In The Matter Of:

Candlewood Solar, LLC, Petition for a Declaratory Ruling

Administrative Hearing
October 31, 2017

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STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Petition No. 1312

Candlewood Solar, LLC, Petition for a Declaratory Ruling That no Certificate of Environmental Compatibility and Public Need is required for the Proposed Construction, Maintenance and Operation of a 20 Megawatt AC (26.5 megawatt DC) Solar Photovoltaic Electric Generating Facility Located on a 163 Acre Parcel at 197 Candlewood Mountain Road and Associated Electrical Interconnection to Eversource Energy's Rocky River Substation on Kent Road in New Milford, Connecticut

Administrative Hearing Held at The Connecticut Siting Council, 10 Franklin Square, New Britain, Connecticut, on October 31, 2017, beginning at 11:00 a.m.

H e l d B e f o r e:

ROBIN STEIN, Chairman

A p p e a r a n c e s:

Council Members:

JAMES J. MURPHY, JR.
Vice Chairman

ROBERT HANNON,
DEEP Designee

LARRY LEVESQUE, ESQ.
PURA Designee

MICHAEL HARDER
ROBERT SILVESTRI
DANIEL P. LYNCH, JR.

Council Staff:

MELANIE BACHMAN, ESQ.,
Executive Director and Staff Attorney

MICHAEL PERRONE,
Siting Analyst

A p p e a r a n c e s:(cont'd)

For the Petitioner (Candlewood Solar, LLC):

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For the CONNECTICUT DEPARTMENT OF AGRICULTURE:

Connecticut Department of Agriculture
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Hartford, Connecticut 06103
By: JASON BOWSZA

For the TOWN OF NEW MILFORD:

Town of New Milford
10 Main Street
New Milford, Connecticut 06776
By: REBECCA L. RIGDON, ESQ.

THE CHAIRMAN: Good morning, ladies and gentlemen. I'd like to call to order the meeting of the Connecticut Siting Council today, Tuesday October 31, 2017, at approximately 11 a.m. My name is Robin Stein, Chairman of the Connecticut Siting Council.

This evidentiary session is a continuation of a public hearing held on September 26, 2017, at the Roger Sherman Town Hall in New Milford. It's held pursuant to the provisions of Title 16 of the Connecticut General Statutes and of the Uniform Administrative Procedure Act upon a petition from Candlewood Solar, LLC, for a declaratory ruling that no certificate of environmental compatibility and public need is required for the proposed construction, maintenance and operation of a 20 megawatt solar photovoltaic electric generating facility located on 163-acre parcel at 197 Candlewood Mountain Road and associated electrical interconnection to Eversource Energy, Rocky River Substation on Kent Road in New Milford, Connecticut.

The petition was received by the Council on June 28, 2017. A verbatim transcript will be

made of the hearing and deposited at the New Milford, Brookfield and New Fairfield Town Clerk's offices for the convenience of the public. We will proceed in accordance with the prepared agenda, copies of which are available near the door I believe.

I wish to call your attention to those items shown on the hearing program marked as Roman numerals 1D, items 1 through 123.

Does the petitioner or any party or any intervener have any objection to the addition to items 20, 62, 63, 78 79 and 101 that the Council has administratively noticed?

MR. MICHAUD: No.

THE CHAIRMAN: Hearing and seeing none, we will notice those existing documents.

We're going to continue with the appearance of the petitioner Candlewood Solar, LLC. I believe you have a new witness to be sworn in. Is that correct?

MR. MICHAUD: Yes, Chairman Stein.

THE CHAIRMAN: So will the new witness please rise? And Attorney Bachman will swear you in.

P A T R I C I A F O S T E R,
called as a witness, being first duly sworn by the Executive Director, was examined and testified under oath as follows:

B R I A N B U T L E R,
R O B E R T B U K O W S K I,
J O E L L I N D S A Y,
J A M E S W A L K E R,
recalled as witnesses, having been previously sworn by the Executive Director, were examined and testified under oath as follows:

THE CHAIRMAN: Thank you. And I understand you have submitted new exhibits, Roman numeral 2, item B-11 through 18.

