STATE OF MAINE

BOARD OF ENVIRONMENTAL PROTECTION

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IN RE: APPLICATIONS BY STATE OF MAINE BUREAU OF GENERAL SERVICES FOR PROPOSED EXPANSION OF THE JUNIPER RIDGE LANDFILL

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October 18, 2016

Cross Insurance Center
Bangor, Maine

CHAIRMAN: JAMES PARKER

BOARD MEMBERS:

Alvin Ahlers
Kathleen Chase
Mark Draper
Thomas Dobbins
Thomas Eastler
Jonathan Mapes

OTHERS PRESENT AT PANEL TABLE:

Mary Sauer, Assistant Attorney General
Cynthia Bertocci, BEP Executive Analyst
Ruth Ann Burke, BEP Administrative Assistant

DEPARTMENT STAFF MEMBERS PRESENT:

Kathy Tarbuck
David Burns
Richard Behr
Lynn Caron
Victoria Eleftheriou
Steve Farrar
James Beyer

(This hearing was held before the Board of Environmental Protection, Cross Insurance Center, Bangor, Maine, on October 18, 2016, beginning at 9:00 a.m.)

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CHAIRMAN PARKER: Good morning. I now call to order this hearing of the Board of Environmental Protection on the Applications by the State of Maine Bureau of General Services for a 9.35 million cubic yard expansion of the Juniper Ridge Landfill in Old Town and Alton. The Bureau of General Services has filed the following applications: Maine Hazardous Waste, Septage and Solid Waste Management Act and Solid Waste Management and Recycling Law application number S-020700-WD-BI-N, and Natural Resources Protection Act application number L-024251-TG-C-N.

My name is James Parker. I'm the Chair of the Board of Environmental Protection and I am the presiding officer for this hearing. Other Board members here today are, I'll start way over to my left, okay, is Tom Eastler from Farmington, next to Tom is Kathy Chase from Wells, next to Kathy is Jonathan Mapes from Springvale, to my immediate right just two over is Alvin Ahlers from Yarmouth, Tom Dobbins from Scarborough and Mark Draper from

Caribou. I actually reside in Veazie. Here with the Board we have Mary Sauer. She's the assistant attorney general and counsel to the Board. She's to my right. To my left is Cindy Bertocci. She's the Board's executive analyst. Way over to the left we have Ruth Ann Burke. She's the Board's administrative assistant and to the right of us we have the DEP staff which consists of Richard Behr, Steve Farrar, Kathy Tarbuck, Victoria Eleftheriou, if I pronounced that right, David Burns, Jim Beyer and Lynn Caron. The hearing is being recorded and transcribed by Joanne Alley from the firm of Alley & Morrisette Reporting.

This hearing is being held by the Board pursuant to the Maine Administrative Procedures Act, Title 5, Sections 9051-9064, Department of Environmental Protection statutes Title 38 MRSA Sections 341-D(2) and 1310-S(2), and the Department's Chapter 3 Rules Governing the Conduct of Licensing Hearings.

Notice of the hearing was published in the Bangor Daily News on September 17th and October 8th, 2016, notice was also sent to the parties, all persons owning property abutting the landfill site, affected municipalities, area legislators

and all persons on the Department's interested persons list for this project.

During the hearing, the Board will receive evidence from the applicant, Bureau of General Services, and from the applicant's landfill operator, NEWSME Landfill Operations, and intervenors City of Old Town and Edward Spencer. Other intervenors in this proceeding who may also participate in cross examination are area resident Dana Snowman and abutting property owner SSR, LLC, represented by Chip Laite.

The sworn testimonies of the parties was pre-filed in advance of the hearing. The testimony is part of the record and the Board members have received copies. A copy of the pre-filed testimony and the application are available at the hearing today for inspection. Any person wanting to inspect the file should speak to Kathy Tarbuck during a break in the hearing. The pre-filed testimony and application are also available on the Department's website.

Today's hearing will begin with testimony from the applicant this morning, followed by cross examination of the applicant's witnesses this afternoon. The Board will hear testimony from Dr.

Stephen Coghlan, a witness for intervenor Edward Spencer, this afternoon. He has conflicts so we've moved him into the afternoon. Testimony by Edward Spencer and the City of Old Town are currently scheduled for tomorrow morning.

The Board will hear testimony from the general public this evening at 6:00 p.m. If public testimony is not concluded this evening, the Board will hear additional public testimony tomorrow at 1:00.

Please note that Members of the Board, counsel to the Board and DEP staff may ask clarifying questions of persons testifying at any time, although the Board and the staff will generally hold their questions until completion of the cross examination, and I encourage the Board members to do so because, if not, we can get into long drawn out conversations before we get the testimony.

If there are any members of the public here today who would like to ask a question of a witness, you must submit your question to me in writing. Paper is available at the water station for this purpose. That's up back on the left side of the building from here. Please leave your

questions on the table and staff will collect them periodically. I will review the questions, make a determination as to their relevance and ask the questions as time permits.

At the conclusion of the hearing, no further evidence or testimony will be allowed into the record except for matters specifically identified by the Board. These matters will be identified before the close of the hearing. At this time I ask the witnesses for the parties to stand and be sworn in, all the parties, please. Raise your right hand. Do you affirm that the testimony you're about to give is the whole truth and nothing but the truth?

(WITNESSES RESPOND IN AFFIRMATIVE)

CHAIRMAN PARKER: Thank you. Are there any questions about the procedure before we begin?

At this time I'll ask the staff to enter the application into the file -- into the record for the hearing. Kathy?

MS. TARBUCK: Good morning, Board Chair, Board Members and all attendees. My name is Kathy Tarbuck and in my role as Department project manager for the Juniper Ridge Proposed Expansion Application, I'm entering the Department's file in

this matter into the record. The file documents that I've brought to the proceeding are located here at the side table in the front portion of the room. Thanks.

CHAIRMAN PARKER: Thank you. For a little additional information, we plan to break at noon for lunch and at 5:00 for dinner. So we'll have a productive day hopefully, and the first witness will be -- the first presentation will actually be by the applicant.

MR. DOYLE: Good morning, Mr. Chairman and Members of the Board, and welcome to this public hearing on this important state infrastructure project, the Juniper Ridge Landfill Expansion. I'm Tom Doyle of Pierce, Atwood, and with my partner, Brian Rayback, we represent NEWSME Landfill Operations, the operator of the Juniper Ridge Landfill and co-applicant with the Bureau of General Services for this landfill expansion. Assistant Attorney General Bill Laubenstein is here as well representing the Bureau of General Services. We're going to introduce each of our witnesses before each testifies but before doing that, I wanted to let you know that we have other experts who have worked on this application and

are present today but whose topics have not been in controversy either in agency comments or in pre-filed testimony. They are -- and I'll just ask them to raise their hands -- Tom Gorrill of Gorrill Palmer on traffic, Rob O'Neill, Epsilon Associates on noise, Mark Johnson, SMRT, visual analysis, Eric Steinhauser, Sanborn, Head and Associates, landfill gas, and Jake Reilly, Stantec, on fisheries.

I wanted the Board to know that they are here to respond to questions if you have any such questions, and other than that, I'm going to turn this over to Bill Laubenstein to introduce our first witness. Thank you.

MR. LAUBENSTEIN: Good morning, Chairman Parker. It's a pleasure to be here this morning and have the opportunity to introduce the first witness for the applicant. Our first witness is Mike Barden. He's the manager of state-owned landfills, he's had this position since 2012. Mike has had a number of positions, both in the private sector and the public sector. He's served as the senior energy planner in the Governor's office, he's served as a grant administrator for Efficiency Maine Trust and for the Maine Public

Utilities Commission. He was a director of environmental affairs for Maine Pulp and Paper Association and most significantly, he was division director of Solid Waste Licensing and Enforcement with the Maine Department of Environmental Protection. Mike has a bachelor of science degree in chemistry and microbiology and a master's degree -- a master of science degree in natural resource planning. If you're interested in his resume, it's BGS and NEWSME Exhibit #1.

So it's a pleasure to introduce Mike Barden. Mike?

MR. BARDEN: Good morning, Chairman Parker, Board Members. You have my direct testimony so I'm just going to give you a quick summary of that.

So this all is sort of background information. It started with the state ownership of landfills in 1989 when the Legislature essentially banned new commercial landfills. So as a result of that legislation, the state has since acquired three landfills. One of them is located in East Millinocket, that's the Dolby Landfill. It's basically going through closure now. It was primarily accepting waste from the

Great Northern Paper Mills in East Millinocket and Millinocket. There's another landfill that the state acquired from Lincoln Pulp & Paper in the mid nineties. That is a permitted site but it's undeveloped. It's located off the interstate -- off the Lincoln interstate in unorganized territory and the subject of the expansion application today is the Juniper Ridge Landfill that was acquired from Georgia-Pacific in 2004 pursuant to a Legislative Resolve, Chapter 93. That Resolve stipulated that the state -- at that time the ownership resided with the State Planning Office -- stipulated that the state would go out to a competitive bidding process to get a contract operator and the state did that. In 2004 -- they acquired the facility from Georgia-Pacific in 2004 and then did a request for proposals for competitive bids. That was awarded to Casella Waste Systems. The Resolve also required that the -- that the -- that operations of the landfill be revenue neutral to the state. So essentially the state did not incur any general fund money to purchase the facility, and also when the state negotiated the operating services agreement with Casella in 2004, that agreement is in the record,

it's a duration of a 30-year contract. Casella was given the exclusive rights to operate that landfill, to collect all revenues from that landfill, the revenues -- the tipping fees at the landfill are actually capped pursuant to the operating services agreement. They're adjusted each year by the Consumer Price Index.

The statute also requires a state-owned landfill to provide host community benefits to the communities that are actually within the boundaries of the municipality. So in this case it's the City of Old Town and they -- Casella has also negotiated an agreement with Alton because approximately a few miles of the access road is within Alton municipal boundaries, so they have agreements with both of those facilities -- both of those communities. So from 2004 through June 2016 of this year, the -- Casella has actually paid approximately 13 million dollars in host community benefits to the City of Old Town and approximately one million dollars to Alton for hosting this site.

Just in terms of what's taken place since the State Planning Office took over the facility in 2004 pursuant to the Resolve, the State

Planning Office was actually eliminated in 2011. Those responsibilities, including oversight of the landfill, was transferred to the division -- the Department of Administrative and Financial Services, the Bureau of General Services within that agency, they actually have ownership of the site now, and the position of managing these three state landfills resides with the Department of Economic and Community Development, and we've included an Exhibit 2 in the record on an MOU between the two agencies.

Now, in terms of the operations at JRL, and my oversight primarily at JRL is to ensure that they're in compliance with the Operating Services Agreement. DEP takes care of the regulatory issues, we take care of the contract issues, and Jeremy Labbe has provided in his direct testimony and his rebuttal testimony the -- the extent of the recordkeeping that Casella does to ensure that no out-of-state wastes are coming into the landfill. They provide me with monthly reports that include, among other things, a summary of the month's hauling to the landfill. So they basically categorize it by the waste hauler, the tonnage, the generator who generated

the waste, the county that it came from and then they have a unique profile manifest number with that. So I have reviewed -- I receive these monthly reports, I collate all these, I send them out to the Juniper Ridge Advisory Committee on a monthly basis, I also provide these reports to the City of Old Town and the Town of Alton, I also do compliance inspections at the facility several times during the course of the year so I review the records, I do randomly select manifests that they have in their recordkeeping system, both electronically and paper copies, I spend some time at the scale house observing haulers when they come in and how they're ticketed and the manifests are handled by the scale house operator.

The -- there was also a public benefit determination, as we're all aware of, that was issued in 2012, something like that, indicating that this capacity is needed. In reality, the Juniper Ridge Landfill will be out of capacity in 2019. If all of the waste were diverted and this expansion is not approved, the waste would have to go somewhere. Approximately 700,000 tons would have to be diverted to another landfill within the state or out of state too. There's really only

one commercial landfill left in the state that is permitted to take the same kind of waste right now as Casella is taking at Juniper Ridge Landfill. By my calculations, if all of this tonnage was diverted to that one particular landfill, that landfill would be out of capacity in 2020 or 2021. That would be the timeframe.

I thank you and if you have any questions, I'd be happy to answer them.

CHAIRMAN PARKER: Board members, any questions? Mr. Barden, I have one question. It's a question that's going to come up later in the hearing so we might as well at least broach it now and look into it. Under the state's hierarchy of solid waste disposal, the state has a set of priorities of how the waste is disposed, landfilling being the latter of several things that occur before that. The question has been raised by a few people, and it's going to be discussed I'm sure later on, that some of the diversion of waste to the landfill now is not consistent with the hierarchy. Are you comfortable on behalf of the state that the state is following its own rules with regard to the solid waste hierarchy?

MR. BARDEN: Yeah, I think Toni King is going to address that through her direct testimony, which I think she's coming up next, but yes, we're comfortable. Primarily the wastes that are going into Juniper Ridge Landfill are special wastes and they really have no other outlet for recycling. They've been recycled. The sludges would either have to be land applied and that's primarily a decision of each municipality or industrial facility in the case if it's coming from an industrial facility. Ashes are a big part of the waste stream that's come there, there's no feasible alternative for that. Contaminated spill material, there's no feasible alternative for that. They take very limited municipal solid waste that's unprocessed. In this expansion application they're going to be taking no unprocessed municipal solid waste other than that they use for the soft layer when they develop new cells as a result of an incinerator being down and they have to bypass that waste. It has to go somewhere, so yes, I'm comfortable.

CHAIRMAN PARKER: Okay. In followup again, another question I'm sure is going to come up and I'm just trying to get some of this out of

the way early, as far as the soft layer, the soft waste coming in, okay, in the application as I see it presented, they're looking for a 9 point I think 5 million cubic yard expansion which probably is a decent number, I'm not arguing with that, but how much of that volume that's being expanded is being occupied by the soft waste, some of which could be incinerated or further reduced before it goes there? Is that part -- in other words, the 9.5 million cubic yards we're looking for -- and this is something that was raised by the previous commissioner that there's no real feel for that number because there's a finite amount of space being approved. Is it being used wisely or is it being used conveniently? I think that's the question I had.

MR. BARDEN: Okay. It's a small percentage and I think either -- Jeremy Labbe can probably address, you know, sort of what that percentage is.

CHAIRMAN PARKER: Yeah, I'd really like to see what the percentage is so we can get a feel for that.

MR. BARDEN: Yup, yup.

CHAIRMAN PARKER: Okay. Any further

questions?

MS. BERTOCCI: Jim, we have one question from a member of the public.

CHAIRMAN PARKER: I have a question from the public. I'll read it and you can respond to it because they're questioning I guess on the dates. This is a clarification on the purchase RFP. It says that you stated that the RFP was issued after the state acquisition in 2004. It was actually issued in July of 2003, six months before the purchase contract. Is this correct or not or is this --

MR. BARDEN: I'm not aware of that date.

CHAIRMAN PARKER: Okay, it should be clarified. We've got it somewhere. I'm just raising the question that someone raised.

MR. BARDEN: Yeah, I'm not sure exactly the date of when the Resolve became effective. The state wouldn't have been able to acquire it until that Resolve was effective which is --

CHAIRMAN PARKER: I think the basic question, was the RFP issued after the state owned it or before the state owned it?

MR. BARDEN: It was -- it was issued probably after the state owned it.

CHAIRMAN PARKER: Okay. We can clarify that or you can actually clarify it and let us know. Are there questions from the Board, any further questions? Okay, be available this afternoon, we'll hear more questions. Tom?

MR. DOYLE: Just one clarification, the public benefit determination was for 9.35 million cubic yards.

CHAIRMAN PARKER: Yeah, I didn't look at the exact number. I had to turn my sheet over to get to that.

MR. DOYLE: Okay. Our next witness is Toni King who is the regional engineer for Casella Waste System's Eastern Region. Toni's responsibilities include oversight of consultants, engineering design, permitting, compliance and construction projects within the eastern region, including the entire State of Maine. Toni earned both a bachelor of science in environmental engineering and an MBA from Norwich University. She is also a licensed professional engineer in Vermont and a certified manager of landfill operations with Casella Waste Association of North America. Toni's resume can be found at BGS/NEWSME Exhibit #3. She will discuss consistency with the

Waste Management Hierarchy and compliance with the recycling standard. Toni.

MS. KING: Thank you, Tom. Good morning.

CHAIRMAN PARKER: Good morning.

MS. KING: I'm here to tell you how we meet the licensing standards set forth in the hierarchy and the recycling rule and this is how we do it. We're an integrated resource management company with over 500 employees in the State of Maine who work every day to provide cost effective comprehensive solutions by actively promoting and encouraging waste reduction measures and maximizing waste diversion efforts prior to landfilling.

This slide illustrates the new rule requirements of the Maine solid Waste Management Hierarchy. This is in Chapter 400, it's relatively new and the one that says we'll do our best to reduce waste generation and maximize waste diversion and manage waste using an integrated approach based upon the order of priority of reduce, reuse, recycle, compost, incinerate and finally landfill. This isn't the entire rule because I can't fit it all on one slide so let me just focus on the language I've highlighted in

blue. We need to provide evidence, including but not limited to, a description of the reduction, reuse, recycling, composting and/or processing programs and efforts that the waste is or will be subject to and that are sufficiently within the control of the applicant to manage or facilitate and for the purposes of this section, reducing, reusing, recycling, composting and/or processing waste to the maximum extent practicable prior to disposal means handling the greatest amount of waste possible through means as high on the solid Waste Management Hierarchy as possible resulting in maximizing waste diversion and minimizing the amount of waste disposed without causing unreasonable increases in facility operating costs or unreasonable impacts on other aspects of the facility's operation. Determination of the maximum extent practicable includes consideration of the availability and cost of technologies and services, transportation and handling logistics and overall costs that may be associated with various waste handling methods.

This slide illustrates the rule requirement of the recycling standard. It is also in Chapter 400 but an older provision. Again,

let's focus on the highlighted portions of our requirements for compliance. We need to provide evidence that we're operating consistently with state recycling programs; that is, that the proposed solid waste disposal facility will only accept solid waste that is subject to recycling and source reduction programs, voluntary or otherwise, at least as effective as those imposed by provisions of state law and that we're in compliance with the recycling provisions of the state plan.

Within the Juniper Ridge Landfill Expansion Application itself and during the course of this hearing process you will hear about the various programs we have in place to manage waste using techniques higher on the hierarchy than disposal. We actively promote and encourage waste reduction measures and maximize waste diversion efforts of our customers by assisting them in taking advantage of opportunities to reduce, reuse or recycle their waste using environmentally sound material management methods including in some cases disposal at Juniper Ridge Landfill; simply put, the waste disposed at Juniper Ridge Landfill is reduced to the maximum extent practicable,

diverted where appropriate and 90 percent has already been processed or is a recycling residual for which a landfill is the most appropriate end of life solution.

You may have noticed in the hierarchy standard a phrase that included, quote, sufficiently within the control of the applicant to manage or facilitate, end quote. A very small quantity of waste is actually produced by Casella's operations so we must rely on the generators to reduce their waste to the maximum extent practicable before it arrives at Juniper Ridge.

You can see here the results of some of our landfill diversion efforts. Starting with recycling, Casella's zero source system allows generators to commingle all recyclable materials requiring no source separation. All sorting and baling is performed at the materials recovery facilities primarily by automated equipment. We found the benefits of zero sort to include increased ease and convenience, reduction in disposal costs due to reduction in volume, increase in range of materials that can be recycled and faster, more efficient collection of

materials. In 2014 we invested in a new materials recovery facility in Lewiston. The residuals from this facility are directed to Maine incinerators rather than being disposed at Juniper Ridge. In 2015 our Maine-based zero sort initiative grew to include 62 municipalities and 3,480 businesses resulting in over 28,000 tons of material recycled through this program. We also broker a good deal of fiber and collect or bale material for recycling facilities at our Maine transfer stations. We are by far the largest recycler in the State of Maine. We direct some municipal solid waste within our control to Maine incinerators and some municipal solid waste within our control to other Maine landfills.

We regularly take steps to comply with the Waste Management Hierarchy; that is, reduce, reuse, recycle, compost, incinerate and finally landfill. In 2014, Casella facilities and programs recycled, beneficially reused or composted over 400,000 tons of waste materials over a broad spectrum of waste types and at numerous locations in Maine. We managed to do even better in 2015. An apples to apples comparison with the calendar year 2014 Maine DEP

waste generation disposal and capacity report which does not include construction and demolition debris or biosolids recycling reveals that Casella municipal solid waste recycling initiatives facilitated over 20 percent of all the municipal solid waste recycling volume realized in the state in 2014. By any measure, we've done our part to support the hierarchy.

Now for the individual waste streams that are disposed at Juniper Ridge Landfill. Construction and demolition debris received at Juniper Ridge comes from a number of sources in Maine, including some that are owned and operated by Casella companies. At these transfer stations, materials such as clean wood and metal are sorted and removed for recycling rather than disposal. In addition, we divert some construction and demolition debris within our control to processing facilities for recycling as evidenced by our agreement with ReEnergy Lewiston.

As noted previously, we also direct some municipal solid waste within our control to the Penobscot Energy Recovery Company incinerator which reduces weight by approximately 62 percent and volume up to 90 percent of waste requiring

landfill disposal. Juniper Ridge receives the residuals from this process in the form of front-end processing residue and ash. Front-end processing residue from incinerators is beneficially reused as soft layer installed at the base of newly-constructed landfill cells to protect the landfill liner. These waste reuse opportunities avoid the utilization of virgin materials in construction and operation and, therefore, meet the hierarchy requirements.

There are numerous waste streams that currently divide the ability to reduce, reuse, recycle, compost or that do not allow for incineration. This includes municipal solid waste incinerator ash and multi-fuel boiler ash, although some clean wood ashes can be and are land applied. All the various ashes received at Juniper Ridge play an important part in overall landfill operations by providing another source of material that can be used as daily cover and for odor control. Construction and demolition debris processing fines are received at Juniper Ridge primarily from the ReEnergy Lewiston facility. This material is a residue from processing construction and demolition debris and those

facility types are obligated to recycle to the maximum extent practicable but in no cases less than 50 percent. The fines produced in addition to short paper fiber and ashes are beneficially reused at Juniper Ridge as grading, shaping and cover material consistent with the hierarchy. Similarly, oversize bulky waste is typically a residual from a processing facility so has been subject to recycling and defies further processing or treatment requiring landfill disposal.

Municipal and industrial wastewater treatment plant sludges and residuals are land applied or composted to the maximum extent practicable rather than landfilled. It should be noted that the majority of these materials have already been processed by the generators. Casella Organics provides for direct land application of nutrient-containing residuals and our Hawk Ridge compost facility in Unity annually maximizes its input of biosolids. Remaining materials either do not meet regulatory requirements or are of sufficient volume that landfilling is the preferred option.

Contaminated soils, oil spill debris and miscellaneous special waste are not typically

steady waste streams and don't usually allow for incineration. The majority of these waste types do not allow for additional management techniques beyond landfilling. Maine incinerators are required as a condition of their disposal facility licenses to provide for bypass in the event that the waste delivered to the incinerator is in excess of its ability to accept, process and combust that waste. The decision to bypass and the disposal location is made by the generator.

The majority of the waste received at Juniper Ridge has already been subject to recycling and source reduction programs. There are a variety of options employed for managing Maine's solid waste. This table provides an overview of the state plan management options and a qualitative assessment of the comparative use of the management options aside the major waste streams that are taken at Juniper Ridge. Review of the state plan rankings are the current management methods for the waste streams accepted at Juniper Ridge illustrates that nearly 90 percent of the materials by weight have a high or medium ranking for landfill disposal, meaning disposal is either the primary or a significant

material management method. Only 10 percent of materials currently and proposed to be accepted at Juniper Ridge have a high ranking for recycling, being wastewater treatment plant sludges for which recycling and beneficial use alternatives are continually being utilized and explored by Casella Organics as previously described. Again, by any measure, the volume of the waste has been reduced to the maximum practical extent by recycling and source reduction prior to being landfilled and compliance with the recycling provisions have been met.

We have supplied ample evidence of the descriptions of the reduction, reuse, recycling, composting and/or processing programs and efforts that the waste that finds its way to Juniper Ridge is subject to and that are sufficiently within our control. We have and continue to handle the greatest amount of waste possible through means as high on the Solid Waste Management Hierarchy as possible resulting in maximizing waste diversion and minimizing the amount of waste disposed at Juniper Ridge. Thank you.

CHAIRMAN PARKER: I guess we'll hold questions until you finish your testimony. Thank

you. We'll have questions later for you.

MR. DOYLE: Our next witness is John Sevee. John is both a licensed professional engineer and a certified geologist in the State of Maine. He has over 45 years of experience in areas of geotechnical engineering, hydrogeology and groundwater engineering. John cofounded Sevee & Maher Engineers, the engineering firm that discovered the site -- this site as suitable for a landfill and designed the Juniper Ridge Landfill back in the early 1990s. His educational background includes both a bachelor's and a master's degree in civil engineering with an emphasis in geotechnical engineering from the University of Vermont and a bachelor's degree in physics from the University of Southern Maine. Over the years, John has been a licensed professional engineer in 12 states. His resume is BGS/NEWSME Exhibit #5. John will be discussing hydrogeologic issues related to the Juniper Ridge Landfill expansion site.

MR. SEVEE: Good morning. Thank you, Tom. I'm going to describe the geologic and hydrogeologic investigations that have been conducted at the JRL site over the last 25 years.

Importantly, these investigations show that the landfill site meets the DEP siting criteria as given in the Maine solid waste management rules and it also shows that the site can be monitored in an effective way to protect the surrounding groundwaters and surface waters.

I'll begin my presentation by describing the investigations that have been conducted focusing primarily on the expansion area, I'll summarize the geology of the site and the expansion area and then discuss briefly the groundwater behavior beneath the site and I'll wrap up by discussing the groundwater monitoring program that is being proposed for the Landfill.

So we'll start but I think, first of all, it may be useful just to simply state why we do these subsurface investigations and there's three principal objectives here. One is to determine whether the site meets the DEP siting criteria; another objective is to collect information on the foundation materials in the soils and the rock so that that information can be fed into engineering design calculations and issues relative to the design; and then finally, it's important to understand the directions and rates of groundwater

movement and its behavior in both the soils and the bedrock so that the site can be properly monitored.

So with these particular criteria in mind, I'm just going to quickly show this figure here which I think is Exhibit 6 from my direct testimony. This is a figure of the site. The existing landfill is right here, the expansion is located on the north side and the east side of that existing landfill and I think you've all been out there so you realize that this site is built on a ridge that has sort of a ridge line or crest line that runs north and south across the property, so the land surface drops off to the east and the land surface drops off to the west. This figure also shows the explorations that have been done over the last 25 years and it shows -- as well as it shows the investigations done within the expansion area. There are approximately 200 explorations of different types shown on this diagram. About one-quarter of those are located within and adjacent to the expansion footprint. The explorations that are shown on this diagram include such things as test pits which are excavations dug to examine the shallow soils and

get information on the depth of bedrock. There are at least 90 test pits out here. There are at least 80 soil borings, the soil borings allowing us to get down deeper through the soils and into the bedrock to examine the geology and characterize the geology. The borings also provide the ability to install groundwater monitoring wells so that we can get information on groundwater levels. There are 120 -- at least 120 groundwater monitoring wells shown in this diagram. That information is used to evaluate the directions and rates of groundwater movement across the site and around the perimeters of the proposed expansion. There are a minimum of seven deep bedrock bore holes on the site where we went down 200 feet into the bedrock and this was basically to examine the deeper groundwater characteristics in the bedrock. We've conducted pump tests of the groundwater in the bedrock, basically pumping water out of a well to see how that -- how that pumping affects the nearby groundwater levels and that provides information on the interconnectivity of the fractures within the bedrock. With -- with all of that information, we've also supplemented it with some

geophysical investigations, geophysical investigations such as electrical earth resistivity, seismic refraction, down hole geophysical logging and the nice thing about the geophysical surveys is they're illustrated here, for instance, in this earth resistivity line here. It basically provides some continuity of information between these discrete sample locations represented by the bore holes and the test pits.

During the field investigations, samples of the rock and the soils are collected, they're brought back into a geotechnical laboratory where they are tested for information such as shear strength, compressibility, permeability and so forth.

One of the points that's useful to make here is that we've utilized a corroborative approach or a redundant approach in looking at some critical parameters and by example, I'll give the example of groundwater flow velocities. In order to calculate groundwater flow velocities, we measured the permeability of the soil and measured the hydraulic gradients out in the formations. The permeability of the soil is basically its

ability to transmit groundwater. So low permeability means that there's a limited ability to transmit groundwater, higher permeability means it has a greater ability to transmit groundwater. By combining these parameters, we're able to calculate a groundwater velocity. Next we actually went out and did a tracer test to measure the groundwater velocity. We put a little bit of salt in the groundwater and measured the rate at which the salt moved through the groundwater system and that provided a direct measurement of the groundwater velocity, and then we corroborated that information by measuring the groundwater age and that basically provides an additional constraint on what the groundwater velocities are. By using this sort of redundant or corroborative approach, you develop a greater degree of confidence in estimating certain parameters and the important ones you really want to be fairly close on, and so this is a very useful approach and it provides, like I say, a greater degree of confidence in your conclusions and your calculations.

All of this information has been reported over the years. The latest information on the

expansion is provided in the application but the application also includes all the historical information as sort of reference data.

Let me now briefly describe the geology. The soils below the ground surface out at this site consist of a dense clay glacial till. The till was laid down by ice during the last glacial period and at least a mile of ice compacted this till and gave it its density. The density is important because it provides the stability of this material. The clay nature of the till gives it its relatively low permeability. That low permeability is a desirable characteristic because by having something that has a lower permeability, if there were to be a leak or a spill of leachate at the site, you want a soil that retards the movement of that so you can get in there and clean it up and deal with it as opposed to a higher permeability which lets it move off relatively quickly where you may not be able to control it. So those are two important characteristics of the site. In fact, the permeability characteristic is a siting criteria. The permeability has to be less than ten to the minus five centimeters per second. In scientific jargon that's 0.00001

centimeters per second, and the permeability again is a measure of the rate at which the groundwater can move through the soil, and we meet that siting criteria for this site. So the permeability meets the DEP siting criteria.

The till overlies an ancient silicic bedrock, silicic bedrock being sort of a shaley-type bedrock. It tends to be a little weathered near its surface underneath -- beneath the till, but that weathering goes away and disappears with depth and it becomes unweathered with depth. Even though the -- even though the bedrock is hard and competent and intact, by that I mean not broken up, it does contain fractures, and the investigations that have been conducted out at the site show that there are -- that most of these fractures are nearly vertical. They're oriented more or less in a vertical plane, not precisely but more or less, and the investigations show that these fractures tend to break down into two principal groups. One grouping is oriented more or less to the northeast and southwest, and the other grouping is oriented almost at a right angle to that first grouping; therefore, you have a group of fractures that intersect more or less

at right angles and this intersection or this interconnection is what allows the groundwater to move through the bedrock. There are other fractures that are present in the bedrock that are at various other angles which add additionally to this interconnectivity but those are fewer in nature. The groundwater within the till does not move through fractures. It moves through the porous spaces between the soil grains of the till.

A significant portion of the investigation, as I mentioned earlier, is focused on understanding groundwater movement and that's one of the ultimate objectives here. We want to understand the directions and the rates of groundwater movement so that this feeds into the design of an appropriate monitoring system for the groundwater. The directions of groundwater movement within the glacial till is generally from higher elevations to lower elevations. So groundwater moves from the ridge area down to lower-lying areas in the topography. In this particular case because we're on a ridge, part of the groundwater moves to the East and part of the groundwater moves to the West through the glacial till. Within the bedrock that underlies the tile,

the groundwater on a regional basis follows that same general pattern. In other words, it goes from the higher elevations down to lower elevations, but locally within the bedrock this fracture system that I mentioned a minute ago actually can have a -- insert a control on that behavior in such a way that it may not be exactly downhill, it may be at a skew relative to the downhill direction. Much of the investigations that have been going on on this site since 2005 for this expansion have been focused on better understanding of how the groundwater behaves and what this interaction is between the topography and the fracture system.

The groundwater velocities have been estimated both in the till and the bedrock. Groundwater in the -- in the till is generally in the order of about one to ten feet per year. So groundwater in the till moves from me to the stenographer more or less in a period of about a year, and that's due to its relatively low -- its clay content -- its clay content and its relatively low permeability. The groundwater in the bedrock on the other hand moves this similar distance one to ten feet per day, so it's moving

at a much higher rate, and the reason for that is that it has to do with the relative permeabilities of the till and the bedrock but also it has to do with the porosity of the bedrock relative to the till, porosity being basically the pore spaces that the groundwater can move through and in the bedrock, the pore spaces are very limited because it's basically through these fractures and not through all the pores in the soil.

In assisting us in interpreting the behavior of the groundwater, we use three-dimensional simulations, computer simulations of the groundwater flow. These are extremely useful because you can incorporate the topography, you can incorporate the fracture patterns and interconnectivity of the bedrock, the thickness of the till and all these geologic features and let the model generate what it believes to be the groundwater flow patterns. One of the -- the output of these simulations basically confirm our general understanding that groundwater moves downhill in both the bedrock and the soils but one of the important features is that it shows that groundwater migration away from the site is limited, and it's limited by the

topography, and what happens is the groundwater moves away from the higher elevations to the lower elevations that surround the site and at these lower elevations, the groundwater wants to move up toward the ground surface. On the far sides of these low areas are higher topographic elevations. The groundwater table follows the topography in those areas and basically creates sort of a hydraulic barrier to further groundwater movement away from those low-lying areas. So the model sort of demonstrated that groundwater migration away from the Landfill would be limited and that was one of the important reasons that we selected the site back in 1990 was because we looked at the topography and judged that groundwater should remain relatively local to the landfill and that's good in terms of protecting regional groundwater users.

As I mentioned a few minutes ago, much of the recent work that we've been doing working with the DEP staff on better understanding how the groundwater behaves in the bedrock, and this has really been focused on how do we properly monitor the bedrock. The till is much more straightforward in terms of monitoring, but the

bedrock is a little bit more complicated because of the fracturing system.

One of the additional pieces of information that has come out of these investigations is that the groundwater within the bedrock can be controlled. We know that because we've run pump tests where we've drilled wells into the bedrock and we've pumped the groundwater out of those wells and we look to see what happens to the groundwater levels surrounding where we're pumping the water out of the aquifer, and typically what you would expect is that the groundwater would move toward this pumping well, and we have shown through these pumping tests that we can affect groundwater levels out as far as 2000 feet away from where the well is being pumped. This is -- this is relevant because if in the unlikely event there were to be a leak, you could actually drill a well in the bedrock and contain that leak by pumping the groundwater. In fact, you could -- if you needed to, you could actually put a string of wells around the perimeter of the landfill even after it's been fully developed and collect and contain all the groundwater such that if there were something

leaking from the landfill it would never go beyond that collection system. One of the nice things about this collection system is that it would be easy to implement, you can do it very quickly, it's low tech, it's straightforward and like I said, you can do it right away so if there is a problem, you can capture it immediately.

One of the performance criteria for siting a landfill is looking at travel times to sensitive receptors. You want to -- in your monitoring system, you want to have sufficient time that if you detect a leakage or a spill that you can have enough time to determine what's causing that problem and address it through some remediation scheme. The DEP has judged that six years' travel time would be sufficient in order to do that, and so you go through a calculation or an analysis to determine what is the -- what is the rate of travel from the landfill footprint to sensitive receptors. Sensitive receptors are defined in the rules and they are features such as groundwater wells on adjacent properties, certain class surface water bodies, sand and gravel aquifer formations and similar types of things, and so the analysis basically identifies these sensitive

receptors and then goes through a calculation to determine the rate of travel to these sensitive receptors from the landfill footprint. We identified seven nearby sensitive receptors. A couple of these are groundwater -- potential groundwater wells, none exist directly in the adjacent properties but we assume that someone -- a well could exist in the future. Some of them are surface water bodies and then there's also this sandy zone -- excuse me -- there's a sandy zone that we identified off to the southeast -- outside the southeast footprint of the landfill. This is a sandy inclusion within the glacial till, and even though it's not part of a regional sand and gravel aquifer, it's relatively isolated, surrounded by low permeability soils, we felt it was of sufficient size that a well could be installed in that particular deposit and so we kept it in as a sensitive receptor and we wanted to know the travel time to that feature.

This is just simply a figure showing where those sensitive receptors are. Here's the property line right there and so we assumed a water supply well at the closest point. There's a property line on the west side, we assumed wells

at those two nearby corners. These are surface water locations and then this is that sandy inclusion zone within the glacial till.

So we went through the calculation and Mike Booth, who is presenting next, will discuss this analysis in a little bit more detail but basically when we went through the calculation the travel times were 6.2 to 68.2 years from the landfill footprint to the sensitive receptors. They -- those travel times include some offsets associated with the design of the landfill and Mike will talk a little bit more about that but basically we meet the six-year criteria given by the DEP rules. So what that means -- let me just finish up by saying what that means is the analysis says that we have sufficient time that if we were to detect a leak at the liner base or at the monitoring wells, that we would have time to identify the leak, we would have time to figure out where it's coming from and find out the appropriate remedial action and implement that remedial action before it gets to one of these sensitive receptors.

The monitoring of the landfill will be done through two systems. The primary monitoring

of the landfill itself is the liner leak detection system. The liner leak detection system -- and Mike will talk more about this -- is a sand layer that's sandwiched between the primary and the secondary liners of the landfill. It is a system -- it's a sand layer that's monitored on a routine basis to look to see if there's any leakage that's coming through the primary liner system so you can react quickly before any of that leakage would make it through the secondary liner system.

The monitoring wells are sort of a redundant feature in part on the perimeter of the landfill but the monitoring wells also would monitor leachate containment systems such as pipes that run along the perimeter of the landfill system.

The -- we've judged that because of the nature and the level of understanding of both the soil and the bedrock that we can effectively install monitoring wells and we believe that we know where to effectively install these monitoring wells so that they act as an early warning system so that if there is some sort of a change in groundwater quality we can address it immediately before it gets out into the regional groundwaters

or surface waters.

So quickly in summary, there's a significant amount of information that's been collected on this site over the last two and a half decades. The -- the level of understanding allows us to understand how the groundwater is behaving so we can appropriately monitor the groundwater so we can protect the surrounding groundwater users or offsite groundwater and surface waters and the investigation has shown that there's a number of desirable characteristics to the site, one being the relatively low permeability of the till. It's a clay nature. The till is also dense and stable. You want to have a stable foundation under the landfill. The -- the limited ability of groundwater to migrate regionally is an important feature to the site. So we believe the site can be effectively monitored and is a good landfill site. Thank you very much.

CHAIRMAN PARKER: Thank you, John.

MR. EASTLER: Can I make one comment about that?

CHAIRMAN PARKER: Go ahead.

MR. EASTLER: First of all, I don't

normally do this. Bravo, fabulous presentation. The geology is quite clear and quite understandable. There was one place where it might have been a little confusing when you talked about the one-mile thick -- pardon me -- the one-mile ice as opposed to saying the one-mile thick ice because the compression came from the tremendous height between one and two miles of ice that was there some 13,000 years ago or whatever. Very nicely done and, of course, what you've done with the fracturing is also -- just fits right into the Appalachian geology for the fractured bedrock southwest and northeast and the glacial characteristics with that very heavy ice pushing over the land from northwest to southeast itself, so southwest to northeast, northwest to southeast, 90-degree intersection, beautiful job, very well explained on every bit of it. Thank you very much.

MR. SEVEE: Thanks for correcting me too.

CHAIRMAN PARKER: Thank you, John.

MR. DOYLE: Before our next witness, I just want to give the Board an update on where we are. We've got six witnesses, you've heard from three so far. We've been at this a little less

than an hour and I said we would take three hours so we're well within our time.

CHAIRMAN PARKER: We appreciate that.

MR. DOYLE: And we're going to -- our next witness actually has the longest testimony so just relax and listen, but we are well ahead of schedule here. So I think that's good.

Mike Booth is a licensed professional engineer in the State of Maine and a senior project manager at Sevee & Maher. Mike has over 35 years in environmental engineering experience. His principal practice area is solid waste management with a focus on landfill design and operations. He has worked on Juniper Ridge for over 20 years and has directed the design and preparation of several of its permit applications. Throughout his career, Mike has also been involved in multiple engineering roles with many of the state's landfills and is, therefore, very familiar with landfill licensing standards and the standards of practice for landfill design. He earned a bachelor of science degree in civil engineering from the University of Maine. His resume is BGS/NEWSME Exhibit #9. Mike will discuss landfill siting and design for the

expansion. Mike.

MR. BOOTH: Thank you, Tom. My presentation this morning will focus on the expansion design and the design process. I'll describe how we designed the expansion to comply both with the prohibitive and restrictive criteria that are contained in the solid waste management rules and the performance design standards of the rules to protect the environment and the site sensitive receptors. I'll also address the alternatives to developing the expansion which is part of the Natural Resource Protection Act permit application for the two -- approximately two acres of wetland impacts that are associated with this expansion project.

