Coelho.) 20 Non-GMO? 21 MR. RAMIREZ: No. 22 AUDIENCE MEMBER: (Phyllis Coelho.) 23 Guaranteed? 24 MR. RAMIREZ: As far as I know, yes. 25 AUDIENCE MEMBER: (Phyllis Coelho.) Thank

1 you.

2 AUDIENCE MEMBER: I'm Steve Hutchings. I've 3 been a career educator for 40 years. I've lived here for about 45 years and I've taught environmental 4 science to local students for that time. 5 I'm 6 currently teaching at Medomak Valley and I have 7 Friendship kids. I have about 20 kids that are 8 full-time lobstering. They're going to be very 9 pleased about the lobster bait. I'll try to keep 10 them from driving up here tomorrow because they 11 would. My point is that is my perspective. Μv 12 perspective is kids, all right, and I don't hear anything about kids. And I've got two grandkids 13 14 living at home. They're 16 and 18 and for 35 years 15 I've been teaching a lot of your kids. I've watched them graduate from high school, some go on to college 16 17 and they leave and you get to see your grandkids once 18 a year maybe or once every couple years because they 19 got good jobs elsewhere. Well, the jobs are starting to be here now and that's all I care about to tell 20 21 you the truth. I trust these folks. They're good. 22 I trust our city government. I trust our state 23 government. We need jobs. We need opportunities for kids. We need this to be an international town and 24 25 it's going to be and that's going to draw other

1 companies. 2 (Applause.) 3 AUDIENCE MEMBER: (Steve Hutchings.) And my 16 and 18 year old grandkids are going to stay here 4 5 and they're going to be able to afford taxes and 6 that's the issue that I care about. Thank you very 7 much. 8 (Applause.) AUDIENCE MEMBER: Hi. My name is Kathryn 9 I live in Belfast. And I have -- I would 10 Shaqus. 11 just like you clear up some things that seem a little 12 inconsistent especially about the scale you have. You keep saying that you have all of the experience, 13 14 but, you know, the plants in Norway 1,200 tons and 15 4,200, this is going up to 33,000 tons. You also say, well, we have, you know, decades of experience, 16 which I understand that you have lots of good 17 18 technical people, but it's -- it's almost like going 19 to the moon. It's almost like saying we've got the eggs, we've got the milk, we've got the flower, we've 20 21 got the sugar, but we've never cooked the cake 22 before. And I think that my concern is the risk to 23 the City of Belfast, which I understand is already put in \$240,000 promised in start-up costs plus 24 25 countless man hours. We've asked before why -- if

you so care about the environment, why is it on not 1 on a Brownfield site as you are doing in Humboldt 2 3 County? The last time I asked this question you said we must have it on fresh water. I -- it seems to me 4 that there is an awful lot of risk that the city is 5 6 bearing, yes, it would be wonderful if it was really 7 green, if you were really recycling your waste, if it was not bad for the environment and if it offered 8 jobs and opportunities for young people, but 9 basically who -- why should this be trusted? 10 11 (Applause.) 12 Well, I think they're really good MR. HEIM: questions, so thank you. And I think the important 13 14 thing is everything we develop and build is modular, 15 so, yes, we are going up in size in Belfast, but it's like adding more modules of the same standardized 16 concept. So it doesn't mean that we're building one 17 18 huge tank, we're building many medium sized or larger tanks next to each other basically replicating them. 19 So the first system is identical to the last system 20 21 and we're doing it in a phased manner so this is all 22 about standardizing and replicating designs in the 23 So, yes, it's bigger than we've done before, end. but it's, again, replicating the same standardized 24 25 designs and improving them every time. So, for

example, the picture you saw from our Norwegian 1 2 facility is a vast improvement beyond the one we did 3 in Denmark. And the one we're doing here in Maine is 4 a vast improvement, again, from what we've done in Norway and that's really where this is going with the 5 6 innovation and as we are also stacking more and more 7 experienced people who have built many of these farms I think it's a very good question and that's 8 before. 9 why I just want to explain very clearly everything is modular. We're just multiplying the same thing over 10 11 and over again basically. 12 AUDIENCE MEMBER: (Katheryn Shagus.) Τ 13 appreciate that --14 MR. HEIM: Okay. 15 AUDIENCE MEMBER: (Katheryn Shagus.) -- but it still doesn't really answer the question. 16 Ιt 17 doesn't really answer the concerns. It doesn't 18 answer the environmental concerns --19 MR. HEIM: Okay. 20 AUDIENCE MEMBER: (Katheryn Shaqus.) -- and 21 who is taking -- are you taking the risk if things or 22 is -- I mean, there is a -- Webster City, Iowa had a 23 huge, you know, the giant fish farm that was supposed to -- sustainable and everything the city was left 24 25 holding the bag. They're -- corporations don't
1 always pay their taxes. They don't always -- you
2 look at -- there are a lot of examples. There is a
3 lot of concern here and I don't think we've gotten
4 really good answers.

MR. HEIM: In terms of the wastewater 5 6 treatment you have probably hundreds of companies in 7 the U.S. who can build the wastewater treatment plant that we're building. This is not a unique technology 8 9 for us. So that's why we're also being clear that, for example, one of the major systems are delivered 10 11 by Mitsubishi which is a global supplier of 12 wastewater treatment systems, so this can be reviewed objectively by expert resources and looked at as 13 14 But I think it's good you ask questions and well. 15 that's fair, I think so, and we have put a lot of stake in this too. We have invested \$6 million in 16 17 the state without any permits so far, so that means 18 that if we didn't know what we were doing our 19 investors would be pretty stupid. So I think maybe at least you can see that as a reflection of our 20 21 commitment to Maine that we're actually investing 22 heavily because we have high confidence we are able 23 to do this.