MR. MICHAUD: Yes, Chairman Stein. We have eight exhibits for identification purposes. I will read them for the record. Exhibit 11 will be Candlewood Solar, LLC's responses to Council interrogatories set two with attachments, dated October 24, 2017.

Exhibit 12 is Candlewood Solar LLC's responses to Council interrogatories set three, dated October 24, 2017.

Exhibit 13 is Candlewood Solar LLC's supplemental prefiled testimony with attachments, dated October 24, 2017, and this testimony is for Joel Lindsay of Ameresco, Robert Bukowski from Amec Foster and Ms. Patricia Foster for Amec Foster.

Exhibit 14, which is the resume of Patricia Foster. Exhibit 15 which is the conservation restriction area map dated October 24, 2017. Exhibit 16 was the updated proposed conditions map dated October 24, 2017.

October -- excuse me, Exhibit 17 is the revised response to Council interrogatory number 14 including the phase 1B report dated October 24, 2017.

And lastly, Exhibit 18 which is the Oxbow species account report dated October 20th, 2017. I would submit these exhibits for identification at this time.

THE CHAIRMAN: Thank you.

And proceed with verification.

MR. MICHAUD: Yes.

So this is directed to the panel. I have several exhibits. Some are directed to the entire panel. Some are directed to specific

witnesses. So for exhibits 11 and 12, this is directed to the entire panel. And I'm going to read this question, and each of you can respond.

Did you prepare or cause Exhibits 11 and 12 to be prepared?

Mr. Walker?

THE WITNESS (Walker): Yes.

MR. MICHAUD: Mr. Lindsay?

THE WITNESS (Lindsay): Yes.

MR. MICHAUD: Mr. Bukowski.

THE WITNESS (Bukowski): Yes.

MR. MICHAUD: Ms. Foster?

THE WITNESS (Foster): Yes.

MR. MICHAUD: Mr. Butler?

THE WITNESS (Butler): Yes.

MR. MICHAUD: And do you have any edits, corrections, changes or additions to these exhibits?

THE WITNESS (Walker): No.

MR. MICHAUD: Mr. Lindsay?

THE WITNESS (Lindsay): No.

MR. MICHAUD: Mr. Bukowski.

THE WITNESS (Bukowski): No.

MR. MICHAUD: Ms. Foster?

THE WITNESS (Foster): Yes.

MR. MICHAUD: Okay. Could you please proceed?

THE WITNESS (Foster): Yes. I'd like to make two updates. Specifically I would like to note that the letter that was referenced in Siting Council response 49 to the natural diversity database was filed, and we have copies of that for the -- to submit to the Council.

I'd also like to note that in my prefiled testimony I noted that the phase 1B report would be filed with the Connecticut SHPO. The cover letter is here and I'd like to file that with the Council.

MR. MICHAUD: Yeah, Mr. Chairman, would you like me to provide these to the members now, or wait?

THE CHAIRMAN: I guess now. You have them in your hand. Why not?

MR. MICHAUD: Okay.

THE CHAIRMAN: Thank you.

MR. MICHAUD: You're welcome.

And with those changes do each of you adopt these exhibits as part of your sworn testimony today?

Mr. Walker?

THE WITNESS (Walker): Yes.
MR. MICHAUD: Mr. Lindsay?
THE WITNESS (Lindsay): Yes.
MR. MICHAUD: Mr. Bukowski.
THE WITNESS (Bukowski): Yes.
MR. MICHAUD: Ms. Foster?
THE WITNESS (Foster): Yes.
MR. MICHAUD: Mr. Butler?
THE WITNESS (Butler): Yes.
MR. MICHAUD: Okay. Now I'm going to proceed to Exhibit 13. I'm directing this to Mr. Lindsay, Mr. Bukowski and Ms. Foster. This is in your prefiled testimony.
Did you prepare or cause Exhibit 13 to be prepared?
THE WITNESS (Lindsay): Yes.
THE WITNESS (Bukowski): Yes.
THE WITNESS (Foster): Yes.
MR. MICHAUD: And do you have any edits, corrections, changes or additions to Exhibit 13?
THE WITNESS (Lindsay): No.
THE WITNESS (Bukowski): No.
THE WITNESS (Foster): No.
MR. MICHAUD: Thank you. And do you adopt these exhibits as part of your sworn

testimony today?

THE WITNESS (Lindsay): Yes.