In my testimony, I'll touch on the points made in both my direct testimony and my rebuttal testimony trying to respond to a number of questions that are related to the design that were raised by Mr. Spencer and Mr. Coghlan in their direct testimony. I'll start with an overview of the project, describe the site selection and the alternatives analysis that was done, describe the basis of the design, the expansion layout and configuration, we'll get into a detailed

description of the various components of the landfill and finally the construction activities.

This is an overview of the site and the actual footprint as shown by John is about 54 acres situated right to the north of the existing landfill facility, in addition to actual landfill footprint -- the line of the landfill footprint the total developed area is about 75 -- 74 acres. That includes access roads, perimeter berms, stormwater ponds, the relocated scale house and administration building. The expansion is designed for the same types of waste materials that are currently taken to the Juniper Ridge Landfill site and will be developed over the 10-to-12-year period in a series of six cells, each constructed a year -- approximately a year before it's needed, a year to six months before it's needed.

The alternative analysis which is part of the Natural Resource Protection Act permit application we looked at four alternatives. One was a no-build alternative where could this waste be taken to another facility. That particular standard and evaluation was actually -- typically -- it was consistent with what was done with the

public benefit determination for this project where it was a previous permitting part of this project which a license was issued back in 2012 which found that the Juniper Ridge Landfill Expansion was needed to provide long-term disposal capacity for the State of Maine. If that Juniper Ridge Landfill Expansion was not constructed, then the waste that currently goes to that facility would have to go to another facility and that would shorten the life of those facilities.

The alternate site development is another -- is another alternative we looked at and originally we looked at alternative sites -- the Juniper Ridge Landfill site was based on a very extensive siting study that was done back in the early nineties which actually identified 58 sites around the Old Town area which had the suitable soils for a landfill site based on the requirements of the rules. From the 58 sites, the further screening of those sites narrowed those sites down to 18 sites. The sites that were eliminated were eliminated because of either wetland and surface waters surrounding use. From those 18 sites, 10 sites were identified for onsite investigation which the test pits were dug

and investigations of the actual soil conditions on the site and based on those test pits, the Juniper Ridge Landfill site was identified as the best site for a landfill development in that area. Important in the alternative -- looking at alternative site developments is to remember that if this facility was constructed on a different piece of land, the amount of land that would be needed to meet the 9.35 million cubic yards of capacity, which is what this application is for, would require additional capacity because as part of this expansion we're using some of the existing site infrastructure which would have to be built on another site so it makes the site smaller.

The waste reduction and alternative waste management methods, I think Toni did an excellent job of going through those alternatives and why the expansion as designed minimizes the amount of waste that goes through the landfill.

Modify the proposed boundaries of the landfill and boundary design, this is something that Sevee & Maher and Stantec -- Bryan Emerson will talk to this after my presentation -- looked at how do we minimize the amount of wetland impacts associates with this site. One of the

first things we looked at was the actual physical layout of the facility, looking at two other layouts of the facility on the Juniper Ridge site that would provide the 9.35 million cubic yards of disposal capacity. These particular sites actually have some other advantages if we're not considering wetlands and particularly this one, we wouldn't have to relocate some of these scales and some of the stormwater ponds; however, these both result in greater wetland impacts than the current design. The first -- the top one is about four and a half acres and the bottom one is about three and a half -- 3.4 acres, so these two alternatives compared to the two -- about two acres of wetland impacts that are associated with the layout that we're proposing as part of this application.

The basis for design, this is probably one of the most important of my slides. There's really three -- when we design a landfill, there's really three bases that we use to design a landfill. The first is to design it to conform with both the qualitative and quantitative standards of the rules, and I'll go into that in a little more detail further in my presentation. The second is that we design a landfill based on

the actual site conditions. John went into the amount of work that goes into actually defining those conditions. We take that information as he indicated and we identify and come up with a specific design feature of the landfill that are reflective of the actual site conditions. Now, this will vary depending on the types of soils on the site from site -- from landfill site to landfill site.

And finally, we design landfills and the expansion based on the experience of the professionals who are responsible for the design and the operations. This -- it's very important in the design that we incorporate what's been learned in the past in landfill design and incorporate it in the new designs, and so the design approach that we've used for this facility is based on the experience of both Sevee & Maher who's done landfill design, who has about 800 years of combined landfill design experience in our office, as well as the other consultants who have worked on the job who also have a great amount of experience doing their type of evaluation. The design and the approaches we've used in this design are similar to what have been

used on a number of other landfill projects in the State of Maine that have been permitted by the Board -- by the Department of Environmental Protection.

What we -- when we look at aspects of the landfill design, the first criteria that we look at is what we call restricted or setback requirements. The rules have a number of setback requirements that require for the footprint of the landfill to meet certain setbacks and this slide shows those different setback requirements and how we actually comply with them. Now, in the case of this expansion, we actually exceed the standards. An example is the closest house is 2,100 feet from the landfill boundary. The rules identify a thousand foot setback. We're 420 feet from the property line. The rules require a 400 -- I'm sorry -- a 300-foot setback from the property lines. So we kind of -- in the design world, we kind of say this gives us -- kind of the envelope is that we take and find the different locations and then we provide areas so we meet the setbacks, and in the case of this particular facility, we exceed all the setbacks.

The rules have what we call performance

standards which is requirements that a project must meet. Now, the performance standards look at actually kind of test driving the landfill design; saying, all right, we know what the geology is, we know what the design is, put those two things together and calculate how long it would take -- the time of travel analysis which John talked about, how long would it take -- if we did have a problem with a leak, how long would it take for that leak to get to a sensitive receptor. It also has a standard looking at potential contaminant releases and what -- if you did have a release, what would be the impact to those sensitive receptors. Now, those analyses are a due diligence exercise. We take and make very conservative assumptions on leakage rates and we run through this analysis and we check them to make sure we're not having an impact -- that the design will not have an impact on the facility. They are not predictions that we expect these things to happen. They're -- the way we approach a landfill design is we try to make very conservative assumptions, run through the analysis, if everything is fine and we meet the criteria that we've established for that

particular part of the design, then we know we have a solid system, and, you know, again, the experience of doing this a number of times, we know that the techniques that we do have proven out with actual operating facilities.

The protection against groundwater impacts is obvious. That standard is very important. In the rules they talk to not siting a landfill on a sand and gravel aquifer. At one point in time that was not obviously something -- a lot of landfills are located on sand and gravel aquifers way back 20 or 30 years ago. Obviously that's not what we want to do now.

Not locating the landfill on a fault line, again, not a good idea, and those standards are standards that we have to check the site to make sure and this site meets those standards.

The ability to monitor a site is -- we have to have a site that's monitorable such as what John talked to and he went into detail on how he monitored. One of the issues that -- that is addressed in that standard is disturbing soils within the area of the bedrock. We generally like to not disturb soils that are closer than five feet to the bedrock surface. This -- this is a

standard and in the landfill and the design of this landfill we've done that so where we have to -- if we have any soils that are within five feet of the surface, all we're doing in establishing a base grade is to strip off the organic materials so we're on to minable soils. So we minimize that impact of that five feet of the soils that are over the bedrock surface.

This is a time of travel analysis and I include this slide because the design that we've picked, and I'll be talking about the liner system in a minute, but the design that we've picked for this facility, we used the time of travel analysis to identify what are the appropriate components of the liner design. It's one of our very important parts of how we come up with a specific design -- liner system design for a facility and the layers that we put into it.

Now, the rules have really three parts to the -- this time of travel analysis. John identified the first one which is a flow through the onsite -- the native onsite soils and the bedrock. The second -- the second component that the rules identify for using this analysis is the time of travel through any imported soils. The

rules say, you know, you can import soils onto the site and you can account for that travel time through that soil. It makes a lot of sense because what we can do is we can import even tighter soils than what we have onsite and utilize that as a barrier to keep migration down to the site.

The third component is, what John talked to, is enhancing the liner design and the use of offset credits which the rules prescribe very specifically if you include certain components into your landfill liner containment system design, then you get offset credits. Because you're able to detect a leak quicker, you have a more robust liner system and the rules prescribe -- there's a table in the rules which identify those criteria. So we used all three of those components in our time of travel analysis. We actually selected design components based on utilizing those materials deliberately because if we can utilize designs that we're actually installing and we can QA and QC the installation, quality assurance, quality control, sorry for the acronyms, we know that the thing has been put into a certain standard as opposed to a geologic

system. You know, there is variability in any geologic system. So we have a better idea when we design the landfill and we install the particular liner system that we know has been designed to a certain standard, we can document that.

The contaminant transport analysis, what we do is we say, all right, one of the analysis is that the rules require us to do is we say, what if there's no liner here, what would happen if we had leachate just pouring -- we had no liner system and the leachate would just make its way out the bottom of the landfill, would it impact the sensitive receptors around the site; and so one of the analyses we do, we say, assume there's no liner system there, assume that the water has to travel down -- the leachate would travel down through the soils that have been put in and that are there and to the sensitive receptors and we have to predict what those concentrations would be at the six-year time period. Now, if we -- when we do this analysis, we also look at two other -- we've looked at two other scenarios, we say what if we have a leak in the liner, what if we have a defect in the liner and that liner leaks at a certain rate, what would we have for impact there.

We also look at what if we have a break in a leachate force main and that leachate is allowed to go into the environment for a period of time and then travel down through the soils into bedrock to the sensitive receptors. Those analysis, we compare what the water quality would look like at those sensitive receptors to the various standards for both drinking water and surface water and the criteria for establishing do we meet that contaminant transport analysis is that if there is not levels that -- that all the drinking water standards are met at that six-year travel time. That is a case for this facility and it's related to the tightness and the types of soils that are on this site as well as the design of the facility.

This is a first -- this is kind of the first picture of what we're actually designing. Now, the expansion we've -- we've taken the capacity and we've divided it up into cells built approximately every two years. There's a total of six cells, 11, 12, 13, 14, 15 -- 14, 15 and 16 and what we've found is that constructing a landfill cell every two years works fairly well because it's a fairly extensive process to design and

actually to construct. We actually go through and come up with a specific design for each of these landfill cells, they submit it to the DEP, they review it, they approve it, we have to go out and mobilize construction equipment and then also personnel to oversee the construction, testing of the materials. So what we found is kind of a two-year cycle is a good cycle to work on as far as construction of cells, and we've laid these cells out to handle about two years of landfill capacity at the design rate of 700,000 cubic yards per year.

One thing I would like to point out in the cell, we establish these base grades -- these lines are actually established with some intent and basically it's to get all the -- all the water that drains in the landfill to the perimeter of the cell within the lined area of the cell such that it's collected along the edges of the cell. This kind of zigzag pattern here allows us to kind of put pipes down the middle and allows the water again to drain to the side of the cells where it's collected in leachate collection sumps which I'll talk about in a little more detail. It also provides us the ability to keep all those pipes

clean. If there is leachate, it's always going to migrate to the outside of the cell where it can be addressed and picked up.

Also included on this, a couple other features I want to point out is this red area here is where the base of the landfill is located under the water table on the site. This is actually an area with some of the deepest soils onsite, and so what we do is this red area, it's about 12 acres, we have an underdrain system underneath it which will drain the water, keep the water table down so we construct the landfill liner on top of that. The areas in blue, and I'll go into it when I talk about the liners, are areas where we have less than ten feet of soil between the base of the landfill and the bedrock, and in those areas we've chosen to use an enhanced liner system. That gives us another year in the travel time analysis and it provides a more robust design. Basically we're putting two composite liner systems in those areas.

This slide shows kind of the sequence of development of the expansion cells. The first year we would build cell 11 in 2018, and this shows the leachate pipes. The next year we would

build this final cover over the existing portion of the existing landfill. I know this question came up during your site visit so what's laid out in the application is one year build a cell, the next year build a cover and have the cover kind of follow the development of the cell until we get to the end of the site and we have the whole site covered. We use this approach because this also plays into how we calculate what the leachate generation rate is going to be at the site over the life of the facility.

This -- this slide, and I should have put grass on the top, I apologize for that, shows the typical cover system that's put on the landfill. There's a vegetative cover layer which is a foot thick, there's a drainage sand layer, there's a membrane liner similar but not the same to the liners that we use -- the membrane liners we use in the liner system, and below that is a compacted clay layer that provides a base for this membrane and below that is the waste. So this essentially cuts off all infiltration into the waste when this final cover is completed and constructed.

I'm going to spend some time talking about the various landfill components. First is the

liner, then the leachate, leak detection system, the leachate collection sump, the landfill infrastructure, and the surface water management and erosion control features.

I'm going to use -- I'm going to go over here to talk by these big pictures because one of the problems that's always difficult, and I'm glad Jeremy was able to make these large scales, is it's pretty hard to kind of go through and see some of these layers in that small scale but this is a true-scale picture of the liner components of the system and I'll go through those very briefly, and I have some pictures of some of the construction of this activity. So the waste is up here. We put a five-foot soft layer and to answer Chairman Parker's question, the soft layer is about five percent of the waste volume. We calculated that as we were sitting there, and that's put on top of here to kind of protect the liner. The soft layer is actually made up of waste materials that are taken to the landfill anyway but they're materials that are precluded from that, things like construction and demolition debris, big pieces of materials that would have waste that could get driven into the liner

and cause a problem. So that five feet is up above here. The first layer is the leachate collection layer. You put a foot of sand, this is what we call a geocomposite drainage net. This is a high capacity manufactured material that we put over the membrane to collect all the water that filters down through the sand and convey it to the leachate collection pipes. Now, one of the conservative parts of our design is the rules allow us to have a 12-foot head to allow the leachate to saturate this entire level. We designed this landfill with this drainage net so that the head on this liner -- the amount of leachate head buildup under design conditions is about a quarter of an inch. These -- these -- these couple layers here are a little bit larger. They're not to scale but this layer is about a quarter of an inch thick, it has tremendous drainage capacity and we designed this to minimize the head on that liner system.

Right underneath that liner system is a geomembrane. We use a high-density polyethylene material. The rules call for use of a 60-mil liner. We use a liner that's -- it's proposed an 80-mil liner because it's a more robust system and

that sits right on top and right below that we put what we call a geosynthetic clay liner. This is a material -- and I have some pictures I can show. It's kind of a carpet material. It has a type of clay, a bentonite clay, which is a material when it comes in contact with water it will swell. We use that in landfill design to protect -- it helps protect this liner system. If there was a puncture in this liner system, a typical picture you'll see in the manufacturer's literature is a nail driven through here, if water was in here, it would drain down in here, this material would swell up and seal that hole. I personally have had experience on a landfill site where we had a situation where an overzealous operator backed down onto the sand, spun his tires and tore this membrane liner. We had -- in that particular landfill there was a layer of sand right underneath him with a leachate collection pipe. We were collecting -- we were testing the water quality in that pipe and this sealing of this liner kept that -- that GCL kept that liner from leaking. I was very impressed in how that actually worked.

Below that we put 12 inches of compacted

clay and we do that for a number of reasons. This provides -- one of the important things in a liner design is to provide robustness and thickness to the design and this part is actually developed or is shown to scale. This black line has nothing to do with -- it has to do with how they printed off this particular graphic, and so this is what we call the primary liner system, these three layers right here. This is the same system that's at the Juniper Ridge Landfill right now, and it has worked very well since it's been installed.

Below that we have the leak detection layer which is again another foot of sand, we put another high -- a high capacity drainage net on the bottom and then under the -- which goes to the leak detection pipes and then under that we use a 60-mil high-density polyethylene membrane liner. Again, the rules call that we can use a 40-mil liner, we've gone to a stronger more robust system. The whole advantage of this system is that obviously first it's to detect leaks. If there is a leak, if something was to get down through this, we would detect it in that pipe. One of the questions that was raised in I believe Mr. Spencer's testimony or comment was that, you

know, we -- the rules allow us a 30 day -- to design a system such that it can detect a leak in 30 days. We actually -- the way we've laid this system out and by using the types of system -- the type of drainage composite we used here, we actually have a three-day detection period. So it's -- actually 30 days is what's in the rule, we've put in a more robust system here to allow us to detect the leaks at a quicker level, but for anything to leak down through here, it has to get down through this clay. This whole level really would control the amount of leak that would actually go into here and consequently would control any liner -- any water that would be in the leak detection layer and any head on the secondary liner system. Below the 60-mil liner, this is the imported clay layer. This is the one foot of clay that we put down under the entire base of the cell. This is a ten to the minus seven centimeters per second clay. I'll give you -- that's point one foot per year, that's the permeability of this imported soil layer. We put that down there for a number of reasons. One of the reasons is also to provide a good stable base to put this -- this secondary liner on to keep it

away from any rocks or anything that may be in the soils down below it.

This -- this -- this is the augmented system. The only difference in this system -- the only -- this imported clay layer, this is also in the existing Juniper Ridge Landfill. The only difference is that that layer in the Juniper Ridge Landfill there is not that leak detection layer. It was an underdrain system that is tested. This is the augmented liner system. Again, same primary liner, same leak detection system but we put -- in the secondary system we've put in a GCL and another foot of clay to give us a secondary composite system. So from here to here is our liner system, the water would have to get down to there and actually for the water to get into the environment into the native soils, it would have to travel all the way down through all these layers down to this bottom here. The same here. For water to get -- for a leak to develop here, it would have to travel all the way down here to get into the native soils down at the bottom.

One of the questions that came up -- I'll address that a little bit later. These are some slides showing the actual construction of a

landfill cell. This is -- this is grading the base soils. You can kind of see when John talked about the till nature of the soils. Unfortunately when you had your site visit we weren't in construction season. It's usually very helpful to see how these cells are constructed to appreciate how robust these systems are. This is the imported clay layer. This is what the clay -- this is the installation of the clay that's placed over the graded cells, this is it being spread, and then it's compacted and it's kneaded together. This is a picture of that imported clay. It's also the same material that we use in the clay layers of the liner system, and it shows how tight these soils are. They're actually kneaded and constructed so they're constructed in kind of a very tight, tight soil once it's done. We actually take samples of these soils as it's constructed and we do testing of it to confirm that it actually has the permeability that we require, again that ten to the minus seven centimeters per second, which is a point one foot per year hydraulic conductivity.

This shows a secondary liner system and leak detection system being installed. These

liner materials comes in sheets -- long sheets about 18 feet wide, they're rolled out, they're seamed together, I have a picture of that in my next slide, and then the leak detection system is constructed by first the pipes are installed and then the sand is installed on top of them. You can kind of see also the composite has been installed and again, we put this composite on top of this membrane to help protect the membrane. That composite actually provides a physical barrier to that membrane. So if there were any -- some designs don't include that, they just use a fabric that doesn't have really any physical separation. This is a physical -- a hard piece of plastic which actually provides physical separation, so it limits the potential for any degradation or impact of construction of the liner materials, the geomembrane materials. You can also see this -- the way he's placing the sand, we require them to keep their equipment a certain number of feet off the bottom of the -- next to these liner systems and so what they do is they bring the sand in, they put it in and then they back their way out so they're providing protection. So this equipment is not causing

damage to the liner as it's being constructed.

This is a composite showing -- this is a clay that's been prepared and compacted. On top of that this is the GCL, again, it's a rolled product that is rolled out, and then the geomembrane is placed on top of it and this is a seaming technique where the liners are seamed together, they're actually what we call a dual wedge weld, the weld is -- the wedge is -- the liner -- the seam is actually two -- has two places where it's joined and there's actually an airspace in between. It's actually tested to make sure that there is no -- that those two seams are tight.

And this is just a composite showing a geomembrane -- the GCL and then the compacted clay liner. Again, this is a picture of the leachate collection sand being installed. You can see the geocomposite. This protects -- this is placed right over the liner. The stone is placed on top and you can see how they're using small equipment to move the sand on top of the liner. We're very fortunate in the State of Maine to have some contractors who are very good at doing this work. It's kind of finesse work, it's something where

you have to have people who know what they're doing and appreciate it and we're fortunate enough to have those types of contractors in the State of Maine.

This is the completed cell. This is actually -- this was the last cell we built out there, cell 9, and this is actually the completed cell. This is the intermediate cover that's placed on the existing cells. I think you saw this when you were out here. As this landfill is filled, this cover is pushed back, it's cut back, but we divert all the clean water up on top away from the cell. As part of this project, and Juniper Ridge is one of a few places in the entire country, the number I have in my testimony is about two percent of the geomembrane installations that are done in the United States have what we call a leak location -- a leak detect -- a leak location survey done after the installation. What this survey does is we bring a company in, they actually put electrodes down below the plastic, below the membrane, and then one on top and they create a current. If there's a defect in the liner, that current will connect and they'll pick it up with their equipment. They can pick up

defects in liners that you can't see with the human eye, and when we built this cell, I was out there while they were doing this survey, it's interesting, he's walking around six acres of sand, he'll tell the contractors, dig this area up, they'll shovel it off, they'll cut the geocomposite, you'll look at it and say there's nothing wrong with this liner, and they'll say wait a minute and they'll pump on it and you'll see a very small leak that you can't even see that this system will detect. Again, only two percent of the liners installed in the United States use this technique as a common part of their QA/QC.

One of the items that came up in the -- in the testimony and was a comment, do all liners leak. Well, this has been this kind of the conventional wisdom, everybody has heard this for years and years and years. I don't agree with that statement. When landfill liners -- when we first started using HDB membrane liners, there were issues associated with construction techniques. People didn't know how to construct them. There were items that the construction -- the types of materials don't have the quality control that they do now. Those two issues and

the use of this survey is we can provide a liner system that when we get done, we're very confident that that landfill has been designed without any defects in it. In addition, that statement does not consider a couple other aspects. One of the common causes of liner leakage that we have found in the industry over the years is penetrations through the liner. If you run a leachate pipe outside of the cell, you put -- the old way of doing it was to put a penetration through the liner, basically cut a hole in the liner, run the pipe through and then put a boot around that pipe. Those have been notorious problems in landfills. The DEP has recognized that and for a number of years now, probably more than I can -- probably 15 years, we have gone to internal leachate sumps to eliminate those sources of liner leaks because those are what cause -- so, you know, what causes liner leaks are construction-related damage which we address through our QA/QC and this leak location survey that we do that's not done on very many sites in the State of Maine and we eliminate -- we don't put penetrations into the liner system.

This is a leachate collection line, and as

I indicated, these are showing the leachate pipes, they're all running to the edge of the cells. Internal -- this is all internally an all-lined area, and what we do is we collect leachate in individual leachate sumps, and because of the way this site is graded, we have both temporary sumps in the first two cells and then the last cell on each site we have a permanent pump station. Now, the permanent pump station is similar to what you saw on your site visit a couple months ago. The temporary -- the temporary pump stations are the same concept. What we're doing is we're just putting -- we put one pipe in, they're meant to -- once we close out -- once we've filled the cell and moved on to the next cell, those pumps will be pulled, the lines will be tied in and the pulp station will go down to the next -- the leachate will flow down to the next temporary station and the pipes will actually stay in place to allow us to clean those lines. Now, the layout of these lines is such that we can continuously clean them for the entire life of the facility plus the post-closure period.

The leak detection system has a very similar layout. The piping isn't quite as closely

spaced because we don't have as much water to deal with, and once the water is collected in these sumps, it's pumped through a force main and the force main is double walled. There's a pipe within a pipe and there's an annulus that we collect and we measure the pressure in that to make sure there's no leak in that first pipe -- in that first main carrier pipe. That pipe all runs along the edge of the landfill to the leachate storage tank.

One of the items that came up in the discussion -- in the direct testimony, I believe it was by Mr. Spencer, was the capacity of using a 25-year/24-hour storm in our design. Now, we use a 25-year/24-hour storm in our leachate design and we also use it in our stormwater design. That's per what's in the rules, but what we do is we say, all right, we look at the layout of the facilities and we say what's the largest area that we're going to have that we could have water fall in the cell, and cell 12 is the biggest cell, and we designed a sump to take and be able to handle that capacity in the sump until the pump can pump it out because when we have a rain event, we have much higher leachate generation rates than we

have, say, like this last week where we haven't had rain for a period of time. The leachate rates, if you look at them, they go up and down depending on the weather patterns. So we design those sumps to handle that 25-year/24-hour storm event; however, we don't just say -- and when I say design to handle, that it will not overflow the embankments that we have capacity in here to contain that leachate within the cell until it can be pumped out. We don't say, all right, a 25-year storm, we look at it to make sure we have free -- or extra space above the highest level that we model to store additional water for those bigger storms for all those conditions that could occur, that, you know, we can anticipate and basically we looked -- in my redirect on the testimony, we looked at the sump size and basically for this sump we have about three times the actual capacity in the cell for what's needed in this 25-year/24-hour storm event. We know this technique works, we've used it for a number of years, we have actual experience in its performance during actual storm events, in fact, last year in September we had a storm that was 5.27 inches of water, a 25-year/24-hour storm in

this area, when this application was prepared it was 4.8 inches. The leachate pumping rates at the facility went from about 20,000 gallons a day up to about 112,000 gallons a day. We were able to contain all the leachate within this cell. These pump stations are all hard wired. They're hard wired into a system so Casella can see realtime what's going on with the system. If there was to be a failure of power, Casella has backup generators which they could go and hook up and pump out of these cells. In addition to that, the leachate tank is sized and the rules require that we provide extra storage capacity in the tank. As part of the application, we go through a design process that shows that we have backup storage capacity in the tank in addition to the tank we need for the wettest months.

This is actually a photograph of what you didn't see on your visit that was under the waste. This is actually the construction of one of these sumps. Basically -- you probably saw the end of these pipes when you looked in the building. These pipes are riser pipes, they go down, they sit on the bottom of the floor, we actually put a one-inch thick high-density polyethylene piece of

four-by-eight sheath on the bottom to protect the liner underneath it. We actually enhance the liner under the individual sumps and then the pumps are slid down into these pipes. Now, the pumps are similar to what a water well pump would look like, they're a long pump, they're just a higher capacity, higher horsepower, so they're a little bit bigger than your typical water well but they're the same type of pumps. In that -- on top of that we place -- that's the placement of the stone that's placed in the sump and that provides -- the water level that builds up, the water flows into these holes in these pipes and it's pumped out of the site to the leachate storage tank.

Landfill gas infrastructure, the expansion, as with the existing facility, uses two ways to collect gas that's generated by this facility. The first is horizontal trenches which are installed as the waste is being placed in the waste. They're installed at about a 40-foot vertical interval and about a hundred-foot spacing along -- horizontal spacing within the waste, and as I said, those are -- once they get up to the elevation where the pipe has been identified to be

installed, the pipes are installed as part of the active operation of the facility. Once the landfill has reached final grade, vertical gas extraction wells are installed in through the waste. These vertical extraction wells are the primary long-term means of collecting gas from this facility. They're actually laid out to collect all the gas that's being generated by this facility. The horizontal pipes, there's an appreciation that water can -- what we call water now can occur in these pipes. Basically because these are inactive areas, as the waste settles, these are six-inch pipes, they can actually end up with sags and because the landfill gas is actually quite wet, that water can condensate, the condensate can drop out and block these pipes. So these horizontal pipes are not intended to be long term gas extraction. They're meant to operate during the operational life of the facility and typically they will keep drawing gas until, you know, there's gas there to be obtained.

This shows the layout of the -- of the -- of the -- I'm sorry -- of the landfill gas wells. Again, these wells have been laid out by Sanborn, Head who does all the design gas work and are

experts in landfill gas construction and design, and all this gas is collected by these wells. The gas is conveyed to header pipes. There's one header pipe -- a new header pipe that will be installed on the east side and then there's a header pipe here to an existing header pipe and all the gas will generate -- will flow to the onsite -- to the gas treatment facility and ultimately to either the gas flare or in the future some type of energy-type project.

The existing infrastructure has the capacity to handle the amount of gas that's projected to be generated from this expansion and again, those projections are based on the experience that has been gained from the Juniper Ridge Landfill site and selection of parameters that reflect what the actual gas generation needs are.

Stormwater management and erosion control, the expansion is designed based -- the erosion control, the first part is there's long-term erosion and there's also stormwater erosion control measures that are implemented during construction and operation. All those measures that are designed -- this facility has been

designed in accordance with the Maine DEP Best Management Practices for those activities. That has to do with sizing ditches, riprap protection, outlet protection, different criteria that's typical of any type of civil engineering project that is dealing with managing stormwater.

The stormwater management is water that's collected off of -- this consists of clean runoff. This is runoff that's collected off the cover material, off the intermediate cover -- off the intermediate cover and off the final covers. None of this water comes in contact with the waste. This is conveyed to one of eight stormwater detention ponds. There's two down here, there's a small one here, there's one here and there's one up here that we're going to expand. Those ponds are currently existing. We have three new stormwater ponds, one pond is here, one pond here and one pond here. Now, these ponds are designed to limit what we call the post-development flow, after we develop the site, to the stormwater flows off the site prior to the landfill construction -- actually prior to even the existing landfill construction, and so we go through a fairly extensive analysis -- modeling analysis to size

these ponds to make sure that they -- that we can draw the conclusion that the pre-development flows and post-development flows from the site are the same, and that information is reviewed by the DEP and my understanding is they've concurred with our design on that.

Each of these ponds has a structure in it, an outlet structure which controls the rate that the water is released, the actual discharge location for all these ponds are onto surface bodies -- are onto actually the ground surface and we use something called a level spreader to spread out that water so it flows over the ground surface and it doesn't erode the soils. Those -- they eventually drain to the low areas in the drainage areas. Each pond is also sized to handle a hundred year storm event. In a hundred year storm event, the water would flow over -- we put structures in there so the water would flow over and out of the pond so it won't compromise the integrity of the pond system.

One of the parts of the design is the expansion -- is the settlement and stability analysis and John talked about the strength of the soils underneath the site. The DEP rules have

minimum requirements for the stability analysis and basically this is looking at how much force is -- it's kind of a balance that we look at will this landfill fail because of the weight of the facility and will it -- is there enough strength in the soil underneath the landfill to hold it up. The DEP requires a minimum long-term of 1.5 for the factor of safety. So there's 150 percent of the strength needed to hold this up. So 100 percent the weight of that landfill will be held up by the weight of the soils. The DEP rules require you to have 150 percent of that strength and that's a typical way stability analyses are done in any industry. You can see -- you can see below the factors of safety, we look at the safety in the waste, we look at in the liner along the liner limits and also in the foundation soils, and you can see we exceed those factors of safety for all those conditions we evaluated.

We also look at landfill settlement, how much it's going to settle based on the weight of the waste that's placed on there. Our calculations for this site are about point three zero three to three feet. The -- that -- typically settlement is a bigger issue on a clay

site where you have more compressible soils and stability is also a bigger issue. That's one thing nice about working on these till soils, they're very strong, they're not susceptible to a lot of compression as a clay site would be.

One of the items that came up in the testimony was the floodplain mapping and did the facility -- what would happen if the floodplains changed. The rules require us to look at the latest FEMA flood maps and to make sure that our facility is not located within the boundaries of the facilities. This figure we put together after that comment came out and these are kind of -- we superimposed the floodplain -- hundred year floodplain boundaries based on the FEMA maps to the landfill facility and we looked at elevationally what's the difference between the lowest part of the landfill and these floodplain elevations, and the difference on one side is 12 feet and the other is 32 feet between the lowest area in the landfill and the highest elevation that this floodplain falls over the existing contour lines. Now, in reality what's going to happen obviously in a flood, as John indicated, there's a lot of low-lying areas around the

facility and so the flood would actually spread out into these low-lying areas. So we felt that that is really not a concern. The site, first of all, meets what's in the requirements of the rules but it's also located high on a ridge. So if that area was to expand, it's very unlikely there would be any impact of floodplain on this facility.

So here's my conclusions. Expansion will be -- I'm sorry, we'll talk about construction. The expansion is progressively constructed over the life of the facility. This allows us to incorporate new information as it comes along. Probably the biggest one that this would apply to would be stormwater numbers. If the stormwater -- if the 25-year/24-hour storm event changes over time, which they do, we -- we go through that calculation with each of the new expansion sites and we would modify the design to reflect what the current storm -- the current published storms are for the design standards. We obviously did this -- at some point when we do this application, we have to look at what's available and then we design around that, but as we build each cell, we go back through the design and we make sure that we're up to the current standards in the design.

Prior to construction, as I indicated before, all the plans and specifications are prepared and submitted to the DEP and reviewed and approved so each of the landfill cells go through a detailed set of designs. In the application we have the detailed designs for cell 11. Those plans are a construction ready set of plans that could go out to a contractor and have them construct it. During construction there's a very large quality assurance/quality control program. We have personnel onsite during construction to observe the construction and to perform various conformance testing on materials. Now, we test the soils that are used in the construction, we test the liner materials, we actually take samples of the materials, cut the actual materials, send them off to independent laboratories to make sure the materials have the properties that we've included in the specifications. Once that information is required -- once all that stuff is put together, all that information is submitted to the DEP to review to demonstrate -- and they have to give us approval on a final inspection to place waste in the cell. So they'll go through all that information that we compile which ends up being

about as thick as one of our -- probably a doc about this big with all the different testing and documentation that goes into constructing one of these landfills. They go through that and they provide an acceptance that we build the system in accordance with our design prior to putting any type of waste into the cell.

So my conclusions are the expansion design meets or exceeds the relevant NRPA standards and the standards of the solid waste management rules including the Prohibitive and Siting Criteria and the Performance Design Standards contained in Chapter 400 and 401, which are the design-related chapters. The design of the expansion is based on the excellent site setting, the collective experience of the professionals responsible for its design and operations and experience obtained from site operations. Thank you.

CHAIRMAN PARKER: Thank you, Mike. We're going to take a five-minute break. We'll be back at 11:05 or 11:06.

(OFF RECORD)

CHAIRMAN PARKER: Okay.

MR. DOYLE: Okay, our next witness is Bryan Emerson. Bryan is a wetland scientist

certified by the Society of Wetland Scientists. He's a graduate of the University of Vermont with a bachelor of science degree in environmental science and a minor in chemistry. He's employed by Stantec Consulting where he's a project manager and a wetland scientist. At Stantec, Bryan manages and conducts a variety of natural resource planning projects, including wetland delineations, wetland functions and value assessments, wetland mitigation planning and design, vernal pool surveys, wildlife habitat assessments, wildlife monitoring and invasive species management. He's currently the wetland discipline lead for Stantec's Topsham office. A copy of Bryan's resume can be found at BGS/NEWSME Exhibit #21. Bryan will discuss the natural resource surveys, wetland delineation and vernal pool surveys, mitigation of impacts and compensation issues related to the project. Bryan.

MR. EMERSON: Thank you, Tom. Good morning, Chairman, Members of the Board. As Tom mentioned, I will be discussing the natural resource surveys that Stantec performed as part of this project, the surveys that are required by both Maine DEP and the Army Corps of Engineers.

I'll discuss some of the efforts on avoidance and minimization and then discuss the actual wetland and vernal pool alterations that are proposed for the project. I'll go into a little bit on the compensatory mitigation plan that we designed and then provide some information on Atlantic salmon and Atlantic sturgeon and short-nosed sturgeon.

So as a start, again, the natural resource surveys that were performed to meet the standards of both the Natural Resources Protection Act and the Clean Water Act for the Army Corps of Engineers, Stantec began work on this expansion back in 2004 and in 2008 when initial wetland delineations were done on this site. We went back out in 2014 and 2015 to verify those wetland delineations. The delineations were performed according to the Corps of Engineers' wetlands delineations manual, which is also the methods that are recommended by the Maine DEP, and these wetlands needed to be verified because the wetland delineation protocols changed, the Corps of Engineers issued a regional supplement to the wetland delineation manual so we had to go back out and verify the wetland boundaries in accordance with these new standards and protocols.

CHAIRMAN PARKER: Excuse me, Bryan?

MR. EMERSON: Yes?

CHAIRMAN PARKER: Can you slow down just a little bit?

MR. EMERSON: Sure.

CHAIRMAN PARKER: I think our stenographer would appreciate that.

MR. EMERSON: Sure, absolutely, sorry. I'll discuss the results here. We identified eight wetlands within the expansion area, either wholly or partially within the expansion area. They were primarily forested wetlands and none of the wetlands were determined to be wetlands of special significance, and just to be clear, wetlands of special significance are a class of wetlands that are a higher value wetlands. They're defined in Chapter 310 of the NRPA saying they're wetlands that are coastal wetlands, peatlands, wetlands in floodplains or wetlands with large emergent marsh areas or open water areas and we did not have any of those in the expansion area.

So this next slide shows the expansion area. Again, here's the existing landfill and the expansion area is outlined in red. These areas in

blue were the wetlands that we identified as part of the wetland delineations that were conducted within the expansion area there.

So next we performed vernal pool surveys on the project. Vernal pool surveys were conducted throughout not just the expansion area but also the 780-acre parcel on which the entire facility sits. Those surveys were performed according to the Maine Association of Wetland Scientists' vernal pool survey protocol. That's the industry standard for vernal pool surveys here and it's a method -- a protocol that's been approved by both the Department of Inland Fisheries and Wildlife and the DEP. As a result of those surveys, we identified 14 vernal pools within the expansion area itself, ten of those were man-made vernal pools and I point that out because Chapter 335 which defines vernal pools for Maine DEP specifically states that vernal pools need to be naturally occurring for them to meet the definition of a vernal pool by DEP standards. So ten of the pools that we identified provided functioning habitat for vernal pool species but didn't meet the DEP's definition of a vernal pool. We did identify one significant vernal pool and

that was not located within the expansion area itself but the 250-foot habitat -- critical terrestrial habitat that surrounds that pool overlaps with the expansion area and I'll show you a figure here on the next slide.

So these -- they're a little tough to see here but the little pink dots are the vernal pools we identified within the expansion area and then this dot on the side here with this black circle, that's the significant vernal pool and that's the 250-foot circle around the pool. So you see that this line here is the electrical line. I'll discuss this a bit a little bit later, but that 250-foot habitat overlaps with the project but the pool itself is not located within the project area. And I mentioned those manmade pools just to give you a sense of those. This is one of those pools. It's just a manmade vernal pool, it's an old skidder rut from past historic logging activities on the project site. This pool had a couple egg masses in it. This was, you know, a typical one of these manmade, not naturally occurring features but still provides some habitat.

So the next survey we did was a function

and value assessment, and this assessment we did according to the Corps of Engineers' Highway Methodology. That's the methodology, again, that DEP recommends as part of the -- within the NRPA and that methodology assesses whether certain wetlands provide a list of about 13 functions and values and then the method dictates that you describe if those are considered principal functions of those wetlands, whether they provide those functions at a high level.

There's also that assessment where that the wetlands within the expansion area provided relatively little -- limited, excuse me, functions and values. We determined that wildlife habitat was a principal function of those wetlands and that's primarily a result of those vernal pools. The wetlands provided vernal pool habitat and, therefore, we determined wildlife habitat was a principal function. The other functions that were provided at a limited level were the sediment intoxicant retention, nutrient removal, production export and flood flow alternation. Again, the wetlands provide these functions but not to a capacity to be considered principal.

And the reasoning for that, the way we

determined that these were relatively low functioning wetlands is primarily because of the lack of habitat diversity. Again, I mentioned these were forested wetlands, which is the most common wetland type we have in Maine, they're relatively isolated, there are no surface water connections to the larger wetland systems around, there's, like I said, past historic disturbance, they're relatively small and, again, there's no streams located on the site which allow wetlands to provide more functions as well.

So that summarizes the field surveys that we did and assessments. I'll discuss a little bit about avoidance and minimization efforts, and, again, Mike Booth talked about the site selection and alternatives analysis process. I'm going to focus more on the steps that were taken once the site was actually selected to avoid and minimize impacts.

Mike discussed the multiple design alternatives that were considered as part of the project's design with 4.5, 3.4 wetland acres -- I mean acres of wetland impacts. Sevee and Maher and Stantec we worked sort of on an iterative process back and forth to try to find a design

that would minimize impacts to the maximum extent but also still meet the purpose of the project. So we had lots of discussions back and forth. We -- our field staff went back out and performed extra delineations and field checks when they had to modify the design to make sure we were covering -- everything was covered and we had made sure the wetland delineations were up to date. So there was really a lot of back and forth and a team effort there to identify natural resources to avoid and minimize.

Once we decided on the layout and minimization efforts, again, which Mike discussed, trying to optimize the landfill footprint and configure the landfill footprint to get the greatest capacity, also locating some of the accessory structures in upland areas, structures like roads and stormwater ponds and scales and those types of things outside -- located outside of wetlands to, again, minimize impacts. One example of that is that the roads for the project on the perimeter are located on the perimeter berms of the landfill, again, just to try to keep it from expanding out and minimizing impacts as best as we could.

So despite those efforts, there's still some level of impacts proposed and I'll discuss what those alterations are now. As Mike also mentioned, we -- the project includes approximately 2.04 acres of direct impacts to forested wetlands. That includes impacts to five separate wetlands that are either wholly or partially being impacted. Only one wetland is being completely filled and that's a very small wetland that I'll point out in the next slide. There's also a tenth of an acre of clearing of wetlands associated with the project as well and that's where we're clearing the overstory, the canopy and trees, but there's no fill associated with those impacts. They will remain as wetlands but the community type will switch to an emergent wetland or scrub/shrub type of a wetland.