24AUDIENCE MEMBER: (Katheryn Shagus.)And my25understanding is you have family investors as well as

1 other investors and --

2 We have --MR. HEIM: 3 AUDIENCE MEMBER: (Katheryn Shaqus.) I --4 mean, you stand to -- you and many other companies 5 that want to do this right now stand to make an awful 6 lot of money, but there are a lot of companies trying 7 to do the same thing at the same time and some will 8 fail and some will succeed. 9 MR. HEIM: Yes, and that's maybe the difference between us and start-ups. We have already 10 11 built three facilities and our engineering staff has built countless facilities before that. 12 AUDIENCE MEMBER: (Katheryn Shagus.) 13 At a 14 much smaller scale. 15 MR. HEIM: Yeah, but they're getting bigger and bigger and the knowledge -- that's what happens 16 in many industries, they grow and they scale and 17 18 that's a natural part of how many companies in the 19 U.S. is developed as well. They started somewhere and built from there. And I can't speak for every 20 21 U.S. company, some -- it's clearly some companies 22 have probably done better than others and some are 23 probably more ethical than others and so on and I can't really stand by what they have done. 24 I have to 25 speak on terms of our company and what we are good

1 for basically.

2	AUDIENCE MEMBER: (Katheryn Shagus.) Okay.
3	MR. HEIM: And so I think you have to judge
4	us by our actions and what we show in terms of
5	experience and our team and that we actually have
6	already three facilities in operation. We are the
7	only land-based company in the world today with
8	different facilities in operation in the presence of
9	three countries, so we are quite a bit different from
10	start-ups in this industry.
11	(Applause.)
12	MS. RANSOM: I'd like to just add one more
13	comment regarding the financial piece. As part of a
14	SLODA application a company is required to show
15	financial capacity for the project, so there is a
16	substantial amount of documentation that will go into
17	the state and be reviewed by the state as to their
18	capacity to actually perform what they say they're
19	proposing. So just as an added layer, I mean,
20	obviously Erik has spoken to why it wouldn't make
21	sense for him to go forward if he didn't think he
22	could succeed, but there is actually a governmental
23	check on that so if you're interested this will also
24	be part of the application process. Thank you.
25	AUDIENCE MEMBER: Hi, there. Lou MacGregor.

Thank you for the opportunity. I wish I could 1 2 support the project. I get up every morning 3 wondering if this is going to be the day when I'll feel like I can support it and -- or will this be the 4 5 day that we just leave town, but it hasn't happened 6 yet. I do have a couple of questions. You've 7 regularly said in these PIMs and elsewhere that 8 you're being transparent through the Belfast process. 9 In that case, why won't you release the Gartley and Dorsky survey of Belfast Bay or at least part of the 10 11 bay that you commission? Is it because survey shows 12 effluent pipe crosses the littoral zone and one or more of Belfast/Northport residents who don't want 13 14 you and won't give you permission to cross the zone 15 or is it because no one in the area will permit and you must take a long surreptitious route? 16 17 This is the Dorsky survey that MS. RANSOM: 18 you're looking at in this figure. 19 AUDIENCE MEMBER: (Lou MacGregor.) Okay. 20 MS. RANSOM: And this shows, I mean, and, 21 you know, obviously it's simplified for the 22 presentation, but the application materials will have 23 a full response to all of the questions of the January 22 letter from DEP including copies of the 24 25 information that we're providing showing title, right

1 and interest --2 AUDIENCE MEMBER: (Lou MacGregor.) All 3 right. MS. RANSOM: -- to the land for the 4 5 pipeline. 6 AUDIENCE MEMBER: (Lou MacGregor.) Thank 7 you. 8 MS. RANSOM: You're welcome. 9 AUDIENCE MEMBER: I'm Susan Cutting and I live in Belfast. You state -- I just want to clear 10 11 up some inconsistencies. You state that the lowest 12 carbon footprint would come from local net pen production or wild salmon fishing, but a recent 13 14 detailed report says that because of the huge energy 15 footprint of the RAS systems the lowest carbon footprint with the lowest accompanying environmental 16 17 footprint would be to use existing net pen facilities 18 in the deep ocean Scandinavian waters and to ship frozen filets or whole fish in container ships to the 19 U.S. And I want to follow-up on the question about 20 21 climate change. I don't think that this is really 22 about feeding the world for you, is it? Because -wait, let me -- well, because what we have 23 demonstrated here in Belfast is that we have an 24 25 amazing local food movement. We have a co-op and

our, you know, two different farmer's markets and there is a lot going on here and we have a lot to show and share and that is a low carbon footprint. In this day and age we can't afford to do this to our children and future generations. Your industry is a huge facility that is going to have a huge carbon footprint.

AUDIENCE MEMBER: Here here.

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9 AUDIENCE MEMBER: (Susan Cutting.) And so 10 I'm -- I ask that you stop referring to it as a low 11 carbon initiative because it it's not.

12 MR. HEIM: Okay. Frozen salmon shipped from Norway has about the same footprint as our fish in 13 14 Co2, but I agree with you, you definitely reduce your 15 footprint with frozen product. So essentially if you wanted to reduce the Co2 footprint of salmon 16 consumption in the U.S., stop importing fresh 17 18 seafood. Airfreighted. That would be your first 19 step because you have a much lower footprint from frozen seafood from fresh seafood. So then there is 20 the consumer choice if consumers are happy with 21 22 frozen products. So that's -- that's an interesting 23 discussion. Besides that, U.S. emissions of Co2 increased by 3 percent last year and so if you look 24 25 at the big picture in the U.S. where the real issues