THE WITNESS (Bukowski): Yes.

THE WITNESS (Foster): Yes.

MR. MICHAUD: Okay. And we're going to move to Exhibit 14. This is directed to Ms. Foster only.

Ms. Foster, did you prepare or cause Exhibit 14 prepared?

THE WITNESS (Foster): I did.

MR. MICHAUD: Do you have any edits, corrections, changes or additions to Exhibit 14?

THE WITNESS (Foster): No.

MR. MICHAUD: And do you adopt this exhibit as part of your sworn testimony today?

THE WITNESS (Foster): Yes.

MR. MICHAUD: Moving to Exhibit 15. This is directed to Joel Lindsay. Joel, Mr. Lindsay, did you prepare or cause Exhibit 15 to be prepared?

THE WITNESS (Lindsay): Yes.

MR. MICHAUD: And do you have any edits, corrections or changes to this exhibit?

THE WITNESS (Lindsay): No.

MR. MICHAUD: And do you adopt this

exhibit as part of your sworn testimony today?

THE WITNESS (Lindsay): Yes.

MR. MICHAUD: Thank you.

And moving to Exhibits 16 and 17, directed to Ms. Foster.

Did you prepare or cause Exhibits 16 and 17 to be prepared?

THE WITNESS (Foster): I did.

MR. MICHAUD: Do you have any edits or corrections to these exhibits?

THE WITNESS (Foster): No.

MR. MICHAUD: And do you adopt these exhibits as part of your sworn testimony today?

THE WITNESS (Foster): Yes.

MR. MICHAUD: And lastly, Exhibit 18 is directed to Mr. Butler. Mr. Butler, did you prepare or cause Exhibit 18 to be prepared?

THE WITNESS (Butler): I did.

MR. MICHAUD: And do you have any edits, corrections or changes to this exhibit?

THE WITNESS (Butler): No.

MR. MICHAUD: And do you adopt this exhibit as part of your sworn testimony today?

THE WITNESS (Butler): I do.

MR. MICHAUD: Thank you.

Mr. Chairman, with that I would submit these exhibits as full exhibits at this time.

THE CHAIRMAN: Do any of the parties or interveners have any objection to the admission of these exhibits.

(No response.)

THE CHAIRMAN: Hearing and seeing none, they are exhibited.

So we will now continue with cross-examination of the petitioner first by the staff, Mr. Perrone.

MR. PERRONE: Thank you, Mr. Chairman.

In set 3 of the council interrogatories, number 111, site alternatives are discussed. Is it correct to say that the proposed site is the only site you found with willing landowners and adequate acreage, and in close proximity to electrical infrastructure?

THE WITNESS (Lindsay): Yes, I would say that's correct.

MR. PERRONE: Okay. And also number 112, there's mention of a possible alternative site in Milford at the Century Brass site. There

was a mention of a possible natural gas powerplant at that site. Do you know the current status of the plant at that site?

THE WITNESS (Lindsay): I believe that it is not something that is happening at that site.

MR. PERRONE: With that aside, is the main reason for rejecting that property as a potential site because of on-site wetlands?

THE WITNESS (Lindsay): That is part of the reason, yes. That's -- in terms of space there's not space at the site.

MR. PERRONE: Okay. All right.

In response to council interrogatory 19 to the Department of Agriculture, the Department of Agriculture briefly mentions the possibility of rooftop solar. Would rooftop solar be a feasible alternative?

THE WITNESS (Lindsay): No.

MR. PERRONE: Is that because of the size and acreage required?

THE WITNESS (Lindsay): Yes.

MR. PERRONE: I understand in this revised configuration the angle of the panels has changed from 15 degrees to 12 degrees. As you

reduce the angle does that reduce the footprint and allow you to move the panels closer together?

THE WITNESS (Lindsay): Yes, it contributes to that.

MR. PERRONE: Is that because with the smaller angle you get less shading?

THE WITNESS (Lindsay): You get less row-to-row shading, yes.

MR. PERRONE: And while we're on the topic of row-to-row shading, what would be your row spacing or aisle spacing between the panels?

THE WITNESS (Lindsay): It will be approximately six to eight feet.

MR. PERRONE: Okay. And just to be clear, I'm just talking about the actual open space, not center to center.