And I'll show these here on this figure. The wetlands being filled are right here in the middle. It's primarily this one large wetland in the middle and another decent size wetland here. The one wetland being completely filled is this small one right in the middle here. The wetlands that are being cleared are located along the electrical line on the east side here and that

clearing is -- that tenth of an acre is split amongst two different wetlands, so a little bit on this wetland and a little bit up in this wetland here.

And, again, onto the vernal pools, again, none of the vernal pools within the direct expansion area meet the DEP's definition of a vernal pool. There are proposed impacts to these manmade and Corps jurisdictional pools but they don't meet the criteria to be considered significant vernal pools. We did have one impact -- and that's -- that's direct impacts to the pools themselves. We did have that one significant vernal pool I mentioned which has clearing within the 250-foot critical terrestrial habitat. We're clearing approximately 5.5 percent of that total habitat and the DEP allows impacts within that 250-foot habitat to be approved under the Permit By Rule standards provided that there's no impacts to the depression -- the actual pool itself and that you maintain 75 percent forested cover around that pool, and this figure which is my -- BGS/NEWSME Exhibit 32, shows the vernal pool right there in the center and here's the clearing impact within 250 feet. This black circle is the

250-foot circle. So clearly no impacts to the pool and maintaining 75 percent of the habitat, and that Permit by Rule was submitted in the summer of 2015 and approved.

So because we do have impacts to the project we're required to compensate for those impacts, and so as you'll see, as I'll explain more, we used preservation as the means to provide compensation for these wetland impacts and Chapter 310 of the Wetlands and Waterbodies Protection allows for the use of preservation as a form of compensation. Among other options, preservation is listed as -- you know, it's allowing preservation of existing wetlands or adjacent uplands with this site to be preserved to provide significant wetland functions, and so that's -- to make sure that was clear. Preservation is also an acceptable form of compensation for the Corps of Engineers as well.

And so as we set about designing or trying to come up with a mitigation plan, we had to consider both DEP's requirements and the Corps of Engineers' requirements and their guidance and we discussed this mitigation plan early on with both agencies and discussed what our options were, we

met along through the process, had some discussions to try to finalize a plan. When it comes to preservation, DEP typically requires an eight to one ratio for preservation and that's the ratio of area protected to area impacted. The Corps requires a higher ratio, 15 to one being their ratio under their mitigation guidelines, and again, we had to provide compensation for those manmade vernal pools for the Army Corps of Engineers. We didn't have to do it for DEP because our only vernal pool impact was that significant vernal pool that we covered with the Permit By Rule but to meet the Corps standards we had to do that, we had to compensate for those manmade pools. So in essence, the plan was designed to meet the Corps standards more because the ratios are higher and we're required to compensate for those vernal pools. By doing so, we would also -- we were meeting the DEP's requirements along the way.

So, again, as I said, 2.04 acres of wetland impact is what we're proposing. At an eight to one ratio, that's 16.3 acres of preservation. That would be the minimum requirement. Using a 15 to one ratio, the Corps

standard, that's about 31 acres of preservation as a minimum. To compensate for those manmade vernal pools, we had, again, six of those Corps jurisdictional pools and the total habitat surrounding those pools, the combined -- I'll show a figure that will show this better -- the Corps regulates 750 feet out from the pools. So we combined the 750-foot habitat circles around these pools and got a total acreage of 94 acres that we needed to compensate for there. So if you take the 94 acres for the Corps for the vernal pools plus the 31 acres for the wetlands, that's about 125 acres is what we were looking for to provide compensation for the Corps.

Again, this figure shows in that red outlined circle is that 94 acres of 750-foot habitat circle around all these vernal pools. So we took all these pools, drew a 750-foot circle and then kind of merged those buffers together into one big habitat circle, and that's how we landed on that 94 acre number.

So in the end, our final plan, we were preserving -- proposing to preserve 266 acres of preservation, and this is located north of the expansion area on landfill property. The -- the

preservation area includes 57 acres of wetlands, 25 functioning vernal pools that were documented during the vernal pool survey, three significant vernal pools and an additional high-value wetland habitat which I'll describe in a minute; and, again, if we're trying to -- we were looking to get 16.3 acres as a minimum for DEP so we're providing more than 16 times more than what the DEP would require for preservation; and, again, with 125 acres required for the Corps, we're still providing more than twice that.

This figure shows -- shows the preservation area, again, a little tricky to see but this is Exhibit #33 in my direct testimony. It's this area outlined in orange here at the north end of the property. This area -- this area in purple here is a previous preservation area that was protected. When the original landfill was sited and permitted, this area was protected by a deed restriction. We are encompassing that preservation area as well. These red and white circles are the vernal pools that we identified in the project during a vernal pools survey in 2015 and these which are quite hard to see unfortunately are the significant vernal pools,

these black circles here, are the three significant vernal pools on the site.

So the preservation area, as I mentioned, has a diverse mix of uplands and wetlands. It provides some more high-value wetlands than the expansion area itself does. There's areas of peatland and emergent marsh, beaver flowages, forested wetlands, scrub/shrubs and some significant vernal pools. Many of those wetlands meet those definitions in Chapter 310 of wetlands of special significance, the peatlands being one, the emergent marshes that are greater than 20,000 square feet in size meet that definition. The wetlands on this site also provide significantly higher functions and values than those being impacted. So we have the value -- or the function of wildlife habitat, which I mentioned before, also the characteristics of these wetlands allow them to provide more of these functions, sediment toxicant retention, nutrient removal, flow water alternations, etcetera. Those are -- as a result of -- you know, they contain more deep soils, they have a more diverse mix of vegetation, dense emerging vegetation, some of these other characteristics that allow them to perform these

functions.

I'll provide a couple pictures of the preservation site just to give you a sense for what it looks like. This is one of the peatland areas in the north dominated by black spruce and other -- and ericaceous shrubs, again, one of these wetlands of special significance. This is an emergent marsh taken in the spring during the vernal pool survey so it hasn't greened up yet, but one of those large areas. Here's a beaver pond on the site, here's a separate, different beaver pond. Again, just a diverse mix of species -- or of habitats, excuse me, on the site. This is one of the forested wetlands and this actually was another vernal pool, not a significant vernal pool, but this whole area provided some breeding habitat for some species, and then we had -- again, here's a couple examples of the vernal pool -- significant vernal pools that we had. Here's one of a significant vernal pool and here's the next.

So, again, just to provide a little bit more information on the preservation area, we performed those vernal pool surveys in 2015, identified 25 functioning vernal pools, three

significant vernal pools. We had an additional eight more pools that were what we termed high functioning, and these are -- these are pools that meet the DEP's thresholds for egg masses. They -- you know, maybe they had 40 or more wood frog egg masses in them but they were -- they were manmade so they didn't meet that DEP definition of a naturally-occurring feature but they were still providing a lot of habitat. These egg mass counts in the preservation area were significantly higher than in the expansion area. This is a table provided both in the compensation plan and in Exhibit #41 which shows that the size of the expansion area is 74 acres and we had, you know, four wood frogs, 71 spotted salamanders, whereas in the 266-acre preservation area we had close to 900 spotted salamanders, plus we also had blue spotted salamanders present in the preservation area as well, which, you know, is just providing more diverse species mix within that preservation area.

And to sum up a bit on the preservation site, as I said, it surrounds 16 acres of land that's already been preserved which adds on to that 266 to make a total of about 282 acres in

total area. It contains approximately 209 acres of developable uplands that could be -- you know, that will be protected from any future development or landfill expansion or timber harvesting. That's one of the criteria for preservation sites is not just to protect wetlands but to also protect upland buffers around those wetlands that could be developed. As I said, it exceeds DEP and Corps requirements.

The preservation will be protected by a deed restriction and the City of Old Town -- we've reached an agreement with the City of Old Town. They will be acting as the third-party administrator to that deed restriction. The language of that deed restriction has been reviewed by DEP and reviewed by the Corps and approved by both agencies and the City of Old Town City Council voted to act as the administrator of that deed restriction, providing third-party oversight of this area to make sure there aren't any problems that come about or disturbances to the land in the long run, and we did -- as I said, we discussed this process along the way. We met with DEP early in the process, we met with the Corps and we've received preliminary conceptual

approval at least on this plan prior to submitting the application.

So finally I'll address some topics on Atlantic salmon that came up -- which will be in response to the testimony submitted by Mr. Coghlan and Mr. Spencer. First and foremost, I think it's worth pointing out that the application has been sent to review by the Department of Marine Resources and the Department of Inland Fisheries and Wildlife and the DEP staff forwarded e-mails on to us from the review from Oliver Cox who is the director of Sea-Run Fisheries and Habitat with the Department of Marine Resources, and his statement was that none of the streams in the project area are Atlantic salmon streams; and additionally, John Perry from the Department of Inland Fisheries and Wildlife reviewed the application in October of 2015 and stated fishery staff do not anticipate any adverse impacts on fisheries resources associated with this landfill expansion. So this is part of the review process. Both DMR and IF&W have had a chance to comment on the application and have provided these comments in support of no impacts to fisheries.

These -- these comments are consistent

with comments that we received along the way early in the process as we consulted and sent letters to the agencies requesting information. We received similar responses that they didn't expect impacts to these species, and while I feel that's -- that's good justification, we provide a little more information here on why we think our design won't affect Atlantic salmon is that we have no direct impacts to rivers, streams or brooks on the property, so we have no stream impacts and no stream crossings. In fact, the nearest stream we have to the site is an unmapped intermittent stream which is about 850 feet to the east of the site, and I'll show a figure that shows this. The closest perennial stream is 950 feet southwest and that's a tributary of Pushaw Stream and then the closest stream we have -- and then the next closest is 2,300 feet to Judkins Brook and that Judkins Brook is located within mapped critical habitat for Atlantic salmon but we are 2,350 feet away. So we have these large undisturbed buffers to these stream resources.

This figure shows the closest stream over here to the east. This is 800 feet from the landfill cell to the -- this is unmapped. It

doesn't show up on a USGS map but we identified it through aerial photo interpretation in our field surveys. Again, here's the 950 feet to the closest perennial stream and here's 2,300 feet to Judkins Brook and it's worth pointing out that this area, again -- the whole area is the preservation area that's going to be permanently protected providing additional buffering to this -- to Judkins Stream which is the stream within Atlantic salmon habitat.

So we also did a review of literature to sort of further this buffer idea and we found that there was a paper by Castell that reviewed 35 additional scientific studies, so it was a literature review, and in that it recommended a minimum of 49 to 98 feet for stream buffers, reviewed a paper by Wilkinson in 2006 that concluded in Maine to provide temperature protection for streams a 75-foot buffer is recommended and these temperature changes -- which is important for a cold water species such as salmon. Also in Maine policy, IF&W has recommended for this project hundred-foot buffers from any streams and has recommended generally as part of their practice hundred-foot buffers for

brook trout streams. The DEP when it considers adjacency to stream resources considers a 75-foot area and then the Corps of Engineers when you're talking about compensation for impacts considers an area of 100 feet of streams. So consistently we see this 75 to 100 foot as a buffer width we'd like to see from streams for stream protection and fish protection and, again, we have a minimum of 800 feet to the nearest stream.

And finally, Atlantic and short-nosed sturgeon, the closest known range of either species is in the mainstem of the Penobscot River. Again, I say we don't have any impacts -- direct impacts to any rivers, streams or brooks on the property. The nearest stream is 800 feet away. Once you hit any of those streams, depending on which path you go to those closest streams, it's six and a half to eight and a half miles to the Stillwater River, another six to eight miles then down to the Penobscot mainstem.

So we have these large, undisturbed buffers to the stream resources and then we also have, you know, more than 12 miles of river miles upstream from the known range of these species. So we're comfortable and the application I think

is accurate in concluding that we think it is extremely unlikely that there would be any impacts to these species from the project.

So in summary, the natural resource surveys have been completed on the project as required by the DEP. We took the required steps to avoid and minimize impacts to the maximum extent practicable. Where we couldn't avoid those impacts we developed a robust compensation plan to compensate for those impacts that couldn't be avoided. Thank you very much.

CHAIRMAN PARKER: Thank you, Bryan.

MR. DOYLE: Our final witness this morning is Jeremy Labbe. Jeremy is a licensed professional engineer in the State of Maine and a certified manager of landfill operations with the Solid Waste Association of North America. He is the environmental manager for NEWSME landfill operations, the operator of Juniper Ridge. Among his responsibilities as environmental manager are oversight of landfill design, compliance and operations. Jeremy is a cum laude graduate of the University of Maine with a degree in civil engineering, and has completed his coursework for a master's degree in geotechnical engineering from

the University of Maine. A copy of Jeremy's resume is BGS/NEWSME Exhibit #42. Jeremy will be discussing operational issues relating to the expansion. Jeremy.

MR. LABBE: Thank you, Tom. Good morning. I'm the last one so you're all still awake. It's good to see.

So NEWSME operates the Juniper Ridge Landfill which is owned by the Bureau of General Services. We have operated this facility since 2004. In the past three years the facility has accepted just over 600,000 tons per year, accounting for more than 50 percent of the solid waste disposal needs in the State of Maine. Juniper Ridge accepts material from over 250 Maine cities and towns across the entire State of Maine from Fort Kent to Kittery. As of the end of 2015, there were just over three million cubic yards of capacity left at the facility and this is about three and a half years of capacity using what we've seen in the last three years as a waste acceptance rate. So in order for us to not have a disruption in Maine waste management disposal capacity, we would need to construct the first cell of the expansion in 2018 in order to be

operational in 2019.

The expansion waste footprint which you had an opportunity to visualize during your site visit is roughly 54 acres, 9.35 million cubic yards of capacity. This is 14 acres smaller than the current licensed capacity at the facility. This expansion will last roughly 10 to 12 years at a conservative -- reasonably conservative waste acceptance rate of 700,000 tons per year, which is more than what we have seen over the last three years but it's important to note that historically we have seen volume rates coming in to Juniper Ridge at 700,000 tons per year actually up through 2011.

The expansion will be a continuance of our current site operations and, therefore, the operation of procedures and practices are anticipated to be consistent with current practice. Our staff endeavors every day to operate Juniper Ridge in a clean, efficient, environmentally sound and safe manner.

With regard to traffic, the expansion will be accommodated by the existing roadway network. Gorrill Palmer Consulting, who is here this morning, completed an in-depth traffic assessment

to determine the level of future usage, if it would be accommodated by the existing transportation network. This study, which was completed in 2014, determined that using the anticipated waste acceptance rates of 700,000 tons per year, which is what we anticipated for the expansion, that the peak --

CHAIRMAN PARKER: Slow down a little bit.

MR. LABBE: Sorry, I'll slow down, yes. That the peak truck trips per hour would increase only three from 2014 operations. Now, it's also important to note that 2014 operations we accepted again just over 600,000 tons per year. Historically we have seen rates of 700,000 tons per year making the increase from those years essentially zero.

Gorrill Palmer also evaluated primary intersections and found both the current and expected levels of service to be an A, which means very good with little control delay.

Sight distance was also evaluated and determined to be twice the required sight distance of more than 1,000 feet.

Additionally, we have worked with the City of Old Town to strategically place signs

encouraging truckers to utilize I-95 instead of Route 16 as well as a written policy for truckers to use I-95 instead of Route 16 in an effort to keep trucks on the interstate system.

Lastly, early on in our operation we implemented an overweight truck policy. This program and policy includes monthly reports to the state, the city and the Landfill Advisory Committee as well as a policy to penalize truckers in an effort to keep truckers traveling on our public roadways safe. To date, this has been a very effective policy.

With regard to noise, the expansion will not create unreasonable levels of noise and will comply with the standards. Epsilon Associates completed a detailed sound level assessment for the expansion modeling 11 locations around the site and you can see those locations. They're kind of hard to see but they're in blue and you can see them around the various areas of the site. Based on this detailed assessment, we will selectively operate our equipment from 6 a.m. to 7 a.m. when we are within 60 feet of the western solid waste boundary. Now, no selective equipment operation will be necessary from the hours of 7

a.m. to 7 p.m., which are daytime hours, or when we are further than 60 feet from that western solid waste boundary.

Additionally, as a proactive measure, we have installed something called white sound backup alarms on our equipment. This replaces the traditional beeping backup alarms which I'm sure you guys can hear at any construction site, unfortunately, you don't know where the beeping is coming from, you just know it's beeping somewhere around you. The white noise backup alarms are directional, allowing operators to know where the equipment is coming from and where it is going and also they're localized so the sound doesn't travel like a traditional beeping alarm. These have been very successful, our guys like them and they seem to be very, very safe because when you hear them coming towards you, you know it's coming from this direction or this direction and you know whether it's going away from you or coming towards you.

With regard to air quality, the techniques we use to collect and control landfill gas will be consistent with current practice. In 2014 we received an air emission license that regulates emissions from both the existing facility and from

the expansion. This license determined that the air emissions from the Juniper Ridge would, one, receive best practical treatment; two, not violate applicable emission standards; and three, not violate applicable health protective ambient air quality standards in conjunction with emissions from other nearby sources.

Landfill gas extracted from the expansion will be treated to remove hydrogen sulfide in accordance with our air license through our existing Thiopaq facility which you had an opportunity to see during our site visit, and then either combusted in a flare or beneficially utilized.

In addition to meeting ambient air quality standards, managing odors and sources of potential odor are priorities at the Juniper Ridge Landfill. We have a very detailed odor complaint response plan to manage landfill-related odors and minimize odor generation. Our plan includes a complaint line which is available 24 hours a day, seven days a week, and you can see our complaint record form which is my Exhibit 67. That is filled out for every complaint they receive at the facility. We've been very successful to date in managing

odors but we continue to strive each day to improve our practices and prevent offsite odor from occurring at all.

We employ many practices to monitor for odors, including but not limited to, daily surveys around the active landfill areas and periodic surveys around the residences. We also have continuous hydrogen sulfide monitoring at multiple locations both on and offsite.

Now, there are three main types of odors associated with landfill operations, and before I get into them, I wanted to point out the chart of our year over year odor complaints and you can see from 2005 over through current we've done a great job of reducing the amount of odor complaints through our odor control practices.

So the three main sources of odor associated with our operations are, first, waste-related odors from the incoming material; the second are leachate-related odors, and as Mr. Booth discussed earlier, leachate is that water that comes in contact with the waste; and the third is landfill gas related odors. Each of these three has specific practices associated with their minimization. First, with regard to waste

odors, we require trucks delivering material to Juniper Ridge to have proper tarps which are kept on until scaled into the facility. Once in the facility during warm months when the weather allows, trucks that contain odiferous materials then proceed through --

CHAIRMAN PARKER: Excuse me, slow down a little bit.

MR. LABBE: Okay -- through a deodorizing spray system. After this, trucks unload their material into the active waste placement area which is confined to as small an area as possible. Now, noticeably odiferous loads are combined with ash or other material to neutralize their odor. Empty trucks then repeat the process through a spray station to minimize their odors traveling on the public roadways. We want to be good neighbors and we want to make sure even the empty trucks are not containing odors as they're driving down the roadways. We then also use alternative daily cover materials which are very important for our odor minimization on top of the active placement area when we are done placing waste. We use typically alternative daily cover materials in lieu of soil which helps conserve virgin soil

products. We use materials such as construction and demolition debris, wood fines, incinerator ashes, contaminated soils or other materials that may become available to us.

Additionally we use deodorizing spray systems around the landfill site which you had an opportunity to see during your site visit as well as direct application on the active waste face which you also had an opportunity to see during your site visit.

Second, with regard to leachate related odors, we utilize a closed system with an above-ground tank and secure tankers to transport the leachate to an approved treatment facility. We also constantly monitor these operations to assure that they are operating properly, minimizing the potential for odor generation and as mentioned earlier, we have a constant monitoring system that's actually a fiberoptic network around the entire landfill that allows us to monitor each pump station, allows us to monitor the tank, allows us to monitor how things are running, turn things on or off, and actually troubleshoot them even remotely. I can do it from this very room if I wanted to.

Third, with regard to landfill gas, our landfill gas collection and treatment system is our first and most important piece. Our system has been designed to adequately handle landfill gas generation from this expansion and it is extremely robust. We install our gas station, as Mr. Booth spoke earlier, in each cell as the cell is being filled. We utilize both horizontal-type gas collectors and final vertical gas collectors once we have reached final waste grade. This two-fold approach allows for early and continuous gas collection. We monitor each collector. There's 160 roughly that are currently monitored in our program and we can individually adjust each of these collectors based on their generation rates, what we see for methane at those locations, the gas flows, the temperatures and other measured parameters. Now, our gas well field is also subject to EPA's new source performance standards which are very stringent standards for monitoring and recordkeeping and they require follow-up monitoring for certain wells and minimum monthly required monitoring at all the locations that are active.

Our treatment and conveyance system

contains realtime monitoring, the same as with our leachate system, for many parameters which includes vacuum to assure that we are collecting continuously from the landfill. Should an issue arise, our staff are automatically notified 24 hours a day. Additionally, our staff are trained and certified to install this very infrastructure meaning that we can respond quickly to any needs that happen. Now, once the gas is effectively treated in our Thiopaq system, it's collected from the landfill and treated in our gas treatment system to remove that hydrogen sulfide. We currently combust it in a flare destroying the odor-causing compounds all in accordance with our air license.

A second measure that is very important to odor control of gas is our cover system and specifically our intermediate cover system. We cover our side slopes with synthetic intermediate cover material which is kind of like putting a giant Ziploc bag over the waste and you guys had a chance to visualize that during your site visit. This is a very effective cover when compared to traditional soil which can crack and is subject to weathering and erosion. The plastic is very, very

effective. On top of both of these, we also complete regular monitoring at the landfill surface for multiple parameters, including methane and hydrogen sulfide.

Lastly, as a proactive measure, we have installed realtime monitoring of hydrogen sulfide at multiple locations both onsite and offsite as I discussed prior. These monitors operate around the clock and the data is recorded. The system also alarms and notifies our staff should a high level, which is above 15 parts per billion, arise at any of these monitors. As a further proactive measure during this expansion process we have worked cooperatively with the City of Old Town to improve our monitoring. We have put in place notification procedures for the city should a high level of hydrogen sulfide be detected at any of the four offsite monitors we have. Additionally, should we receive an odor complaint, we will also identify the hydrogen sulfide measurement at the nearest offsite monitor at the time we receive the complaint. This will all be indicated in the monthly reports sent to the state, the city and the Landfill Advisory Committee.

Lastly, the realtime data, the data from

each of those offsite monitors, will be provided to the City for their evaluation should they want to in addition to what we do currently for an annual review and what the DEP does for a review.

I'll now transition to the waste that we accept. We are a licensed nonhazardous waste disposal facility that can take only in-state waste. Our proposed future waste streams are consistent with what we currently accept demonstrating that the wastes will be compatible with each other, with our liner system and with our gas system. We primarily receive construction and demolition debris, front end process residue, incinerator ash, construction and demolition debris, processing fines, oversize bulky wastes, wastewater treatment plant sludges, municipal solid wastes, contaminated soils and other special wastes. We are permitted to receive various types of special wastes, some of which I just mentioned. These special wastes go through a detailed approval process called a special waste characterization program to assure that they are, first, nonhazardous and they also meet the EPA, the DEP and site specific permit requirements, and you can see on the projector here the first page

of one of our profile forms that's required to be filled out. It's the first step in the process of a generator of special wastes.

Now, once a waste is determined to meet the standards set forth in this program, our waste inspection process is then triggered. Our staff are extremely competent and diligent in making sure material is properly identified, characterized and labeled. Our waste inspection is critical not only to environmental protection but also to their safety. When a material arrived at the Juniper Ridge scale house, operators can inspect transportation documents and paperwork as well as question drivers, if necessary, to assure proper documentation and identification. Those operators can also inspect the load visually if they have any concerns. Once the waste passes the scales, the operators observe the waste offloading from the trucks to assure the material accepted at the facility is properly identified and they're in constant communication with the scales between the operators and scales to make sure things are going in accordance with what they're supposed to.

Our staff are also trained regularly on unacceptable and acceptable materials, what to

look for and what to watch out for. Any load identified as containing a potentially unacceptable material is immediately notified to the supervisor at the site, myself, as well as the general manager. If any unacceptable materials are identified, they are the responsibility of the generator for proper and safe removal, handling, transportation and disposal at an approved facility for that material.

Our system operates with very detailed reporting as well as Mr. Barden spoke earlier, in fact, we maintain a manifest for each and every load that comes across the scales at the facility and that's got to be maintained for a minimum of 30 years post closure, so we have to maintain those in a large file room, and on top of those individual manifests -- and you can see a picture here, it's Exhibit 47, it's hard to see here -- we supply a monthly report, as Mr. Barden also spoke of, to the city, the state and the local Advisory Committee showing each and every load of material, what the material was, who generated that material, how much material was actually in that load and other details, and that's supplied every single month to the state, the city and the

Advisory Committee.

So in conclusion, we have successfully operated Juniper Ridge since 2004 and plan to continue this operation with consistent practices during the expansion. Our staff is extremely qualified and endeavors every day to operate in a clean, efficient, safe and environmentally sound manner. Our waste acceptance rates are estimated to be similar to existing waste acceptance rates, the expansion traffic will be adequately accommodated by the existing roadway network, the expansion will not create unreasonable levels of noise and will comply with the standards. Our current air license will accommodate the air emissions from the expansion and our infrastructure and systems are designed and operated to minimize odor during the expansion. Our waste acceptance process is accurate and robust and our oversight and reporting is detailed. Thank you.

CHAIRMAN PARKER: Thank you.

MR. DOYLE: Thank you, Jeremy. Mr. Chairman, that completes our direct presentation. We're a little ahead of schedule.

CHAIRMAN PARKER: Appreciate it and we'll

head for a lunch break now and we'll resume at 1:00 for cross examination.

MR. DOYLE: Very good.

(LUNCH RECESS)

CHAIRMAN PARKER: We'll call the hearing back to order. The first order of business now will be cross examination of the BGS/NEWSME panel and the first person scheduled for cross examination is Mr. Spencer. Just please everybody remember to speak slow enough because she's going to get tired and we want her to stay with us today.

MR. SPENCER: Is this thing working? Can you hear me?

MS. BERTOCCI: Yes.

MR. SPENCER: My name is Ed Spencer. I'll start with Michael Barden, Mr. Barden. What I'd like to do is for Mr. Barden all these questions will be based on quotes in his testimony. So if I could, I'll -- I'll say the quote first and then ask a question, if that's acceptable. Okay, here we go, let's try it. Okay, on page 2, quote, out-of-state wastes are defined as excluded wastes and disposal at JRL is prohibited. The term of the Operating Services Agreement is 30 years, end

quote. My question, is this 30-year contract dependent on Casella obtaining enough license capacity to last that long?

MR. BARDEN: No.

MR. SPENCER: In your opinion, what happens if their expansion application is turned down?

MR. BARDEN: Well, the contract would still be in place, it's a 30-year contract, so they would still be responsible for closure and post-closure care. So it would run out of capacity and post-closure closure care runs for 30 years.

CHAIRMAN PARKER: Hold the microphone up so we can hear you.

MR. SPENCER: Okay, page 2, quote, I provide the monthly activity reports to the JRL Advisory Committee members, the City of Old Town and Town of Alton and post these reports to the DECD state-owned landfill web page, end quote. Do you know who set up this system and format for these reports, someone at the state or is this the waste company's group of categories and way of reporting it?

MR. BARDEN: Those monthly reports were

set up before I assumed this position in 2012 so I can't answer that.

MR. SPENCER: Okay, page 3, quote, I regularly review and consider all this information and believe NEWSME to be in compliance with its obligations under the OSA and its licenses, end quote. Do you believe that NEWSME is in full compliance with the terms and conditions of the public benefit determination for this expansion?

MR. BARDEN: The public benefit determination was issued before I came into this position so I don't know if I can answer that directly.

MR. SPENCER: Okay. The PBD recommended in 2012 that the state and Casella amend the terms of the OSA to consider changes in construction and demolition debris waste streams, et cetera. Has this happened?

MR. BARDEN: Not since the programs were transferred over to the Bureau of General Services, so I can't tell you what happened with SPO before that.

MR. SPENCER: So are you working on that at all?

MR. BARDEN: No, I think Ms. King has some

information in her rebuttal where she addressed that. I can't speculate why the commissioner put that in the license.

MR. SPENCER: Okay. The Operating Services Agreement says, quote, the state shall control the landfill, end quote. In your opinion, does the state control the landfill?

MR. BARDEN: I'm not aware of that being in the Operating Services Agreement so you'd have to point out the exact page where that is.

MR. SPENCER: Okay.

MR. BARDEN: Section 2 of the OSA provided exclusive use and operations of the landfill to Casella so I'm not sure where that language that you just quoted is.

MR. SPENCER: Okay. Can you think of an example where Casella came to the state as owner and asked for something that was rejected by the state?

MR. BARDEN: "Came to the state as owner?" They're not the owner. They're the operator.

MR. SPENCER: The state is owner.

MR. BARDEN: What was your question?

MR. SPENCER: My question was, can you think of an example where Casella came to the

state; in other words, BGS, the state as owner, and asked for something that was rejected by the state; in other words, have they ever come and asked for something that you or anybody else in the state that you know of turned them down?

MR. BARDEN: Not since I came into this position in 2012, so nothing has happened since 2012.

MR. SPENCER: Page 3, quote, during the period from 2005 through June 2016, Old Town and Alton have received payments from Casella totaling 12.9 million dollars and $959,000 respectively, end quote. Is this tip fees and annual impact payments -- payments in lieu of taxes only or does it include the amounts that Casella gives to some of the surrounding residents to compensate for their taxes?

MR. BARDEN: I believe that would just be for the amount that's given to Old Town directly and it doesn't include -- it probably does include payment in lieu of taxes.

MR. SPENCER: Are you saying it does not include?

MR. BARDEN: I think it does, yes.

MR. SPENCER: Include payment in lieu

of -- so payment in lieu of taxes goes to the town but I'm talking about payments to abutters or the surrounding --

MR. BARDEN: No, it doesn't include that.

MR. SPENCER: It does not, okay. Okay, on page 4, you talk about additional state landfill capacity being necessary in the next two years to avoid disruption of the waste deliveries to JRL and also mention that the Norridgewock commercial landfill does not have capacity for these wastes after 2021. Do you have a plan or ever considered prioritizing certain wastes over others?

MR. BARDEN: Well, the state doesn't have a specific plan, no. We have two other licensed facilities, neither of which could accept this waste.

MR. SPENCER: Okay. So in other words, for example, would the front-end process residue and ash from PERC be given priority over CDD from processing facilities?

MR. BARDEN: We haven't gotten to that point of discussions.

MR. SPENCER: Okay. Were -- were there some -- you may not know this -- were there some guaranteed tonnages for the Old Town Paper Mill or

maybe that's a moot point now that they're defunct?

MR. BARDEN: Yeah, the OSA did have a guaranteed tonnage that Casella had to provide for capacity for the Old Town mill, correct.

MR. SPENCER: Well, I think that's it from me for Mr. Barden.

CHAIRMAN PARKER: Okay, thank you. Next will be the City of Old Town, Mr. Katsiaficas.

MR. KATSIAFICAS: Mr. Chair, Members of the Board, the City has no questions for these witnesses.

CHAIRMAN PARKER: Okay. Next would be Mr. Snowman.

MR. SNOWMAN: Just one question. I was going to ask -- I was going to ask Mr. Barden, are you aware of any widespread confusion among the citizens of Maine regarding the definition of out-of-state garbage? Is that something that has -- that you -- that you're aware of and consulted others in your department or other people in the -- you know what I'm saying.

MR. BARDEN: Well, the statute -- the statute is what it is.

MR. SNOWMAN: Are you aware of any

widespread confusion amongst people, regular citizens, who might want to try to find out what's going on there?

MR. BARDEN: Nobody has contacted me directly about that, no.

MR. SNOWMAN: Nobody has, and I guess also you -- you -- that definition of out-of-state garbage that you guys use, do you find that -- do you find that honest?

MR. BARDEN: That's the statute.

MR. SNOWMAN: Well, I mean, it's the statute, right, but I guess it -- I guess that's about it for right now.

CHAIRMAN PARKER: Mr. Laite, do you have any questions?

MR. LAITE: Yes, Chair Parker, thank you, Members of the Board. Mr. Barden, a little confusion among the questions I heard. How much has been paid in solid waste fees to the State of Maine since Juniper Ridge has been operating?

MR. BARDEN: That's, again, one of the components of the monthly reports that I get from Casella. They've paid approximately nine million dollars in fees to the state for disposal there, primarily for special wastes and construction and

demolition debris.

MR. LAITE: Now, are there any estimates on how much will be paid through this expansion?

MR. BARDEN: Well, again, it's going to be dependent on what the -- what the tonnage is of the special waste and the construction and demolition debris because that's what the state collects special waste fees for.

MR. LAITE: Okay, thank you.

MR. BARDEN: So I would assume that it would probably be very similar to what the existing generation is.

MR. LAITE: Thank you.

CHAIRMAN PARKER: Okay, next we have questions from the Board members or do you want to have staff ask questions first? What do you prefer? Board? Feel free.

MR. AHLERS: This question is directed to Ms. King, and recognizing the fact that MSW is imported from out of state and perhaps the other materials, oil spill contaminated soil, oversize bulky waste and construction and demolition debris, how does Casella control the fact that that material does not reach Juniper Ridge Landfill?

MS. KING: I --

MR. DOYLE: Do you understand the question?

MS. KING: I don't understand the question. You started with an out-of-state waste component and then you lost me.

MR. AHLERS: Well, there was a discussion about bypass material coming into Juniper Ridge Landfill which I'm assuming is municipal solid waste and there was some discussion about construction and demolition debris coming from another facility and -- and much of this -- some of this material is from out of state. How does Casella prevent that from being disposed of at Juniper Ridge Landfill because apparently it's not in-state waste?

MS. KING: Juniper's landfill does not accept any out-of-state waste. It only accepts in-state waste. MSW bypass is a requirement of each Maine incinerator to have a location specified for landfilling of their MSW bypass in case they're on an outage or receive too much material to be able to process and incinerate. Construction and demolition debris, straight C&D debris that we landfill at Juniper Ridge comes

from contractors typically and transfer stations in Maine only, Maine state waste only. We do take the residuals from construction and demolition debris processing facilities and there's a portion of that material that's gone to the processing facilities themselves before they recycle the material that may or may not be from out of Maine, but the definition of Maine state waste includes residuals from processing facilities.

MR. AHLERS: Regardless of whether it's in-state or out-of-state material?

MS. KING: After it's been processed, the residuals are considered in-state waste.

MR. AHLERS: And for municipal solid waste, you rely on your suppliers to provide you a guarantee that that's not out-of-state waste, if it's bypass?

MS. KING: We take bypass waste from incinerators but we do not take any out-of-state MSW.

MR. AHLERS: Well, bypass could be out-of-state waste?

MS. KING: It's not. We don't accept out-of-state bypass waste.

MR. AHLERS: And that's guaranteed by your

supplier?

MS. KING: Exactly. It's guaranteed by the generators of the waste.

MR. AHLERS: All right, that's what I was driving at.

MS. KING: I'm sorry, I didn't -- I didn't understand the question.

MR. AHLERS: Thank you.

CHAIRMAN PARKER: Tom?

MR. DOBBINS: Can I get on here a minute?

CHAIRMAN PARKER: Well, I said Tom but I meant this Tom. Wrong Tom. Sorry, Tom.

MR. EASTLER: Okay, you go ahead down there. My hearing is not too good. I'll turn this off until you're ready for me.

MR. DOBBINS: Just a question for Ms. King. The table you had on Table 5.1 listed the percentages of categories that you believe will be coming in on the expansion. Does that equal to what is the same numbers of what you're seeing now, has been the history of what's gone on?

MS. KING: Let me just find our Table 5.1 here before I respond to that. So this was based on -- remember that we have historically done 700,000 tons per year annual intake. We're

currently hovering just north of 600,000 tons per year.

MR. DOBBINS: I'm not concerned about the total tonnage. I'm concerned about the percentages.

MS. KING: So -- so the percentages of the material category that you see are based on what we're seeing currently and extrapolated to that 700,000 limit, yes.

MR. DOBBINS: Okay, and the second question I had is do you have any recourse -- does the state allow you any recourse if you feel that a contractor or a supplier is not meeting the best practical recycling; so in other words, if you're seeing XYZ disposer just constantly bringing in material that you feel could be recycled, do you have recourse?

MS. KING: I believe so. We could -- we could request a different practice and we could actually I think prohibit that material from coming to the landfill again.

MR. DOBBINS: Yeah, that's what I was wondering, if you could actually stop it, to force them to recycle more.

MS. KING: Yeah.

MR. DOBBINS: Because it seems to be put on them all the time and I didn't know whether you had any recourse at all.

MS. KING: It is, right. So as the rules are currently written, we only have control over the facilities that we have control over. So it -- that's a difficult to manage one but absolutely, if we saw recyclable commodities coming in from a load time after time, we would sit down and speak with the generator and potentially ban that material from the landfill.

MR. DOBBINS: So you have that authority?

MS. KING: We have that ability, yes.

MR. DOBBINS: Thank you.

CHAIRMAN PARKER: We'll go for another Tom.

MR. EASTLER: Okay, yeah, I have a comment for Jeremy and Brian and Tom and everybody else in that group and to the DEP members, because this is something that's bothered me for a long period of time but really have not had much of a chance to talk about it. I loved the discussion on noise, but I'm more interested in metrics. There is no metric that measures noise. It measures sound pressure. The term noise is an inappropriate term

for us to be asking somebody to talk about and for others to talk about it because what we're concerned with is sound pressure. It is a metric. There are machines that allow you to determine what the level of sound is because noise is defined as unwanted sound. Those who do not want to hear any of it, it's noise. Those who love to listen to it, whatever it might be, it's -- it's good sound pressure. So I thought I'd throw that metric and then the other metric I wanted to ask about was with regard to odor. It's easy enough with regard to measuring, say, hydrogen sulfide or other issues like that, but the truck that goes by that wasn't cleaned appropriately and it smells and somebody goes out in the road and smells it or maybe someone knows about the presence of a meter to measure what gases are going, but is there a mobile metric?

CHAIRMAN PARKER: Tom?

MR. EASTLER: Yeah?

CHAIRMAN PARKER: Excuse me, but that's in the next panel.

MR. EASTLER: Well, then I don't have to say it again, do I? Sorry about that.

CHAIRMAN PARKER: We don't have the

appropriate people at this panel.

MR. EASTLER: Just hopefully we'll change it because it -- anyway, that's all I wanted to do. I don't expect an answer to that but hope you keep it in mind.

CHAIRMAN PARKER: Does anyone have a question? Kathy?

MS. CHASE: I have a question. This is for Toni, Ms. King. You had mentioned in your testimony that 90 percent followed the process that was in the landfill, followed down through your list of reduce, recycle and all that. What's the other 10 percent, could you clarify?

MS. KING: So the other 10 percent is typically municipal and industrial wastewater treatment plant sludges that have a potential to be recycled and beneficially reused, a high potential. So a low potential for landfilling as far as the Maine Materials Management Strategies go, we do take in a good deal of municipal wastewater treatment plant sludge for landfill --

MS. CHASE: Even though they can reduce it? I don't mean to interrupt you but they could reduce it? It could be reduced?

MS. KING: It can't really be reduced so

it's the sludge mostly after -- after the wastewater treatment plant process. So it's the solids that fall out after that treatment process, can't really be reduced much more unless you take the liquid portion out of it but it can be -- sometimes it can be composted. It can be land applied. So it can be recycled or beneficially reused. The problem is that there are limited land application sites in Maine that are permitted. There are regulatory requirements that restrict some of the industrial wastewater treatment plants from being land applied and our composting facility in Unity, the Hawk Ridge Compost Facility is operating at a maximum annual input now. They can't take anymore. So the remainder is -- is landfilled.

MS. CHASE: Okay, thank you.

CHAIRMAN PARKER: I've got a couple questions. I'll start with Ms. King. You said that the mix for the waste in the future is going to be very similar to what it is right now and there's -- in the mix you've shown for the 600 or 700,000 tons you're getting now shows a definite component of MSW coming into that facility and based on that, and I want to make sure that I've

read your chart right, now I want to look to Mr. Barden and what is the state doing to prevent MSW from going to the landfill when it's not consistent with the hierarchy of the state; it's a convenient bypass, not necessarily one that should be maybe allowed. As that component of the waste takes space in the landfill, what's being done or what does the state anticipate doing as we move ahead to minimize the amount of MSW going into the landfill?

MR. BARDEN: You mean in terms of -- the only MSW that's going to be going into the expansion is bypass. So are you getting at the incinerator part of it?

CHAIRMAN PARKER: Well, in looking at bypass, I know in the last couple years there's been bypass from the southern Maine incinerator because they closed it down.

MR. BARDEN: But that waste -- that MSW is not coming into the expansion.