1	are on Co2, I think we're not the place to start.
2	There is a much bigger discussion going on that
3	really needs to be taken seriously in this country
4	and we definitely want to be a part of that
5	discussion as well. But in the end, if you look at
6	the amount of fish produced with this footprint you
7	will not find any facility in the world with the
8	footprint efficiency that we are providing and that's
9	because we have gone through extensive design
10	processes to be very efficient on footprint here.
11	AUDIENCE MEMBER: (Susan Cutting.) But it
12	doesn't beat local food. It doesn't go so
13	starting a first process is to be to not choose
14	this model.
15	MR. HEIM: So I I actually shop at the
16	co-op and I really appreciate it and we also shop
17	local organic and I think that's a great product as
18	well. The problem is that if you are going to put
19	feed in total use population organic small scale
20	farming cannot do it because of yield, so you need a
21	combination. So my point is you need both. Yes to
22	both. It's not an either or question, so but
23	that's a very interesting debate that this country
24	should have in terms of future food systems and the
25	sustainable issues around them because it is a very

1 important issue. So thank you for the question. 2 (Applause.) AUDIENCE MEMBER: Hi. My name is Anne 3 4 Saggese. I'm from Belfast. And I want to say this 5 has been super fascinating to watch this project 6 develop, so thank you for the expansive opportunity 7 you've given us to watch it happen. I know it's been a rocky road sometimes. I've spent the last 30 years 8 9 in local food production, so I would like to back-up 10 Erik in saying that small family farms can't feed the 11 world. It is a big part of the solution, but it is 12 not the solution and we need to be thinking about technologies like this to fix that. 13 So my question 14 though was not -- I'm nervous as anything. I don't 15 know why. -- not all of you are Nordic employees here, correct, that spoke tonight? So those of you 16 17 that are not Nordic employees, what's your 18 background? What's your expertise? You know, we saw 19 a lot about there was some science stuff that went right over my head, so why should I be believing what 20 21 you say? 22 MS. RANSOM: I'll start with that. Here we 23 So this slide that Erik put up earlier in the qo. presentation showed you a variety of the different 24 25 partners that have been involved in this project so

1 far and there are others that aren't even on the 2 slide. We are a variety of scientists, engineers, 3 architects, landscape architects that have been 4 brought in to help on the aspects of the project that 5 are many that go into this application.

6 So, for example, I won't try and speak for 7 everybody, but SMRT is from a large firm in and it's 8 composed of architects, landscape architects, and 9 engineers that have the capability to design 10 buildings, roadways, foundation systems and the kind 11 of things that you'd have on any sort of building 12 process not just specific to aquaculture.

Woodard and Curran has been brought onto the team because they have folks who are experienced at looking at things like the pipeline and how could you design a pipe system of that length and into that depth of water.

18 I represent Ransom Consulting. We are 19 engineering and scientists who helped with things 20 such as the stormwater design. We've looked at 21 groundwater. We are overall looking at the permit 22 application process and making sure that that's 23 complete. And, you know, the individuals standing up here tonight are one of a team of anywhere from a 24 25 small group to 100 or so people at each company have

been involved in some aspects of this project. Gridworks Consulting is up here to -- a partner that has looked at some of the energy consumption for the facility and some of the questions we've had tonight about how do we efficiently use energy and do that in a manner that keeps the carbon footprint down.

8 Ramboll is another environmental consulting firm and engineering firm that's been hired to 9 actually provide independent sort of outside review, 10 11 so when Ransom or MMA come up and presents some of 12 our groundwater modeling or discharge modeling that's one firm's opinion of how it can be done and Ramboll 13 14 has been hired to look at that and say, okay, did 15 they take the right approach, is there another alternative way we could have done that. 16

Cianbro obviously is something that probably 17 18 a lot of you are familiar with, you've seen their 19 signs and trucks around. They do a lot of They have a lot of great construction 20 construction. 21 experience. And they've been looking at this not 22 only as to how do we build the pipeline, but it's 23 what we're engineering something that's actually constructible. There are easier ways to construct 24 25 things than others and we don't want to go through a

1 permitting process to permit something that 2 ultimately a contractor comes in and bids on and says 3 I can't build that, you guys are crazy. So they've been brought in early to the team to make sure that 4 5 what we do has some experience behind it as well. 6 Drummond Woodsum is, like it says, 7 attorneys. They're here to make sure they review 8 this for completeness and thoroughness and make sure that the application meets the standards it needs to. 9 Kennebec River Biosciences has been involved 10 11 in helping with some of the actual, you know, 12 integral pieces to the fish process itself, how do we grow these fish successfully. 13 14 And there is numerous people that didn't 15 make the slide. We've a got noise consultants, we've qot archeological consultants, we've got wetland 16 consultants, but each of those are represented by a 17 large firm with resumes that in many cases have 20 to 18 19 30 years of experience behind them. All of that information actually goes into our application 20 process. We have a section of the application that 21 22 will be resumes and project descriptions to basically 23 show DEP that the Nordic team has the experience to do what they say they're going to do. 24 25 AUDIENCE MEMBER: (Anne Saggese.) How many

of these companies are in Maine? 2 I believe everybody that I've MS. RANSOM: named tonight except maybe Gridworks has a Maine office. 4 AUDIENCE MEMBER: (Anne Saggese.) Thank you. MS. RANSOM: You're welcome. 8 (Applause.) AUDIENCE MEMBER: Hi, there. My name is Michael Ray. I live in Lincolnville off the map or 11 of your map, but still interested in what happens in the area. I've got a question, but as an aside I just wanted to thank you on a presentation. 13 I used 14 to be on a little planning board in a little town and I always get this geekish thrill out of seeing applications that are comprehensive, even overviews 16 17 of applications and I like watching people work too. 18 But what I didn't hear, and correct me if you went over it and I missed it, what might -- what plans do 19 you all have should your application be approved and 20 you get the permits and what not for if some 22 relatively significant remedial action has to take 23 place, stormwater, effluence, you name it. Have you