THE WITNESS (Lindsay): That's right.

MR. PERRONE: Okay. Great.

And is that distance the minimum necessary to allow for access, maintenance and shading effects?

THE WITNESS (Lindsay): Correct.

MR. PERRONE: Okay. Were you able to get that distance a little bit smaller with the reduction in the angle?

THE WITNESS (Lindsay): It does allow for a smaller distance.

MR. PERRONE: Also while we're on the topic of the revised configuration, have you received any feedback from the Town of New Milford regarding the revised configuration?

THE WITNESS (Lindsay): No.

MR. PERRONE: At the last hearing I had asked about the status of the review of the power purchase agreement by the Mass Department of Public Utilities. Do you know the status of such a review?

THE WITNESS (Walker): A docket has been set up. It was approved by the Department of Energy Resources, but it's still in the regulatory process at the Department of Public Utilities. Under -- and I could give you the docket number, but I don't have it off the top of my head.

MR. PERRONE: That's okay. Do you know a rough timeline on that review?

THE WITNESS (Walker): I don't. The Department of Public Utilities is -- has several major rate cases before it including Eversource, and I'm not sure where that fits in their procedural schedule.

MR. PERRONE: I understand that the project has proposed to achieve commercial operation by mid 2019. So in terms of the ISO New England forward capacity auction, where the auction happens three years in advance, when would you anticipate a capacity commitment period forward?

THE WITNESS (Walker): Someone else in our office is the expert on the capacity markets, but my understanding -- and I'm guessing at this, but my understanding is that the capacity auction is already filled through maybe 2021. So it would be after that timeframe.

It will not be at the time that the project begins commercial operation, is my understanding subject to check.

MR. PERRONE: And one last item on that topic, and if you don't know it's okay. I understand the project is 20 megawatts AC. For the purposes of the forward capacity auction would a smaller amount be bid because it's solar and the solar peak may be different from the system peak?

THE WITNESS (Walker): ISO New England already takes that into consideration. So we will bid our 20 megawatts, but they derate the project.

ISO New England as part -- and as part of their review of our project, we -- and we don't have direct contact with ISO New England, unfortunately, but what we understand is through Connecticut Light & Power is that they want to have control over our solar array.

So we have just recently changed the inverters to allow them greater control over -- is that correct?

THE WITNESS (Lindsay): (Nodding affirmatively.)

THE WITNESS (Walker): Over our array so that it can fit within, and be a resource within ISO New England for security of power and the grid.

MR. PERRONE: Does the power output of the solar panels slowly degrade over time as the panels age?

THE WITNESS (Lindsay): A small amount. There's typically a .5 percent degradation in performance on an annual basis. That's taken into account in our modeling of output for the period of the contract.

MR. PERRONE: At the .5 percent, that's power, or wattage?

THE WITNESS (Lindsay): Yes.

MR. PERRONE: Okay. And one minor technical revision. I understand that now you're at 20 megawatts AC and 24 DC. So your AC and DC ratio would now be about .83?

THE WITNESS (Lindsay): Yes, I'd -- I'd have to do the math myself, but it's -- that sounds pretty much correct.

MR. PERRONE: Okay. And in the prefiled testimony of Mr. Lindsay, page 3, dated 10/24, it notes that 20 megawatts AC is the minimum AC capacity required under the PPA.

So is it correct to say that the petitioner has no further flexibility to reduce the footprint because of you're tied to basically 20 megawatts AC?

THE WITNESS (Lindsay): Yes.

MR. PERRONE: Okay. Does the petitioner believe that it has minimized the land area necessary to achieve its capacity target of 20 megawatts?

THE WITNESS (Lindsay): Yes, we do.

MR. PERRONE: I know before we were talking about operation of the plant. How would the plant be shut down in the event of an

emergency such as a fire? Would there be a lockbox, or a key box that emergency responders could access?

THE WITNESS (Lindsay): Yes, there would, and we would train the emergency responders as to what they could do in the event of an emergency.

MR. PERRONE: So by accessing that lockbox and turning a key they could basically shut the whole facility down?

THE WITNESS (Lindsay): That's typically what is done.

MR. PERRONE: Okay. And the entire facility would be deenergized at that point?