CHAIRMAN PARKER: Okay? Now, I'm not sure -- I'm not sure if MSW is coming from other facilities which have the volume reduction capability. That's the question I'm asking because it looks to me like there's an inherent

amount of MSW that's going into the landfill, and if we continue that, we're using up space when we should be doing something else to reduce that volume.

MR. BARDEN: Well, recall when the -- when the landfill got the MSW amendment a couple years ago, it was for like 83,000 tons, something like that, and that was the result of the Biddeford incinerator closing, but the expansion application is not proposing to take any of that waste, the MSW that went to that incinerator. So the only MSW that's coming into this expansion is bypass properly from the PERC incinerator in Orrington or Auburn. I don't think it would come from EcoMaine but those are the only incinerators that are still operating and I think Mr. Booth pointed out that that total amount of MSW bypass is going to be less than five percent of the total tonnage on an annual basis.

CHAIRMAN PARKER: Now back to Ms. King, is that reflected in your proposed numbers?

MS. KING: Yes.

CHAIRMAN PARKER: It is?

MS. KING: Yes.

CHAIRMAN PARKER: Okay, I want to make

sure. I've got another question for Mr. Barden. You talk about this being revenue neutral from the state's point of view; in other words, the state is not trying to make money, they're trying to cover their costs and they're trying to break even, which I've got no issues with that, but something we've talked about here this morning is the potential of long-term contamination occurring at the landfill and the engineers presented an excellent way of how it can be dealt with, how it can be treated, but 30 years from now your operator is gone, no longer under contract. Is the state doing anything to build a reserve or try to build a reserve so that if they have no operator under contract and it occurs, that the state can deal with that? I can understand being revenue neutral but sometimes it pays to be a little revenue positive and have some cash on hand.

MR. BARDEN: Yeah, that's a good question. I mean, the state certainly hasn't taken -- that I'm aware of we haven't requested the Legislature put away a general fund allotment as an insurance policy. I mean, Casella, as part of the contract, they have an insurance policy of several million

dollars and they're going to be responsible for a 30-year closure period -- post-closure period. So they will be -- they will be liable for any offsite contamination that may happen at that site.

CHAIRMAN PARKER: So under the contract, they have a 30-year operation contract but then they have a 30-year insurance contract beyond that?

MR. BARDEN: Correct, correct.

CHAIRMAN PARKER: Okay. It makes a big difference in how I look at it, okay, because 30 years is -- well, you're halfway through 30 years already. It goes quick. Let's see if I have anything else here. Now, getting back on the construction and demolition debris, and I guess this is sort of a joint question for you two again. A lot of construction and demolition debris I guess that was brought in from wherever it was brought from, in-state, out-of-state or whatever, was geared towards the facility is going to recycle and process most of that. Is that material still being processed? I know one of the mills that used to burn it is no longer in business so they're not taking any. Is that stuff

still being separated and processed and used or is it being processed and diverted to the landfill? Is there still an outlet for that construction and demolition debris?

MS. KING: So the majority of the construction and demolition debris recycling that's taking place currently in Maine is done by two different facilities, the ReEnergy Lewiston facility and the ARC facility in Eliot, and they do indeed pull recyclable materials out of the construction and demolition stream and they create a wood fuel chip and send it to boilers who will burn it. I do have the -- their -- both of their annual reports in my testimony and they have had to change where they send things to occasionally, but they list -- this is ReEnergy's that I'm looking at right now -- they list their CDD wood fuel chip as going in 2015 to SAPPI in Westbrook, Lincoln Pulp & Paper and Kruger in -- is that -- Quebec, Canada.

CHAIRMAN PARKER: Okay. I guess my concern is if that's how it's being handled, that's fine, but of course Lincoln Pulp & Paper is gone now too. I just want to make sure that something is being done with it other than direct

into the landfill because, well, we have no place else to go, we have to do something with it. I think that's something the state should be very on top of because a yard of space is worth so much money and it costs so much to develop it so we want to use that as preciously as we can up there.

MS. BERTOCCI: Okay, these are questions I believe for Ms. King. Just a followup on the Chairman's question, I'm looking at the ReEnergy report, your Exhibit 49, and the third page, and I just want to see if I understand this correctly. It would appear that 108,000 tons of what they accept for I guess CDD and clean lumber ends up as fines, is that correct? It looks like the vast -- more than 50 percent of what comes into those facilities ends up as CDD fines that then moves on to Juniper Ridge?

MS. KING: And is beneficially reused as alternate daily cover.

MS. BERTOCCI: As daily cover. My second question has to do with your testimony on page 4 of your direct testimony regarding the public benefit determination and the statement or condition of the public benefit determination.

MS. KING: I've lost you. What page?

MS. BERTOCCI: I'm on page 4 of your direct testimony.

MS. KING: Are you sure it's the direct and not the rebuttal?

MS. BERTOCCI: Well, I could be in the rebuttal. Let me see. I'm sorry, I guess it's in rebuttal, yes, sorry, I apologize.

MS. KING: That's okay.

MS. BERTOCCI: So page 4 of your rebuttal, the public benefit determination contains a condition that requires a numerical limit on the amount of oversize bulky waste that could be accepted for disposal in the Juniper Ridge Landfill expansion and you are arguing here that -- I believe that there should be no limit set in this permit for oversize bulky waste. Am I correct in your understanding and what is your reasoning?

MS. KING: You are correct in our understanding. If you read the PBD carefully that condition goes back to a findings of fact that is tied to a conclusion that discusses the compliance with the C&D processing facilities to meet the recycling standards; that is, to recycle to the maximum practicable extent or no less than 50

percent, and they do that. So it -- a careful reading of the PBD indicates that there's no reason to set a limit for OBW because the purpose for setting a limit was to make sure that the C&D processing facilities were recycling to the maximum extent practicable and the way I read their annual reports, and the DEP gets copies of those annual reports every year, ReEnergy and ARC have displayed that their recycling percentage is a little bit less and a little bit more than 80 percent which is, I would have to say, to the maximum extent practicable. Now -- now, another thing to think about on a pretty arbitrary limitation is this industry is incredibly dynamic. We reported in this application which was just over a year ago that the only oversize bulky waste we received at Juniper Ridge came from ReEnergy essentially. Well, in the last five and a half months, PERC has changed their process and if they're -- if we're on track for an analyzed amount, they've begun to send us oversize bulky waste because they've stopped stockpiling the incidental oversize bulky waste they received in the MSW loads and they used to grind that and attempt to burn it themselves and they're now

shipping that to us and avoiding the grinding on site. So they're on track to ship us probably 10,000 tons in the course of a year of oversize bulky waste. Our understanding of this condition in the public benefit determination was similar to another condition which established a limit on Maine Energy that there was an attempt to limit the material that was going into Juniper Ridge and to hopefully increase the recycling that happened at facilities that were owned or operated by the parent company of Juniper Ridge, being Casella. Maine Energy was owned by Casella. It's since been closed. KTI Biofuels, which was the generator of the oversize bulky waste has been sold to ReEnergy Lewiston. There's -- it's no longer within our control. We do not own or operate that facility. So to place a limit on Juniper Ridge that would affect another commercial entity that we have no control over at this point I really think is limiting the business opportunities and the economic growth in the State of Maine; in addition to which, the sources of OBW are now evolving and we can see that with the change in processing technique of PERC. So you're not just -- you're not just hurting Juniper Ridge

when you put a limit on the OBW that we can take. Now you are stymying the -- the changes in technology and the growth of two other facilities that we don't have any control over.

MS. SAUER: Can I just follow up with two questions?

MS. BERTOCCI: Yes.

MS. SAUER: Again, for Ms. King, just to follow up to Cindy's question, I'm looking at the -- and you don't need to look at it right now but I'm looking at the public benefit determination conclusion number one, and it seems that the commissioner at that time, her conclusion that the proposed expansion will provide a substantial public benefit was conditioned, in fact, says provided an annual limit on OBW is established, you know, in the license. So given that the Board respectfully may disagree with what I think is inherent in your position that legally one can dispose of and not include the OBW limit in the license, assuming that the Board disagreed with that, does Casella -- what would Casella recommend? Because it's very possible that the Department will impose a limit, so I think to the extent that Casella wishes to have input as to

what that limit should be --

MS. KING: So, again, I would bring you back to page 20 of the public benefit determination and one of the commissioner's findings which specifically says, "if and when a license is issued for the construction and operation of an expansion, the Department will establish such a limit." I don't have any argument with that, but "the limit will be based upon the results of annual demonstrations required that waste processing facilities that generate residue requiring disposal will recycle or process into fuel for combustion all waste accepted at the facility to the maximum extent practicable, but in no case at a rate less than 50 percent, submitted by CDD processing facilities that sent OBW to Juniper Ridge Landfill for disposal. Annually the Department will re-evaluate and may modify this limit." So I guess my point is that those processing facilities have been achieving far more than a 50 percent recycling rate, and there's a potential when this was reviewed by the commissioner that they were not recycling to the maximum extent practicable, but they have been doing that and that's what the basis of this

potential limit is. So what should a limit be? And our argument is it shouldn't be anything because if it's tied to those facilities' recycling rates, they're meeting the recycling requirement, that's one; and two, those facilities are no longer owned or operated by Casella.

MS. SAUER: I certainly understand your answer but I'll just give you one more opportunity, if you don't want to take it, that's fine, I'm fine with that, but if Casella wishes to have input as to what that number should be, if not, that's fine, and I would expect perhaps in the post-hearing briefs that there may be legal arguments made about whether or not that public benefit determination condition can be done away with, which I think is what you're recommending. So we'll leave the legal issues to the post-hearing briefs, but to the extent you want to have input as to what the limit would be, this would be your opportunity.

MS. KING: I would suggest no limit at all.

CHAIRMAN PARKER: I have another question and then I'll be back to you, Cindy, in a minute. Mr. Barden, you've mentioned that the state's

revenue comes off special waste and construction and demolition debris?

MR. BARDEN: Correct.

CHAIRMAN PARKER: That's where your fees come in from?

MR. BARDEN: It's -- it's where the fees go in and they go into the Solid Waste Management Fund.

CHAIRMAN PARKER: Okay. Now the construction and demolition debris which is being diverted for daily cover, is the state charging a fee for that?

MR. BARDEN: Well, the --

CHAIRMAN PARKER: Or is that using space without a fee?

MR. BARDEN: I believe they are, yes. I believe the alternative daily cover, those fines that are used, I believe those are being charged to the landfill at a rate of $2 a ton just like the other facility. So ReEnergy is probably paying that tonnage because I'm sure Casella passes that back onto the generator.

CHAIRMAN PARKER: I'm sure they pass it back on but the state's revenue comes from that as well so --

MR. BARDEN: Correct.

CHAIRMAN PARKER: -- there should be money coming to the state from that material?

MR. BARDEN: And there is, yes.

CHAIRMAN PARKER: Okay, I just wanted to make sure there is, and back to the little discussion we just had about the OBW, I don't think the state, and correct me if I'm wrong, I'm looking at Barden again on this one because I guess you're, quote, our owner, just because somebody changes the operation of that facility, does that mandate that the state has to allow additional waste to come in for convenience or should they go back and put the pressure on so those wastes are not generated and brought to the landfill; in other words, if Casella owned it, it might be real easy to say you've got to do this before you bring it, but you're not talking about Casella bringing it, you're talking about other people providing it and the state should be in charge of that aspect of it. So if there's OBW that's coming in in greater volume, then does that have to be allowed?

MS. KING: Could I respond to that as well, please?

MR. BARDEN: Well, let me just and then Toni can. So I think I understand your question. You're talking about at the processing facility, so should the state require the processing facilities to do some additional work to reduce that, is that sort of what you're getting at?

CHAIRMAN PARKER: That's where I'm coming from because I think what Ms. King just said was that when Casella owned it, they could control it and they took care of it. Now somebody else owns it so they can't really tell them to do it, they just accept it, and maybe I'm hearing you wrong, but that's what I'm hearing you say.

MR. BARDEN: Well, I think, you know, that gets back to whether those processing facilities are meeting the recycling standard that's applicable to them and that's really a DEP enforcement issue. They -- according to their annual reports, they are recycling, what they process, they are achieving greater than a 50 percent recycling rate. So if they continue to accept the same amount of waste they are now of the construction debris and they process the same amount, they're going to be generating the OBW that's either going to go to Juniper Ridge or it's

going to go somewhere else.

CHAIRMAN PARKER: So our only mechanism then as the Board, I guess you'd say, is to physically put a limit on the OBW and then it has to either be processed or not put in your landfill?

MR. BARDEN: It would either not have to be put into JRL but then it would go to another landfill and use up capacity at that facility.

CHAIRMAN PARKER: Well, we're only talking about a permit for JRL right now, okay?

MR. BARDEN: No, but it's not going to disappear.

CHAIRMAN PARKER: I understand that or maybe it will be processed.

MS. KING: So what we're talking about here, OBW, oversize bulky waste, is a residual from a recycling process facility, either PERC or ReEnergy or a solid waste facility that's attempting to meet the Maine Solid Waste Hierarchy Rules by reducing, reusing, recycling, composting, incinerating and finally landfilling. So placing a limit on OBW is artificially penalizing recycling facilities and isn't that what we want to be doing is -- is encouraging recycling of this

waste? It makes absolutely no sense to me --

CHAIRMAN PARKER: Ultimately we want to minimize the amount that goes in the landfill. That's the goal. That's the ultimate goal.

MS. KING: Ultimately the goal of the waste hierarchy is to move materials up the hierarchy.

CHAIRMAN PARKER: That's right. The landfill is the very last --

MS. KING: The landfill is the foundation of the hierarchy, yes. So limiting a recycling facility's generation of OBW will only serve to potentially, you know, put C&D processing facilities out of business. Why would they want to continue to try to recycle construction and demolition debris if their outlets are blocked and the net result would be that we get more straight construction and demolition debris not attempted to be recycled, not processed, that requires a home and the only home it has now are landfills. So by -- by penalizing processing facilities, you're actually creating more solid waste that needs to be landfilled and reducing recycling.

CHAIRMAN PARKER: Well, we'll have to debate that I guess. I appreciate your position.

Do you have questions, Cindy?

MS. BERTOCCI: Yes.

CHAIRMAN PARKER: Some questions from the floor I think, right?

MS. BERTOCCI: Right. This is a question from a member of the public for Ms. King and it relates to processing facilities and the question goes to the issue of wastewater treatment sludge and residuals that may originate from out of state are destined to a processing facility in Maine for composting and the question is, how much of that that perhaps is destined for composting -- for a composting facility actually ends up being diverted to Juniper Ridge Landfill if the composting facility is unable to handle it; so it goes to the relative volume of it coming in versus the actual ability to compost it here or does it end up being composted in Juniper Ridge?

MS. KING: So in 2014 Casella Organics diverted a total of 44,256 tons of biosolids and other material from landfill disposal and created 29,000 tons of compost. So 44,000 tons of biosolids were composted in 2014 at Hawk Ridge. I'm trying to find the land application. Okay, 2015, Casella Organics land applied 122,000 tons

-- 122,000 tons of biosolids and Hawk Ridge compost facility took in 47,000 tons of biosolids and -- okay, so the land application, just in case you had any question, is a -- like a fertilizer on a farm field. I'm sure you've seen that other places and it's considered recycling by the State of Maine. So while the compost facility produces compost from biosolids, the land application -- land applies to for agricultural use and is considered recycling, and then --

MS. BERTOCCI: So I think the question goes to how much actually ends up being unable to be used in those fashions and instead ends up at the landfill.

MS. KING: So I just gave you the tonnages of what our organics programs composted and land applied, and in 2015 Juniper Ridge accepted 36,473 municipal wastewater treatment plant sludge tons, so slightly less than what goes into Hawk Ridge and a lot less than what we're able to land apply.

MS. BERTOCCI: Okay, thank you for that question, and I have one other if I can continue. In your rebuttal testimony you mentioned the Waste Management Hierarchy and the application of it to licenses, including recently the license issued

for Fiberight which you included in your exhibits, and I guess I just wanted to know if you're aware that the Fiberight application has been appealed?

MS. KING: I am.

MS. BERTOCCI: Okay. I just wanted to note that's the case. Thank you.

MR. DOBBINS: Mr. Chairman? Toni, back to you, in that chart again on the construction and demolition debris, which is like 27.9 percent of what goes in the landfill, I'm confused and it's probably just me, but in the top heading, "is material subject to recycling efforts by the generator or otherwise prior to landfilling or is its use in the landfill that's considered recycling." What is it? Is it considered recycling, is it considered subject to recycling?

MS. KING: So --

MR. DOBBINS: Am I missing something?

MS. KING: No, it's difficult to understand. This came exactly from the state plan, the -- the Waste Management and Disposal Capacity Report, and what they were trying to display was is the material a residual from a processing facility, okay, so --

MR. DOBBINS: That's the next one down.

MS. KING: So the two -- there's two separate things, construction and demolition debris is not because it's straight construction and demolition debris that you might find coming off a job site, for instance, and construction and demolition debris processing facility fines is because it's gone through a processing facility and that's one of the residuals. So is material a residual from a processing facility, okay?

MR. DOBBINS: So there's no requirement to recycle material from a joint site?

MS. KING: No, but one of the things that we're really proud of when we're looking at resource solutions is we've developed a lot of relationships with general contractors in the state, and we're finding now that instead of them asking us for one roll off for their whole project, they're actually asking us for a number of roll offs and they source separate themselves, they pull out the metals, for instance, and they pull out the other materials and then -- and then the incentive for them is that they can then get the revenue for the metals, and we just -- we pull the true construction and demolition waste for either recycling or disposal, but -- so that's a

nice evolution I think. It used to be, you know, they just threw everything they could into one roll off at the job site and now we're seeing a lot more source separation.

MR. DOBBINS: Thank you.

CHAIRMAN PARKER: Mark?

MR. DRAPER: This question is for Mr. Barden only because you were the one who mentioned it first but a number of presenters mentioned the Juniper Ridge Landfill Advisory Committee and it's probably in the material here somewhere but could you take just a minute and describe what that is, who's represented by it and how it functions?

MR. BARDEN: So if -- I've provided a little bit of a footnote on page 2 of my testimony with the Legislature basically. I think that came in with the Resolve in 2003 where they basically created this Advisory Committee, as a state-owned landfill that it would be a citizen group, so you can read that footnote, basically how that was established and what the representation is. So essentially it has representative -- citizen representatives basically that are from the City of Old Town, I think there's one from the Penobscot Indian Nation, from Alton as well. So

those are individuals, I'm not sure exactly how they're appointed, but it's a committee that's set up to receive information on Juniper Ridge Landfill as a sounding board for the rest of the citizens. So that's what I mentioned that we give them reports from the facility.

MR. DRAPER: Just to follow up, how often does this committee meet, does it meet regularly, is there an agenda, how does it function?

MR. BARDEN: Yeah, we pretty much rely on them to decide if they want to hold a meeting. Probably once a year maybe at the most that they would meet. If there's anything in particular that's happened at the landfill that they want to be apprised of they would request a meeting, sometimes DEP staff attends the meeting, sometimes they don't.

CHAIRMAN PARKER: Board members?

MR. MAPES: One question. This is probably for Toni. The leachate -- you talked about it at the landfill itself, the leachate goes to some holding tanks and then what?

MS. KING: That's probably a better question for later but we currently have a contract with the Old Town mill operator, they

have their own onsite wastewater treatment plant and we dispose of our leachate there. We have a backup contract with the City of Brewer and if anything happens with the Old Town mill's wastewater treatment plant, because it still is operating and taking other commercial wastewater, then we would go to Brewer. It's trucked from our holding tank.

MR. MAPES: Thank you.

CHAIRMAN PARKER: Board members? You'll have some redirect in just a moment, but do any of the staff have questions?

MS. ELEFTHERIOU: Mr. Barden, in your direct testimony you noted that additional solid waste landfill capacity will be needed within the next two years to avoid serious disruption for the in-state waste deliveries that are currently being managed at JRL. Would you please tell us the source for that two-year timeframe?

MR. BARDEN: Well, that's based on the annual reports on capacity that's remaining at JRL that they submit to the DEP. There is also information, I believe, on capacity used in the 2014 materials, whatever that report was called, plus I've also looked at the annual reports of the

Crossroads Landfill so I know how much they're taking by their -- I don't think I've looked at their 2015 report but their 2013 and 2014 reports were approximately 300,000 tons. And they have a density so I calculated -- you have to make assumptions on capacity, it's not an exact science, so you have to assume what's going to happen in the future and that's not exact. So we know what -- the capacity remaining at JRL, what their existing waste volumes is and they will be out of capacity without the expansion in 2019. So that 600 to 700,000 tons is going to have to go somewhere and that's -- it could go out of state. Some of it could go out of state. That may be cheaper for communities in southern Maine that are bringing it up to JRL. Maybe it's cheaper for them to take it to New Hampshire, but the vast majority of that waste would go to Norridgewock and if Norridgewock all of a sudden increases from 300,000 tons to 900,000 tons, they will be out of capacity based on just some assumptions on density. I don't know what they are going to get for compaction but I gave them the benefit of the doubt and said that they get a 90 percent compaction rate. To my understanding, they have

not applied to the DEP for any expansion applications. They haven't done a PBD, so that's a five to seven year process. So if those wastes from JRL were to be diverted beginning in 2019 they would be out of capacity in 2020 to 2021, and they do not have an application for an expansion so I'm not sure where the waste would go after that.

MR. BURNS: Mr. Barden, I just want to get clarification on something -- well, maybe it's Ms. King, I don't know -- on table 5.1, the MSW bypass and soft layer material that's in there, it's listed as 25,000 tons, we've talked a lot about that. I've understood that this table in the past has been for design purposes and I've also heard I think Mr. Barden say that the MSW bypass would be very limited at this facility, so my question is, is this a limit number or is this just a --

MS. KING: It's not a limit number. This is -- this is based on current acceptance and extrapolated to what we anticipate as about 700,000 tons a year annually moving forward at Juniper Ridge but none of these are intended to be a limit number.

MR. BURNS: Thank you.

CHAIRMAN PARKER: Anymore questions from staff?

MS. ELEFTHERIOU: Ms. King, in your testimony you noted that there are currently -- there are not currently viable mechanisms for the reuse, reduction and recycling of oversize bulky waste that are within the control of BGS or NEWSME. In general, are you aware of any recycling outlets for OBW within Maine or New England?

MS. KING: We have had limited experience at some of our other facilities in New England with mattress recycling, for instance, in the oversize bulky waste category; however, our only success with mattress recycling has been -- the mattress recyclers look for three things typically, the metal in the springs, the wood in the frame and the fabric, and if you can find a source separated the generation point for mattresses, so like a residential drop off or potentially a bulky waste pick up day and then you can segregate the mattresses and bring them to a recycler, it's successful; but the problem is by the time they get to a landfill, they have typically been picked up, transferred, brought to

a processing facility, screened, loaded again and then dumped at the landfill and by that point, according to the mattress recyclers we've discussed this with, because they've looked at, you know, both commodities with us at our landfill facilities and our transfer facilities, this is in Massachusetts, it -- they are too contaminated for the fabric to be able to be recycled, the wood is typically crushed by that point and not feasible for removal and recycling of that, and then, you know, if you can't get those two commodities, they're not too keen on ripping it apart just to get the metal. So we've tried but the -- the outlets just currently are not there.

CHAIRMAN PARKER: Mr. Spencer, redirect and remember, redirect stays with the discussion we're having, not new --

MS. BERTOCCI: Excuse me, I think Mr. Spencer didn't finish questioning Toni King initially.

CHAIRMAN PARKER: I thought he did.

MR. SPENCER: Right, no, no, I think there was a little misunderstanding. I thought I had 20 minutes but I thought we would go -- kind of do what we just did and I would ask -- you know, try

to keep it to about half that time with Mr. Barden and have the other ten minutes for Ms. King. So maybe I surrendered the mike too soon but actually the questions I was going to ask her are -- a lot of them have been asked already by you people, which is good, so I've only got one with a follow-up.

CHAIRMAN PARKER: Go for it.

MR. SPENCER: All right, yes, sir. Wastes coming into JRL from a processing facility, in your opinion, what is the source of that waste?

MS. KING: The source is the generator or the processing facility that produces the residues and the material by-product.

MR. SPENCER: Are you familiar with the term used by the EPA for the place where a material -- a material becomes waste, what they call the point of discard?

MS. KING: I'm only familiar with it from your testimony.

MR. SPENCER: Okay. I think you said in your testimony something about that that was for -- that EPA only did that for materials that were designed to be burnt. Well, I think one of the -- isn't one of the stated purposes of these

facilities to provide wood for fuel in Maine boilers?

MS. KING: So if you look at my rebuttal testimony, Mr. Spencer, the definition that you cited from the EPA regulations is for nonhazardous secondary materials to determine whether nonhazardous secondary materials are solid wastes when used as fuels or ingredients in combustion units to determine which Clear Air Act emission standards apply, and I -- I -- I could not link that to this application or to the rules in Maine on processing facilities.

MR. SPENCER: Okay. How does NEWSME really know that these wastes brought to you by what you call the generators, also known as processing facilities, how do you and the state know for certain that these wastes have been fully reduced at their source and subjected to our hierarchy practices if they are not within your control?

MS. KING: They are not within our control, but they -- those facilities are licensed solid waste facilities and are required to show compliance with the recycling rule which they have done annually with no question from the DEP in

review of their annual reports.

MR. SPENCER: So in your opinion, is there any way for the state to apply to fully ascertain, aside from relying on the generators, that this material at its source, which I mean the point where it was thrown out for the first time, is there any way for the state to verify that without knowing, you know, town by town where it was thrown out?

MS. KING: There's no reason to question.

MR. SPENCER: So you think there's no way then to verify?

MS. KING: I didn't say that. There's no -- there's no reason to attempt to verify it. The processing facilities that we accept materials from are complying with the Maine state rules for solid waste facilities and Juniper Ridge Landfill is doing the same.

MR. SPENCER: Okay.

CHAIRMAN PARKER: Tom, do you have redirect?

MR. DOYLE: I just have one redirect question for Toni. Toni, what is the rule and, therefore, the requirement of Maine law that this application is being processed under for in terms

of the Waste Management Hierarchy?

MS. KING: The Chapter 400 Waste Management Hierarchy?

MR. DOYLE: Yes.

MS. KING: Yes, the Chapter 400 Waste Management Hierarchy?

MR. DOYLE: Right.

MS. KING: That's the rule.

MR. DOYLE: And that's -- that's -- is that the standard that you had up on the screen this morning?

MS. KING: It is. It's one of the standards. I had the recycling -- the recycling standard and the Waste Management Hierarchy Rule.

MR. DOYLE: Right. So that's the rule that this application is being processed under, correct?

MS. KING: It's one of the rules, yeah, yeah.

MR. DOYLE: Thank you.

CHAIRMAN PARKER: Anymore direct? If not, a five-minute break or a ten-minute break. We'll be back at -- actually we'll take a little longer. We'll be back about 2:30. I'm sorry, no, take about a ten-minute break and we'll be back.

(OFF RECORD)

CHAIRMAN PARKER: Okay, we're going to start now with the second panel which is BGS/NEWSME and we have Mike Booth, John Sevee, Tom Doyle, Jeremy Labbe and Bryan Emerson at the table and the first questions will be Mr. Spencer.

MR. SPENCER: Thank you, Chair Parker. Okay, this is for Mr. Sevee. On page 6 the quote is, quote, the modeling indicated that groundwater emanating from the landfill site does not pass to groundwater users along Route 16, Route 43 or Stagecoach Road, end quote. There was a discrepancy on this between your analysis and that which CES did for the City of Old Town. How do you explain any difference of opinion on this or has that been resolved?

MR. SEVEE: That statement in the report is based on four lines of evidence. The first line of evidence had to do with reviewing aerial photogrammetry and so forth to look for any direct fractures that may be headed toward -- in the bedrock directed toward Routes 16 and 43. The second line of evidence was the data that was available from the site investigation itself that showed that groundwater follows the topography and

so the groundwater levels are higher in the hills and at the ground surface in the low lying areas. That creates a situation where higher topography away from the site acts as a hydraulic barrier. The third line of evidence has to do with confirming that that situation exists in the direction of -- particularly in the direction of Route 43. We installed a well in that direction and confirmed that the groundwater behaved in the same fashion as it did on site and then the fourth line of evidence was the modeling itself which incorporated all the bedrock fractures and geology that was available from the investigations. I still continue to have that same opinion that the groundwater does not migrate from the landfill toward Route 43 or toward Route 16 other than to get down to the lower areas on either side of the landfill. It doesn't extend to those roadways. On the other hand, I do agree with their conclusion that -- the town -- the City's conclusion that if there were to be a leak at the landfill, it would make sense -- if somebody wanted to have their water tested, it would make sense for that testing to occur. That's been done in the past when people have raised questions and

I don't see any reason why the landfill shouldn't do that.

MR. SPENCER: Okay. Page 6, quote, at the lower elevation surrounding the site groundwater flow is generally upwards as the groundwater attempts to discharge into surface waterbodies, end quote. Does this mean that any contamination of groundwater from a leak in the liner of the landfill would end up in the surface waters?

MR. SEVEE: If the leak went that far, the answer is yes, and that's the whole purpose of the monitoring program is to make sure that that does not occur.

MR. SPENCER: How does the term "generally upwards" break down as a percentage of the overall flows or is the case that all the groundwater flows upwards in some areas and little or none of the groundwater flows upwards in other areas?

MR. SEVEE: The amount of groundwater that migrates laterally away from the east and the west has to have someplace to go, and it can't go downward so it has to go -- it has to discharge. So all the groundwater that moves to the east ends up in the surface waters on the east side and all the groundwater that's moving to the west ends up

in the surface waters on the west side.

MR. SPENCER: In your estimation, what are the chances that the single landfill liner under the currently permitted landfill will leak over a long period of time, say, 50 years or pick a timeframe?

MR. SEVEE: That -- that landfill liner has been in operation for 25 years, there's no evidence that there's any leachate leakage through the liner. We followed the quality control procedures during the installation of that liner to make sure that we didn't have any penetrations and took care in terms of placing the waste and operating on top of the liner. So I don't see any reason why there should be any leakage from that liner over the next 50 years.

MR. SPENCER: Is there an approximate factor for adding a second liner, you know, how much safer it is?

MR. SEVEE: Well, you can see from the -- the diagram over here to my right that the second liner is basically a repeat of the first liner. So it has a redundancy and it's a way of improving the safety. I can't put it in terms of percentage or anything like that but it's basically

rebuilding the upper liner.

MR. SPENCER: Okay. Page 6, quote, this particular feature that the groundwater passing from beneath the landfill site remains local was a key feature in selecting this site as a potential landfill site, end quote. My question, you also say on the same page that, quote, thus, in the unlikely event of a leak from the landfill, in addition to the natural protection, groundwater could be collected, end quote. Has anyone ever done this successfully, pumped contaminated water from beneath a leaking landfill to keep it from spreading?

MR. SEVEE: Yes. I was involved in a landfill in Gratiot County, Michigan. It was a landfill placed out in the middle of a field and it was built specifically to contain like a million dead chickens and we installed wells -- pumping wells around the perimeter of that landfill and effectively cut off any migration of any leachate away from that landfill.

MR. SPENCER: What would be done with the contaminated water? Would it be treated as leachate?

MR. SEVEE: The water that would be

collected would have to be treated, correct.

MR. SPENCER: Okay. Page 8, quote, the leak detection system will identify leachate leakage through the primary liner system allowing time to implement appropriate remedial measures, end quote. Aside from pumping, what other remedial measures could be used?

MR. SEVEE: It's a function of what is causing the leakage. It may be possible that if the leakage were occurring during early stages of landfill operation, you could actually go in and repair the -- the liner. It may be appropriate to -- if the leakage is relatively shallow and only in the till, it may be appropriate to use a different technology than pumping wells. So it's really a function of what you observe and you pick the remedial strategy based on what you observe.

MR. SPENCER: Okay. Let's go to Mr. Michael Booth. On page 5 of your testimony you divide waste received at JRL into three groups. The second one described as, quote, waste for which there currently do not exist feasible alternatives to recycle or reuse for the communities served by the JRL, end quote. Where are these communities located, inside Maine's

borders or outside Maine's borders?

MR. BOOTH: Since all the waste that's taken to the Juniper Ridge Landfill is in-state waste, it's waste that's generated within Maine's borders.

MR. SPENCER: Page 5, quote, prior to their arrival at JRL and consistent with the Waste Management Hierarchy, many of these waste streams will have been reduced, end quote. What about the other wastes that have not been subjected to the hierarchy, shouldn't they be reduced at the source, recycled, et cetera?

MR. BOOTH: If you look at the standards, maximum extent practicable, and the wastes that do go to the landfill are recycled when there's options available to recycle them. There are some materials such as -- an example would be sandblast grit that's taken to the facility that there are no environmentally safe other uses for the material other than to landfill.

MR. SPENCER: Page 8, quote, the site does not overlie or lie adjacent to a mapped significant sand and gravel aquifer, end quote. How do you define "significant?" Is that a scientific term or --

MR. BOOTH: It's a term -- that's probably a better question for John. I believe it's a term in the regulations, a significant sand and gravel aquifer.

MR. SPENCER: Page 12, the expansion will only accept in-state waste materials, end quote. If something is discarded in Massachusetts and brought to a processing facility in Maine, does this become in-state waste?

MR. BOOTH: The definition of in-state waste is in the statute and that's what we were referring to in that quote.

MR. SPENCER: If something is discarded in a community in Massachusetts that has no waste reduction or recycling options and brought to a processing facility in Maine, does this waste comply with Maine's waste hierarchy?

MR. BOOTH: If it is -- can you repeat the question, please?

MR. SPENCER: Okay. If something is discarded in a community in Massachusetts that has no waste reduction or recycling options and brought to a processing facility in Maine, does this waste comply with Maine's waste hierarchy?

MR. BOOTH: If that waste is processed in

the State of Maine, the answer is yes.

MR. SPENCER: Okay, on page 15, when you describe the leachate collection system and the perforated HDPE piping, what is the crushing limit of this pipe.

MR. BOOTH: I can't give an exact crushing limit but in the DEP application there was an analysis of all of the strengths of the pipes and all the pipe that's put into the landfill is designed to withstand any of the overburden pressures and that information is in Volume 3 of the application, probably in Appendix D somewhere. I'm not sure of the specific appendix number but I can provide that to you if you wish.

MR. SPENCER: Thank you. What holds up the vertical gas collection wells? Is it just the random waste below it?

MR. BOOTH: The wells are actually -- I didn't describe how they do that. The wells are actually drilled with an auger drill and then the pipe is placed down into that hole that's drilled by the auger and then the annulus between the pipe and the diameter of the auger, which I believe is around three and a half feet, is backfilled with crushed stone.

MR. SPENCER: So at the bottom, it's just -- is it resting on crushed stone on the bottom and then surrounded by crushed stone all the way up?

MR. BOOTH: Well, the stone rests on top of itself and then it -- it's drilled down into the bottom of the -- about 15 feet higher than the base of the landfill so it's sitting on the waste material and then the stone -- the bottom stone is put on there and the column is built up from there.

MR. SPENCER: You described this morning two seams joining the liners with the air space. Would the air space become compressed and pop?

MR. BOOTH: No, it's very -- very strong.

MR. SPENCER: How long do sump pumps last and can they be replaced?

MR. BOOTH: Yes. They last anywhere from two to ten years and they're actually designed -- all the sumps are designed so we can pull the pumps out and they can be replaced very easily.

MR. SPENCER: Is there a velocity factor due to slope used in stormwater calculations?

MR. BOOTH: I'm not sure what -- can you repeat that question or explain that a little more

what you're asking me?

MR. SPENCER: Okay. My question is, picture, you know, an area of land, you know, like a landfill, and, you know, if it's pretty flat like a table, the rain hits it, it runs off like this, but if it's got steep sides, the water would gather velocity as in like, you know, a hillside situation. Is there a factor --

MR. BOOTH: Yeah, stormwater calculations what you do is you kind of create a flow path from the longest point to the shortest point and along that flow path you go from first -- you come -- you come -- you go over land flow and then you get into shallow concentrated flow and then you get into sheet flow and those numbers are all calculated. One of the factors that go into those calculations in the velocity is the slope -- the slope of the land it's flowing over.

MR. SPENCER: Okay, I've got questions for Mr. Sevee and/or Mr. Booth. While reading JRL annual reports, I noticed a common occurrence that elevated parameters are detected and then these abnormalities are attributed to construction activity or stormwater. Are you familiar with Chapter 401 C, Performance Standards and Siting

Criteria, one of which says, quote, disturbance of soil material must not affect ability to monitor water quality at the facility site, end quote?

MR. BOOTH: Yes, I am familiar with that section of the rules and as I made in my presentation this morning, there's one of the criteria in the rules that addresses that by -- that we want to limit any disturbance of the soil within five feet of the bedrock surface. That said, looking at the water quality at the site and then determining what's the cause for changes in water quality and attributing it to construction activities does not -- is not counter to that part of the rules. When we look at the water quality of the landfill site and evaluate what's going on, we look at all possible scenarios and it doesn't limit our ability to look at is this landfill leachate; in fact, when we look at water quality in the monitoring wells our first question is, is this landfill leachate and we go through an analysis to convince ourselves that it's not landfill leachate; and if we convince ourselves it's not landfill leachate, then we look at what other -- what are the other causes of that and that's how we come up with the other potential

causes of why the water quality was changed in a particular monitoring well.

MR. SPENCER: Okay. This question comes from my witness, Dr. Coghlan, and it involves the statistical procedures for monitoring for contamination. You conducted Mann-Kendall tests to determine whether there were significant differences in various water quality metrics that would indicate groundwater contamination. Based on the conservative level of Alpha you set at five percent, it seems like your analysis was designed to minimize the probability of making a Type 1 error; that is, minimizing the chance of including a water quality effect existed when it really didn't; however, this comes at the expense of increasing the risk of making a type 2 error; that is, failing to detect a significant effect on water quality that truly exists. Could you describe your power analysis so we can better understand how likely you were to have made a type 2 error and how powerful was your test to detect a real meaningful contamination effect?

MR. SEVEE: This is John Sevee. The methods we used are the same methods that are used by EPA and DEP in analyzing the data. These are

standardly accepted levels of uncertainty based on balancing between those two error types and so basically we're using accepted methods.

MR. SPENCER: Okay, Mr. Bryan Emerson, you mentioned that your consultation regarding Atlantic salmon consisted of two sentences transmitted via e-mail. Did you engage in a formal consultation with U.S. Fish and Wildlife Service as may be required under the Federal Endangered Species Act and if not, does this e-mail exchange serve as an adequate replacement for a formal ESA consultation review?

MR. EMERSON: We have not engaged in formal consultation with U.S. Fish and Wildlife Service regarding Atlantic salmon, as we understand from our conversations with the Corps that formal consultation will not be required.

MR. SPENCER: Has there been any analysis done as part of this application of potential impacts to fisheries associated with disposal of JRL leachate into the Old Town mill's wastewater treatment plant?

MR. EMERSON: We did not do any studies of that, no.

MR. SPENCER: So I've got a -- I'll try to

be quick here. In your presentation this morning you described the setbacks, you know, from the streams, forested cover, like that. So if all the setbacks are so good, why are parts of this area identified as critical habitat for federally-protected Atlantic salmon?

MR. EMERSON: Well, the critical habitat, to my understanding, is mapped based on watershed boundaries and that is -- and those boundaries are as we've shown on the map overlap partially with the expansion area.

MR. SPENCER: Okay. Mr. Jeremy Labbe, how many landfills does Casella own or operate in their territory from Pennsylvania through Maine? Does 13 sound correct?

MR. DOYLE: Objection.

MR. SPENCER: Are there other --

MR. DOYLE: Objection.

CHAIRMAN PARKER: What's the reason for the objection?

MR. DOYLE: Relevancy.

CHAIRMAN PARKER: Relevancy?

MR. DOYLE: We're licensing a landfill expansion here in Maine.

CHAIRMAN PARKER: Your introduction on Mr.

Labbe said that he oversaw all the landfills in the Northeast. You listed several towns.

MR. DOYLE: No, my introduction of Mr. Labbe said he's the landfill environmental manager for Juniper Ridge Landfill.

CHAIRMAN PARKER: Maybe the question should be more appropriate to one of your other witnesses then because one of them -- maybe it's Ms. Hill that's been involved in several landfills. I'll rule in favor of the objection now but you may want to rephrase your question for a different individual.

MR. SPENCER: Okay. A truck caught fire en route to JRL in May of last year, 2015. It was doused with thousands of gallons of water in Newport, then reignited just before the JRL exit where the firefighters could not extinguish the fire with thousands of more gallons more put on it so it was towed into the landfill. I heard from a volunteer at the scene that there were fluorescent light bulbs contained in the truck. Under current regulations are these materials acceptable at JRL?

MR. LABBE: I'm familiar with what you're talking about. I was actually onsite during the time when we offloaded that hot load or those hot

loads. We have a designated hot load area for receipt of any material that is considered hot and that was one of them. Someone had put, we think, a hot piece of material inside that load and there were no fluorescent light bulbs in that load to my knowledge. I had thoroughly looked through it as our dozer was moving the material around so the firefighters could douse the material, but the second point of your question is CFLs and other fluorescent lights are considered universal waste and, therefore, are subject to the universal waste requirements in the State of Maine.