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put money aside in a fund, something above and beyond

fines, what kind of provisions might there be with

1 the DEP? Or maybe -- maybe that's entirely --2 I can start on some of that. MS. RANSOM: 3 When I talked to you about groundwater, for example, we talked about the fact that the -- that we set 4 5 action levels and we come up with an action plan. So 6 what might that look like? So let's just say our 7 model predicted that somebody's well was going to have 10 feet of drawdown and we start up a facility 8 and we see that there is more than that. One of 9 those action responses might be depending on the 10 11 nature of the response that we find a different way 12 to use water so we don't cause that drawdown, so that may be they increase the salinity in their tanks as a 13 14 response to observed water drawdowns. Let's just say 15 maybe we're not having an impact on somebody's water quantity, but let's just say they develop an iron 16 17 problem that they didn't have before, our mitigation 18 for that measure might be we'd give them a water 19 treatment system. So each part of the application 20 looks for the applicant to have a way to monitor for 21 problems that could occur, prevent them from 22 occurring or stop them and mitigate and that takes 23 many shapes and forms and that's water, that's stormwater, that's wetlands, that's design, the 24 25 things that don't go as planned because, let's face

it, you know, you can model and develop your
 engineering and then there is what happens and so the
 state protects and the applicant protects to make
 sure that they can maintain a good project going
 forward.

6 AUDIENCE MEMBER: (Michael Ray.) Yeah, 7 well, actually what I'm asking, and maybe this is 8 something that the ordinances don't require you to do, I don't know. But, no, I was thinking of 9 something, well, not post-apocolyptic, but if 10 11 something major were to happen, okay, monitoring is 12 good, paying a fine is good, mitigation is good, but should there be something larger that happens. 13 We 14 find out 35 years from now that Penobscot Bay is 15 spoiled, do you -- is there some sort of plan or commitment to clean-up monetarily? Like I said, 16 17 maybe the ordinances don't require this.

18 MS. RANSOM: I mean, there is Maine law that 19 they'll have to uphold. And there will be ongoing monitoring so that you know if anything is going on, 20 21 so that, you know, the premise behind that is so the 22 apocalyptic scenario doesn't occur that you've nipped 23 it in the bud before you get to something like that. So, I mean, all of these applications have a robust 24 25 monitoring program that follows so that the state and

1 the applicant and the community all have the benefit 2 of knowing if things are going according to plan. 3 (Applause.) MR. WOODWARD: Jay, could you please try to 4 5 get out of line so I can use the mute button? 6 (Laughter.) 7 AUDIENCE MEMBER: (Jay Davis.) You don't want me to do that, but I could. My wife and I --8 I'm Jay Davis from Belfast. My wife and I just came 9 back from a trip to Norway to visit our daughter and 10 11 we went to Frederickstad to see Nordic Aquafarms in 12 real life and it was an interesting experience. One of the things that struck me was outside the finished 13 14 building where I understand from your office in 15 Belfast you're -- just the -- the fish are just about to go into this building, there are 40 big round like 16 round hay bales in Maine stacked up outside the 17 18 building and I'm thinking they're not going to feed 19 hay to these fish. 20 (Laughter.) 21 AUDIENCE MEMBER: (Jay Davis.) But you are 22 feeding something to the fish in Norway, what is it 23 and is what you're feeding them subject to any restrictions in your permit to operate in you -- in 24 25 Industrial Park in Frederickstad?

1 So I have not the benefit of MR. HEIM: 2 being in Frederickstad actually in six months since I 3 moved here. So you're saying there is hay bales outside? 4 5 (Laughter.) 6 AUDIENCE MEMBER: (Jay Davis.) No, they 7 look like hay bales. Plastic covered hay bales. 8 MR. HEIM: Yeah, it's probably biofilter material that's been built into the central 9 10 biofilters. So that's a part of the final just the 11 wrapping up the process of the facility, I would 12 assume without having seen it and so that's the answer there. And so in Norway the feed formula we 13 14 use there is a pretty standard type of feed used in 15 the industry in Norway. It's specialized for RAS production basically meaning that it has natural 16 17 binders that keep the feed together longer than you 18 would see in the ocean, so the -- all of the pellets 19 are consumed because one of the things you don't want 20 in the systems is to have waste feed floating around 21 the system because it can give you water quality 22 problems. 23 AUDIENCE MEMBER: (Jay Davis.) So are they 24 grain-based or? 25 MR. HEIM: It's a combination -- so, yeah,

so what you've been seeing basically in the last 10 1 years is that the industry has gone in the direction 2 of where it's significantly increased in plant 3 protein, the product. If you go 10 years back most 4 5 people had 40 to 50 percent fish meal that's 6 significantly reduced today as research has brought 7 forth vegetable proteins into the product and then in addition to that now we're seeing the development in 8 the market now with new alternative ingredients that 9 can also replenish/replace, for example, fish meal. 10 11 They can also add Omega 3s and 6 to the product without fish meal, so this is the trend that we're 12 seeing in the industry right now. So it's basically 13 response, you know, I think the people in the 14 15 industry are responding both to the producers and the consumers in terms of the choices they want and this 16 is the clear trend that we're also behind is that we 17 18 want to see more and more movement towards all kinds 19 of sustainable non-GMO. That being said, GMO is not an issue in Norway, but it is in U.S. and a clear 20 trend towards more and more sustainable sourcing of 21 22 all ingredients in the products.

AUDIENCE MEMBER: (Jay Davis.) So is what you feed the fish part of the permit application and part of the permit approval?