THE WITNESS (Lindsay): That's right.

MR. PERRONE: Okay. I understand the prefiled included a lot of revisions to take into account the revised configuration, updated some numbers. One area --

THE WITNESS (Walker): Excuse me. I just want to clarify what Joel said, is that the solar panels will always produce electricity as long as there is light on them.

What the circuit does is deenergize power leaving the array, but as long as there's

sunlight on the solar panels those solar panels produce electricity.

MR. PERRONE: Because it's basically a passive device, so the DC power headed towards the inverter, that's still hot if there's light?

THE WITNESS (Walker): I'm not an electrical engineer. So I don't know all the safety, but the national electric codes and other codes, we -- we follow all the prescribed safety and fire codes for such a system.

MR. PERRONE: Now I'd like to get into the FAA issues. I understand earlier on we received the no-hazard determinations based on corners of the plant, the center of the plant.

Since the plant configuration has changed slightly, but the height hasn't increased, would these no-hazard determinations still stand, or would they have to be revised?

THE WITNESS (Lindsay): They should still stand. It's still essentially the same height. There's really been no change in that.

MR. PERRONE: And in the first set of the Council interrogatories we had asked about the glare analysis. Since your angle has changed would that materially affect your glare analysis?

THE WITNESS (Lindsay): It should not materially affect it.

MR. PERRONE: So the conclusions reached in your glare analysis would remain the same?

THE WITNESS (Lindsay): It should be essentially the same.

MR. PERRONE: In response to Council interrogatory 95, in set 2 there's mention of a countersunk fence. So by mention of a countersunk fence, do you mean part of the chain-link would be buried below grade?

THE WITNESS (Butler): Yes. That's the intent, is just to have no gap at the soil surface.

MR. PERRONE: But smaller animals such as snakes could still climb through the chain-link fence, the mesh?

THE WITNESS (Butler): Correct.

MR. PERRONE: Is it possible that some wildlife could get stuck in the fence mesh?

THE WITNESS (Butler): With the two-by-two standard chain-link it's very uncommon. I'm not aware of it and the animals that we're specifically trying to either protect or exclude wouldn't be affected for it, by it. That's why we

have selected that method.

MR. PERRONE: Okay. Had you considered raising the mower height to, say, eight inches to prevent take of species during mowing?

THE WITNESS (Butler): We had, and that's a tactic that's used both in Hane and other -- other applications outside of the solar realm.

The downside of that, there's still vehicle tires, treads that occupy about 20 percent of the spread of the mowing deck. And so that's a source of mortality, and so that's one of -- that's the main reason. So --

MR. PERRONE: And I understand that while the height of the facility has not increased, I just want to ask about that. In the prefiled testimony of Patricia Foster it mentions that the top of the solar panels would be about 7 feet, and then the drawing in Council interrogatory 108 it's showing roughly 6 feet.

Would it be, say, closer to six, but seven is sort of a worst-case height?

THE WITNESS (Lindsay): I would say, yes. Yeah, there it's probably closer to six, but we use seven as a conservative number.

MR. PERRONE: Also early on, going back to council interrogatory number seven we had asked about agricultural soil impacts. Would your response to that remain the same given the revised configuration? That would be back in set one.

THE WITNESS (Foster): The solar array parcel does not contain any Connecticut prime farmland soils or Connecticut imported agricultural soils. It does not change the response.

MR. PERRONE: And while we're on that topic, one issue that was brought up by the Council on Environmental Quality -- and we had also posed the question to the Department of Agriculture. The Department of Agriculture had noted that a field visit would be warranted to see if surface stones had been removed, since that could possibly result in reclassification as important farmland soils.

Could the petition respond to that?

THE WITNESS (Lindsay): We have not taken any action with regard to that.

MR. PERRONE: Would the proposed revised configuration reduce impacts to core forests?

THE WITNESS (Foster): There will be a change, yes. There will be a reduction in the change to interior forest.

The current area of core forest, as said we noted 788 acres total, 443 acres of interior and 345 of edge. With the revised site plan the interior forest will change to 359 acres, and the edge to 375. So there will be a reduction in interior forest, but an increase in edge forest.

I would like to point out, though, it's medium-sized forest patch and it will remain a medium-sized forest patch.