MR. SPENCER: How many -- is it common to reject a load? Can you give some idea of like -- go ahead.

MR. LABBE: Yeah, well, it's not unheard of to reject a load. What you tend to see is -- I'll give you an example. TVs are a universal waste. College kids don't understand that TVs are a universal waste, usually that ends up being the case. So a transfer station, if they don't happen to pick up a TV that's incidentally thrown in a roll off container, it can come onto our facility and we've seen things like televisions come on in a C&D load and what we'll tend to do is our

operators can actually -- that's a detail that they look at, they'll detect a TV coming out, assuming it's not in a thousand pieces, they'll detect a TV coming in, we actually have spray cans inside their equipment so they can spray paint that TV and put it back on the load so they can bring it back to the facility where they got it from. If they're doing a different haul, some of these trucks haul back different material, we offer them the use of our Pine Tree Transfer Station where we're licensed to accept that material. The reason we spray it is we don't want them to just leave it on the trailer and then it comes back in again with the next load. We want to make sure that they're handling it properly. So that's an example of what we typically see but we have rejected entire loads before if the material is not as it's classified.

MR. SPENCER: Okay. Specifically, when an odor complaint is received and you've gone through your protocol, how is the determination made whether or not the complaint is legitimate?

MR. LABBE: We don't determine if the complaint is legitimate. What we determine is if it's confirmed. So I don't ever want to argue the

legitimacy of someone being able to sense an odor because everybody has got a different threshold and some people are more sensitive to different odors than others. So what we do is our responders are trained to go out to that site, if they requested it, we're not going to go visit a neighbor if they don't want us there. If they do want us at their facility, we'll go out, we'll bring some of our instrumentation with us, we'll also bring obviously that trained operator and they'll be able to either confirm that it was there or they weren't able to confirm that it was there. So if the odor is there when they're present, they'll describe that odor, they'll write down what they smelled; if it's not there, they'll say that there is no odor present at the time that they responded to that.

MR. SPENCER: I don't think I followed up, so how many loads get rejected like in a year?

MR. LABBE: I don't have that number.

MR. SPENCER: Are there regular tests for gases besides hydrogen sulfide and methane?

MR. LABBE: Do you want to clarify -- well, I guess the answer is yes.

MR. SPENCER: So, I mean, as part of

the -- I understand for the Clean Air license the testimony. Is that like a quarterly --

MR. LABBE: So what I mentioned in my testimony, the EPA's new source performance standards requires a minimum monthly sampling at our gas collection locations and that's at any of the active locations as part of that program. We'll typically do it more often because we feel every two weeks typically is a good indicator for us and we can reserve the right to do it more often. We also do monthly something called TRS which is a total reduced sulfur. It's a measurement that we use for detecting sulfur compounds in our gas as part of our license and that's something that we do at the treatment and flare location.

MR. SPENCER: On your methane monitors, would you notice a difference in the reading whether or not you are over a covered or active portion of the landfill, and could I come check that out with you sometime?

MR. LABBE: Yeah, you could -- you could -- we could show you how we do our quarterly methane surface scans which are also part of the EPA's program. That's done on intermediate cover

sections. Predominantly what we do on the open sections is hydrogen sulfide monitoring with something called a drone meter. The reason we monitor for hydrogen sulfide in the open areas of the landfill is that hydrogen sulfide is typically produced by decomposing waste sooner than methane and so that is the parameter we're going to check first, and obviously since your operating area is new waste, we want to make sure that we're going to catch what we do first. So that's the sampling we do in the open areas. The covered areas where we're in that anaerobic, the absence of oxygen, that environment where the methane is produced, that's where we look for that methane.

MR. SPENCER: So in addition to the methane on the covered and the hydrogen sulfide on the uncovered, are there any other tests on the landfill for any other gases?

MR. LABBE: Well, with part of our well tuning we test for carbon dioxide, we test for nitrogen, which is typically what they call a balance gas, we test for oxygen, we test for temperatures of the gas, we test the pressures of the gas, the vacuum on each collector, we can test hydrogen sulfide at each well location if we so

choose. We can test many parameters on the landfill and we do typically. In fact, we're required to do a lot of those by the EPA's requirements and the DEP's requirements.

MR. SPENCER: Okay, I'm good. Thank you.

CHAIRMAN PARKER: City of Old Town, Mr. Katsiaficas?

MR. KATSIAFICAS: No questions for the witnesses.

CHAIRMAN PARKER: Mr. Snowman?

MR. SNOWMAN: Yes, just one question. Jeremy, I was hoping that you could describe any major similarities or major differences in the sources and types of waste that went into the now closed Pine Tree Landfill and the sources and types of wastes that are currently going into JRL or have gone into Juniper Ridge. Is it accurate to say JRL provides capacity where PTL left off largely?

MR. LABBE: It is accurate to say that JRL provides an avenue for waste disposal for some of the material -- or most of the in-state waste materials that went into Pine Tree when it was open and operating, predominantly things like front end process residue from PERC, incinerator

ash from PERC, construction and demolition debris produced locally from contractors or transfer stations, special wastes like contaminated soils from cleanup jobs around the State of Maine, things like that.

MR. SNOWMAN: So were -- what were the major differences would you say in the waste stream?

MR. LABBE: Well, the one major difference is Pine Tree being a commercial landfill could accept out-of-state waste and Juniper Ridge as a state-owned landfill accepts just in-state waste.

MR. SNOWMAN: Could you maybe provide us with a specific customer or something like that that you had to cut off from dumping into the --

MR. LABBE: Yeah, and I don't have a specific customer I could provide to you as far as someone we'd have to cut off.

MR. SNOWMAN: Because they were bringing -- because that was -- I believe that was characterized in the newspaper back in 2005 as they admitted to 47 percent, at least I believe was the term, out-of-state garbage was going into -- was going to Pine Tree, so I was -- you know, that seems like you'd have to cut off like half of

what -- half of what was going in there.

MR. LABBE: Yeah, I don't have that number or the generators in front of me but the out-of-state waste that was going into Pine Tree needed to find -- once that closed needed to find another home.

CHAIRMAN PARKER: Mr. Laite?

MR. LAITE: Yes, thank you. I had a couple questions for Mr. Sevee but his explanation of the natural soils was very good and what happens with the leak detection that was very thorough, thank you.

Mr. Booth, from a design standpoint, I know you've done a number of these projects throughout the state, what's one of the most favorable attributes of the site at Juniper Ridge?

MR. BOOTH: From a designer's standpoint probably the most favorable is the types of soils that are onsite. They're very tight, as John explained, they're very tight soils, they have a good component of clay, they have a good component of other size particles so they're very tight from a hydraulic standpoint. They're also very easy to work with, they're very easy to compact and to place and they're not soft, so they're not like

working on a clay soil which is another typical soil we work with on landfills which we have to be more concerned with issues like settlement. It makes the construction of the site -- of the landfill system much easier.

MR. LAITE: Okay, great, thank you, and in the containment system, you know, this is, it looks like, pretty technical. How does it compare to other systems throughout the state?

MR. BOOTH: This is probably one of the most robust liner systems that I'm aware of in the State of Maine, if not the most robust liner system.

MR. LAITE: Thank you. One final question for Mr. Emerson. I noticed that you discussed being -- the acreage being two times the amount required by the Army Corps of Engineers. Why?

MR. EMERSON: Why --

MR. LAITE: Why are you going two times the amount of acreage into the preservation than is required?

MR. EMERSON: Because we wanted to go above just the minimum of what -- what was required. We wanted to provide additional compensation.

MR. LAITE: Thank you.

CHAIRMAN PARKER: Before we go to the Board, I've got three questions -- three or four questions from the floor. Mr. Emerson, you have the -- you had the microphone so I'll start with you.

MR. DOYLE: I just -- I want to know if I need to object. I just want to make sure you're ready.

CHAIRMAN PARKER: The first question is -- and I'm not sure who -- somebody out here wrote it -- how many acres of wetlands set aside in the original landfill application are being displaced by this expansion application and how are they accounted for; isn't the original acreage conservation in the original application being counted as -- as a double of -- I think the question is, are you counting some of the original land set aside for mitigation twice or is this additional land above and beyond? I think that's what the question is asking.

MR. EMERSON: Yup, no, I understand, I understand that. There were two areas that were protected as preservation as part of the original landfill siting and you can see them on the

printout over there and I had it up there with the areas outlined in purple. One of them is within our proposed preservation area and there's another area that's set down to the southwest of the landfill. It's a large wetland area. Those two areas were both protected by deed restriction. The landfill expansion is not impacting those areas that were protected previously and, in fact, our preservation area encompasses one of those areas to provide a larger area as a more continuous block of protected land. So we have no impacts to those areas that were previously set aside.

CHAIRMAN PARKER: Okay, thank you. This one is for Mr. Labbe. If hazardous wastes were delivered without your knowledge, what would the process be for its removal? You stated it would be the responsibility of the generator. What would this entail?

MR. LABBE: I guess it depends on the source, the type and the amount. You know, if -- if it's a five gallon can of urethane paint that's, you know, still wet or something like that, that would be relatively simple. If it's a full load of material, then we'd immediately

cordon off the area to make sure that people are not walking around -- or not working around that area. We'd initiate conversations with the generator of that material, we'd call the DEP and we'd collectively come up with the best case scenario for how we manage this material.

I think to say there's a specific procedure for all materials is a little difficult because each material will have its own procedure and we really want to have collectively the DEP's input on what they feel would be the best way to do it as well as where does it go once it comes out of here because we don't want to just say we'll get it out of here. We want to make sure that it goes to the right location and we can follow it and make sure it's handled properly.

CHAIRMAN PARKER: Okay, thank you. Mr. Booth, you've got three questions. Pumping groundwater from the site -- this is the question -- I assume this is not using a simple basement sump pump. How far on the landscape involved will the influence of lowering the groundwater be felt?

MR. BOOTH: As far as remediation is that speaking about or --

CHAIRMAN PARKER: I assume. I don't know. I'm only reading what I have here.

MR. BOOTH: I mean, the answer to that would be --

CHAIRMAN PARKER: This is sort of a two part; one, is it a simple sump pump; and number two, how far away from the actual landfill will the lowering of the groundwater be felt. I think those are the questions.

MR. BOOTH: Would it be a simple sump pump, no, it would probably be a simple submersible pump similar to a well pump that you put in your well and they can put down a hole and pump out. That's probably what they'd use. There are a number of other types of pumps that are airlift pumps. It really would depend on the application.

How far that would be felt would be dependent on the design of the extraction system and how it was spaced. If there was an issue where we needed to pump groundwater, we'd do a study and design an extraction system to identify a particular area that we were trying to remove the water from. So it would vary depending on what the objective of -- what the specific system

they were trying to install is.

CHAIRMAN PARKER: Thank you. Question two, is a complete cover system in place on any portion of the existing landfill?

MR. BOOTH: No.

CHAIRMAN PARKER: Okay, and it says here, Mr. Booth mentioned that the system employed would detect a leak within three days of the liner being compromised. This would require an underdrain sampling of sites to be sampled daily and the results available immediately. What is the frequency of underdrain sampling and how long does it take to get the results of such sampling? Is this not then the minimum -- okay, is this not then the minimum leak detection?

MR. BOOTH: The criteria I was referring to is 30 days is how long it takes for water once it would get down through the primary liner system to get to the underdrain system and to travel to the underdrain pumping area. So three days is the travel time that it would take for that leak to get down into the system and travel to the edge where it would be pumped out. The pumping system for the leak detection system is monitored continuously for flow and is recorded on the

system, Jeremy has spoken. If we saw a large increase in flow volumes, that would be something that would become immediately -- you'd be notified, that would initiate a number of other steps to understand why that flow went up and that would probably include sampling that well to see if there was actually a change in the water quality in that well or if the change in flow is from some other activity.

There is a liner leakage plan in the application which talks about initial characterization of the flow and then, like I said, the flow is continuously -- we look at it on -- the underdrain, the kind of tables are measured monthly and to get a handle. As time goes on, we build a database of what typical water quality in that underdrain would look like, so once we have some data, if we saw something change, we would know that there was something going on that we had to react to.

CHAIRMAN PARKER: Okay, thank you. I have no more questions from the floor. Questions from the Board. Tom.

MR. EASTLER: What was that question -- well, I did it originally but then it was more

like a comment than a question with regard to the terminology noise. That's really what I wanted to -- we really ought to -- should be talking about things that have defined terms and noise has no metric and that's not good. Sound pressure is perfectly good.

CHAIRMAN PARKER: Kathy.

MS. CHASE: Can I go? Thank you. I believe this is for Mr. Booth. In your description of the augmented lining system that you're having, the first question is, the reason why you're adding more to that is because the technology is available and you've had more information, not because there's an issue with any of the first liners, right?

MR. BOOTH: That's correct. The reason we're adding it is under the rules it described -- it spoke to offset credits and it described how many offset credits you get for specific types of liner design. You get two years of offset credits for just incorporating the geomembrane liner in the system, you get three years of offset credits if you added a composite system, if you add in that extra layer of clay and the GCL on top of that. So in areas where we have shallow or the

bedrock is closer to the base grade of the landfill, we thought it was prudent to go with that heavier, thicker liner on the secondary liner just to provide more redundancy in the system.

MS. CHASE: Okay, the second -- thank you. The second question is, you said there's a series of six I think --

MR. BOOTH: Cells.

MS. CHASE: -- cells that you're going to be doing and each time if there's new technology available, you would be applying that to that cell. Is that on your own or is that a requirement?

MR. BOOTH: I don't believe it's a requirement but we typically try to keep up and add new systems in a new -- whatever design, we bring it up to the conventional standards. A typical thing that happens in landfill designs are the testing that's done on materials can change from, you know, year to year or different ASTM standards are promulgated or methodologies are changed and then we update how we -- you know, when we're looking at the liners and what we're requiring for materials with unique properties, we require them to meet the most current properties.

MS. CHASE: Thank you.

CHAIRMAN PARKER: John?

MR. MAPES: Which one of you talked about truck weights?

MR. LABBE: Overweight trucks?

MR MAPES: Yes. The state has rules about truck weights. Why do you do truck weight studies? What's the rationale behind it?

MR. LABBE: Well, it was a request from the Advisory Committee to monitor truck weights, and since we scale trucks in or out -- yeah, the state has a 100,000 pound weight limit and they usually allow two and a half percent, you know, 102,500. Our policy is trucks over 105 get warned, trucks of 110, they're not allowed to come back into the facility for a period of time determined by the general manager but we wanted to make sure that, you know, our contractors and people delivering to us were for the most extent handling the material acceptably. Sometimes it's difficult when there's no scales at their facility so that's what they take into account, but it's been a very successful policy, the truckers don't seem to mind the policy unless they're the ones that happen to be subject to it, but overall I

think it's a good neighbor policy.

MR. MAPES: Thank you.

CHAIRMAN PARKER: Alvin.

MR. AHLERS: Mr. Sevee, you talked a little bit about groundwater flow and that it was impeded or at least stopped by the topography beyond the landfill. What would you expect with much higher than normal precipitation with that groundwater and also would that -- would that impact the flow in the bedrock?

MR. SEVEE: If you had higher precipitation, you might get additional groundwater depending on the time of year it was coming in. So assuming that we do get some additional recharge and it enters the groundwater system, that would be entering the groundwater system throughout that entire region and the analysis that I referred to relative to this hydraulic barrier effect would still be valid. So the groundwater would still remain relatively local to the landfill. The bedrock would basically behave the same. If it had the capacity to take more water given the elevations, it would -- it would just accept that more water. If it can't, the water table would rise to the surface

and the excess precipitation would run off.

MR. AHLERS: Mr. Booth, you had a little discussion on remedial action if, in fact, there was a leak there. Would you expect remedial action, say, pump and treat to last forever for a situation like -- like at Juniper Ridge?

MR. BOOTH: You know, any type of remedial measure that would be installed would also be installed with a set of monitoring -- either monitoring wells or monitoring points and, you know, we would be looking at as the -- as any type of action was implemented what the effects were and once we were convinced -- you know, once the data shows that the problem had been corrected, we would shut the system off. If -- you know, if not, the system would continue to pump.

MR. AHLERS: And I guess -- I mean, I always think of those systems lasting for a long time just because you've got a continuous leak existing.

MR. BOOTH: One of the things about -- you know, if you look at the robustness of this liner system, you know, the systems you're referring to may be an old site that doesn't have a containment system, you know, something that somebody put

waste -- you know, was dumped on the ground at a factory or something like that and it wasn't contained. I mean, that is a very extremely robust liner system. Any type of leaks that did occur would be a very small percentage. So, you know, I don't think it's similar -- my sense is as we're talking about this is uncontrolled sites types of systems.

MR. AHLERS: You talked a little bit about underdrains in the area that was below groundwater level. Is that system designed with some redundancy so that if you had failures with pumping systems in another part of the system?

MR. BOOTH: That system could be used, you know, to collect water that if it -- if it was water quality below the liner system that needed to be collected, that system could be -- we could tie that system in and collect the water that came out of it. That system is really in there to facilitate construction. You know, once we have the physical landfill liner down -- we need to keep the water table down in the area of the construction. Once that's constructed and then the liner is put back on and the landfill is developed, actually having upward pressures is

beneficial because it keeps water migrating down. So that's the primary purpose for that underdrain.

MR. AHLERS: So that's a construction issue, not a long-term --

MR. BOOTH: That's correct, but if -- you know, part of that underdrain -- part of the monitoring program is to monitor that underdrain and to evaluate the water quality. If necessary, we could collect that.

MR. AHLERS: You also talked about having technical support supervision onsite during construction. Is that at all times during construction and would that person be a very well-trained person that knows all the details of landfill construction?

MR. BOOTH: Yes. The --

MR. AHLERS: You're not going to put a rookie out there, are you?

MR. BOOTH: No. We -- you know, it is a full-time person because there is a lot of activity that's going on during the landfill construction. He's also supported -- in a typical construction job, he's supported by the people in the office so if there is an issue, you know, we're contacted immediately. One of the great

things about new technology is we can take pictures and data can be transferred and we can, you know, evaluate what's going on and address issues as they come up. That person by the rules is required to have certification in the specific -- like liner installers, there's a certain test that you have to pass or a certain amount of experience that you have to pass in order to oversee those constructions, so you do know what you're looking at and they can make the appropriate judgments, but if there's a big judgment that needs to be made during construction, they also bring in either myself or the other design engineers involved in the project.

MR. AHLERS: Mr. Emerson, you talked a little bit about wetlands and vernal pools and discarding some of them or at least reducing their value because of diversity. Is that the only reason why you would lower the value of one of these and not, say, unique -- some unique species or something?

MR. EMERSON: Are you speaking about vernal pools or just wetlands in general?

MR. AHLERS: Well, I don't remember -- I

don't remember exactly the conversation, whether it had to do with vernal pools or wetlands, but I guess my question is, if it pertains to both, fine, if it doesn't --

MR. EMERSON: Sure, yeah, okay, yeah, I think I can answer it for both. In regards to wetlands, when we provided -- in our function and value assessment, one of the -- one of the functions and values that we evaluate is whether the wetlands provide habitat for an endangered species or rare species of any kind. We didn't find that in any of the wetlands being impacted as part of the project. As part of our function and value assessment, we also did a rare, threatened and endangered species survey, field survey on the ground, which confirmed those findings. So yes, if we had found rare species in there, that would change what we would consider the level of function and the level of value of those wetlands.

In regards to vernal pools, you may be referring to my reference to blue spotted salamanders which we had seen in the preservation area. Those -- those are species -- those are less common species to find in vernal pools than regular yellow spotted salamanders or wood frogs

which are the obligated vernal pool species. So yes, the point being, we didn't see any of those blue spotted salamanders in the expansion area vernal pools, in the manmade vernal pools in the expansion area. We saw them in the pools in the preservation area. So that diversity of habitat -- the diversity of species using the vernal pools in the preservation area was greater than in the expansion area.

MR. AHLERS: When you talked about compensation for filling, I am assuming that that is at least a minimum of replacing what is lost to some other location that would be preserved -- preserved against construction of anything for the future, is that -- is that --

MR. EMERSON: Yes, that's correct. The preservation area has a -- that we've set aside at 266 acres has a deed restriction that's been placed on it. That's been approved and looked at by DEP staff, it was looked at by the Corps of Engineers as well, and that prohibits development. There's a number of stipulations in there in terms of soil disturbance, timber harvesting is prohibited within that preservation area, a number of development things that would be prohibited.

MR. AHLERS: So there's sufficient land on the property to enable you to do that?

MR. EMERSON: Yes. With that 266 acres, one of the reasons why -- and this maybe addresses the question that Mr. Laite had as well -- we wanted to preserve an area that was large enough that could be -- we considered to be an ecologically sound unit in and of itself. If you preserve a small, little, tiny area, it's not going to provide the functions as a larger area. This area provided -- had, you know, like I said, well more than the minimum requirements but also a diversity of habitat types and wetland types to provide that level of protection.

MR. AHLERS: My next questions are for Mr. Labbe. You talked about oversight of loads coming in or rejected. Can you tell me what your penalties are for -- I mean, you mentioned some not letting them come back in. I mean, that seems like a pretty -- pretty easy off type thing. Do you have any stricter penalties? Do you audit your upstream suppliers so that you know what they've got coming in? Do they provide you with a description of what they're supplying you?

MR. LABBE: Yeah, so when I was talking

about penalties, that was for the drivers with overweight trucks, but with regard to waste acceptance, the process we've got is in line with the DEP/EPA requirements and it's very thorough. So, say you're Joe Generator and you've got a site where -- you've just acquired and it's got some contaminated soils, if you contact one of our sales guys or someone in the field or even a third party and Juniper Ridge is one of the options, you have to go through the waste characterization program which initially starts with, well, who are you, where is the material coming from, what are the major -- like does it have any odor, can you describe the material to me, what was the source of contamination for that material, and based on this profile form which I showed you the first page, it's kind of like an interview process. We evaluate that information and then we go back to what we have called blanket permits which are permits issued by the DEP that allow us to take in certain materials like contaminated soils. We say, okay, if you -- if your category is one of those blanket permits, well, we have testing requirements. So, okay, Joe Homeowner, you have to go or industrial producer, you have to go and

test your -- test your soil for -- sorry -- for these metals, these VOCs, volatile organics, these semi volatile organics, whatever happens to be required. Now, if it's a material that does not fit in our blanket permits, then we have to apply for a specific permit for that material with the DEP and then we have a prescriptive testing that needs to be developed for that material and you, as the generator, for every load you bring to us have to have a manifest. So once we have -- this is kind of a long process, I apologize, once we have that initial information, we'll put you in our database system and when we have the testing and we can approve the testing, I review it and there's EPA and DEP limits on different materials -- on different metals and volatiles and semi volatiles, different compounds, assuming that you're okay and you've been approved and you meet those, we put that data into our database as well and then we finalize that what we call a profile and it pops out something called a profile number. We take that information, put it in our scales program. Only then can you start bringing us material once the scales program has been populated, and then we give you that profile

number as a distinct profile for your material. You bring in a manifest -- for each load that comes in you have to have -- identify everything on that manifest that we require with the profile number on it, give it to the scale attendant, the scale attendant can inspect it and that's where we go to the inspection process, we're inspecting material, type you into the system and then you can come in and bring your material. So that way we can track exactly what you're bringing us based on that profile number, how many loads, how many tons for each load, what that material was, what the dates you brought it in were, each manifest that you give us is stapled to our manifest we generate and put in a permanent file. So, you know, there's a lot of questions about is this material vetted, do you know where it comes from. I just don't -- I don't think people understand the process that needs to go through for materials to come in, and that's really -- I know that's a long answer but that's kind of the process.

MR. AHLERS: Have you ever had to tell an upstream client to find another disposal site?

MR. LABBE: Yes, we have turned material away. An example would be sandblast grit. Say

they're sandblasting an old bridge, lead paint is an issue when you do sandblasting. They're required to do a metals test. We've had instances where they send us their analytical results and their lead is above our requirements so we say this is a hazardous material, we can't take this material at our site, you need to find a home as a hazardous waste site, which is out of the State of Maine because there is no hazardous waste disposal sites in the State of Maine, so it needs to go out of state.

MR. AHLERS: Thank you.

CHAIRMAN PARKER: Tom.

MR. DOBBINS: This is a question for Mr. Emerson. Back to the preservation site, you mentioned 266 acres which is two times the Army Corps requirement. Is that 266 acres -- because I think this was what the person in the audience wanted to know -- as an example, we'll just say it was ten acres and two acres were that purple area. Is that ten new acres you've got or is that eight and two?

MR. EMERSON: Right, no, it is 266 new acres.

MR. DOBBINS: New acres above --

MR. EMERSON: Yes, yes, exactly. There's -- there's -- that purple area that we're encompassing is 16 acres, so combined it's 282 total acres in that one continuous area.

MR. DOBBINS: Thank you.

CHAIRMAN PARKER: Any questions from the staff?

MR. BEHR: Is this on? Okay. I have questions for Mr. Sevee. Mr. Spencer's questions have helped address some of those. Is it still on? Okay. Let's start with the groundwater divide that's located presumably southwest of the facility and you discussed the lines of evidence, there were four, and one of them has to do with the modeling that's been completed, but I'm wondering are there --

MR. EASTLER: Can't hear you. You'll need to take your thumb off that little thing.

MR. BEHR: My thumb isn't on this thing. How is this? Okay, loud and clear. For this proposed application, you did submit new modeling results. Did the application include additional explorations that would help us feel more comfortable in the existence of that groundwater divide and could you elaborate on those

explorations?

MR. SEVEE: For the expansion, there were no additional offsite investigations compared to the earlier application of the original landfill, but during the original landfill application, this issue particularly of groundwater movement toward Route 43 was a concern. James River at that particular time went out and met with individuals around the landfill and that was raised as a concern. When we got the information for the original landfill site and started understanding how this groundwater would behave in that low-lying wet area coming up to the ground surface, we felt as though we didn't have any information on the other side of that where this hydraulic barrier would exist to confirm that that same hydrogeology was on the other side, and so we got permission to go onto the other side of the creek and put in well 209 I think it is there and that basically showed the same hydrogeologic system; in other words, the groundwater was following the ground surface, the pressure down deep in the bedrock were similar to what it was in the soil; in other words, we weren't getting a draining effect, if you will. So that's the only

piece of information that we have on that side of the creek in terms of an exploration.

MR. BEHR: If you were asked to collect or complete additional explorations to define that groundwater divide, what would you propose?

MR. SEVEE: To me, the most useful location would be at the -- at the peak of the topography in that direction, and you'd want to go down deeper into the rock. You'd want to make sure that the pressures in the rock are reflecting those groundwater pressures and that is what provides that hydraulic barrier.

MR. BEHR: Okay. Another question for John. Related to the remote possibility that at some time in the future if this expansion is approved you have a leak and you've already addressed -- spoken briefly about the remedial techniques, but I'd like you to talk a little bit about the timeframe for -- if there is a -- we know there isn't but a typical leak that you would have to -- that would require a pumping well, how long would it take the facility to do the groundwork once we know that there's some sort of release to install or design and install and begin operation of a remedial project like that?

MR. SEVEE: Okay, sampling at the site is done every -- approximately every three months except for the winter period. So if we detected some change in the water quality, it may be -- and there wasn't anything in the previous round, that means that leak could have been going on for approximately three months. Once we confirm that piece of information with a subsequent analysis, that may take another few months. At that point we would need to sit down with the DEP and discuss what we've observed and come up with what is the -- what should we be looking at and what is the potential source of that. That may take some period of time. You'd probably end up doing some sort of subsurface investigation and that may take several months to do. It may take up to six to eight months to do depending on the complexity and so forth and how we're tracking it down. The bedrock may take a little bit longer than something occurring in the till, and then once you have that information and come up with a remedial approach, it wouldn't take very long to come up with a remedial approach, assuming that we're all on the same page, the DEP and the landfill operator, and then you would implement it. If it

was pumping, that can be implemented -- I mean, it takes a day to put in a groundwater extraction well. The biggest part of the element would be finding out how to pipe this system together and, you know, is it a single well, is it multiple wells and that sort of thing. Again, that may take several months to complete. So those are the various parts and so we're sort of talking about timeframes of a year but realistically you'd probably want to add a factor of safety of maybe two on top of that, so you're talking about maybe something in the order of one to two years realistically to implement something. Sometimes it can go a lot faster. If it's a simple problem, I mean, you could be in there -- I've been involved in some situations where we've identified a problem and we're in and out in a matter of a few months.

MR. BEHR: Thank you. The next question has to do with the computer modeling that you've done to simulate groundwater flow directions and you've done a series of model simulations, one includes predicting the flow under current conditions, and if we're looking at the northern part of the proposed expansion, the model's output

shows flow in a northerly direction in a portion of that. Once the landfill, if the landfill is approved, it's built out, the modeling that you did demonstrates or predicts that groundwater flow in the northern portion of the landfill is going to flow in the opposite direction. So my questions are, was that a surprise to you; and, two, how does that alter the monitoring program for the future?

MR. SEVEE: It wasn't a surprise in the -- from the perspective that when the landfill is completely constructed, that whole ridge basically is going to be covered with plastic and precipitation recharge is going to be eliminated from that ridge. So we knew that the groundwater patterns were going to change. We sort of anticipated before running the model that the groundwater would probably move from the southeast across the site more or less to the northwest. That was our supposition, but the wonderful thing about these computer simulations is that it gives us a much better insight into what the groundwater will probably do, and so that's -- you know, it's just another great tool that we have today that we didn't have years ago in order to design these

monitoring systems, and in terms of the monitoring network, yes, it is important to know that because we want to put the monitoring wells in the areas where the groundwater is going to be moving from underneath the landfill, irregardless of what the source is, we want to be on that downgradient area. So yes, that will be important.

Of course, we will also have groundwater level measurements around the landfill and I believe we may be doing something underneath the liner as well to redefine that groundwater pattern and that will also add into how we deal with the monitoring wells at that point in the future.

MR. BEHR: Thank you. And the last question has to do with current groundwater quality in the vicinity of the landfill. Mr. Spencer asked some questions about how the water quality has changed and in annual reports submitted by Casella you have noted that because recharge has been reduced significantly by the existing footprint that we are seeing water quality changes that are not related to leachate releases, and I ask how much -- that adds a level of difficulty obviously to determining whether or not changes that are observed in the water quality

are a result of leachate release or activities associated with constructing and operating the landfill. Are you certain that in the event the expansion is approved that we will be able -- and Casella will be collecting data that would enable Casella and yourself and the State of Maine to determine whether or not the landfill is operating properly given that we're ultimately going to change groundwater flow directions, we know that based on your analysis that water quality changes without any release of leachate to the environment?

MR. SEVEE: We will have in the future -- assuming that the expansion is approved, we will have information on the quality of the leachate that's being generated by that expansion, and what we would typically do would be to look at that suite of compounds that's in the leachate and evaluate which ones are the most mobile and look at the groundwater chemistry in the monitoring wells and decide, okay, are we seeing the same compounds that are in the leachate outside in the monitoring wells, and for instance, yes, there are some changes in water quality at the existing landfill, but the most prominent species --

chemical species in the leachate is chloride and we don't see that increasing. So you basically fingerprint the leachate and you compare that with the fingerprint of the water quality and that to me is what provides you with the confidence to say that the landfill liner system is working properly or improperly, and sometimes it's difficult to tell and sometimes you need to take another step and maybe test for some other compounds or whatever to see if you can fingerprint it better, but that's basically the method that I would use and that's what gives me the confidence that we would be able to detect a leak.

MR. BEHR: Thank you.

MR. FARRAR: All right, this question -- is it working? This question will be for Mike Booth, if you can hear it. This question is for Mike Booth. Mike, in your written testimony and this morning you talked about the use of proposed pressure transducers located at the bottom of each cell to monitor the leachate level --

CHAIRMAN PARKER: Excuse me, speak a little slower so --

MR. FARRAR: You talked about the pressure transducers that will be in the bottom of each

cell to measure the leachate head buildup on each of the cells and this morning you described an acceptable upper limit of 12 feet. Would you like to clarify that?

MR. BOOTH: Yeah, I misspoke. It was 12 it was -- it's 12 inches, sorry about that.

MR. FARRAR: Okay 12 inches.

MR. BOOTH: 12 inches is what's in the regs. I did misspeak.

MR. FARRAR: Could you describe the actions that would need to be implemented if the 12-inch maximum limit was exceeded?

MR. BOOTH: Probably the first action would be to inspect and clean the leachate lines. If they're not draining properly, then that would be a reason for a leachate head to build up inside the cell so the first thing to do would be to inspect and also clean it. The technology that's available now we can actually put a camera down the lines and we use a large enough pipe so that we can get that camera down and can actually get cleaning equipment into the lines to clean.

MR. FARRAR: Also in your pre-filed testimony you presented some figures for leachate reduction rates that would be expected during the

operational period of the proposed expansion. Were those figures you included in there just for the expansion or did they include the existing landfill.

MR. BOOTH: They were for the entire site and that was -- in the slide which I showed the progression of the development, what we did is we looked at the entire landfill site and how much leachate would be developed -- generated from each of the individual areas depending on whether they're open, closed or had intermediate cover and then we sumped those all together because they were all going into the same leachate storage tank.

MR. FARRAR: Okay, and as the operations go forward would Casella be monitoring whether or not the leachate flows coincide with what those predictions were?

MR. BOOTH: I would hope so.

MR. FARRAR: Okay, thank you. And just for those that don't know, you described both 80 mil and 60 mil geomembrane liners in your liner system. Could you put those in terms of inches?

MR. BOOTH: Yeah, a mil is one-thousandths of an inch. So 80 mils is eighty-thousandths of

an inch, eighty one-thousandths inches. It's about that thick (indicating) and 60 mils is sixty one-thousandths of an inch.

MR. FARRAR: Thank you. The next question is for Jeremy Labbe. You discussed the broadband and backup alarms of Casella equipment at the existing landfill. Could you describe a little further how those work and --

CHAIRMAN PARKER: Excuse me, speak a little slower and clearer so she can understand you.

MR. FARRAR: Okay. Would you be able to speak and describe a little bit further how those alarms work and perhaps what their zone of influence or maybe travel distance of the sound waves might be?

MR. LABBE: Yeah, so I don't -- unfortunately I don't have the spec sheet for them in front of me so I don't know the travel distance, but they are a broadband sound alarm, so it's -- and I might have to punt to our sound guy who can explain sound pressures and how they affect your ears but in laymen's terms, with a typical beeping alarm, and if you guys have ever been around a construction site or anything

backing up, you can hear it but you have no idea where it's coming from. So most people are doing this (gesturing) trying to figure out where the -- and you don't even know if it's coming towards you. With these broadband alarms, you can actually detect like someone speaking to you what location around your head it's coming from, if it's going away or coming towards you. Additionally, like you said, because of the type of sound that's coming out, it doesn't travel as far. I don't have -- I don't have that distance unfortunately. It's in the -- I'm sure it's in the technical literature that comes with the alarms. So they don't come stocked on equipment, we have to install them aftermarket, so we've been very, very, very happy with them. I would encourage anybody who has the opportunity to use them because they are phenomenal.

MR. FARRAR: Okay, without giving the exact distance, you've been out on the site, how far would you roughly say it would be?

MR. LABBE: Well, this is the cool part. So say there's a bulldozer with its blade where you guys are at like maybe ten feet away and it's backing up that way, you can't hear the backup

alarm, maybe if you listen really closely you can barely hear it, but if he's on the other side of the cell and he's backing towards me and he's facing me backing towards me, I can hear him clear as day and that's the great thing about it. It's not -- you know, it doesn't travel in a circular fashion, and I'd say across the cell is really clear. I mean, if you're -- I can't hear them when I'm standing on the paved area, you know, offsite, off the cell, I can't hear those guys operating on the cell. So I guess on a clear day if you're really listening and you're far away you can detect it further.

MR. FARRAR: Thank you. In addition to the four offsite hydrogen sulfide monitors you talked about, you used two internally to the landfill. Could you describe how you use those further in the context of the overall odor control program at the site?

MR. LABBE: Sure. So the four meters were -- the locations were predetermined. We worked with the DEP to figure out predominant wind patterns and locations where we think those would be most effective and those are off site at residences or close to residences off the site.

The two onsite monitors we have we use for -- I call them operational monitors so we can move them from locations. Recently we've had them in two locations that we think are predominant ones, right on the south side and actually that's the one I pointed out during our site visit, literally right off the landfill. The other one is north of the landfill closer to Route 16. So we can move those and we really use them operationally to gauge how we're doing onsite because really if we can mitigate or manage the odor onsite we can help with odor potential offsite.

MR. FARRAR: And you also discussed a reporting limit for the hydrogen sulfide monitors offsite of 15 parts per billion. Could you discuss how you obtained that as the number to use for the reporting purposes?

MR. LABBE: An iterative process, is that enough detail? No, so 15 parts per billion, you know, there was a lot of back and forth on hydrogen sulfide measurement as a whole. Depending on if you live in certain states, they have certain, you know, different criteria they look at and 15 parts per billion was not a chronic level but a -- an acute level, thank you, so that

was a level we decided to go with for an alarm setting for Maine.

MR. FARRAR: Okay, thank you. Could you briefly describe the operational procedures that Juniper Ridge Landfill takes to avoid potential landfill fires?

MR. LABBE: Yeah, absolutely. Important is cover, very important. Obviously as my safety guy always likes to talk about, the fire triangle, for those of you who -- you know, you need oxygen, you need fuel, right, and an ignition source, right, of some sort. Sorry, I can't remember my triangle. So the biggest one, we can't change the fuel, right? The fuel is the waste, it's there and we try to eliminate any possible sources of ignition. That's why we have a specific hot load area that's not in an active waste placement area. That's on a gravel pad in case we ever have a hot load coming in and then the biggest thing that we take out is oxygen, and that's -- the way we do that is by our synthetic cover materials which eliminate the potential for oxygen getting into the waste, our extensive daily cover as well as watching our gas collection system to make sure we're not over pulling. We want to make sure that

we're pulling all the gas that's being generated or as much as possible that's being generated but we don't want to be pulling so much that we're pulling air into the waste and creating potentially an aerobic environment, kind of like the wet hay bale I like to look at. We don't want to create that environment. So that's why we monitor our system very thoroughly.

MR. FARRAR: Okay, and I think you answered this question already but you talked about overweight trucks and penalties for the truckers that bring them in.

MR. LABBE: Um-hum.

MR. FARRAR: I thought I heard you say that the first time it's a warning, the second time you're -- two strikes you're out, is that accurate?

MR. LABBE: So the 105 is a three strike policy, 105, right, and 110 is a one strike policy.

MR. FARRAR: Okay, thank you.

MS. ELEFTHERIOU: Mr. Labbe, in your testimony you noted that JRL has a backup sulfur removal system using Sulfa Treat media. Would you please explain how the system is used in

conjunction with the Thiopaq sulfur removal system?

MR. LABBE: So currently we maintain it as a backup. It's on standby in case we need to. Our air license requires our Thiopaq system to be operational 95 percent of the time or at least a treatment system, whether it's primary or secondary, and we have not had to use our Sulfa Treat system since we began operation of our Thiopaq. We've been well over 95 percent up time on our Thiopaq system since its commencement of operation in 2015, which is quite exciting, but the Sulfa Treat system is basic. It's iron oxide pellets. Think of something the size of kitty litter or maybe a little bigger. It's clay material that's actually impregnated with iron oxide on the surface. It's coated, I should say, with iron oxide on the surface and you pass the gas through it and the hydrogen sulfide reacts with that iron material and pulls it out, but then you have to take that sulfur laden material out and you waste it away. Now, it's permanently bound in there, it's not coming out as iron pyrite but you actually have to put it in the landfill so it's one of those things that it's not a

regenerable process and so it's very labor intensive to change that out and it's costly and it's not the best environmental solution. So we keep it as a backup, but our primary solution is a regenerable process that uses bacteria to create elemental sulfur and that's the Thiopaq process.

MS. ELEFTHERIOU: Thank you. Mr. Labbe, Exhibit 45 of your direct testimony, that's the odor complaint management and response plan, you have a figure that illustrates odor-related complaints from 2005 through June of 2016. In general, the number of odor complaints seems to have decreased since 2007; however, it appears that odor-related complaints increased during 2015 when the Thiopaq sulfur removal system was installed. Would you please explain this increase?

MR. LABBE: Yeah, sure. So during startup, if you've ever started up an industrial facility, the startup is a process that takes time to get things running smoothly. Additionally, what you do inside the system is you actually aerate the liquid where the bacteria live and they actually need that oxygen just like you and I do, and that oxygen comes out the top, the air comes

out the top, and it does have some sulfur odor to it and so when we built the facility, we installed an interim carbon system which was small and we didn't feel was adequate to handle the amount of -- it was something that really I put together and I wasn't happy with it when I put it together, so we actually went and put in a full-blown carbon system that's much better that summer, and you can see in 2016 it's all but eliminated those issues and we're very happy with the process. We were always happy with the process, and we think now it's -- it's -- we've found what we needed to do as far as the carbon system to be more adequate.