1 Not in Norway. You need to have MR. HEIM: 2 accounted for in terms of your residual discharge 3 after treatment so you know exactly what nutrients are going to be discharged. Of course in terms of 4 5 the food authorities you need to just make sure that 6 you're feeding your fish with call it an approved 7 feed. That being said, the largest feed companies in Norway are, you know, highly regulated as well. 8 So you can feel some level of confidence in terms of the 9 regulation process just like the U.S. on these. 10 11 AUDIENCE MEMBER: (Jay Davis.) Okay. 12 MR. HEIM: I don't know if that -- if you have more specific questions regarding that. 13 14 AUDIENCE MEMBER: (Jay Davis.) Well, I'm 15 trying to get so that people here can understand what you're going to feed the fish so we can understand 16 17 what is going to happen to the bay. 18 MR. HEIM: Yup. 19 AUDIENCE MEMBER: (Jay Davis.) And I know 20 that you're feeding fish in Norway --21 MR. HEIM: Yup. 22 AUDIENCE MEMBER: (Jay Davis.) -- and I'm 23 just trying to find out what it is. 24 So to reiterate again it's a MR. HEIM: 25 combination of vegetable protein and there is animal

protein, mostly fish meal and fish oil in Norway. 1 2 Here in Maine, I'm hoping to reduce that even more 3 and maybe in the future eliminate fish meal with the ingredients we see coming into the market today. 4 So that's sort of the end goal for me to get to the new 5 types of ingredients that really have a different 6 7 profile and sustainability. So beyond that, like it 8 was said, Skretting, we also have a partnership with Skretting in Norway. They do have very rigorous 9 10 testing and rejection of any ingredients that could 11 conceivably have contamination. So there is a very 12 rigorous process in the industry interest in terms of these kind of issues. 13 14 AUDIENCE MEMBER: (Jay Davis.) Thank you. 15 MR. HEIM: Yup. (Applause.) 16 17 AUDIENCE MEMBER: My name is Bob Adler and I 18 promise, Lee, that I will behave too. I have a 19 couple of questions related to the whole issue of risk. One, recently I read that the marketplace for 20 21 your product is likely to be far more demanding than 22 state regulators are and I wonder if you can speak to 23 whether the marketplace is placing stronger demands on you than regulations, for example, Whole Foods or 24 25 the consortium of co-ops. That's one kind of risk

1 I'd like you to talk about. The other on is having misspent most of my career in the property casualty 2 3 insurance industry, I know it is an industry that is 4 extremely risk averse despite what its intended 5 purpose is. So particularly with new technologies, 6 property casualty insurers are very wary of providing 7 coverage, so I'd like you to speak to your experience in other countries, but so far in terms of insurer's 8 9 willingness to insure you for your work because they 10 tend not to like risk at all. 11 MR. HEIM: So I have a long career behind me 12 as an insurance executive. 13 AUDIENCE MEMBER: My sympathies. That's what I did before I 14 MR. HEIM: 15 produced fish actually. First of all, I think you're -- I think you're right about the marketplace 16 being a driver. I think if we, for example, if you 17 18 look at the -- we talked about the feed industry, I 19 mean, consumer trends and expectations are key there. I think also producer's expectations and trends are 20 key. Sometimes one is more on the offensive of 21 22 pushing certain things than others, but I think, for 23 example, if you look at the amount of nutrients we remove per pound of fish no other facility is even 24 25 closer internationally to doing what we're doing.

It's beyond other permitted facilities in the U.S. by 1 2 So in this case, I think what we are doing is far. 3 trying to set a new standard in the industry saying 4 when these farms get bigger you need to get cleaner. 5 And that's -- I can't really speak to the permitting 6 system in the U.S. exactly where they're going to be 7 in the future, but what I can say is a lot of the 8 applications we have reviewed -- actually permits we have reviewed don't even list nitrogen and 9 phosphorus, so I think, you know, this is going to 10 11 become more and more important in the future and we 12 have said clearly for the State of Maine set strict standards but be predictable, that's what businesses 13 14 need. 15 AUDIENCE MEMBER: (Bob Adler.) So can you speak then to like the Whole Foods --16 17 MR. HEIM: Yup. 18 AUDIENCE MEMBER: (Bob Adler.) -- are they 19 setting standards for nitrogen that regulation is 20 not? 21 MR. HEIM: So the Whole Foods has standards 22 that they set to have other certification agencies 23 also like BAP, ACS, ACME, all of these are certification standards in the market that is driving 24 25 They differ. Some can have very specific standards.

requirements, for example, to feed, others cover that 1 2 and perhaps other things like buyer security 3 procedures, other things that relate to the sustainability of your production. I think consumer 4 5 sort of trends and demands and expectations feed into 6 that. And I think also some producers feed into that 7 that really want to see standards in the market 8 develop. We're trying to do that in a few areas. 9 And then you have also of course producers who don't 10 want to do that, so you'll probably find a whole 11 range in the industry. So we certainly do look --12 monitor very closely all of the trends in the market. For example, one of the big differences for us as a 13 14 Norwegian company coming here is the question of GMO. 15 I mean, GMOs aren't used in feeds back home. Here it's a big issue, so certainly there is a difference 16 17 between markets as well that are really important to 18 know and understand, so. (Bob Adler.) 19 AUDIENCE MEMBER: What about the insurance industry and its willingness to insure 20 21 you? So all of our facilities 22 MR. HEIM: Yeah. 23 are insured to put it that way. So I think the issue

24 of insurance it's more difficult for start-up

25 | companies without any track record to get the best

1 coverage in the market, they will struggle more. 2 Established players who have facilities and 3 operations will have a significant benefit in terms, again, like you say it's a question of risk, can they 4 5 operate these facilities, do they have the track 6 record as showing that, for example, they have the 7 environmental profile in order in terms of the authorities and everything. All of these things they 8 will do in a risk review with the company. At the 9 table is this, like you said, companies who basically 10 11 have their act together have a fairly good chance of 12 getting a decent cover, companies who do not will struggle. 13 14 AUDIENCE MEMBER: (Bob Adler.) And you have 15 been perceived as a company who has its act together in the industry? 16 17 MR. HEIM: All of our farms are insured, 18 yes. AUDIENCE MEMBER: (Bob Adler.) Okay. 19 Thank 20 you. 21 (Applause.) 22 AUDIENCE MEMBER: Good evening. My name is 23 Ethan Dubrow. I live in Northport and my question is also for Mr. Heim. It picks up on the last question 24 25 that was asked perhaps, maybe not. But in looking at