MR. PERRONE: I'd like to move on to the stormwater topic. I understand that with the revised configuration, a revised stormwater plan hasn't been worked out, but I have some general stormwater questions.

In the filing from DEEP dated September 21st, and it's filed by Mr. Reese, attached to that is a document called stormwater management and solar farm construction projects.

And on page 2 and 3 of that document DEEP has recommendations, and has the petitioner reviewed those recommendations? And would the petitioner be able to incorporate those

recommendations in its stormwater design?

THE WITNESS (Bukowski): Yes, we have reviewed, and we actually met with DEEP on October 5th to discuss with them the project and the requirements of the construction general permit. So our plan is to comply with their recommendations as well as the permit requirements.

MR. PERRONE: And while I understand that the design will be updated, in general would you expect that post construction discharge rates onto adjacent properties would be no greater than preconstruction?

THE WITNESS (Bukowski): Yes.

MR. PERRONE: And Rescue Candlewood Mountain submitted a 2007 Town of New Milford decision that denied a housing development at the site. And some of the reasons for that denial were related to stormwater issues.

For example, increase in impervious surface. And let's see, reduced infiltration and transpiration of stormwater by tree removal and regrading.

I understand the proposed project is quite different than a housing development

project, but would these stormwater issues that were listed in the housing project denial, would those issues be a problem for the proposed facility?

THE WITNESS (Bukowski): As you said, it is quite a different. We're not installing roads and houses and things like that here. So the solar panels themselves are not considered impervious area because they're elevated above the ground. So they're not in direct contact with the ground.

And stormwater does run onto the panels. There are gaps between each of the panels so it allows the stormwater to flow through. In addition, any stormwater that flows between the rows is allowed to run on into those areas below the panels. So as far as impervious area, it's really not even close to being what would be provided for a typical development.

MR. PERRONE: And you're not proposing any paved surfaces?

THE WITNESS (Bukowski): There will be some concrete paths for it to hold some of the transformers and the larger electrical equipment. But other than that? No, it's just gravel roads.

MR. PERRONE: Okay. And one last item on the stormwater topic. I don't know if you have this in front of you. This was filed by Rescue Candlewood Mountain. It's dated October 20th. It's a letter from Russell Posthauer, P-o-s-t-h-a-u-e-r?

THE WITNESS (Bukowski): Yes, I have read that.

MR. PERRONE: On page 1 of that there are four points that are made. Would the petitioner be able to respond to those?

THE WITNESS (Bukowski): Yes.

So the first one says, in general the proposed construction calculations do not take into account the placement of solar panels on site. When we look at this we look at the site as a whole.

So the curb number, which is basically the factor that plays into the surface and how rain will either run off or infiltrate, that does change. We are, as you know, removing trees and we are installing gravel roadways, doing minor regrading.

So the overall site hydrology won't change, but you know, it does take into account

the solar panels and the area that they're placed in. As I mentioned earlier, the solar panels are not considered impervious area because they don't have direct contact with the ground.

Item two, time of concentration has been determined, ignoring the solar panel locations by creating a longer TC of the amount of post-construction flow -- is underestimated, shorter TC increase, estimated runoff.

So we do -- we do take that into account. Again, the time of concentration is defined as the most distant point in the watershed area to the final point. So that is factored in.

I think what he's getting at here, again is -- I think what he's saying is that the solar panels themselves should be considered impervious area, but that's not the case, because again they're not in direct contact with the ground.

Number three. It says, they could not find where the increase in impervious area gravel roads was incorporated into the calculations which by its absence decreases the drainage flow from post-construction condition. The location on the gravel road would also affect the TC, further reducing the number.

The gravel roads were taken into account. One thing that we did clarify with DEEP when we met with them earlier this month is that the gravel roads need to be considered or modeled as impervious. So the software that we use has different curb numbers assigned for, say, a gravel surface versus a paved surface. So the final analysis will model those roads as -- as impervious.

The last item was number four. With the angle of solar panels being reported 15 degrees from horizontal and the apparent width being about 20 feet, one would expect that there would be substantial areas of ground under the panels that will not be rained upon. This would make these areas equivalent to being impervious. Think about placing a large, oversized table on the ground and being able to get under it to stay dry while it's raining.