MS. ELEFTHERIOU: Thank you. Again for Mr. Labbe, in your direct testimony on page 15 you noted that waste activity reports detailing each and every load of waste material accepted at JRL are submitted to the Maine DEP, the Bureau of General Services, the Landfill Advisory Committee and the City of Old Town on a monthly basis. For the record, the Department no longer receives these reports but has access to them electronically via the DECB website.

MR. BEYER: This question is for Mr. Emerson. In your testimony you described the

methodology -- the Highway Methodology for determining wetland functions and values. Can you just briefly describe what that entails and how you go about looking at a wetland and determining what functions and values it has?

MR. EMERSON: Sure, yes, I can. So the Highway Methodology, as I mentioned, is a Corps of Engineers methodology that assesses 13 different functions and values and those range from wildlife habitat, flood flow alteration, sediment intoxicant retention, all the way down through. Those are one of the functional things it assesses and then the ones that are more values are visual quality, aesthetics, endangered species habitat, these types of things. So the Highway Methodology is a qualitative assessment, it's not a quantitative, you don't assign a number score to it. It's meant to be a field-based survey combined with a desktop level assessment. So you do a review of available resources that you have, whether that's, you know, state mapping resources or aerial photographs, USGS maps, all these various publicly-available sources and any other mapping that you have to determine what the functions are of these wetlands and then you do a

field visit, and the field visit is where I feel like you really get the most out of it because you can really see what the conditions are of the wetlands. So you go out and you check what the predominant community type is, is it a forested wetland, is it a scrub/shrub, is it emergent, what the habitat diversity is. You know, a wetland that's strictly a forested wetland is going to have lower functions than a wetland that's got a variety of habitats, let's say, a mix of scrub/shrub, shrubby plants versus emergent grasses and a dense marsh area. You also assess the surrounding landscape in terms of what's there, how much development pressure is on these wetlands, what are the -- what are the natural systems and upland area like around these wetlands. So there's a series of considerations that are included as an appendix in the Highway Methodology that you can walk through to assess each wetland related to each function and the goal of that is to determine, number one, whether or not the wetland provides that function at all, and, number two, if it provides that function, does it provide it at a level to be considered a principal function, meaning it provides it at a

high level and so it's a process you go through for each wetland as you go out and we did it for this project for the expansion area and then within the preservation area as well, went out to field visit each wetland and documented those -- those conditions and that's how we arrived at the conclusions we have.

MR. BEYER: Thank you.

CHAIRMAN PARKER: Okay. Any further questions? Any redirect?

MR. DOYLE: I have one redirect. Just one question for Mr. Sevee. Mr. Behr asked you about the time it would take to design a remediation system if there were a leak and you discussed how long it may take to -- for a leak to be detected in a monitoring well. Given that this is a double liner system, could you explain the role of the leak detection system in detecting leaks before they even get to a monitoring well?

MR. SEVEE: The function of the leak detection system is basically to act as an early warning system of leakage to the primary liner, and as Mike testified a little while ago, we would see that in a relatively short order of time measured in days or weeks, and so it's basically

to have a jump on dealing with leakage to the primary liner before it even gets out into the groundwater environment beyond -- you know, either underneath or beyond the landfill.

MR. DOYLE: That's it.

CHAIRMAN PARKER: Thank you. Okay, we're running about ten minutes behind schedule right now. Did you have any redirect?

MR. SPENCER: I've got a quick question --

CHAIRMAN PARKER: Recross.

MR. SPENCER: -- for Jeremy Labbe or anyone for that matter. What is the low level, the constant exposure limit for hydrogen sulfide?

MR. LABBE: There is no established low level concentration limit for hydrogen sulfide.

MR. SPENCER: So the 15 parts per billion as acute level, what's the duration -- what's the -- you know, at what point could exposure to 15 parts per billion cause a health problem?

MR. LABBE: So, again, it depends on the study you're talking about. There's no limits in the State of Maine on hydrogen sulfide concentrations. You want to be careful not to say that there are. You know, in our established -- what we established voluntarily was based on what

we felt through research and papers and other things would be an adequate level for safety. Now, as far as the timeline, it depends on the paper you talk to and I can't give you that information off the top of my head.

MR. SPENCER: Okay, thanks.

CHAIRMAN PARKER: Are we all set? Okay, right now we're running a little bit behind so we're going to take -- I'm going to try to squeeze out about ten minutes but then we're going to start promptly because we want to get this finished before we open our public session, so 4:00 on the button.

(OFF RECORD)

CHAIRMAN PARKER: We're now going to have a presentation by Dr. Coghlan. He's here on behalf of Mr. Spencer, and as I've cautioned people, try to speak loud and slow because she's been working a long day so far. Go ahead.

MR. SPENCER: I just want to briefly introduce Dr. Stephen Coghlan and it's my great privilege to have made his acquaintance. Thank you.

MR. COGHLAN: Well, the feeling is mutual. Is that on? Can everybody hear me?

MR. EASTLER: It's not on.

MR. COGHLAN: How about that?

CHAIRMAN PARKER: You've got it.

MR. COGHLAN: The feeling is mutual, Ed. Thanks to the Board and to Cindy especially for accommodating my teaching schedule. I think my students probably would have preferred I cancel class tomorrow but we'll do it this way. I also wanted to say thanks to all the previous presenters with their testimony written and also the rebuttal of mine. Certainly I've learned quite a bit since I've gotten into this, so I appreciate that.

So Steve Coghlan, I'm an associate professor of freshwater fisheries ecology at the University of Maine. It's nice to see another U-Maine graduate here. In general, my areas of focus and what I teach courses in would be freshwater fisheries ecology and management, general ecology, ecological statistics and biophysical economics. In general, I do research on aquatic ecology --

CHAIRMAN PARKER: Slow down a little.

MR. COGHLAN: Sorry, in general I do research on aquatic ecology. Much of my research

lately has focused on the ecological effects of dam removal in the Penobscot River Watershed. I'm also director for the Maine Chapter and network speaker for the Center for the Advancement of the Steady State Economy or CASSE -- see if this works -- sorry, those were supposed to pop up one at a time.

So the scope of my testimony today, I think I'm here for two reasons. I'm not here to be either an advocate for or a proponent against the expansion. I'd like to be here as a scientist, as an ecologist. I'd like to bring some skepticism, I think that helps science out quite a bit, to identify what I thought were insufficiencies or gaps in the knowledge or gaps in the information and I'd also like to bring maybe a slightly different perspective than we've heard so far and so I think that science really progresses greatly by both of those things, some skepticism and another perspective.

So I'm approaching this taking a systems ecology view of how the landfill and its expansion would relate to our natural economy and our natural environment and our economy and my testimony is based on my limited understanding of

natural processes and how they conform and they're governed by and constrained by biophysical laws. And so first and foremost I claim no expertise regarding any legal or regulatory matters. I'll do my best to just stick to what science that I'm comfortable with. So the major points that I'm going to go through from my pre-filed written testimony would be first discussing some federally protected fish, Atlantic salmon, Atlantic sturgeon and short-nosed sturgeon, talk about sea-run fishes in general in the Penobscot River, to tie those both into the Penobscot River Restoration Project, which I'll describe in some detail in the context of improving or increasing ecological integrity and also resilience of the entire Penobscot River watershed, anthropogenic climate change or global warming, and then wrap up with a few final thoughts.

So Atlantic salmon are a species with a very long, complex, complicated life history. Spawning occurs in small streams or rivers in the fall, adults build gravel nests, they deposit their eggs, fertilize, they incubate over the winter in the gravel, the young emerge in the springtime, they establish and defend territories,

they intercept drifting invertebrates in cool, swift rocky streams, depending on their growth rate they might reside in the streams from one to maybe three or four years before they undergo a physiological transformation called smoltification. They can tolerate sea water, they go out to sea and they might come back one to two years later depending on their growth rate and unlike Pacific salmon, they're capable of spawning multiple times.

And so we can summarize the physiology of the salmon and some of the aspects of their complex life history with a few important points. So first of all, they need cold, clean water; second, they need free-flowing rivers that allow them access to a wide variety of habitats, anywhere from very small headwater streams for nursery and spawning, all the way out to the open ocean and they also need a landscape or a river scape that contains intact and functioning wetlands and forests and some of the more recent research shows that they actually benefit greatly from having some co-evolved native species with them such as river herrings.

So historically the Penobscot River wasn't

really a salmon river. It contained 11 species of sea-run fish but by far the most abundant were alewife. It was really an alewife or a river herring river that had some salmon in it. Some estimates of historic abundance were as high as 20 million alewife that were produced per year or were spawned per year, three to five million American shad, maybe upwards to around 75 to 100,000 Atlantic salmon and a whole bunch of other species, too, two species of sturgeon, sea lamprey, American eel, striped bass, tomcod, brook trout and so on; and of course the original fisheries were harvested sustainably by Native Americans, of course the definition of sustainable, they didn't consume the resources faster than could be replenished annually by nature and they didn't produce more waste than could be detoxified or assimilated by nature. And of course salmon and many other of these species --

MR. RAYBACK: Mr. Chairman, I apologize for objecting. Maybe Dr. Coghlan doesn't know the rule but this is all new material that was not in his slides or in his material that was pre-filed. This is the third slide that we hadn't -- with

material that we haven't seen before.

MR. COGHLAN: Can I respond? All of these references were actually in the original material. The actual pictures aren't.

CHAIRMAN PARKER: The rules are that if you're going to use a slide for part of your testimony it has to be provided to the other parties involved. So try to stay with the slides that are actually in your testimony or be just a very quick summary.

MR. COGHLAN: Okay, sure. Very briefly, fisheries declined for a variety of reasons, damming, pollution, deforestation, wetland destruction, overfishing and urbanization.

THE REPORTER: Excuse me, you have to slow down.

CHAIRMAN PARKER: Not that quick.

MR. COGHLAN: Okay. Damming, pollution, deforestation, wetland destruction, overfishing and urbanization, which were described in the sources that I referenced in my original testimony.

Salmon are on the brink of extinction in the United States and --

MR. RAYBACK: Mr. Chairman, this map, for

example --

CHAIRMAN PARKER: Was this in your testimony?

MR. COGHLAN: This was referenced to by the website from NOAA and the National Marine Fisheries Service.

CHAIRMAN PARKER: No, not references and not web sites. It has to be in your testimony.

MR. COGHLAN: Okay. So to summarize --

CHAIRMAN PARKER: How many more slides do you have?

MR. COGHLAN: About 30 slides.

CHAIRMAN PARKER: Were they included in your testimony in your presentation?

MR. COGHLAN: The references were but the images were not.

CHAIRMAN PARKER: Okay, well, the images we're not going to allow.

MR. COGHLAN: Okay. So the important parts of this --

CHAIRMAN PARKER: Ones sort of like that, yes, because that's general but not the other pictorial ones because they haven't been provided to everyone.

MR. COGHLAN: Sure. So to summarize, the

importance of the Penobscot River to Atlantic salmon, first of all, Maine harbors the last remaining wild population of Atlantic salmon in the U.S., the Penobscot River is home to the largest river-specific stock and of course all stocks but also the Penobscot River are on the brink of extinction, and of all Maine rivers, the Penobscot River contains the most and highest quality habitat for all freshwater life stages, and as we heard in previous testimony, the federally-designated critical habitat for Atlantic salmon extends throughout the Penobscot River watershed and portions of the JRL property are located within that critical habitat. So I will not show that.

Aside from the actual property, some of the property occurring on federally-protected critical habitat, there's also critical habitat located downstream in the mainstem and so we heard testimony earlier in the written testimony that leachate that is processed at one of those two treatment plants, either the Old Town mill -- the Old Town plant or the Brewer wastewater treatment plant, the effluent would be discharged directly into the Penobscot River mainstem so that's also

critical habitat for Atlantic salmon and it's also critical habitat or proposed critical habitat for the protected fish.

And so one of my first criticisms of the application is the language conveys confidence, and in my opinion some overconfidence, of non-impact to fish and their habitats. So, for example, one quote is Volume 5, page 8, "this activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic or adjacent upland habitat, travel corridor, freshwater, estuarine or marine fisheries or other aquatic life." Another example, these watersheds, that is, containing critical habitat, will not be affected by the expansion, and another one, a portion of the expansion area occurs within the broad area designated as critical habitat for Atlantic salmon, salmo salar, listed under the Endangered Species Act, ESA but the onsite wetlands do not contain any streams that would provide Atlantic salmon habitat. We've already heard this testimony in a few places.

There's another case about the habitat

where the application seems to misidentify some professional opinion. A quote here which is from Volume 1, page 1453, based on a review of the SWPPP, prepared by the prior owner/operator of the JRL, parenthetically best judgment, criteria D of addendum A of the MSGP, there is no reason to believe that there would be adverse impacts to endangered species due to stormwater discharge at the site. A letter requesting a review and confirmation of no impacts on listed or eligible species or critical habitat was requested from the Maine Department of Inland Fisheries and Wildlife, a copy of the response is included in attachment 12, and if you look at attachment 12, that's actually a letter from the assistant regional wildlife biologist, Allen Starr. It doesn't contain any sort of confirmation that Atlantic salmon would not be affected and it doesn't even reference Atlantic salmon or their critical habitat. It references essential bird habitat.

So it seems that the conclusions in the application of nonimpact are based on the premise that because Atlantic salmon don't live in the streams that are actually flowing through JRL property they cannot be impacted. So I have a few

criticisms for this. Well, first, it ignores a lot of fundamental biophysical principles. I've mentioned the four laws of ecology in my testimony, viewing the watershed and the ecosystem as a series of interconnections, what happens in one part of a watershed or an ecosystem can affect other components in other places. It doesn't address the downstream leachate effluent, it considers impact as a binary outcome. There's a dichotomy between impact versus nonimpact and in reality, impacts can range anywhere from nothing to trivial up to very severe. And of course any time we, as people or society, assigns some risk, that's influenced by subjective values that, in this case, with regard to risk to and our perceived value of salmon and their habitat. If we happen to hold salmon in high regard and value them, maybe we're less tolerant of risk; if we happen to not value salmon quite as much, maybe we're more tolerant of risk; and of course it assumes that there's no catastrophic failure of technology and no unanticipated weather events that could contaminate surface water or groundwater and eventually into the Penobscot River.

And then a point that Ed Spencer had talked about earlier, there was actually no formal ESA review conducted in coordination with the U.S. Fish and Wildlife Service, and then there's a statement from the pre-filed rebuttal testimony to my testimony that said it is also noteworthy that Atlantic salmon are not a state listed threatened or endangered species as defined in the Maine Endangered Species Act or Maine's Marine Endangered Species Act. On the basis of this information alone, I believe the statements made in the application are contrary to my testimony, Mr. Coghlan's testimony, sorry, reasonable. Well, the decision to list species under the federal ESA is based on science, the preponderance of evidence. The decision not to list species under state ESAs often are based on nonscientific criteria.

MR. RAYBACK: Mr. Chairman, this is more material that is not in his pre-filed written testimony. There's not a discussion in the pre-filed testimony about the federal ESA and how species are listed.

MR. COGHLAN: I'm responding to rebuttal testimony.

MR. RAYBACK: There is also not a -- well, our presentations are not allowed to respond to the oral testimony; they're supposed to respond -- be summaries of our written testimony.

CHAIRMAN PARKER: Stay with your pre-filed testimony.

MR. COGHLAN: So I think that we should also consider downstream effects on other protected fish. So also included in the application was a letter from the U.S. Department of the Interior, U.S. Fish and Wildlife Service, Volume 1, page 600, states that species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area; for example, certain fish may appear on the species list because a project could affect downstream species. Well, there weren't any other protected fish that were considered on the list that was submitted and there was also no mention of downstream impacts of leachate effluent, and I won't show the next slides but they show distribution maps of those two other species which we've already talked about. So another federally-listed species listed as threatened is the Atlantic sturgeon and the

Gulf of Maine distinct population segment is protected under the Federal Endangered Species Act and they occur in the mainstem river which would be in very close proximity to where leachate from the Brewer treatment plant would be released and then there's also short-nosed sturgeon which are listed under the Federal Endangered Species Act range wide, not just in the Penobscot River, and they occur in similar habitat.

Please ignore the next two slides. So with the leachate effluent, Volume 3, page 55 states that with the anticipated slight increase in leachate flows as a result of the expansion, that is, 48,000 average and 57,500 peak month, slightly more leachate will need to be hauled from the site. Well, if you do the math, that's an increase in the average leachate hauled from 40,000 up to 48,000 and the effluent released then would also be up by 20 percent. We could certainly argue about how much is "slight." I probably wouldn't consider that slight.

We also know that the leachate contains or could contain chemicals of known toxicity to Atlantic salmon, other fish and other life forms. Arsenic, lead and PCBs are just three of the

biggies and certainly effects could be lethal, outright death but there could also be a lot of --

MR. RAYBACK: Objection, Mr. Chairman. This material is not in the pre-filed direct testimony. Sorry to keep interrupting but we worked very hard to keep our witnesses on task. If I'm wrong about this, I apologize but I don't recall seeing this material.

MR. COGHLAN: I mentioned the toxicity in general or specifically of paper sludge effluent and referenced the Clean Water Act.

CHAIRMAN PARKER: I'd say your reference to Brewer and your 20 percent is allowable.

MR. COGHLAN: Okay.

MR. RAYBACK: That's certainly in there but the specific heavy metals, these constituents I don't believe are discussed.

MR. COGHLAN: Sure. I'd also mention that Atlantic sturgeon are in the mainstem river which is close to the proximity and there are many unknowns when we're trying to think about effects of this -- potential effects of this leachate. We don't know what the concentration and the volumes of those toxins are, we don't know how long they reside in the river, we don't know what the

exposure time to fish would be, we don't know other chemicals constituents, we don't know how those chemical constituents interact with each other, and there's no guarantee that simply conforming to some effluent permitting --

MR. RAYBACK: Mr. Chairman, I'm sorry, it's more of the same.

CHAIRMAN PARKER: I'm going to ask the witness to reference his information.

MR. COGHLAN: Sure. Could I get my testimony up here so I make sure I have it in front of me?

CHAIRMAN PARKER: Get your testimony up here and reference it.

MR. COGHLAN: Thank you, sure.

CHAIRMAN PARKER: Some of what you're saying is in there and some isn't.

MR. COGHLAN: Which shows my ignorance of matters. I was proceeding as a scientist trying to convey information and I apologize. So I have this in front of me.

CHAIRMAN PARKER: The rules are that anyone who wants to cross examine you has to have had in their hand the testimony.

MR. COGHLAN: Absolutely. So the

Penobscot River Restoration Project is a nationally-recognized, holistic ecologically-based attempt to restore declining or nearly extinct native fish through the removal of two mainstem dams and also improve fish passage at several other dams. Before the Penobscot River Restoration Project came online a few years ago most sea-run fish were relegated to the lower reaches and with the removal of these dams and the improved fish passage, now fish have more -- better access to most of their historic spawning and rearing habitat.

And so I'm trying to think about the JRL expansion in context of rehabilitating and restoring some of this original river habitat, and so some of the current research which I have been participating in for about ten years and have referenced in my testimony here shows some immediate effects of dam removals that happen to be unfolding right before our eyes. We see increased abundance of alewife, blueback herring, American shad throughout the river. We see reproduction of these species, some of them for the first time in hundreds of years upstream, we see recolonization of newly-accessible habitat

downstream with three species of importance and we see shifts in river resident communities.

So the questions that I have posed that are directly in this testimony are, first, should we consider potential effects on alewife populations who have returned this year to Pushaw Stream and Pushaw Lake in the hundreds of thousands to spawn and likely will return in the millions? Should we consider potential effects on fish-eating birds that are drawn to both Pushaw and the mainstem Penobscot by alewife and sea lamprey runs that are in close proximity to high-quality nesting habitat around the periphery of Juniper Ridge property? Should we view wetlands and vernal pools to be destroyed as parts of an interconnected watershed beginning to recover after centuries of over exploitation? Is it counterproductive to increase pollution load in one part of the watershed while trying to decrease pollution in much of the rest? Is it contrary to the stated goals and objectives of the PRRP to expand the landfill? Well, I would and I have answered yes to all those questions. Digging a larger hole and dumping more trash in a landfill located in such close proximity to the Penobscot

River and also releasing more leachate effluent downstream directly into the river does run contrary to watershed-wide efforts to restore a river with a long history of misuse and abuse.

And now I want to go to my last major point, is the Juniper Ridge Landfill expansion in the context of anthropogenic climate change, ACC, also known as global warming? And I stated pretty bluntly that a glaring and inexcusable omission throughout the entirety of this application is the failure to consider and -- acknowledge and consider anthropogenic climate change specifically in performance of expanded JRL facilities and generally in longer term waste management planning, and I won't speak about the latter because that was redacted from the earlier testimony.

And I'm basing the information that I had presented on the state of the climate science based on references that I gave in the testimony here so, for example, a few papers written by Dr. James Hanson, who is a professor at Columbia University and who is also the former director of the NASA Goddard Institute for Space -- Goddard Space Institute, sorry, I don't have the name

quite off the tip of my tongue, and I do work -- I have colleagues at the University of Maine who work in the Climate Change Institute. I stay abreast on the current literature because I do teach this topic in my classes and I try to be conversant. So I'm not a climatologist but I hope to convey at least what I understand to be the state of the climate.

So the summary that I have of climate change that is relevant to this expansion, first of all, the signal of warming has been discernible from the noise and variability since 1988 when Dr. Hanson gave his first testimony in front of Congress. The observed warming, the actual data we've seen, plus other changes in the climate system have generally occurred faster than earlier models have predicted. Just the basic physics, warming makes the atmosphere able -- capable of holding more water and also evaporates more water which would lead to more extreme precipitation events. Global warming has disrupted oceanic and atmospheric circulation which leads to predictability, more instability and many climate scientists warn that we are approaching or already have exceeded a tipping point into runaway climate

change.

The next slide I'll show -- I will not show because it does show actual data that I didn't include as a figure that Maine's precipitation has actually increased significantly over the last 70 to 80 years and it also shows --

MR. RAYBACK: Mr. Chairman, if we're not going to show the slide because it's not in his testimony, he shouldn't be testifying about it.

CHAIRMAN PARKER: I think he's in context with his testimony right now in the paragraph -- the center of page 11.

MR. RAYBACK: He just said that he was not going to -- I'm sorry, I apologize for interrupting you -- he just said, and I know you're trying to look through the testimony like I am, he just said that he's not going to show us the next slide because it contains his own data, and then I believe he started to tell us what the data was.

MR. COGHLAN: It doesn't contain my own data.

MR. RAYBACK: I apologize, if he could show us where it is in his testimony, that would be ideal.

MR. COGHLAN: I reference increasing precipitation and increasing frequency of extreme precipitation events. There was then rebuttal testimony that said I did not provide any data in support of that. I was under the assumption that the applicant would have the burden of proof to actually do the research so I have directed you to or the applicant to places where you can actually see the data.

MR. RAYBACK: We -- we can't use the oral testimony here today to respond. It's not a sur reply to the rebuttal testimony.

CHAIRMAN PARKER: Mr. Coghlan, I'd suggest you stick to page 11 of your pre-filed testimony and don't wander far beyond that.

MR. COGHLAN: Absolutely. So nationwide extreme probability of once rare extreme precipitation events have increased. What once were considered a very low probability event, for example, a once in 500 year flood which would be expected to occur zero point or zero --

CHAIRMAN PARKER: Can you show me where that is in your testimony?

MR. COGHLAN: Sure.

MR. SPENCER: Bottom of page 11.

CHAIRMAN PARKER: I think maybe I found it, okay.

MR. COGHLAN: And also part of the reference to Dr. Hanson.

CHAIRMAN PARKER: Page 11?

MR. COGHLAN: The top of page Hanson (sic) where I reference Dr. Hanson's paper and also his video and also the bottom where I talk --

CHAIRMAN PARKER: I found that, that's on page 11. Okay, continue.

MR. COGHLAN: Sure. So a storm event, for example, that used to under the old climate regime that would have a probability of occurring, say, 0.2 percent of the time, this is once in a 500-year storm, the probability of those storms has actually increased.

And I will not talk about that. Any prediction of future landfill performance in withstanding extreme rainfall events and flooding should consider shifts in the magnitude and the frequency of storms and flood risks that are associated with the rapidly changing unpredictable climate, and as I noted, the application out of thousands of pages does not actually address or account for the effects of global warming.

And we've already reviewed this earlier, but for example, Volume 1 states that, as shown on the site surrounding maps, etcetera, etcetera, the expansion is not located in a 100-year floodplain, etcetera, goes on to reference a 25-year storm event, and this type of conclusion is troubling because it is based on the assumption that future precipitation and runoff events and the flood risks are the same as those that we've experienced in the past but all evidence suggests that the future is likely to be more extreme than the present.

We've already discussed this. That just shows the map with the floodplain delineation on it and I've just highlighted the lower section that says it was based upon --

MR. RAYBACK: Mr. Chairman, this is not in his testimony.

MR. COGHLAN: It's your map.

MR. RAYBACK: I understand it's our map.

CHAIRMAN PARKER: Take off the exhibit. His testimony is almost verbatim to what he's saying. The exhibit may not have been included, so take off the exhibit and continue with your testimony.

MR. COGHLAN: I'm sorry, I was referring to an exhibit that was in the application.

CHAIRMAN PARKER: Was it in the application? Continue.

MR. COGHLAN: Sure, and if you notice, down at the bottom right-hand side it does say that that map is based upon a FEMA Old Town quad from April 1978 and that's a full decade earlier than Dr. Hanson's first testimony about the signal of warming being obvious.

So I would argue that assessing the risk of flooding in the 2020s and beyond based upon floodplains delineated from 40-plus years earlier that have not been adjusted for global warming is misleading and risky.

So I pose the question, shouldn't we consider the possibility that the increased likelihood of extreme flooding in the near future makes this floodplain delineation obsolete and the future floodplain might actually encroach upgradient and threaten the integrity of any containment structures nearby. If the frequency and magnitude of storms increase, shouldn't we anticipate for more extreme events with greater frequency such as what once would be considered

100-year or even once in 500-year storms? Does failure to account for changing patterns in precipitation and encroachment of floodplains that are consistent with global warming render these conclusions overly optimistic and underestimate the risk of a catastrophic breaching or runoff event?

So I would argue that global warming should impel us to re-evaluate the risks that are associated to fish and wildlife. Atlantic salmon are cold-adapted fish in the southern end of the geographic range and are especially vulnerable to warming, individuals and populations are less resilient and they're more susceptible to stressors under a warmer, more hydrologically variable climate regime. So fish might be able to withstand small amounts of watershed disturbance or toxic chemical runoff under optimal conditions of temperature and flow. The tolerance to those stressors would decline if other stressors like high temperature had already compromised their metabolic performance.

And that's all that I have. Thank you very much, and I apologize.

CHAIRMAN PARKER: Thank you. Right now

we'll open it up to some cross examination by the applicant.

MR. RAYBACK: Thank you. Dr. Coghlan, on page 5 of your testimony, you say that the liquid leachate from JRL that goes to either the Old Town or City of Brewer wastewater treatment plants is discharged directly into the Penobscot River. I noticed a couple of times today that you changed the phrasing of that to say the effluent is discharged directly.

MR. COGHLAN: The effluent, yes.

MR. RAYBACK: Is that correct?

MR. COGHLAN: After being processed. As far as I know, it's not discharged directly, yes. I apologize.

MR. RAYBACK: Okay, thank you. That's a distinction that matters legally?

MR. COGHLAN: Absolutely, absolutely.

MR. RAYBACK: Thank you. All right, you also take issue in your pre-filed written testimony with the characterization by the applicants that the increase in leachate from the expanded landfill to be treated is slight, correct?

MR. COGHLAN: We could argue about the

definition. I would consider it more than slight.

MR. RAYBACK: In fact, you pointed out and, in fact, you had a slide on it that said it's going to be 8,000 gallons per day more on average, give or take, right?

MR. COGHLAN: That's what I got from the application.

MR RAYBACK: Okay. So could I show you, please, the -- I want to show you a treatment plant license and I'll walk you through it. You don't have to be an expert on legal and regulatory --

CHAIRMAN PARKER: Excuse me, was that in your testimony?

MR. RAYBACK: It's cross examination, sir, it doesn't have to be in the testimony. We can impeach with evidence that we have available. The Board can also take judicial notice of a DEP order.

CHAIRMAN PARKER: What's the relevance of it?

MR. RAYBACK: I'm going to try to compare the increase in landfill leachate to the total permitted flow through the Old Town treatment plant to put that number which he believes is

significant into context.

CHAIRMAN PARKER: I guess we'll listen to it.

MR. RAYBACK: Okay, thank you. And I'll talk you through --

MR. COGHLAN: Please.

MR. RAYBACK: -- what I'm looking at. All right, on page 5 of that license, and this is the license for the -- I'm sorry, let's start right at the top there just so that the Board hears this information. This is a Maine Pollutant Discharge Elimination System Permit and Waste Discharge License Renewal, correct? Do you see that in the top right of the caption?

MR. COGHLAN: Yes.

MR. RAYBACK: It's for Red Shield Acquisition, LLC, in Old Town, Maine?

MR. COGHLAN: Yes.

MR. RAYBACK: So if you would look with me, please, at page 5 of the license, there's a table here that I outlined in blue for you. Do you see in the left-hand column there are a number of parameters, one is -- the first one is flow?

MR. COGHLAN: Um-hum, yes.

MR. RAYBACK: And the monthly average for

flow, could you read that, please?

MR. COGHLAN: 24.4, is that million gallons per day?

MR. RAYBACK: Yes, it is, yes, MGD is million gallons per day. So let's compare, and this is, Mr. Chairman, what I wanted to do here, is the increase in flow from the expansion -- this is the increase in leachate from the expansion which we said was 8,000 gallons per day on average to the permitted flow for this treatment plant, which is 24.4 million gallons per day, so I can't do that math in my head, Dr. Coghlan, maybe you can, but would you agree with me that the increase in flow is less than, say, one percent of the total permitted flow?

MR. SPENCER: I object. Can you hear me? Unless you want to compare the leachate numbers with the current flows, I think it's irrelevant to compare them to the total flow of a functioning paper mill which is not functioning.

MR. RAYBACK: Mr. Chairman, the relevance, in my view, is that the infrastructure exists to handle 24.4 million gallons.

CHAIRMAN PARKER: I think I'll sustain Mr. Spencer's position because the plant now does not

discharge. There's not a 24 million gallon a day discharge. There is a 24 million gallon a day license and if you want to present us with what kind of numbers come out for an actual discharge now, then I think that would be relevant.

MR. RAYBACK: We'll move on, thank you. All right, Dr. Coghlan, let's turn to the preservation package that the application proposes to compensate for impacts to wetlands and vernal pools.

MR. COGHLAN: Sure. Can you reference --

MR. RAYBACK: It's not in that license. We're done with that license.

MR. COGHLAN: Oh, okay, sure.

MR. RAYBACK: We're done with that license. On page 15 of your testimony you state that although preserving this landscape that is proposed for preservation certainly promotes the integrity and resilience of the Penobscot watershed, you don't agree that compensation equals preservation, correct?

MR. COGHLAN: Well, it's not -- the two definitions aren't equal. That's my opinion.

MR. RAYBACK: Is it -- so it's fair to say that you think preservation should not be an

acceptable means of compensation?

MR. COGHLAN: I think preservation is better than nothing.

MR. RAYBACK: You are aware, aren't you, that preservation is explicitly recognized as a valid form of compensation under the DEP's rules?

MR. COGHLAN: I am. That was clear in the rebuttal testimony, absolutely.

MR. RAYBACK: When you wrote your testimony, were you aware of that?

MR. COGHLAN: Of the -- sorry -- the statute regarding that preservation is equivalent to compensation?

MR. RAYBACK: No, that preservation is allowed as a form of compensation.

MR. COGHLAN: Oh, no, no, I'm sorry, you are absolutely correct, yes. I did mention it in here and the rebuttal did correct me. It's my opinion which obviously does not conform to the statutes, absolutely.

MR. RAYBACK: Okay. So when you said that, when you said preservation doesn't equal compensation, I recognize that's your view.

MR. COGHLAN: Sure, yeah.

MR. RAYBACK: But you weren't talking

about whether it complied with compensation rules that the DEP has?

MR. COGHLAN: No, absolutely not, absolutely not.

MR. RAYBACK: Okay, thank you. Nothing further, Mr. Chair, thank you.

CHAIRMAN PARKER: What's that?

MR. RAYBACK: Nothing further, Mr. Chair, thank you.

CHAIRMAN PARKER: Thank you and thank you for speaking slowly so she could stay with us. Is there any cross examination from the City of Old Town?

MR. KATSIAFICAS: The City has no questions for this witness.

CHAIRMAN PARKER: Mr. Snowman?

MR. SNOWMAN: No.

CHAIRMAN PARKER: Mr. Laite?

MR. LAITE: No.

CHAIRMAN PARKER: Any members of the Board? Members of the staff? Well, thank you for your testimony.

MR. COGHLAN: Thank you.

CHAIRMAN PARKER: We're going to, I believe, adjourn now. We'll reconvene at 6:00 and

that will be the public session. So we'll be taking public testimony beginning at 6:00. So you have an hour and 15 minutes to grab a bite to eat.

(DINNER RECESS)

EVENING SESSION

6:OO P.M.

CHAIRMAN PARKER: Good evening. We've got a long evening ahead of us so I want to get things started a little bit. There are sign-up lists up there and those that want either support or oppose or neither for nor against, sign up on the sheets and we'll gather them. I call this session of the Board of Environmental Protection hearing on the application of the Maine State Bureau of General Services for a 9.35 million cubic yard expansion of the Juniper Ridge Landfill in Old Town and Alton. My name is Jim Parker, I'm from Veazie. I'm chair of the Board and I'm the presiding officer for this hearing. Other members of the Board this evening are Tom Eastler, who's to the left, beside him is Kathy -- he's from Farmington, Kathy Chase from Wells, Jonathan Mapes from Springvale, to my right is Alvin Ahlers from Yarmouth, Tom Dobbins from Scarborough and Mark Draper from Caribou. The Board -- right now we have Mary Sauer, the assistant attorney general, here beside me, she's counsel to the Board. To my left is Cindy Bertocci. She's the Board's executive analyst, and to the far left over there

is Ruth Ann Burke. She's the Board's administrative assistant. We have DEP staff with us tonight which we have Rich Behr, Steve Farrar, Kathy Tarbuck, Victoria Eleftheriou, Dave Burns, Jim Beyer -- Jim's not in his chair right now but I think he's going to be here -- and Lynn Caron. This hearing is being recorded by Joanne Alley. She's from Alley & Morrisette Reporting, and I'll caution you now and I'll caution you during your presentation to speak clearly and slowly because she has a very difficult job of trying to put this down as a stenographer.

This hearing is being held by the Board pursuant to the Maine Administrative Procedures Act, Title 5, Sections 9051-9064, Department of Environmental Protection statutes Title 38 MRSA Sections 341-D(2) and 1310-S(2), and the Department's Chapter 3 Rules Governing the Conduct of Licensing Hearings.

Notice of the hearing was published in the Bangor Daily News on September 17th and October 8th, 2016, notice was also sent to the parties, all persons owning property abutting the landfill site, affected municipalities, area legislators and all persons on the Department's interested

persons list for this project.

Earlier today the Board heard testimony from the applicant, State of Maine Bureau of General Services and the applicant's landfill operator, NEWSME, which operates the landfill. The Board also heard testimony from Dr. Stephen Coghlan, a witness for intervenor Edward Spencer. Tomorrow morning we reconvene at 8:30 and the Board will hear testimony from Mr. Spencer and the City of Old Town. A copy of the pre-filed testimony of these witnesses and the application file are available here at the hearing for inspection. Any person wanting to inspect the file should speak to the DEP project manager Kathy Tarbuck. The pre-filed testimony and application files are also available online at the Department's website.

The Bureau of General Services has filed the application for a Solid Waste and Natural Resources Protection Act permits for the proposed expansion. The Board's consideration of the project is limited to the licensing criteria for the proposed expansion. A list of the relevant licensing criteria can be found on the table by the water station, that's up where you're signing

in if you want to speak, at the back of the room. Relevant criteria include but are not limited to the following matters: landfill siting, design and operation, stormwater management, leachate management, potential impacts to air and water quality, water quality monitoring, noise, impacts to protected natural resources, including wetlands, and compliance with the State Solid Waste Management Hierarchy. Please focus your testimony on matters that the Board has the authority to address in this licensing procedure.

For those who want to testify, there are sign-up sheets which I just mentioned on the table at the back of the room. There are separate sheets for those in favor, those opposed and those who really are not opposed or in favor, just want to speak. If you haven't signed up, please do so. I'll call on those who have signed up to testify. When your name is called, please come to the podium and identify yourself by name, place of residence and affiliation. In order to move things along, when I call the first person up, I am going to also mention the name for the second person so they can hopefully come along fairly quickly so everybody has a good opportunity to

speak. Depending on the number of persons, and there's quite a few here tonight, I want to give everybody as much time as I can so at the start of the hearing I'm going to limit people to a five-minute presentation, okay? Something that will help with the testimony so more people can get their testimony heard if they want. If someone has either come up and said exactly what you want to say or something very similar to what you want to say, paraphrasing, we're going to take down your name and your record and position and try to move things as quickly as you can. Again, I'm going to keep people on the subject so we don't get wandering too far off.

With that said, I'm going to have Kathy Tarbuck from the DEP give you a brief overview of what this licensing procedure is addressing.

MS. TARBUCK: Good evening. So my name is Kathy Tarbuck, as mentioned, and I work at the Maine DEP in the Bureau of Remediation and Waste Management. One of my roles is project manager for the Juniper Ridge Landfill expansion application. I will give a very brief general overview of the facility and the proposed expansion application for informational purposes.

I will not be delving into the specifics of the application and I only have four slides other than this one and they're all also on the back over there so if you have trouble seeing this or you want to see it in a little bit more detail, feel free to look at them over there.

So the solid waste landfill is located on a 780-acre parcel in Old Town and Alton. The state acquired the facility in 2004. NEWSME Landfill Operations, LLC, operates the landfill for the state under the terms of an Operating Service Agreement which was signed in 2004 between Casella Waste Systems, Inc., and the State of Maine acting now through the Bureau of General Services.

The existing permitted solid waste footprint of the landfill is approximately 68 acres which you can see on this slide. This portion here, 68 acres. A public benefit determination was issued in January of 2012 for a 9.35 million cubic yard landfill expansion. As a result of the public benefit determination the applicant submitted Natural Resources Protection Act and solid waste applications which were accepted for processing in August of 2015. The

Board took jurisdiction of the applications in September of 2015. The proposed expansion with an approximately 54-acre footprint is denoted by the outlined area on this slide. I don't know if you can see it, but here it is here. So that's 54 acres. The expansion proposal also includes 20 acres of infrastructure, including roads, scales, buildings and sedimentation ponds.

In general, landfill sites are developed in distinct areas of the facility in a phased manner. These areas are denoted as cells and I just want to mention that the orientation of the other map north was up and this map north is actually kind of to my left. Note that this diagram -- this diagram is in a different orientation. Cells 1 through 10 are currently permitted, cell 9 was constructed in 2015 and cell 10 is not yet constructed. So here are cells 1 through 10. Cells 11 through 16 are proposed in the expansion application and, again, here's the proposal. The specific technical details for each cell are submitted for approval for initial construction, operation and closure.

This slide shows the area of the 2014/2015 wetland survey for the proposed expansion. The

black line shows the proposed expansion area and the red line shows the area of the most recent survey. So here's the expansion area and then the red line which includes that, so up here and also in the corner, was the wetland survey. The blue denotes the 2014/2015 delineated wetlands right here, as you can see, and the pink circles denote the vernal pools and the significant vernal pools and these are much harder to see, but, again, they're throughout here and you can see it a little bit clearer if you want to check out the diagrams in the back.

This last slide shows the proposed 266-acre preservation parcel hashed out in the orange/red, which is up here, as part of the wetland compensation plan. The proposed compensation plan was submitted as part of the Natural Resources Protection Act application to compensate for the wetland and vernal pool buffer impacts associated with the proposed landfill expansion, and that concludes the very brief overview and thanks.

CHAIRMAN PARKER: Someone has left a recorder on the shelf up here which is off. If they want to record it, they can come take it and

take it back to their seat and record it if they choose to. Anybody recognize it? Put it on the table, that's where the people are going to speak.

As I said, I'm going to try to move this along fairly quickly tonight. I'm going to hopefully try to keep everybody within a five-minute time period. So try to be concise and to the point. We have so far somewhere around 45 people, and there may be some more that have signed up, so we have a pretty big group that wants to speak tonight. I want them all to have their opportunity to speak. If for some reason the meeting just drags on too long and it gets to where it's becoming less productive and we close the meeting tonight, those who haven't spoken and have signed up on the sheets, we'll have a public comment session available -- time tomorrow again at 1:00 in the afternoon. So hopefully we'll all make it tonight, but if you don't, there will be additional time issued for tomorrow.