1 the presentation tonight on slide number 76 that 2 showed the watershed area on the McDonald Morrissey I live well within that and I have a drilled 3 slides. well and my question is that on slide number 74 it 4 5 said that the water usage was not anticipated to 6 influence the use of domestic wells in the 7 neighboring areas. Great. But if it does, and this 8 is, and I don't know if this is and action plan question or an insurance question or just a question 9 10 for Mr. Heim, will Nordic Aquafarms pay to connect us 11 to a city water supply if our wells become unusable? Yeah, I think it's a fair 12 MR. HEIM: Number one, with continuous monitoring we 13 question. 14 will see every small change in the aquifer on an 15 ongoing basis. So we -- if we saw any kind of negative change that goes beyond what all of the 16 modeling and testing we've done now, we would know 17 18 that very early on if there is slightest changes. So 19 what options do we have? Number one, our systems are 20 configured to operate on different salinities, so we 21 can regulate the fresh water use in our facility, 22 that's one thing, so we can respond to a situation if 23 Secondary, if you should have a worst necessary. case scenario like you're asking me about the 24 25 question is yes -- the answer is yes.

1 AUDIENCE MEMBER: (Ethan Dubrow.) The 2 answer is yes, Nordic Aquafarms --3 MR. HEIM: We will stand up for our 4 neighbors. AUDIENCE MEMBER: (Ethan Dubrow.) You will? 5 6 MR. HEIM: We always have and we always 7 will. 8 AUDIENCE MEMBER: (Ethan Dubrow.) So if our 9 water supplies becomes unusable you will connect us to another water supply? 10 11 MR. HEIM: We will make sure have you a 12 solution, yes. 13 AUDIENCE MEMBER: (Ethan Dubrow.) Okay. 14 Thank you. 15 Yes, we will make sure of it. MR. HEIM: (Applause.) 16 17 MR. WOODWARD: We are running short on time, 18 so we will address the three people that are in line 19 and there will be no additional people lined up for 20 questions so that we can finish near the hour of 9. 21 Thank you. AUDIENCE MEMBER: I'm Natalie Charles and I 22 23 live in Belfast. I haven't heard any answers to questions about fish pheromones and kairomones, which 24 25 have been found to have a profound effect on the

1 behavior of wild salmon, lobster, sea lice and other 2 organisms and I'm hoping that you can address this 3 with respect to the discharge whether -- or is any of 4 that going to get out? I believe we have one of the 5 MR. HEIM: 6 leading experts in the U.S. here today; is that 7 correct? 8 MS. HAMLIN: Hi. Heather Hamlin, so I'm an 9 endocrinologist dealing with marine species and so I quess I'm not quite understanding your question. 10 So 11 what do you -- what do you think pheromones and 12 kairomones from salmon from this facility will 13 impact? 14 AUDIENCE MEMBER: (Natalie Charles.) It can 15 change the behavior. It can change like reproduction and make -- I forget specifically, but it mixes them 16 17 up and they just don't function. 18 MS. HAMLIN: Yeah, so in this particular 19 case, so these are things that are present in all different fish in all different species, et cetera, 20 21 so there is really no evidence that these particular 22 pheromones/kairomones, anything from this released 23 from the facility will impact other fish or behaviors in a negative way. Yeah, so I am happy to try and 24 25 provide for you research and so -- peer reviewed

1 research that basically -- they're review papers in 2 essence that will explain that this really shouldn't be an issue with this. So some of those things 3 4 you're talking about can impact potentially other 5 things, but they tend to be in much higher 6 concentrations, so I personally would have no concern 7 that this would be an issue in that regard and I am a 8 reproductive endocrinologist, so, yeah. Yup. 9 AUDIENCE MEMBER: (Natalie Charles.) All I'm not convinced, but thank you. 10 right. 11 MS. HAMLIN: Yeah, you know, if you want to 12 email me, I'm happy to talk to you and I'm happy to send you a whole bunch of literature. 13 14 AUDIENCE MEMBER: (Natalie Charles.) Okay. 15 MR. HAMLIN: Yup. (Applause.) 16 17 Good evening. My name is AUDIENCE MEMBER: 18 Shane Flynn. I'm from Camden. I may be a little bit 19 further away than most people here, but I just wanted to make a couple of comments and, well, one comment. 20 21 Two of my questions were answered in the last few 22 But they -- so I will ask a question with minutes. 23 regard to water supply going forward, but before I do that I have had some experience with site location in 24 25 the past. I have basically had a number of them

1 including two that are in this area, one in Belfast and one in Northport, and I'd just like to say that 2 3 when we came here years ago a company that I worked 4 for the people of Belfast were very open arms to us. And I know that this is a very large project for 5 6 people here in Belfast and also in Northport and what 7 I would like to say is I'd like to compliment the people of this community who were wonderful neighbors 8 9 to us in the past and are doing what appears to be a really good job and asking the correct questions 10 11 going through the type of diligence they should go 12 through and I am sure and I'm confident that wherever things go that Nordic Aquafarms will have very good 13 14 neighbors and people that are supportive as long as transparency exists, which I think it does. 15

With regards to the water supply and I know 16 17 that one question was just answered for a neighbor. 18 I mean, climates are changing and will continue to 19 change as it always has and, you know, from the 20 little bit that I remember on looking at this a few 21 years back I think it's going to become wetter and 22 warmer in this part of the world, at least that's 23 what they think, who knows. So the aquifer will probably remain about where it is today in terms of 24 25 how it recharges, but if it doesn't recharge, if for 1 whatever reason it's depleted significantly, does the 2 company have plans to address that and, you know, 3 what is the alternative? You talked about, you know, 4 increasing the salinity and I'd like to understand 5 that a little more.