I'm going to start and as I say, we have those opposed and those in support. I'm going to start with some of the support testimony. As I said, I'm going to call the first name and the second name and then I'll call them so hopefully

we can keep coming up so that we don't have to spend a lot of time for people to get out of their chairs and move through the crowd or whatever.

The first person to speak is Rich Geisser and the second person to speak would be Tracy Flagg.

MR. GEISSER: Are we good to go?

CHAIRMAN PARKER: Go for it. The floor is yours.

MR. GEISSER: Well, first off, thank you, thank the Board members for the opportunity to come and speak on behalf or support of the expansion. My name is Rich Geisser, I'm a division manager for ReEnergy. Actually ReEnergy is a company that has both a recycling division which I manage for the company which has four C&D recycling facilities, one in Maine, Lewiston, Maine, two in southern New Hampshire and one in Massachusetts. We acquired the company from Casella, the former KTI Biofuels Company a little over three years ago in August of 2013. We've developed a very strong relationship with or partnership with the City of Lewiston, working with the City of Lewiston. We pay them a fair amount of money in taxes, we provide them free

disposal for the right to locate our facility in their city and we also lease the property from the City of Lewiston. All totaled, their benefit by having us there operating our facility in the City of Lewiston is close to 300,000.

Today we employ between 30 and 40 people at our site, mostly local folks that live and reside in the Lewiston area. The reason the difference between 30 and 40 is C&D -- the generation of C&D can be somewhat seasonal, and so at the high points we're closer to 40, where normal operation we're closer to 30.

Since we acquired the site in 2013, given that we have other facilities that are part of our system, we've actually redirected some of the material that had been coming into the facility so we've seen a shrinkage of out-of-state waste coming to our facility of about seven percent. In addition to that, ReEnergy is very committed to recycling, zero waste disposal and through the investment of technologies from some of our other sites and also through capital investment, we've been able to move the needle on recycling from a number of 73 percent that was reported to DEP back in 2014 and in 2016 we're currently on target for

just about 76 percent recycling. You know, it's a modest improvement from 73 to 76.

Some of the other additional things that we're looking to do this year as we continue to increase the amount of recycling that we do and reduce the amount of material that ultimately goes to landfill is we're actively looking at a mattress recycling program working with some folks in the Massachusetts market. We currently collect and segregate approximately 12,000 mattresses a year. We're also looking at carpeting recycling within the State of Maine and also some additional technology and improvements to recover additional metals and also aggregates. We'll do some programs to increase the quantity of mixed rigid plastics and cardboard. Actually we're looking to do that in partnership with the Casella folks down the street in Lewiston at their zero sort facility.

Why is Juniper Ridge important to us? When we looked to buy this facility three years ago -- excuse me, just a tad over three years ago, knowing that or believing that we had a disposal site available to us was critical to us making the decision to invest in the facility. In addition

to bringing our oversize bulky waste to that facility, oversize bulky waste is typically -- we call it at our other facilities difficult to manage waste, those things which have very limited recycling capability. Some of the things that it includes is mattresses and carpeting, which we spoke about earlier, that we will be initiating programs to look to take that out of the OBW waste stream and recycle that.

In addition to that, it's also the home for our fines. Our fines material, they're used at the Juniper Ridge Landfill, it's used beneficially for alternate daily cover. So having that site available to us for the use of fines beneficially for alternate daily cover and also for the disposal of oversize bulky waste was an integral part of our decision to move forward with acquisition of that site in partnership with the City of Lewiston.

In preparing for today's opportunity to comment, I did note that on the public benefit determination that came out in 2012 that there was some discussion relative to limiting oversize bulky waste. I will say to the Board that we are -- our goal is to limit the amount of oversize

bulky waste that comes in. We've seen that reduced since that time that we've accepted -- taken ownership of the facility, we're continuing to work on that to reduce that; however, what we see with this uptick in economic activity, there's more and more C&D generated. There's more and more C&D that's going to be available for recycling at our facility and although the recycling rate won't change and will only get better through investment and technology to recover more material, is that we feel that putting an arbitrary limit on the amount of oversize bulky waste would restrict our ability to grow with the improving economy.

I'd like to thank you for the ability to speak and any questions?

CHAIRMAN PARKER: Thank you.

MR. GEISSER: Thank you.

CHAIRMAN PARKER: Tracy Flagg and the next one to speak after Tracy is Scott Adams. You can actually come down and sit at the table and be ready if you'd like.

We have one more little technicality I suppose we should take care of. Would everyone who's going to testify please stand up? And even

the person who testified. One thing I forgot tonight. Raise your right hand. Do you affirm that the testimony you're about to give is the whole truth and nothing but the truth?

(WITNESSES RESPOND IN AFFIRMATIVE)

CHAIRMAN PARKER: Thank you. Now we're back to where we should be, and now we'll hear from Tracy Flagg and the next person is Scott Adams. Oh, Scott is there, okay, thank you, Scott.

MS. FLAGG: My name is Tracy Flagg, and I work for Casella Resource Solutions. My main job is at Juniper Ridge and again, I would like to say thank you to each and every one of you. I know this takes a lot of time and effort and it is much appreciated.

I just wanted to say that I am extremely proud that in the past 14 months we have brought in over 1,300 people to educate them not about just the landfill but how to reduce, recycle, and reuse the items that they have every day. We've done that through our open house, we've done that through Boy Scouts, we've had Girl Scouts come in, we've done field trips with the schools and we put it out there that our doors are always open and

we're here to educate. We're not looking to just fill the landfill. We truly do want to help, like I said, educate people on what they can do. You know, it's a gratification -- instant gratification world and we go through the drive-thrus and we don't think about it and we throw that stuff in the trash cans and stuff but we want people to think about it. We want them to know that there are other ways. It always makes me smile to see the little kids when you tell them that the hat they're wearing or maybe the coat was once their plastic bottle of water they're drinking out of. Yeah, so every day we're there to educate and teach people on how we can reduce things and not just throw them in a landfill. Thank you for your time. Do you have any --

CHAIRMAN PARKER: Thank you. Next is Matt Albert. Scott you're up now and next will be Matt Albert.

MR. ADAMS: I'm sorry?

CHAIRMAN PARKER: The floor is yours.

MR. ADAMS: The floor is mine.

CHAIRMAN PARKER: The floor is yours.

MR. ADAMS: Okay. My name is Scott Adams, I'm from Corinth, I'm a facilities operator at the

Pine Tree Landfill and Gas to Energy Plant in Hampden. I'm employed with Casella and I'll keep my comments brief.

I've been with the company since startup of the plant. We came online in January of 2008, and I've seen firsthand Casella's diligence and conscientiousness in managing the landfill, and I believe they've got a good handle on things.

You know, trash is a fact of life in our society, it's got to go somewhere. I think we ought to use the landfills that we have to the fullest extent, otherwise we're going to have to build another one someplace else. And so I support the expansion. Thank you. Questions?

CHAIRMAN PARKER: Thank you. Henry Lang is next after Matt.

MR. LANG: That's me.

CHAIRMAN PARKER: You're Matt, right?

MR. LANG: No, I'm Hank.

CHAIRMAN PARKER: You're Hank?

MR. LANG: Matt signed up but I've got the stuff to deliver.

CHAIRMAN PARKER: So you're pretending you're Matt right now then?

MR. LANG: Well, I'm going to pretend I'm

Matt and then I'll pretend to be Hank.

CHAIRMAN PARKER: Okay, go for it. That will work. The floor is yours.

MR. LANG: Thank you. Good evening. My name is Henry Lang. I'm the plant manager at the Penobscot Energy Recovery Company, the waste to energy facility across the river in Orrington. I'm a resident of Lincolnville, Maine, so I travel all the time, I come up here. I am pleased to be here tonight on behalf of our owners and employees to support the need for properly designed and well-operate landfills. We feel that the expansion of the Juniper Ridge Landfill is appropriate and necessary to provide ongoing capacity for Eastern Maine.

For 28 years PERC has taken municipal solid waste from all over eastern, northern, central and midcoast Maine and turned it into renewable power. In doing so, we also have reduced the volume of waste that would otherwise end up in the landfill by approximately 90 percent.

We are also strong supporters of Maine's Solid Waste Management Hierarchy. In fact, PERC and its owners worked hard for the passage of LD

1483 a few years ago so that the hierarchy would be a matter of law, not just a matter of good intentions. We believe in the hierarchy and have put our money where our mouth is as a company.

In current and future waste contracts, we encourage recycling and reuse and the growing need for economic -- for organics diversion. In fact, we have teamed up with WasteZero, Exeter Agri Energy and Casella to make it easier for the communities and private haulers we serve to reduce the volumes of waste they bring to us. In turn, that reduces the volume of waste as residues that end up at the landfill. If it can be reused, it should never have come to us in the first place, PERC; if it can be recycled, we don't need it; if it's an organic waste, we don't want it. After all, lettuce, tomatoes and other food wastes don't burn very well.

The reality of a modern society is that not everything can be recycled, reused or diverted and that's where we come in. We take in what's left, process it, remove any metals or material that can be further recycled, incinerate it and create steam to power our turbine, turning our generator that can produce enough electricity for

about 28,000 homes, but even then there is residual waste from us and every other disposal or recycling facility that has to go somewhere. Fortunately for us and our customers, that somewhere is just a few miles away at Juniper Ridge. Quite simply, PERC could not exist in its present form without Juniper Ridge, and even though landfills fall below us on the hierarchy, we don't see a facility like Juniper Ridge as the least important piece of the hierarchy. Quite the contrary, we see the landfill as the very foundation of the hierarchy. It all stands on the foundation. Until the day that we become a zero waste society, we will need all the steps in the hierarchy and landfills like Juniper Ridge will continue to be vital to the success of every rung above them. We also have to be careful that certain policies such as restrictions on oversize bulky waste don't discourage complete and unfettered recycling or place unnecessary financial and operational burdens on commercial businesses.

We've worked closely with Casella over the years as both a customer and a vendor. We send material to them, they bring material to us. They

bring tons of solid waste to our facility each year and we send our ash, glass and grit and other non-processables to them. They also serve as our bypass facility when our plant is down temporarily for maintenance or some unforeseen issue. Being able to safely dispose of ash at a licensed facility just 23 miles away or being able to divert a load of waste such a short distance is a great convenience and cost savings for us and our customers, especially when the next closest facility is more than 70 miles away and it's filling fast. In addition, fewer truck miles on the road only makes sense from an environmental standpoint.

CHAIRMAN PARKER: Ten seconds.

MR. LANG: The PERC facility is in great shape and we intend to be part of a comprehensive integrated waste system in Maine for many years to come. The Juniper Ridge Landfill is key to our future success and our ability to provide proven, affordable, environmentally sound waste disposal options for the communities and private haulers throughout Maine. Thank you.

CHAIRMAN PARKER: Thank you. And when I was debating Matt and Henry, I forgot to call Carl

Ekstead I think it is that will be next, and following Carl will be Donald Bickford.

MR. EKSTEAD: Good evening. My name is Carl Ekstead. I am the owner of two different corporations, Oceanside Rubbish which is a collection company and Waste Recycling Technologies which is a transfer station operation.

MR. EASTLER: Carl, can you raise that up a little bit so you're closer to it? Thank you.

MR. EKSTEAD: How's that?

MR. EASTLER: Better.

MR. EKSTEAD: Thank you. For 37 years after I got out of school, I've been in the waste business. I was sent to New York City and Long Island to learn the business. Trust me when I tell you I was educated rather quickly at 21 years old. I've been all over New England and I've been around the world on my own dime investigating all sorts of technology from diesel production from trash to organic separation to refuse derived fuel pellets. I've seen it, I've looked at it. I'm here in support of the landfill because as a youngster and looking at working for a publicly-traded company, not Casella, my job was a

landfill market developer at one point in time and what that means is I either have to go out and buy existing landfills or site new ones. I had no idea until I got into that arena just how difficult it was to site landfills or acquire them. I've been escorted from a lot of places in my life but I've been asked to leave many buildings because the NIMBY syndrome throughout the course of my 37-year career has been rampant. One thing that's important to note, I had no idea where you could build a landfill so I started to map out throughout New England and New York where you couldn't buy -- where you couldn't build any particular sites from groundwater to bedrock to problems and I can assure you there are very few places in the northeast and New York that you can site landfills.

The importance of Juniper Ridge is such that the new technology is coming, I've seen it, I've gone -- I'm a New Englander, I had to go kick the tires, I had to touch it, I had to smell it, I had to see how it worked. The problem is it's manufactured overseas. To get it over here, the Europeans -- it takes quite a long time. Even with all the new technology, whether it's

anaerobic digestion, whether it's source separation, even with that technology, I think you've heard a landfill well run is the best source and always will be needed because, as the Board knows, there is always that question of where do we bring it when the -- what if, what if your machinery breaks down, what if that happens, and you always go back to a well-run landfill as to where you're going to go when there's a problem. I have visited Juniper Ridge. With all my years of experience, with all my travels from Europe and around the world, Juniper Ridge hands down is the most scientific, best landfill that I personally have ever seen. Without that landfill and without the expansion, another issue will arise. We in this room, we all generate trash every day. Those of us in the business, we make it disappear, we wave that magic wand every day, we go out, we pick it up, when people get home, as long as their barrels are empty, as long as their dumpster is clean, they're happy. We need places like Juniper Ridge. It's not going to happen if we don't get the expansion. Without that expansion, you're going to be looking at many people, individuals and businesses and communities

where the economics of supply and demand are going to fall in an adverse effect. When there's a short supply of landfill space, there will be a higher demand for it and with that demand comes higher pricing. So it's not just the truckers who are going to lose jobs, it's not just the collectors, it's everyone who generates the waste will be adversely impacted and affected statewide. So I implore you to please take and hear both sides of the equation, take a look at it but in my experience there's no reason not to expand the landfill. They do a tremendous job there, I compete with them, I work with them, but that being set aside, it's the best landfill I've ever seen. Any questions?

CHAIRMAN PARKER: Thank you.

MR. EKSTEAD: Thank you.

CHAIRMAN PARKER: Donald Bickford and following him will be Kenny Chamberland.

MR. BICKFORD: Yes, my name is Donald Bickford. I'm an independent owner/operator that hauls into the landfill. I've been hauling in there since its conception. I've seen the day-to-day operations, I've seen the cells being built, I've seen the daily operations of how the

material is handled and stuff. Like I said, I've been hauling for about 20 years waste, and we do need to put this material somewhere and they are doing things right at the landfill, and I believe we do need to expand this landfill and I believe it will be safe or as safe as possible in today's society. Thank you.

CHAIRMAN PARKER: Thank you. Okay, Chamberland is up. Barry Staples.

MR. CHAMBERLAND: Good evening, everyone. My name is Kenny Chamberland, and I'm proud to say that I'm just a humble truck driver.

I just want to point out a couple of things that I haven't heard yet. Burning trash for energy and recycling still produce waste and that waste needs to go somewhere. Recycling is a great thing, we all believe in it, I know all the people in the landfill believe in it, there are signs posted all over the place at the landfill about recycling all the way down the two mile road. It's not that everybody likes piling trash because we make money with it and, you know, recycling is still a good thing but it's still -- recycling is a process and it still produces waste and that waste needs to go somewhere. So even

though we recycle, there will still always be a need for landfills.

This landfill, look at the chart, these people thought this through, they know what they're doing. It's like the couple of guys before me said, it's very well scientifically thought out and they share a lot of that information with us. Even as a truck driver I get sheets sometimes at the scale house that say look at this, you know, this is how we do what we do and this is why it's safe and why it's good. So I like that about the landfill. It's not all about just throwing things away.

This landfill is in a good secluded area. Making it that much bigger is not going to change that. I think it's in a good location and if we don't expand the landfill, like a few other people said, the trash still needs to go somewhere. If we send it somewhere else, it might be out of state which is going to drive a lot of prices up and it's going to ship a lot of jobs out of the state and it's going to shut down another business in the State of Maine which is something that none of us want. We're struggling enough for business and industry in the State of Maine, we don't need

to be shipping more of them out of here, and it's not just the landfill, the gentleman from ReEnergy came in, his business is directly affected by the success of the landfill and this expansion and so are many other small businesses and large businesses alike, so are humble truck drivers like myself who work and serve all these people moving their stuff around. There's an enormous tree that's coming down from this landfill and if it closes, it's going to take everything out with it. That's a lot of jobs.

Let me see, I have one other -- a couple other things here. Something else I like about the landfill is the gentleman from Hampden came up, I know the landfill over there, they use the methane gas to generate electricity. That's free renewable energy. All you've got to do is plug it in. Well, it's not that easy I'm sure but anyway, it's free, it's coming out of the ground. That's another form of energy we can use besides burning, burning things people don't like, some people don't like the noise of turbines and whatnot. Well, there's something else that's good for electricity and energy.

The last thing I want to point out is the

problem that people have with landfills should not lie with the landfill. It should lie with people. We throw things away that don't belong in the trash and that's been said so I'm not going to spend too much time on it but I do think it needs to be stressed, is that people need to be educated and made aware of why recycling and reusing things matters, just as Tracy stated, and she has given me sheets at the scale house also about recycling and things, and I know they're all very -- you know, they are very for it. They don't want trash in their landfill, and that's about all I have. Does anybody have any questions?

CHAIRMAN PARKER: Thank you, Kenny.

MR. CHAMBERLAND: No problem, thank you.

CHAIRMAN PARKER: I called Barry Staples, I didn't see him show up. Next on the list will be Sarah Chamberlain. Sarah? How about Ben Worcester? Come forward. Following Ben Worcester will be Mike Haggan.

MR. WORCESTER: My name is Ben Worcester, I live at 66 Long Pond Road in Southwest Harbor. Along with my brother and sister we own and operate a solid waste transfer station and bulky waste storage facility in Southwest Harbor. We

serve the communities of Mt. Desert Island, which are Bar Harbor, Mount Desert, Southeast Harbor and Tremont. We also serve Trenton, Cranberry Island, Frenchboro, and Swan's Island, the outer islands in our area.

We provide a full range of disposal services, one of which is construction debris and bulky waste. We encourage our staff to cull out those items that are in that that can be recycled and we also under our supervision allow for a limited picking of primarily lumber and furniture that may also be delivered in that; however, we all need, as Ben stated here, a landfill where we can take that residual that needs to go to landfill. It is my understanding that Juniper Ridge has operated within the rules and regulations of the State of Maine, that it is going to reach its capacity in the near future and we do need a replacement for that when that facility is phased out. It serves us well, it's nearby and I would encourage you to approve it. Thank you.

CHAIRMAN PARKER: Thank you very much. Following Mike will be Jay Saucier.

MR. HAGGAN: Thank you for your time. My

name is Mike Haggan and I work for John Rand, Incorporated. I haul into the landfill. We have a reputable company that's running this landfill. They haven't violated any DEP or state regulations in all the years they've been there, they've complied with everything and if not here, where? How long will it take to fill up Norridgewock? Then it will have to go out of state, and that will be costly for everyone. I don't think that anyone is going to win there. They know how to do this, they do it well, they've been doing it for a long time and I hope that it goes well.

Thank you.

CHAIRMAN PARKER: Thank you. Is Jay Saucier here? Richard Rackliffe? The last couple sheets have been in support. We have some in opposition. I'm going to give them an opportunity to speak now. The first one to speak will be Karin Spitfire? Following Karin will be Pamela Bell.

MS. SPITFIRE: Hi, my name is Karin Spitfire and I'm from Belfast. I'd like to thank all the people who have spoken. I've learned a lot already just being here today and this evening and I really applaud all of your efforts to create

recycling and I'm beginning to understand what the hierarchy is. So thank you for the education.

The first thing I want to say is that all the comments have been about people and jobs and those are important and we're important but water and fish and other critters who live here haven't been mentioned in the comments for. So I'm going to address you as the people who are responsible and in charge of maintaining a clean environment for the people and the critters of the State of Maine, maintaining the Clean Water Act of the United States of America and upholding the treaties with the Penobscot Nation that guarantees sustenant fishing rights. You might not think that you're responsible for upholding those treaties but you're a part of the State of Maine that has treaties with the Penobscots and I'm opposed to the expansion of Juniper Ridge Landfill. And I don't speak this language, and I don't -- so -- and I really appreciate that you do and that you wade through all of this and you try to figure out what's best and I thank you for your work. I know that you don't get -- that you're volunteers, this board, and that's incredible. I do speak the language of anatomy and physiology

and we are 70 percent water, people, we all are 70 percent water. While you might drink things laced with sugar, chemicals and alcohol, you probably wouldn't drink battery acid, you probably wouldn't drink battery acid with the benefit of a dental dam, you're not going to add toxins into the water in your body on purpose. We're 70 percent water and water is what our cells live in and our cells are like fish, the living structures that do everything to keep us alive. Our cells are also primarily water. Water in the rivers, our bloodstream of our body, carry oxygen and nutrients to the capillary beds and the capillary beds are like wetlands. That's where all the exchanges happen. Everything happens there. The oxygen and the -- the oxygen and the waste go back and forth in the wetlands and the capillaries then merge into rivers and carry all that waste and the cellular creations to everything else in the body and excrete it, and this waste for eons before industrialization was completely useful and metabolized by everything else living. And that's our problem. I understand you understand that we're creating waste that we can't metabolize in our natural system, but you wouldn't take a

capillary bed and put it at the top of your heart right next to the aorta which is the main river of your body and put a barrier around it and think that that barrier -- and then inject toxins in it and think that barrier was going to hold. You wouldn't do that. That part of your heart would die. That part of your life force would die and I didn't understand how not just the lining here but that then there's the leakage -- leachate -- how do you say that word -- leachate gets taken to the wastewater treatment plant, so let's say they have to put a pipe in from your heart to your liver in order to get that to be filtered out before it goes into the river, would you do that? So that's what you're doing is you're putting toxins into water and water -- everybody knows water seeks its own level, water cannot be contained.

CHAIRMAN PARKER: Twenty seconds.

MS. SPITFIRE: Okay. So according to your rules, the licensing says solid waste facilities will not contaminate any water of the state. The landfill land is owned by the state and by their own admissions here, the wetlands and vernal pools of the state will be contaminated. It doesn't say anything about mitigated. It says shall not be

contaminated. Thank you.

CHAIRMAN PARKER: Thank you. Pamela Bell and following Pamela will be Peter Crockett. I'm going to ask the assistant here when you've got one minute left just to raise her hand so you'll know what you have for time if you use your five minutes, okay? Pamela Bell, the floor is yours.

MS. BELL: Okay. Thanks for giving me the opportunity to talk tonight. My name is Pamela Bell and I live in Milford. I live right on the Penobscot River. When the river is high from a lot of rain, I have a 50-foot backyard, when it's low and it's drought time like now, I have 100 feet of backyard. So the river is a big part of my life and I'm really pleased about the River Restoration Project and we're hoping, our little conclave in Costigan, Maine, where we live in the northern part of Milford, we're glad that -- we're looking forward to more different kinds of fish coming up there instead of just river bass to catch. It would be very pleasant to have more fish varieties. We live right next to the Sunkhaze Meadow Refuge. So we're pretty -- we're -- well, let me just say in general I think this expansion is a dangerous toxic overload for this

Penobscot River watershed.

I'm very concerned about what goes into the river; in other words, what's in that leachate. I would like to know if anyone can tell me tonight if a study has been done to determine what's in the leachate as it leaves the landfill and what's in it as it leaves the treatment plant. Can someone tell me whether that information is available and where I might find it? Suddenly they have no information.

That's basically what I want to know and I came here and I listened all day and I didn't -- I didn't get that information, and I think we people who live on the river need that information and that leachate needs to be treated good to put it in the river, otherwise you're going to contaminate the river and Penobscot Nation people are supposed to be able to sustainably fish that river and be able to eat those fish. This isn't going to help. I understand that the first part of the landfill was -- as it was inherited only had a single liner on it so whatever they do now to make it so wonderful, there's still that first part there where it will spring a leak sooner than this fancy stuff. So it's a concern. Thank you.

CHAIRMAN PARKER: Thank you. Peter Crockett. Following Peter will be Diane Oltarzewski. I'm sorry if I mess your name up. Peter, the floor is yours.

MR. CROCKETT: Good evening. Thank you for the opportunity to speak. Peter Crockett, I live in Argyle, Maine, I live within a couple of miles of Juniper Ridge landfill.

I've seen the steady parade so far of Casella employees, some expert witness, and I would like to say on record that I believe Casella is doing a pretty good job of managing that facility. That's not the issues that I have. Every witness that had preceded me in favor of this has spoken in terms of finances. Heavy industry has pretty much left our state and left a lot of people without work. I look around and I see astounding natural beauty. Dirigo and Vacationland are words we use to describe our world in the heading of our state in an ideological manner. I believe we should be far more protective of our environment than money which can be derived from a great amount of different directions. The health and wellbeing of our river and our natural resources should be held

above everything else.

The origins of this project were products of backroom deals contrived in the wee hours of the night when there was no one there to protest this poor idea or slow the process of this blight being created in such an inappropriate place. Ever since the time of its conception in the early 2000s this monstrosity of waste has provided millions of dollars to the bottom line of its operator while its physical presence is constantly growing, is constantly concocting a more complex stew of toxins as each day passes. It is seen as a proverbial paint can full of death teetering above the doorjamb just waiting for some unseen event which will allow the massive stew of certain death to drain into the surrounding wetlands, travel to the Penobscot River and then on to the Penobscot Bay where it will adversely affect the fisheries of Maine and the health of our coast and ocean.

This mountain of municipal refuse is already presenting a threat to the health and wellbeing of our world. This is not a question of whether or not this project will come to fruition; this is a question of how much worse we are

willing to allow this ticking time bomb to grow. The ugly truth of the matter is that the operator of this landfill is making money by filling our space with imported refuse that does not belong in the State of Maine.

Many of the people have testified that if Juniper Ridge is closed, our waste will have to go out of state. I think that's a wonderful idea. I think that equating a higher level of financial responsibility to people throwing things out is a wonderful idea. Waste does not disappear, as some people said. Energy and matter is neither created nor destroyed. There are very many pertinent issues to this project which have been deemed irrelevant by the minion of industry. All I can say to this is that talk is cheap and when your irrelevant issues jump instantly into the reality of our world, they will seem quite real and will offer up true life consequences which will be anything but irrelevant.

If the BEP chooses not to consider the real life effects of changing weather conditions and allows this permit to be issued regarding false and outdated data, the people of Maine will hold them accountable for their actions. I urge

the BEP to step back in the best interest of the people of the State of Maine and the best interest of the environment which sustains us all and not the best interest of the corporate entities whose only concern is that of profits. I believe if this project was landfilling only the waste in the State of Maine, I guess there would be very few people who would be opposed to it.

And talking about leachate and going into the river, we read every day about how many things cannot be treated in leachate. Micro balloons which are used in cosmetics and sparkly lipstick and eye liner go through treatments because they're too small. Pharmaceutical chemicals go through treatment plants without being affected in the least. They all end up in that river.

I watched a meager attempt to shut down Professor Coghlan earlier by trying to relate the difference of 8,000 more gallons a day to the allowed total flow of a wastewater treatment plant. All I have to say is a thousand pounds of toxins on that table is a thousand pounds of toxins regardless of how much water it's mixed with. We must protect and sustain the health and welfare of our world. It's the only one we have.

Industry comes and goes. It's the only environment we have. Thank you very much for your time.

CHAIRMAN PARKER: Thank you. Diane, followed by Bill Lippincott.

MS. OLTARZEWSKI: Let me say that for you. I'm Diane Oltarzewski from Belfast, Maine, and thank you for the opportunity.

Massive trucks rumbling over our roads, diesel emissions spewing into our air, a too heavy burden placed on our heartland from far-off places which are buying a pass from looking after their own waste streams. This is no incentive for them to reduce, reuse, recycle or compost. Seepage of toxins into the waters of our heartland, lining insulation to last only 50 or 100 years, not enough to prevent us passing on to our grandchildren yet another super fund cleanup site. Two acres of precious wetland gone, dwindling natural habitat destroyed forever leaving us vulnerable, I ask you to reject this landfill -- the expansion of this landfill. Each jurisdiction, each home, each town, each state must accept responsibility to resolve its own waste stream. Maine should not be the dumping

ground for more than its share of municipal waste. The watershed of the Penobscot River must be protected. Our people's lives and health depend on it. Expanding Juniper Ridge would take us in exactly the wrong direction at a critical crossroads in our environmental policy. I ask you to bring your better judgment to bear and to reject this expansion as wrong for Maine. Thank you.

CHAIRMAN PARKER: Thank you. After Bill Lippincott will be Ryan Parker. The floor is yours.

MR. LIPPINCOTT: Thank you. My name is Bill Lippincott, I live in Hampden.

The whole point of having a state-owned landfill is to be able to preserve the state's landfill capacity for Maine generated waste and to be able to limit out-of-state waste coming to Maine. Juniper Ridge is not operating in a way that meets the long-term capacity needs of this state. The way it operates is not consistent with state solid waste policy which places landfilling at the bottom of the hierarchy. As Ed Spencer pointed out in his written testimony regarding the expansion, oversize bulky waste, OBW, increased

dramatically at Juniper Ridge from 9,649 tons in 2007 to 21,000 tons in 2008, over 51,000 tons in 2009, to almost 99,000 tons in 2011. Less than 10,000 tons in 2007, almost 99,000 tons in 2011. DEP Commissioner Aho expressed concerns about this dramatic increase as well as large amounts of demo debris coming to Juniper Ridge at the time. This is all part of a pattern of Casella to fill its landfills as fast as they can with as much waste as they can possibly attract. I've experienced watching Casella's operations in Hampden which is revealing.

In 1998, Casella estimated in its application it would dispose of approximately 143,000 tons a year in its expansion providing capacity for approximately 23 years which meant that the capacity would last until 2021; however, in 2002, when PTL's public benefit determination was changed to accept MSW bypass, they changed their estimated capacity and said it would only last until 2012. They stated in response to a variety of factors it took in approximately 567,000 tons in 2003, so 143,000 tons in 1998, five years later 567,000 tons. The game changer was DEP allowing MSW bypass in 2002.

In 2004, Casella estimated the landfill would reach capacity in 2007. So it went from initially 2021 to 2007 in six years. Now, Casella said the increase was because of new customers, they said they had no control over how much waste the landfill was taking in. The new customers were MERC, wastewater treatment plant sludge, which is New England Organics which is owned by Casella, MERC was owned by Casella and bypass MSW from MERC. And they said that over half the increase in disposal was from waste generated in Maine but when MERC processed waste, they were taking a lot of waste from out of state. They'd park their trucks there and all of a sudden waste that came to MERC would become MSW bypass. At the time I requested of the State Planning Office how much out-of-state waste was coming into Pine Tree Landfill and I got a reply from George MacDonald in 2001 Pine Tree Landfill 19,000 tons of MSW and demo debris that was generated out of state. One minute, okay. In 2003, the number was 218,000, so in two years it went from 19,000 to 218,000.

I go on in this with many more examples and I will send this to the Board. But my point is that they're not practicing -- they're not

trying to preserve the long-term capacity of this landfill. This is a priceless resource. We heard from someone else how difficult it is to site landfills. This is a state-owned landfill and the way they operate it is not in the long-term interest of our state. Thank you.

CHAIRMAN PARKER: Thank you. Brian Parker is up and then following him will be Cheryl Spencer.

MR. PARKER: Good evening, Chairman Parker and members of the Board of Environmental Protection. My name is Ryan Parker, I'm the environmental policy advocate for the Natural Resource Council of Maine, and I appreciate the opportunity to speak to you all tonight in opposition to the proposed expansion of the Juniper Ridge Landfill.

NRCM believes that the proposed expansion does not adhere to the State Solid Waste Management Hierarchy licensing criteria because the state hasn't first implemented common sense ways to reduce the fill rate at the landfill to extend the life of the current license capacity. In that vein, I want to thank you, Chairman Parker, for your line of questioning this

afternoon regarding efforts to reduce the amount of MSW taking up landfill space.

In addition to some other issues, I want to point out an apparent inconsistency between the application and the requirements for its approval. Chapter 400, Section 3 reads, in part, "the Department shall issue a license for a solid waste facility or activity whenever it finds that the facility or activity satisfies all applicable requirements of this chapter," and I think this gets straight to the heart of Dr. Eastler's questions this afternoon regarding metrics. Chapter 400, Section 3D reads, "the Department shall issue a license for a solid waste facility whenever it finds based upon substantial evidence in the record that the solid waste facility will not contaminate any water of the state, contaminate the ambient air, constitute a hazard to health or welfare" -- and here comes the important phrase -- "or create a nuisance." It is important to note that the word "nuisance" is not defined in the definition section of Chapter 400 presumably because the word has a clear definition upon which the Department and/or Board can rely in their determinations. The established definition

of nuisance is, quote, a person, thing or situation that is annoying or that causes trouble or problems, end quote. While the application in question has attempted to address several of the other criteria listed under Chapter 400, Section 3D, the application does not address the nuisance standard. In fact, the Board could find for residents with property adjacent to and near the site in question ample evidence that the existing site is a nuisance and that the proposed expansion will result in a directly proportional increase in that nuisance. Some of those residents have submitted testimony to that effect. We urge the Board to consider the nuisance standard, the application's apparent failure to address it and the evidence that the expansion may, in fact, be a nuisance to residents in its determination as to whether to again quote Chapter 400 the facility or activity satisfies all applicable requirements of this chapter.

In addition to technical issues with the application itself there are larger issues the proposed expansion touches and we encourage BEP to reject this application and instead work to pass legislation that reduces what goes into JRL to

extend the life of the existing license capacity by, one, preventing out-of-state waste from entering the landfill; two, require the landfill operator to use an alternative daily cover that does not take up air space; and, three, prevent anything that is going into JRL from being applied to the state's recycling rates.

The applicant asserts that this expansion is necessary to meet the long-term capacity needs of the state but we disagree. In January of 2010, DEP Commissioner Littell also disagreed when he issued a denial letter explaining why an expansion of JRL did not provide public benefit. The five conclusions outlined in the 22-page denial letter included several things I'm going to skip tonight in the interest of time and with your indulgence, Chairman and Board, we'll be submitting these in writing with additional attachments.

NRCM is particularly concerned that there is clearly a large amount of waste originating from out of state entering JRL which is causing the landfill to fill more quickly than it otherwise would. This landfill is instead being used to meet the disposal needs of other states and, therefore, it should not have passed the

public benefit determination criteria and we ask you to take that into consideration.

At issue is the problematic language in 38 MRSA 1310-N11 which states, in part, "waste generated within the state includes residue and bypass generated within the state or outside the state if it is used for daily cover." Defining out-of-state waste as in-state waste depending on its use is misleading and is allowing our state-owned landfill to be a dumping ground for New England. For instance, in 2013, 88 percent of the material accepted at ReEnergy in Lewiston was delivered from out of state and after some processing at the facility, Re-Energy sent 97 percent of their material to JRL. Then because of this nonsensical definition of in-state waste, the applicant is able to verify that no out-of-state waste entered the landfill in their annual report.

CHAIRMAN PARKER: Time.

MR. PARKER: Thank you.

CHAIRMAN PARKER: Cheryl Spencer is next and then Charles Leithiser.

MS. SPENCER: Good evening, Chair Parker and members of the Board. Thank you for your time, attention and patience in listening to the

public this evening, we appreciate it.

My name is Cheryl Spencer and I live in close proximity to the landfill, and I'm opposed to its expansion. Imagine that. I'm sensitive to hydrogen sulfide gas. If you've never been gassed before, be thankful. It is a horrifying experience. The gas is a neurotoxin, heavier than air and stays close to the ground. I was kneeling in my garden weeding when the familiar smell came and I tried one more time to ignore it, then the asthmatic response came, I couldn't breathe, I couldn't get up. Luckily my partner recognized this as a significant event and carried me to the car and drove me out of the area. I live in fear every day that this may happen again to me or, God forbid, a small grandchild. Despite the operator's best efforts to control this gas, this event could happen again at any time.

A couple of points I would like you to consider in your deliberations are, number one, that anything that ends up in a landfill for whatever purpose the operator uses it cannot be considered recycled material. It resides in a landfill forever. The applicant points to complying with state law as far as what is

acceptable for this landfill but special conditions apply to this state-owned landfill. The state may control what comes into it but thus far it has failed to do so.

Point three, this was cited as a generator-owned landfill because it was close to the mill and would be accepting only paper mill waste. It has gradually evolved to accept all types of waste, even hazardous waste. As Mr. Labbe testified, they would take action in consultation with the DEP. This has happened in the past. Loads of hazardous lead-laden ash from the Old Town mill's biomass boiler was delivered to JRL. When it was discovered to be hazardous, it was never removed. It was mixed in and still resides there.

Number four, if there's anything you can do to rein in the bypass of not only MSW and CDD but also wastewater treatment plant sludge. We have a state statute that calls materials discarded in another state Maine waste contrary to any reasonably intelligent interpretation of the definition of out-of-state waste. We are just asking for abuse. Please find the means to turn down this expansion application and stop that

abuse. Thank you for your time.

CHAIRMAN PARKER: Thank you. Charles Leithiser, following Charles will be Paul Schroeder.

MR. LEITHISER: Good evening. My name is Charles Leithiser. I'm a resident of Maine and been a homeowner in Old Town for about the last 40 years. Thank you for your time and for allowing me to speak this evening.

Back in the early 1990s residents of Old Town were promised by Mr. Doyle and others that if the City of Old Town allowed a paper mill sludge dump, said dump could never become anything else. Since then we've been told that the now Juniper Ridge Landfill would not be permitted to accept municipal solid waste, there would be no odor problems or issues created by trash trucks, there could be hot house tomatoes growing on top of the landfill, the landfill gas is going to be used to heat the University of Maine, possibly an expanded industrial park in Old Town and on and on. All of these claims turned out to be false and I, for one, am frustrated by and tired of the best case scenarios that never come true.

Citizens of Maine have been told that the

site of the Juniper Ridge Landfill is -- this may be a new word -- but hydrogeologically speaking perfect as the groundwater under the landfill bubbles up. What happens, however, to that groundwater and waters beneath the ground when millions of tons of waste are piled on top of it? If this water begins to be squished out to the sides, it threatens numerous small streams near the landfill, vernal pools within the landfill property and then the Penobscot River. Leachate from the landfill also ends up in the Penobscot River which is currently at the center of Atlantic salmon recovery efforts. It makes no sense to try and improve the water quality of the river on one hand while simultaneously allowing contaminated water from the landfill into the river with the other hand.

The Bureau of Government Services acting as owner of the Juniper Ridge Landfill for the State of Maine has failed miserably in its oversight of the landfill. In her partial approval of the public benefit determination for the proposed expansion then Commissioner -- then DEP Commissioner Patricia Aho included recommendations and steps that should occur before

the expansion application be submitted. The Bureau of Government Services and Casella ignored those recommendations. It appears that one state department believes it can disregard the requests of another state department. In this case, I believe that the regulating agency, the Maine DEP and BEP, should have the final authority over the proposed expansion which would include the findings of the public benefit determination.

The Landfill Operating Services Agreement needs to be firmed up to actually prohibit any waste whose point of discard is outside of Maine's boundaries and determine how much oversize bulky waste is appropriate for disposal at the landfill, both of which were mentioned by Commissioner Aho.

What I have a particular concern here is that the 187 Maine communities that were part of the MERC consortium, including most of Maine's largest towns and cities, produce exponentially less oversize bulky waste than the amounts produced at the KTI and now ReEnergy facility in Lewiston which is supposedly delivering to the landfill only in-state waste from the few remaining communities not part of the MRC.

As a member of the Juniper Ridge Landfill

Advisory Committee, I was surprised to learn at one of our meetings that the Bureau of Government Services has no other plans for waste disposal in Maine beyond Juniper Ridge, and, in fact, the Bureau of Government Services is not even looking for or considering any other options.

It kind of looks like the BGS and Casella has backed you into a corner and one could conclude that the BEP has no choice in this case other than the approval of the expansion because of that.

Much has changed with regard to waste in Maine since the public benefit determination. There is less of a need for increased landfill space now than there was just two years ago. By 2018, about half of the MRC communities which had been sending trash to the PERC plant will no longer be doing so because they are instead signing on with the new waste plant to be built in Hampden. This will result in less volume coming to the PERC plant which processed MRC waste and then going to Juniper Ridge. Residues from the Hampden plant will not be sent to Juniper Ridge at all.

As we've heard earlier tonight, food waste

and other organic materials are now --

CHAIRMAN PARKER: One minute.

MR. LEITHISER: -- food waste and other organic materials are now beginning to be removed from the waste stream and those efforts will no doubt increase moving forward. This also reduces the amount of waste needing to be landfilled. Between one-third and one-half of the waste disposed of at Juniper Ridge did not become waste within Maine's borders, it was disposed of in other states. Tightening the regulations around what is supposed to be in-state waste only would greatly reduce that amount of landfill space needed in the future.

The Bureau of Government Services and Casella have created a false trash basis and by doing so have efficiently given you only one solution. As I see it, the BEP does have options for its decision in this matter. You can outright deny the expansion application or delay it until the state gets a handle on what is coming to Juniper Ridge and from where. Enforcing Commissioner Aho's recommendations in the public benefit determination would be a great place to start that process. The whole premise for the

state owning a landfill is to enable the state to control it, something that BGS has not accomplished. That task now falls to you. Mr. Geisser of ReEnergy --

CHAIRMAN PARKER: Time.

MR. LEITHISER: Okay. We heard that the out-of-state waste coming into ReEnergy has gone down by seven percent. That still means that more than 80 percent of their source is from out of state and more than 85 percent of that ends up in Juniper Ridge. Please prohibit the practice of trash laundering that allows much of Maine's landfill capacity to be used up by waste that was not discarded within the state's borders. Citizens of Maine and the residents of Old Town certainly deserve at least that much; if not, we will sadly be right back here within a few years. Thank you.

CHAIRMAN PARKER: Thank you. Paul Schroeder followed by Ridgely Fuller. Try to stay in your five minutes. We'll give you a one-minute warning but we don't want to take time from other people who would like to speak as well. Mr. Schroeder, the floor is yours.

MR. SCHROEDER: Thank you, Chairman

Parker, members of the Board. My name is Paul Schroeder, I live in Orono and I do appreciate the careful efforts that you all make to try to make sure that our waste disposal policies, laws and rules are implemented -- created and implemented appropriately. Tomorrow before the 5 p.m. deadline I'll submit a written summary of my oral comments here which I think will be brief.

The outcomes I'd like to see of this process are, first of all, that there should be no expansion of the Juniper Ridge Landfill. If there's going to be an expansion, let this one be the last. I haven't heard mention today at all that the public benefit determination was made on the basis of a proposal to build out this landfill to its full 30 million cubic yard capacity. That proposal was denied. If we think in terms of thirds, we're in phase one, that's ten million, we're going to come into phase two, that's another ten or 9.25, then there's going to be another phase. Let's make this one the last.

I also feel that we should establish a clear audit trail for all the materials that are coming to the landfill, their sources and alternatives. So those are my two

recommendations, number one, build a box around this, do not let it grow after this expansion even if it's -- even if it's approved.

Now, I've been paying close attention to this issue since January 21st, 2004, when the DEP held a public informational meeting. You know that there hasn't been a public hearing on this landfill ever since the expansion permit was proposed. This is the first in all these years. My attention got caught when questions about the Resolve -- the Legislative Resolve were proposed to the State Planning Office and they deferred to the representative of Pierce Atwood who at that time was representing Casella, previously GP, for explanation of the Resolve. I thought that was really an interesting development. So I thought I'd get to the bottom for my own interest of what really happened, so I brought 15 copies for all of you today for the intervenors and for the Board members of a detailed year one timeline history that I prepared in 2004. It's been online for 12 years now with a request that if there are any problems or inaccuracies or corrections, please get in touch with me and please, that's my -- that's my plea. I invite you to read this early

history, the first year of this process, how it came to be, how we're here now. Think about this and think about how this history and where we're at now can be useful to create better decisions and better policies for where we're heading for Maine's trash future. Please, build a box around this, we should work toward a zero waste future and we should work toward a zero growth strategy for the Juniper Ridge Landfill. Thank you very much.

CHAIRMAN PARKER: Ridgely Fuller.

MS. FULLER: Thank you very much for allowing me to speak this evening in opposition to the expansion of the Juniper Ridge Landfill. My name is Ridgely Fuller and I'm from Belfast, Maine. I've been listening -- I'm deeply moved by the way more reasoned arguments against the expansion of this landfill and also by the suffering it's caused for the people in the surrounding communities. I'm also very discouraged and saddened by realizing how many people's livelihoods really depend on us creating waste in our economy. I think that we should not be talking about an expansion of a landfill that sets a dangerous precedent, instead that our

efforts really need to go towards creating a zero waste economy and society. I think we realize that in the long run our planet really depends on that.

When I learned first that there was a refusal to consider the impact of the possible -- of Juniper Ridge Landfill on the people living in the town who will be immediately affected, what many of us would call an environmental justice issue, I immediately went to the constitution of Maine which I believe is the foundation of our agreement for government. The purpose of our uniting in such a State of Maine is described in the preamble as to establish justice, to ensure tranquility, provide for a mutual defense, promote our common welfare and to secure to ourselves and to our posterity the blessings of liberty. Section 1 reads natural rights, and that all the people born are created free and independent -- equally free and independent and have certain natural inherent and inalienable rights, among which of those enjoying and defending life and liberty, acquiring, possessing and protecting property and pursuing and obtaining safety and happiness. I believe it's a clear violation of

this basic covenant when the air and water pollution resulting from state policies which favor a corporate entity degrades the health of specific communities living in -- in the existing, let alone, an expanded Juniper Ridge Landfill. Most notably, I understand there are increased cancer and asthma rates which clearly undermine people's constitutionally guaranteed and unalienable rights of pursuing and obtaining safety and happiness.

You'll notice that -- when we talked about the difficulty in siting landfills, you'll notice that these landfills are not located in Belfast or Cape Elizabeth or Falmouth Foreside but in very vulnerable communities which is extremely unjust. Moreover, U.S. and Maine statutes make it clear that we are bound to protect the sustenance fishing rights guaranteed to four tribes through the Maine Implementation Act to fish in waters in Indian lands and on all waters subject -- that are described as reserved fishing rights.

CHAIRMAN PARKER: Excuse me, slow down just a little bit so she can stay with you.

MS. FULLER: Oh, I'm sorry. I'm just really passionate. All of a sudden tonight I'm

more passionate about this issue. I'm sorry. Have you gotten me?

I'm also distressed by the apparent disregard of the natural resources of Maine, which according to almost every governmental source represents the real and long-term economic engine of our state.

Having just returned from the desert of Arizona, I am once again reminded how critical on so many levels, including for the future generations of all of us, to protect the quality of our water in this state. Groundwater streams as well as the Penobscot are all jeopardized by increased leachate, obviously affecting all the fish and other wildlife that call the waterways and wetlands, etcetera, their home. Section 101-A-2 of the Clean Water Act establishes the national goal that water quality should provide for the protection and propagation of fish, shellfish, wildlife and recreation in and on water. States are bound to establish and ensure water quality standards for water under their jurisdiction to protect these goals, including the designated uses of which sustenance fishing is one.

CHAIRMAN PARKER: One minute.

MS. FULLER: So the criteria -- we have to protect this use. The economic solution of turning Maine into an ever-expanding landfill for in- or out-of-state waste is simply reprehensible. In summary, for the rights of the low income and tribal communities living in proximity to the existing Juniper Ridge Landfill the obligation to protect sustenance fishing rights of Native Americans and for the future of our state and all its inhabitants, I oppose any expansion of the Juniper Ridge Landfill and call for clear accountability of all existing air and water pollution generated by the existing landfill.

Thank you so much.

CHAIRMAN PARKER: Thank you. We're going to take two more and then we're going to give a little break to our stenographer. These are actually the last two signed in opposition. Next will be Andy Jones, followed by Sherry Verrill.

MR. JONES: Hi, my name is Andy Jones. Thank you so much for the opportunity to speak. I work for an organization called Toxics Action Center. We are a New England wide nonprofit and we work side by side with community groups to

clean up and prevent pollution, and I am speaking today in opposition to the application to expand the Juniper Ridge Landfill.

So we're here today to debate the expansion, should Juniper Ridge grow to double its current size, and I say no. I say no because expansion is directly against the solid waste hierarchy and I think it's a bad idea to grant Casella a permit to expand without a plan to decrease the amount of garbage going into the landfill, and I want to stop --

CHAIRMAN PARKER: Slow down just a little bit.

MR. JONES: Certainly.

CHAIRMAN PARKER: Sorry.

MR. JONES: So Casella is really good at what they do, and there are a lot of hard working Casella employees here today, and I have to say hands down, those are the biggest, glossiest posters I've ever seen. One of the things that Casella is really good at doing is expanding and ten years ago we wrote a report called Casella, Coming to a Community Near You, which I will forward you the PDF so you have a chance to read this before the 5 p.m. deadline tomorrow. I'm

glad that Bill Lippincott was here from Hampden to share his stories of Casella expanding the landfill in Hampden, I'm glad that Ryan spoke about previous expansion attempts for the Juniper Ridge Landfill. They're good at this, they run a pretty tight ship, so they do have the ability to expand.

I really just don't think doubling the size of the landfill sets a good precedent, and if we double it, even if it's only every ten years that we double it, by the time I'm done with my snowboarding career, Juniper Ridge will be big enough to ski down and I don't think that's a good idea. I really don't see a plan here in Maine to follow the waste hierarchy. I don't see -- and some of this isn't something the Board can do and there needs to be legislative action on this, but if we are continuing to fill up our state-owned landfill with out-of-state waste, if we are bringing in construction and demolition waste and calling it recycling, those are serious problems, but one further question that we need to answer is should we be burning out-of-state waste in ReEnergy's biomass plants or should we be burying out-of-state waste in our landfill or should we be

accepting out-of-state waste in our state at all. These are all questions that I think need to be answered before we expand this landfill. I think granting a permit to expand this landfill is handing Casella a blank check. I would feel a lot more comfortable with this expansion if I knew we had a plan going forward to deal with the out-of-state waste that's coming into our state and into our state-owned landfill. If you have any questions, I'm happy to answer them.

CHAIRMAN PARKER: Thank you. Sherry Verrill. Just remember to speak slow because she has to interpret a lot of voices she's never heard. The floor is yours.

MS. VERRILL: Thank you, Chairman Parker, and good evening to everyone here.

My name is Andrea Verrill but I'm known professionally and to my friends as Shri.

CHAIRMAN PARKER: Shri, okay, thank you.

MS. VERRILL: I'm here as a wetland scientist, a concerned citizen of Maine invested in water quality, recovery of the endangered Atlantic salmon and as a friend of the Penobscot Indian Nation. I'm here to offer testimony in opposition to the expansion of the Juniper Ridge

landfill. I believe that zero growth of the landfill footprint is in order. There's already a significant burden in the form of health and environmental hazards from the pre-existing dump and other toxic sites in the area to the water, endangered species and the people practicing their federally-protected cultural and sustenance life ways on the Penobscot River. According to the US EPA and the University of Massachusetts in Amherst, the following schools in Bradley, Old Town and Milford were listed as affected by toxic chemicals. I'll skip the scientific names, they're in the writing. These were admitted by the Fort James operating company pulp mills, Viola Rand School, Old Town High School, Dr. Lewis S. Libby School, Leonard Middle School and Old Town Regional Special Ed Program. State fish consumption advisories for mercury, PCPs and dioxins are in place for the Penobscot River suggesting that it's only safe to eat one to two fish per month unless one is pregnant, nursing, a woman who may get pregnant or a child under the age of eight, in which case the suggested amount is zero.

A report put forth by the EPA contingency

with the Agency for Toxic Substances and Disease Registry states that ATSDR, the Toxic Substances and Disease Registry, determined early in the health assessment process that Penobscot Indian Nation members who ate fish and turtles were the main people potentially exposed to Penobscot River contaminants.

Some known constituents being discharged include suspended solids, heat oxygen depleting substances, chlorinated organics, chromium, copper, dioxin, lead, mercury, phenols, vanadium and zinc. The state water quality standards must protect the sustenance life ways of the Penobscot people as mandated by the Clean Water Act, thus it's imperative that the state water quality standards are such that the hardship of our Penobscot Indian Nation friends and neighbors are reduced not increased.

Juniper Ridge falls within an area of interest for NOAA's efforts to restore the Atlantic salmon population. These are beautiful, well thought out, scientifically sound barriers. They won't last forever. Leachate barriers are a temporary solution to a long-term threat to our waters. They break over time but the contaminants

do not stop leaking. Juniper Ridge is located within the floodplain of the Penobscot River and along two streams. Recent storm surges of Hurricane Matthew through flooded hog farms in Wayne County, North Carolina, causing immense pathogenic bacteria contamination of local surface waters and the Neuse River. What happens when the Penobscot River swells with flood waters and overtops the barriers? Is there a contingency plan for such extensive surface water contamination?

Nearly all surface water features interact with groundwater. Juniper Ridge has not proven that groundwater will not be polluted from the existing landfill, much less from the proposed expansion proving that -- I see the one minute.

CHAIRMAN PARKER: One minute.

MS. VERRILL: Okay. It's only a matter of time before environmentally harmful substances enter and pollute the state's waters here constituting a health hazard to the people, plants and animals which depend upon clean water for life and which are already overburdened with disproportionate exposure to health and environmental hazards.

The truck traffic is already a noise nuisance. I can't imagine the stress and detrimental life effects one must experience to be awakened every hour or 45 minutes throughout the night.

Some of the other points other people have touched on and I will skip over for brevity. In summary, we need sincere efforts to reduce waste, reuse material and recycle discarded products. All of this is to testify against the proposed Juniper Ridge expansion. It will pollute Maine's waters, create a nuisance for residents, poses a health and environmental hazard for people, plants and animals in the area and Juniper Ridge is bringing in trash from out of state and violating the spirit of the state waste hierarchy. Thank you for your time and consideration.

CHAIRMAN PARKER: Thank you, Shri. Right now we're going to take a ten-minute break and we'll be back with more testimony.

(OFF RECORD)

CHAIRMAN PARKER: I want to compliment the group on being orderly and straightforward tonight. We've got about 30 more who would like to testify, so we're going to try to move along.

Remember to speak rather slowly and our stenographer is dealing with different voices every time someone steps up so she has to be clever to keep up with you so help her all you can.

The next person to testify will be Robert Morrison and he'll be followed by Gordon Chase.

MR. MORRISON: Members of the Board, thank you very much for your service. You've got some very difficult decisions to make with the mining regulations which are parallel in a way to our dump problem.

CHAIRMAN PARKER: Mr. Morrison, can you pull that in a little closer to you?

MR. MORRISON: Well, I'm not much -- can you hear that? Anyway, and thank you for the members of the DEP for putting in a long day today. I'd just like to acknowledge my friends at Casella who ran an open house on October 1st which I enjoyed very much. We were able to go up to the top of the mountain and watch people drive golf balls off into the offloading things, but the thing that really interested me at the open house -- one of the things -- was the tank in which they put the leachate. It's a very

significant tank and it got me thinking about what happens to the leachate. Well, there clearly is an unloading location next to the tank where they can unload trucks, where the trucks go, we know they go down to the old Georgia-Pacific mill down in Old Town and where do they unload, they unload into the aeration pond at the Georgia-Pacific plant. So being primarily a poker around rather than a technical expert, I went down to the Georgia-Pacific plant to see what happened to the leachate in the plant and they have an aerator running regularly. There are 11 aerators in the pond, of which one -- now, somebody for Georgia-Pacific -- well, it's not anymore, but anyway, somebody can correct me how the aerators run but it looked to me as though they run one in rotation of the 11. So I asked myself, well, what do the aerators do? Not being very technically capable, I kind of shrugged my shoulders and said, well, generally aerators oxidize some kind of organic material to try to neutralize it, but I was -- I have to step back a minute. I -- before all this happened, I did go to the Old Town town office where there was a copy of that 45-pound application which I thumbed through and in that

thumbing through, I found this whole series of samples and the results of the samples, and one of the samples was from the leachate pump location, and that particular list that I looked at had a concentration of around 350 milligrams per liter for arsenic in that leachate pump and as you probably know, about five grams per liter -- milligrams per liter is the EPA standard for arsenic. So the significant -- I came away from looking at the records with the feeling that there are sometimes high and at least significant arsenic in the leachate. So then I said, well, what does -- going back I wondered, well, what does aerating do to arsenic in leachate and somebody here, I'm sure, can tell me but I don't know. Then it wasn't perfectly obvious what happened --

CHAIRMAN PARKER: Forty-five seconds.

MR MORRISON: Excuse me?

CHAIRMAN PARKER: Forty-five seconds.

MR. MORRISON: Forty-five seconds, okay. Well, anyway, clearly the leachate is -- eventually goes into the Penobscot River and we don't -- I don't know what happens in the mill between the aeration pond and the outfall.

Presumably there's some kind of a skimmer or clarifier and presumably that takes out any of the suspended solids.

Trying to follow the trail from the plant down to the river produces a structure which should be in the Maine Historic Preservation Society records, a silo from which the leachate or the treated leachate is discharged into the river. I would hope that Casella or the DEP can regularly sample the leachate that goes into the river. Thank you very much.

CHAIRMAN PARKER: Gordon Chase? No Gordon Chase. How about Brian Hovey? How about T.J. Troiano? Did I come anywhere close?

MR. TROIANO: Perfect.

CHAIRMAN PARKER: And he'll be followed by Terri Blair.

MR. TROIANO: Good evening. Thank you for the opportunity to speak tonight. I'm speaking in support of the expansion at the Juniper Ridge facility. I -- I'm not a good public speaker so just bear with me here, I'll be as quick as I can. First off, I'd like to say I don't think anybody wants to landfill everything. That's not the intention here but we do have some bypass waste

right now that we don't have the technology or the way to get rid of and there will be a capacity issue at some point in the State of Maine but hopefully not as soon as projected but we've extended the life by recycling more and Casella has actually been huge in the recycling system. They built a plant in Lewiston to take material out of the landfills with a single sort, zero sort recycling that we're using, we've got the incinerators in Maine that are the waste to energy plants that a lot of the trash goes to, but at the end, we don't have enough technology yet to be a hundred percent zero waste, if that makes any sense.

It would be great if they get the expansion and we never need it but I don't see that as a reality quite yet. I think technology is getting better and better every day and we should strive towards that, but I do believe we are following the hierarchy as best we can right now. Compost facilities are growing, the EcoMaine facility in Portland is dabbling in it now and hopefully that helps get more out of the waste stream prior to getting to the landfill but at the end of the day, there's still materials that need

to go to the landfill and we need it right now.

I also wanted to just speak briefly on you hear so many people bring up out-of-state waste. We're a waste collection company based in Portland, Maine, servicing Augusta south and we go both ways with the waste. A lot of our waste that we haul does leave the State of Maine. You never hear that so I figured -- I just wanted to point that out that we utilize the Wheelerabrator facility in Massachusetts for some of the waste that comes out of our facility, the Covanta facility down in Massachusetts, as well as we use the Turnkey Landfill. So it does cross the state line leaving the state as well and I just think it's important to point that out because you always hear it's coming into the state when it does go out of state as well.

Thank you, and if you have any questions, I'm here.

CHAIRMAN PARKER: Thank you. Terri Blair, followed by Paul Blair.

MR. HOVEY: I'm Brian Hovey. I missed your call earlier.

CHAIRMAN PARKER: Okay. We'll have Brian Hovey and then we'll have Terri Blair.

MR. HOVEY: Good evening. My name is Brian Hovey. I am the market area manager for the central and northern Maine hauling divisions for Casella. Though I'm an employee, I'd like to speak to you for just a few minutes as a resident first. When I started my career with Casella 18 years ago, I did so in Houlton, Maine. I lived in Houlton about a mile from the Casella facility for approximately 12 years from the time that I started working for Casella. I raised my family there, I have four children that are in their middle to upper twenties, I'm happy to say that they're all healthy. I moved to the Bangor area a little over six years ago when my market area expanded and I currently live for the last six years or so on the Paper Mill Road in Hampden approximately a mile from the Pine Tree transfer station and gas-to-energy facility. As a general manager with the company, I'm privy to the inner workings and structure in many ways with how Casella does business and one of the things that I wanted to share tonight is that my family is the most important thing to me, and I assure you that if there was ever a concern as an employee or a resident as to the professionalism and how Casella

conducts its business in a very environmentally sound way, I would never consider having my family anywhere near a facility. We currently live, as I mentioned, in Hampden where my wife and I are raising our ten-year-old daughter that was adopted from India, we have three cats and a dog, and again, very close to that facility. I believe the expansion is not going to change anything in the way that Casella has operated their business.

The last thing that I want to mention from the hierarchy perspective which I know is a great concern and certainly a big consideration in this expansion process, I think we should look at this as it is, that the landfills are considered to be the lowest rung on the hierarchy. I believe that any of the upper rungs of that hierarchy could be removed and the solid waste management system in the State of Maine would continue on, maybe not as effectively but it would continue on. If landfills which are the foundation of the hierarchy are removed, then the entire system comes tumbling down in the State of Maine.

I believe that this expansion is important to continue that hierarchy moving as it is and certainly as effectively as it is. I'm not

concerned at all with the expansion and how Casella will continue to operate highly professionally and in an environmentally sound manner, and I believe that this expansion should be approved. Thank you very much.

CHAIRMAN PARKER: Okay. Terri Blair.

MR. BLAIR: We'll pass, thank you.

CHAIRMAN PARKER: What's that?

MR. BLAIR: We'll pass, thank you.

CHAIRMAN PARKER: Let's try Kevin Gordon. Craig Shorey? After Craig we have Ryan Modely.

MR. SHOREY: Good evening. Thank you all for letting me speak. My name is Craig Shorey, I live in Hermon, Maine, I work for Sargent Corporation. I've been exposed to Juniper Ridge for probably 15 years now at various levels of construction, watching their operation. I'd like to speak highly in favor of them. I think they do a very good job at operating their landfill. I think they're proactive about educating the public about ways to recycle and things about how their landfill operates. I have attended some of their open houses, they do a wonderful job with that, they invite folks in, they want to educate them about their process and their landfill, and I

think -- I really haven't gotten into a lot of the ins and outs of the regulatory process. I certainly take my hat off to you folks, you know, you're spending your time trying to do your due diligence and I'm sure the folks in the State of Maine appreciate that. It's a lot of work. I mean, nobody wants to be here at 8:00 at night all night sometimes. It makes for a long evening when you have an early morning, but anyhow, gosh, I have to -- I have to be honest. I signed up, I thought it was a sign-in sheet. I didn't intend to say anything. Then when you said that I'm going to have to say something, I was like, well, I've got to get up and say something.

I would like to speak to some of these folks that got up in opposition. It was very eye opening. Thank you very much. You had a lot of thought in your comments and I certainly appreciate that. These folks over here in support, same thing, there was a lot of good points and a lot of bad points. At the end of the day, I think we need to have a landfill someplace, Juniper Ridge is already there and I think Casella does a good job at operating it in a responsible manner and I think you should have somebody --

that you should have somebody that does that and I think starting a landfill in a new location isn't really the best solution. I think expanding this landfill is a better solution for the folks in the State of Maine and I just support it. Thanks.

CHAIRMAN PARKER: Thank you. Brian Modely? Michael Eben? Steve Raymond? Pete Parizo? Sean Milligan? Jonathan Nadder? Samantha Carroll? Brandon Carroll? Dan Thornton?

MR. THORNTON: Bingo.

CHAIRMAN PARKER: Bingo. After Dan we have Carl Staples. The floor is yours.

MR. THORNTON: Thank you you very much. I'm Dan and representing Thornton Construction, a contractor in Milford, Maine.

I have grown up around the landfill my entire life. My dad was contracted to work with the Milford Landfill with the pulp and paper mill in Old Town and then worked through the transition into what is now Juniper Ridge. I don't think there are many more people in this room that have seen and been as close to the operations without directly working there since the beginning as me and my father. I also was fortunate enough to grow up on the Penobscot River and probably one of

my larger regrets in life are moving out when I was 18 because I have so much passion for the river from swimming, fishing, motorboating, waterskiing and I'm trying my hardest to get back on it.

With that -- with that passion for the river, I have zero concerns with the operation of Juniper Ridge Landfill or the expansion. I bring my kids over to swim in it, I just -- actually the water quality in my opinion has gone up over the last couple of years. The clarity is -- has improved drastically.

It's certainly shocking to see the growth when you go out there from when I was six or seven years old to where it is now. I understand that we have to go somewhere with it, and seeing the operations working with Juniper Ridge Landfill and Casella, the steps that they go through to prevent any environmental hazards is -- is off the charts. We are almost an emergency responder for some services such as odor control, and being a small company, we have about 40 employees in the town, we're very dependent on the landfill and sometimes, you know, it's -- it's shocking the amount of money that they will put into odor

control, something so simple that's just in the community's best interest. I -- it's just very impressive to see the steps that they go through to be a good neighbor to all of us.

Business wise, they are one of our best and biggest customers. Like I said, we employ 40 to 50 people indirectly and directly. It's not just the employees that go into the landfill every day that Casella helps with, it's the stability and success of their business that passes down to us and gives us the stability of that business. Being a general contractor, stability is one of the biggest things that we can look for and unfortunately in these markets, especially in Maine, we're not seeing a stability out of any other places other than Juniper Ridge.

As a -- that was my -- as a customer, but now as a vendor of theirs, we do several different demolition jobs throughout the state, a lot of construction and demolition debris that we bring up to the landfill. It's certainly been a game changer having them in the area. You used to see a lot of houses being demolished and buried onsite, dig a hole in the back yard, clean wood debris, dig a hole in the backyard. With the

affordable disposal fees that they offer this area, instead of being buried in a hole in the backyard, it's going to the landfill. You used to see a lot of gravel pits being filled in with things that, you know, shouldn't be in there, shingles and such. It -- it -- that will pick up again. We are -- we have some acreage on the outskirts of Milford and we used to get a lot of dumping, people coming out and just getting rid of shingles and wood debris and old sheds and stuff. You don't see that anymore. The sides of the roads have been cleaned up, the old pits aren't being filled anymore. So I think that we -- environmentally our area needs this resource.

And then lastly, as a community member, if we do not allow this expansion, in my opinion it would be a nail in the coffin for the Old Town mill. It was a tremendous hit for our company losing the mill, you know, such a hit would be the same for Juniper Ridge, but if the mill does not have Juniper Ridge to operate, it would be a nail in the coffin for them, and the woods business has seen a tremendous downfall without the Old Town mill and it's -- it's only going to get worse. It's one of the greatest resources that that mill

has is the cheap waste disposal.

So with that, I hope you are willing to listen to everybody's testimony but in the end, we support the Juniper Ridge Landfill expansion. Thank you.

CHAIRMAN PARKER: Thank you, Dan. Carl Staples? And following Carl we have James Braley.

MR. STAPLES: Carl Staples from Lee, Maine, and I'm a truck driver, owner/operator, and probably for the last eight to ten years have been going in on an occasional basis and just want to testify to the fact that I have seen what these diagrams show on a placard day by day operations of laying the base and the barriers and putting each part in exactly where it needs to be, putting the pipe in and it's not being just thrown together. As my observations, it's -- they're doing a fantastic job.

As I came and I listened, one of the other things that I wanted to kind of pick up here this evening was if there is an alternative because -- and unfortunately, I did not hear an alternative and obviously that's not the focus, but it would by nice to think that there's an alternative, and we all hope for the day when there will be an

alternative, but in my lifetime, I do remember one alternative that we had when I was a young fellow growing up in Lincoln in the sixties and seventies and it was of a 55-gallon drum in everybody's backyard and when it comes to talking about a nuisance of a landfill, you have to really take into consideration the nuisance of everybody burning their own trash in their own backyard.

CHAIRMAN PARKER: Okay. James Braley and John Leslie is next.

MR. BRALEY: Jim Braley, I live in the Town of Alton, not very far from the landfill. Much of what I had written down has already been stated. A lot of the opposition, in my mind it's a Utopia. That's just not how we live. I mean, we have natural resources and the beauty and all that we speak of and it is all important but as was just said, what was really on my mind is if we don't have a landfill, it goes to the sides of the roads, it goes to the pits. I mean, that's why we have spring cleanup, fall cleanup, electronics days, right, so people will discard their waste properly; otherwise, we -- we get it where we don't want it and where it is not contained, and as the gentleman before me just talked about, what

is the alternative? We speak of this hierarchy and another person talks about this being the bottom of the rung, and it is a rung, it's necessary. We can recycle and break these things down but at the end of the day, there's still waste that needs to go somewhere.

And then to say to ship it out of state, there's a lot of problems with that as well, and again, this was spoke to several times, our economy is not in great shape and to tell the everyday family that you're going to have to pay more to get rid of your waste, it's a pretty tough pill to swallow when we have the opportunities here in our backyard, and those people have the same concerns, we're just going to take our trash and put it there, it seems a bit hypocritical. We have the place to do it, it's run well, like Craig who spoke before me, I work for Sargent Corporation, I've been involved with the landfills for a number of years and these guys to do well. I mean, the folks that design these are top shelf and they know what they're doing and it's not like Casella is hiring shoddy engineers. People know what they're doing and I'm sure that DEP can speak to that.

So I guess rather than rambling on, I hope that you go and vote in favor of it. It's needed and again, we can continue to improve with our technologies and come up with ways to reduce the waste but at the end of the day we still need a place to put it and until we get to zero waste, there needs to be someplace. Thanks.

CHAIRMAN PARKER: Thank you. John Leslie? Bill Rayfield is next.

MR. LESLIE: Thanks for having me. You know it's been a long day when the lighting reminds you of cramming in college. My name is John Leslie, I live in Orrington, Maine. I started work in organics recycling in 1989 with a company called Resource Conservation Services. We were purchased by Casella in the late nineties. I think in '99 or 2000 the state passed -- well, they adopted new regulations, Chapter 419, and under those new regulations, the land application of biosolids became a lot tighter and it forced much of what we were land applying out in the field, the biosolids, into other alternatives, whether that be composting or landfilling at the time.

The organics side of the business is what

I work in. We have a compost facility in Unity, Maine. We take in 40,000 -- roughly 40,000 tons a year of sludge, biosolids, we manufacture about 75,000 cubic yards of compost, 60 percent we recycle in Maine and you'll probably be happy to know about 40 percent of it we send right to Massachusetts. They love our compost, they love to buy it, it's approved for growing garden crops as well as horticultural crops.

The landfill is particularly important to organics -- Casella Organics because in our business sometimes we manage generators, we sign contractors -- contracts with generators such as municipalities and when those municipalities have an upset, an oil spill or something like that, oftentimes the biosolids cannot be composted or land applied and they need an alternative place to go and the landfill is a safety net for us in that capacity. We also have -- there's seasonal generation, so we try to model the facility to be full at all times and seasonally you can have large fluctuations. For instance, in late summer and early fall is when there's less biosolids produced than in, let's say, November or the spring of the year when a lot of the municipal

sewers and such are getting flushed out by precipitation.

So for us, Juniper Ridge is a very important backup to our recycling facilities for recycling biosolids. We're not content with just that though. In the past three to five years we've brought on more capacity. We are now the exclusive provider for a new 30,000 ton per year anaerobic digester that accepts biosolids in Brunswick. It's located at the Brunswick Naval Base there, Air Base, and also at Lewiston/Auburn -- anaerobic digestion is one of the new things that's really being developed both in the state and around the country, and anaerobic digestion was also developed by Lewiston/Auburn Pollution Control Authority, LAPCA as we call them, and they brought that online and they're now digesting their biosolids, but the amount of biosolids they're now producing is greatly reduced in volume. As such, their compost facility became open for capacity. So we are now marketing biosolids into that facility and we're marketing biosolids, of course, into the Village Green facility, as well as our Unity Hot Ridge facility, and so we really need Juniper Ridge as a backup to

these programs.

That's all I've got, and if you have any questions, I'd be happy to answer them.

CHAIRMAN PARKER: Thank you.

MR. LESLIE: Thank you.

CHAIRMAN PARKER: Bill Rayfield? Next is Craig -- I can't pronounce your -- I can't read your last name. The floor is yours.

MR. RAYFIELD: I want to thank you for the opportunity to speak with you tonight. My name is Bill Rayfield and I work for J.D. Raymond Transport. I've been with our company for about ten years and we've done business with Casella for upwards of 15 years. Our business has primarily been as a hauler for Casella servicing facilities throughout the State of Maine. Operations at J.D. Raymond involve much more than the trucking we do for Casella; however, without Casella, many of those other operations would not be possible. Casella has been a critical component to the success of our employees throughout all operations. Many people, including myself, may not have been able to sustain employment if it weren't for the good work that Casella does at Juniper Ridge Landfill and throughout the State of

Maine.

Over the years my company has invested heavily in more efficient trucks and newer trailers that allow us to haul more efficiently in an effort to reduce our impact on the communities surrounding Juniper Ridge Landfill. My perspective is as a business partner and I want to say in that regard that Casella has been great to work with over the years. They are exactly what we want in a partner. They do what they say they are going to do. They honor whatever agreement they've made, whether it be in writing or on a handshake and they are willing to work with their partners to assist them whenever possible. We pride ourselves on keeping our word and providing the best possible service and one reason for our strong working relationship is that Casella does the same.

I want to emphasize that in my experience Casella has proven to be a company that Mainers should feel good about having around and one which we should try to keep around for many years to come. Thank you.

CHAIRMAN PARKER: Next on the list is Craig and I can't read the last name, from

Broadway in Bangor. Is there a Craig here from Broadway? Chuck Eaton? Greg McDougal? Andrew Bennett? After Andrew it will be Josh Williams -- Wellman, I'm sorry.

MR. BENNETT: All right. Good evening. Thank you for having this meeting. My name is Andrew Bennett. I operate a state-of-the-art hydrogen sulfide removal system with the trade name Thiopaq at the Juniper Ridge Landfill. This system minimizes sulfur dioxide pollution. Casella gave me an opportunity to come back to Maine to live and work. With the reductions in industrial employment in the region, it is unlikely that my family and I could have moved back to the region without this opportunity. Casella invested close to seven million dollars to build this facility in 2014 and invested substantial additional capital in 2015 to ensure that odor is minimized. I work at JRL every day. This is not your parents' landfill. There's a complicated system for securely disposing of solid waste and removing all liquids and gases from the waste.

We have nothing to hide at the landfill. We have an extensive and redundant liner system

which prevents any escape of leachate into the environment and allows us to confirm that no liner failure has occurred, as you learned about today. The leachate is treated in a wastewater treatment facility before release into the environment. This is all regulated by the DEP and the EPA. I also work at the site every day. Many of my colleagues live next to the landfill with their families and have not experienced any significant nuisance. Any member of the public is welcome to visit the site at any time. I would personally be happy to show you exactly what we do anytime you want. I encourage you to approve the expansion based on Juniper Ridge Landfill's compliance with the relevant licensing criteria. Thank you.

CHAIRMAN PARKER: Thank you. Josh Wellman. After Josh is Bill Michaud.

MR. WELLMAN: Good evening. Thank you for the opportunity to speak. I'm in favor of the expansion of the Juniper Ridge Landfill. I own -- I'm co-owner of two companies, D, M & J Waste and Ellsworth Waste Services. D, M & J Waste is located in Winterport, Maine. They're both DEP licensed solid waste transfer stations. The other location is -- Ellsworth Waste is located in

Ellsworth on the Industrial Road. Both of these companies we generate waste from town transfer stations, 20-plus town transfer stations where our trucks pick up the waste at the transfer stations in large dumpsters and brought back to our transfer stations. Also homeowners, builders, contractors, other waste companies haul waste into our transfer stations, and then once the waste is at our transfer station, we recycle as much of the waste as possible. We recycle demolition debris wood out of the waste, asphalt shingles, cardboard, metal, aggregate. Anything that is feasible to recycle we do so. Last year we recycled 1,500 ton of asphalt shingles that was ground and sold to Pike Industry to be used in the asphalt industry and the paving industry.

Once the material is recycled at our facilities, it is hauled in tractor-trailers to the Juniper Ridge Landfill. The Juniper Ridge Landfill is a huge part of our business. We employ 18 people. Without this expansion, it would put the tipping fees very high and the cost would be spread out to the town transfer stations, the homeowners, the builders, the contractors, and so forth and so on, the other waste haulers and

also our company. So we try to recycle as much as we can before it goes to the landfill but there's still a portion of waste that cannot be recycled. I've been in this business for 20 years and certain materials you just can't recycle. It doesn't make financial sense. So there has to be a landfill and Juniper Ridge makes sense for us. I've been in the landfill many times, driving trucks myself into the landfill, seeing the process of them designing and building the landfill. They do a good job. Casella has been good to work with in the waste business, we compete with them but we also work with them on other basis like hauling the waste into the landfill, and I think they do a good job and we support it, and I hope you do also because if it didn't happen, it would really affect our business. I don't know where we'd take the waste that we generate. It would have to go to a different landfill and there's only one landfill in the state. Tipping fees are going to go up and that would mean for everybody. Thank you.

CHAIRMAN PARKER: Thank you. Bill Michaud? How about Amanda Willey?

MS. WILLEY: I am Amanda Willey from

Alton, Maine. I didn't plan on actually speaking today, but as I have heard, I have felt a need to kind of say out loud what I've been thinking with what I've been hearing.

I have been in Alton well before the landfill came along. I am happy to say and surprised that I don't have any nuisances from it. I'm less than three miles from it as the crow flies. I've never smelled it at my house surprisingly. I've never had any nuisances or any problems from the landfill and I certainly expected it. I remember when I heard the landfill was coming, all I could think of, without any disrespect, I was thinking of Lincoln and how bad it stunk, and I said, oh, my God, I don't want to have my town smelling like Lincoln, I didn't want that, and that's all I could think of and I have been happily surprised ever since it came around that I have not had that issue.

As I have listened, what I'm hearing is that we have a side that says, okay, we have economic issues, we have a need. It's very clear, as everyone has said over and over again, that there's a certain amount of waste -- and I'm no waste specialist but there's a certain amount of

waste that obviously we can't get rid of by recycling, and the other side we're talking about which I totally respect and totally agree with, we have to worry about our environment and we have to worry about our water, but then there comes down to a place where you say, okay, we have to look at what we have for information now and if I can, as a registered nurse, if I can compare it to drugs that some of you may have taken back in the fifties that you now found out you probably never should have been taking them but the FDA approved them, they didn't approve them, thinking, ah, forget it, no big deal, we're going to approve it and you'll probably live through it and it will help you, suck up the side effects, which was death. They didn't do that; they didn't do that, and Casella isn't doing that and landfills weren't created to see if we could somehow secretly poison waters. They're something that we have to have and every single one of us does make that waste. I don't care how green you are, you make waste that can't all be recycled and so you have to look at what you have now, and the best you have is things like this, where you have engineers, that the best that you know of right now today, this

landfill is what's working and it's the best we have today. Fifty years from now I'm sure they're going to be laughing at us, just like fifty years ago with some of the other stuff and the scientists were saying that we've had all these problems, we've learned every year, haven't we? We've learned every year that, hey, you know what, we can't do it this way, oh, this is causing this, this caused this consequence, and in 50 years, 20 years, how technology is flying, we are going to learn what we have done now, but you can't make that decision now on what might be in fifty years. We have to put waste somewhere today, and today is with what you know of is the best, safest way to do that, and I can -- from what I have and I have looked into Casella and what they do, they're doing it as best as they can that we have to offer today. You wouldn't want to have a heart transplant 25 years ago but you have it today. So you don't say today, oh, I don't want you to do a heart transplant because, you know, Aunt Nellie died, nope, but you do today not the way it was done 25 years ago but the way it was done now, and the same thing, I don't want to have a landfill the way it was done 20 years ago but we have no

other choice but to have a landfill that takes care of waste now, and in ten years there will be new stuff that we learned, etcetera. It's just -- it's just the way it goes.

So as a resident, and I have children and I have grandchildren in the town, I don't have any water issues, I haven't been gassed in any garden, I don't have any smell, I don't have any nuisance that causes me to not want to live in Alton, but I do make waste, I do know it has to go there and we have a long way to go on recycling and learning how to recycle so that we don't have all this stuff that's going there, because from what the rumors are that I hear what goes in the landfill, yup, what goes in the landfill is stuff that these people -- they're opposing the landfill, they probably should be going to these huge companies that are dumping a whole 18-wheeler load of the supplies they couldn't sell and all the plastics and all the other stuff. That is the crime, is what we're filling the landfill with. Casella isn't making up that stuff. They didn't create that information or that trash to throw it in. That's what's coming to them. That's the crime is the stuff that's being thrown out today, but

that's all I was thinking. Thank you.

CHAIRMAN PARKER: Okay, appreciate it. I think I've completed all the names on the list. First of all, I want to compliment the audience for being orderly and respectful and we sure appreciate that. We've gotten a lot of input from both sides tonight and I'm sure we'll dwell on that at future meetings. We're now going to adjourn this meeting and we're going to meet tomorrow morning at 8:30, not 9:00 in the morning. We started testimony tomorrow morning and we'll carry that on until probably right around noontime if we stay somewhat near our schedule.

MS. BERTOCCI: Just before folks leave, if you do have a written statement that you wanted to leave with us, please bring it forward and we'll be happy to accept it and we'll reproduce that or if you want to submit any comment electronically before the end of the day tomorrow, we'll be happy to accept that if you send it to Kathy Tarbuck@maine.gov. If you've got any questions, please come up and we'll give you the e-mail address.

CHAIRMAN PARKER: Yes, Tom?

MR. DOYLE: Mr. Chairman, does this mean

there's no public session tomorrow?

CHAIRMAN PARKER: There's no public session tomorrow.

MR. DOYLE: Thank you.

CHAIRMAN PARKER: Thank you and have a good evening.

(HEARING IN RECESS UNTIL 8:30 A.M., OCTOBER 19, 2016)

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