6 But before I finish, I'd just also like to 7 make one comment and that is people asked -- someone 8 asked with regard to Delaware and why companies 9 register in Delaware and I am not a corporate lawyer, 10 thank God, but I have a lot of experience in Delaware 11 and a lot of experience in that particular field and 12 the main reason that people register there there is a small fee, fees go to this state, whatever state, you 13 know, I think it's changed a little bit, but about 95 14 15 percent of companies register in some fashion in Delaware, that's declined a little bit in more recent 16 years, and the reason they do it is not to avoid tax. 17 18 It has nothing to do with tax. The taxes would be 19 the same. It's done for two reasons generally, one, that Delaware has a Chancery Court. 20 There are very 21 few of them in the country where they deal with 22 business law and they're able to address the law very 23 efficiently and quickly as well. There is a ton of precedence that exists there and that's why companies 24 25 like it. And very importantly, investors demand it

1 in most cases. They want to have companies that are 2 registered there because in case there are questions 3 of law they know that they will be dealt with in a place where it can be dealt with effectively and 4 there is a lot of law. So thank you. 5 6 MR. HEIM: Thank you. 7 (Applause.) 8 MR. HEIM: So the question was related to fresh water and conceivably with the climate change 9 10 situation we're seeing. In 20-30 years conceivably 11 you could envision droughts even though many of the 12 northern regions are expected to receive probably just as much, if not more, water. A project like us 13 have of course our investors are asking the same 14 15 question, what do you do if your fresh water disappears? And of course the way we approach this 16 is basically a number of different avenues, but the 17 18 two most resilient ones is, number one, the ability The second one is 19 to adjust salinity in the system. desalination systems. So both are possible to 20 21 implement on the sites. We have an overview of the 22 options and the technologies, so these will be 23 back-up solutions for the future if we should get into a situation like that. So these are strategies 24 25 that we are required think about also, first of all,

from the environmental perspective for Belfast and
 also the operation and the responsibility we have for
 our investors. So the bottom line is we really do
 have solutions to deal with these scenarios.

5 AUDIENCE MEMBER: Hi. My name is Linda 6 O'Connor and I've wanted to live in Belfast for about 7 30 years. I moved in last June. I've lived in 8 different parts of the state, mostly near the coast, and I arrived just in time for you all to be 9 10 undertaking a 40 acre project the size of Bath Iron 11 Works in this lovely town. The comparison to the 12 chicken industry that was along the river and by the bay and there were other industries there to ship --13 the Shipyard coming into what was already an 14 15 industrial site and doing what its done, Front Street has done a beautiful job, to the pristine area that 16 you all have chosen instead of choosing something 17 18 that is closer to the water so you don't need long 19 pipes and that industry that's already gone left a legacy in the silt in the bay that has often caused a 20 21 lot of concern about any sort of dredging with the 22 mercury and other things. So our bay and your pipe, 23 okay, and the effluence and I haven't heard anything about the water temperature and the fact of the -- I 24 25 mean, millions of gallons become trillions of gallons

1 over time and the bay is pretty shallow overall and 2 what studies have you done about what putting all 3 that in the bay and the warmth of it and what's going 4 to happen to the lobster industry and other things 5 that we depend on.

6 MS. RANSOM: I'll try to answer that, that's 7 a lot of questions wrapped into one. I am not sure 8 if you've attended any of the previous meetings, have 9 you?

10AUDIENCE MEMBER: (Linda O'Connor.) Two or11three.

12 Okay. So then you know the MS. RANSOM: majority of the information we provided relative to 13 14 discharge into the bay and the modeling that was done 15 and the sampling that was done would be in the MEPDES application that has been spoken about at the 16 previous meetings, so a lot of that information is 17 18 online if you'd like to look at it. Our actual 19 MEPDES application is available through the MaineDEP special projects website and I believe also the City 20 21 of Belfast has that application uploaded on their 22 page or link to it on their page as well. But --23 AUDIENCE MEMBER: (Linda O'Connor.) That addresses temperature? Actual -- the model of the 24 25 temperature change?

1 MS. RANSOM: The temperature of the 2 discharge is included in there as well. I think just 3 a real simple -- since we've kind of gone past our time limit, a simple way to look at this though is 4 their discharge while it sounds like a big number is 5 6 going into a bay that has approximately 10 trillion 7 gallons of water in it, so that's not to say that 8 there is not things you can measure of their discharge in that water, but it's a small amount 9 going into a large amount. It's like a drop of water 10 11 in a 5 gallon bucket. You know, I'm trying to put it 12 into sort of tangible things you can picture, but you wouldn't expect if I took a dropper of hot water and 13 14 dropped it into a 5 gallon bucket of cold water that 15 you'd see an appreciable difference and so that's kind of, I quess, a way of thinking about it. I'm 16 17 not sure I'm doing a great job of answering your 18 question, but I think --19 AUDIENCE MEMBER: (Linda O'Connor.) So why not just take care of it all on-site and put out 20 21 whatever discharge as being quality water rather than 22 putting anything called effluent into our bay?

MS. RANSOM: Because the best available
treatment technology that they are using to treat
this water does do that for the majority of compounds

that you -- that the treatment technology exists. 1 So 2 they are removing 99 percent of everything other than 3 nitrogen and 85 percent of the nitrogen that is generated at the facility before that water is 4 5 discharged. There are components that they are 6 discharging to the bay that will be at lower 7 concentration than what the bay contains right now, so they have got state-of-the-art wastewater 8 9 treatment. I don't think they can get better than that with what's available on the market right now. 10 11 That doesn't mean they can't keep improving as 12 systems improve, but they're, you know, the information is there in that application to show you 13 14 the extent that they're going through to treat that water before it's released. 15 AUDIENCE MEMBER: (Linda O'Connor.) 16 The 17 last thing I want to say is congratulations for 18 getting our town to rezone a residential area on your 19 behalf. Thank you. 20 AUDIENCE MEMBER: I know. 21 MR. WOODWARD: And make it a question. 22 AUDIENCE MEMBER: A question, okay. My 23 question is -- it's because I really don't want Belfast to be left holding the bag, so my question is 24 25 that we know that many corporations now do fail and

1 often leave the remnants of their companies in the 2 towns with towns either having to pick up and pay -pay for the remediation or what else. And I know 3 that I -- we talked about this and Deloitte report 4 which the city commission noted that many of these 5 6 corporations are not going to succeed. They are 7 going to fail. And so what -- and we've talked about 8 this before, so, Erik, I think we asked you what 9 happens if you fail and I thought what I heard you say was not very comforting. It was that you'll 10 sell -- you'll sell your -- the property and what I 11 12 see then -- and you said it will leave Belfast a great infrastructure. What I see then happening is 13 that you have framed -- Nordic Aquafarms is so far 14 15 ahead in this technology is that we're going to end up being left with some second rate aquaculture farm 16 having to move into Belfast, so that's -- so help me 17 18 out -- I don't understand that -- I don't -- I think 19 we would feel very reassured if you would consider a surety, a surety bond, and I believe we have asked 20 21 you about that just so Belfast doesn't get held 22 holding the bag. And you've said, well, that's 23 unreasonable, but, you know, I think that that would give many of us a lot more confidence if that was 24 25 something you considered.

1 And the final thing is I would like to know 2 that you won't come after Belfast to say we need more 3 money from local government or we might move because 4 we have a lot of corporations in Maine, including at 5 Bath Iron Works, despite all of the infrastructure 6 that the corporation says we're going to move if the 7 city doesn't give us more money and the state doesn't 8 So can we have assurances that give us more money. 9 you are not going to let us -- leave us just holding 10 the bag.

11 MR. HEIM: Well, first of all, I think 12 they're good questions and like you said we talked about them before. First of all, I think it's 13 14 important to just restate that this is a multi-phased 15 project, so it's not like we are developing this whole site with a complete project, so it's an 16 17 opportunity for the community to follow the project 18 through its stages and obviously -- and you're 19 thinking about the worst case scenarios --20 AUDIENCE MEMBER: Of course I am. 21 MR. HEIM: -- right? And so our investors 22 would be foolish to continue building to put it that 23 way, so, yeah, I think it's highly self-regulating, this whole issue. But, again, this is why it's a 24 25 multi-phased project to also build our confidence
with the community to show the community how this 1 works and that we deliver on our permit thresholds 2 3 every step of the way. That being said, you know, the benefit of also having strong shareholders 4 5 they're long-term. Look at this project. It's a 6 five to six year investment activity before they see 7 any revenue. They are long-term in their thinking. And, you know, if challenges come up, they're not 8 9 going to just leave their project and go because they're already invested and invested so much 10 11 interest in this community as a part of this 12 community. So I think when you look at a project 13 like this I have to say, again, it's a long-term 14 effort that's going to go into it. And the worst 15 case scenario is that you brought up, yeah, you asked me what if we go out of business and I think my 16 answer was is that there is a highly valuable piece 17 18 of infrastructure that somebody could probably pick 19 up very cheap or should be a steal, right.

So in terms of your question on the other and so the only expectation we have is to be treated fairly in Maine in comparison to other businesses, so that's what we're asking. So, you know, and there is a dialogue we can have with the authorities and communities about what that is and so that's sort of

where we're coming from at least treat us fair, don't 1 put, you know, a lot of demands on us that you 2 3 wouldn't put on other businesses. 4 AUDIENCE MEMBER: Well, it's an unusual 5 business though. 6 MR. HEIM: Yeah, well, I'm sure there is 7 also a facility being built in Bucksport and other places as well, if you pose things on us and not the 8 9 other one, I think that would be pretty unfair. So I -- I think it's a matter of maybe coming to an 10 11 agreement, you know, what standard should there be in Maine for --12 13 AUDIENCE MEMBER: Can you make a commitment 14 not to come back to the city or the state for more 15 money should things look bad for you? Well, I don't think there is any 16 MR. HEIM: 17 source in the money in the state or city. 18 AUDIENCE MEMBER: I hate to tell you --19 (Laughter.) 20 (Applause.) 21 AUDIENCE MEMBER: I hate to tell you that 22 General Dynamics makes out pretty well. 23 I'm not really --MR. HEIM: Okay. AUDIENCE MEMBER: General Dynamics makes out 24 25 pretty well.

MR. HEIM: Well, you know, our company has 1 2 never gone and asked for money if we needed money. AUDIENCE MEMBER: So I'll take that as a 3 commitment. 4 5 MR. HEIM: What we have done is generally if there are incentives available for businesses in the 6 7 state like the Pine Tree Program in Maine, we apply for those just like any other business, but I'm not 8 9 familiar with a practice with a company needing money going to the state and say we need money because we 10 11 don't have it. 12 General Dynamics. AUDIENCE MEMBER: MR. HEIM: Oh, really? I don't know the 13 That's new to me, but I don't really see that 14 case. 15 scenario happening, no. 16 AUDIENCE MEMBER: So you would accept TIFs 17 and things like that though? 18 MR. HEIM: Well, we can probably provide 19 free visits and so on, so. 20 MR. WOODWARD: Thank you. 21 (Applause.) 22 This concludes the question MR. WOODWARD: and answer period. And I tell you, I want to thank 23 everyone who asked the thoughtful questions. 24 We were 25 able to hear them, they were able to be answered. Ιt

1	was very respectful. Thank you very much and have a
2	good evening.
3	(Applause.)
4	(Meeting concluded at 9:16 p.m.)
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	Dostie Reporting

CERTIFICATE I, Robin J. Dostie, a Court Reporter and Notary Public within and for the State of Maine, do hereby certify that the foregoing is a true and accurate transcript of the proceedings as taken by me by means of stenograph, and I have signed: Court Reporter/Notary Public My Commission Expires: February 6, 2026 DATED: April 9, 2019 Dostie Reporting

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