Additionally, any growth would be expected to be poor and not good as indicated in the calculations. This would be expected to increase substantially the flow off the site. Again, it also would be expected to affect the TC, further reducing it.

So as I said before, these panels are placed in racks and there are gaps between each of the panels. So it's not a situation where all the rain that hits one of these racks flows to the drip edge and then goes off there. So the rain does go between each of these and you can see if you go out to a solar site that's under construction before vegetation has been established. You can see where the rain actually flows through.

And the rain also does go under the panels. In fact, as far as the comment about vegetation growth, we've seen better vegetation growth on the bottom side of the panels just because it is shaded somewhat. Sometimes it tends to get burned out in other areas that are exposed just directly to sun.

MR. PERRONE: Great. Thank you.

One more item on going back to alternatives. I understand right off of Candlewood Mountain Road near where we parked for the field review there's an open field area. And I understand initially that was avoided for solar development because of visibility concerns, but how much acreage would you have there if you were

to install panels in that open field?

THE WITNESS (Lindsay): About five acres.

MR. PERRONE: If you were to relocate solar panels onto that field could you reduce vernal pool impacts?

THE WITNESS (Foster): So there's three vernal pools on the site. There's one in wetland five and then there's two cryptic vernal pools that were identified within wetland one. The revised site plan has shown there's no impact to the vernal pool depression and there's no direct impact to the hundred-foot envelopes.

MR. PERRONE: Okay. One other item on that thought. If you did move some of the panels onto the open field area, would that reduce the amount of forested area to be cleared?

THE WITNESS (Lindsay): I'd say my -- my initial answer would be potentially we could reduce it somewhat. Given that it's about five acres and we, you know, there -- there could be some reduction in the amount of array up on the higher part.

MR. PERRONE: And just one last item on the topic. If you were to relocate some of the

panels, let's say, from the north of where it's currently proposed to the open field, would you be able to mitigate the visual impacts with, say, a vinyl fence or planting trees around the arrays?

THE WITNESS (Lindsay): Potentially, but the visual impact would still be much more than what it is now.

MR. PERRONE: Okay. Now I'm going to move on to vernal pool impacts. Specifically the critical terrestrial habitat areas around the vernal pools. I understand for wetland one and wetland five we were also given an aggregate figure that takes into account both.

Is that commonly done to do an aggregate figure? Or are they generally reviewed separately, the CTHs?

THE WITNESS (Butler): It's certainly part of the same system. I'm not sure if there's a convention on that, but when you're looking at protected -- a similar set of interests and these are overlapping, it makes intuitive sense I think that you consider it.

And we do give the breakdown of individual as well, or at least two individuals for wetland one and wetland five, but I don't

think it's disingenuous to show they're not a landscape scale, the actual impacts.

MR. PERRONE: Does the Calhoun and Klemens document give any guidance about doing them separately versus together? Or do you believe it's silent on that?

THE WITNESS (Butler): I don't believe it's addressed. I could be incorrect, but I don't believe so.

MR. PERRONE: And as far as the development within the CTH, wetland 5 I believe we're at a little over 17 percent, and wetland 1, a little over 41 percent. Which pool has the greatest number of vernal pool obligate and facultative species breeding in the pool?

THE WITNESS (Butler): We don't know that factually. Neither pool has been examined during the peak of breeding season. There may be more diversity in one or the other.

I believe in the CVPs in wetland one it may be somewhat more diverse because the habitat interior to the vernal pool envelope is a little more diverse than up in wetland five.

MR. PERRONE: Would you consider the loss of 41 percent of forested cover within the

CTH of wetland 1 a significant and irreversible impact?

THE WITNESS (Butler): Statistically it's significant being about 5 percent. It -- in this context, however, the Calhoun and Klemens guidelines I don't think anticipated solar developments as a development option on the menu in 2002. When that was written solar, the solar industry was pretty vestigial in the Northeast here.

So we do have a different overall impact. We don't have -- as I mentioned in my testimony, we don't have some of the ongoing legacy impacts of mortality from road strikes, capture and storm drains and generally either paved or otherwise, unfavorable or uninhabitable landscape.

So we do alter it. It is significant by the dictionary definition certainly, but it's not quite on par with conventional development, which I think was more anticipated in the Calhoun and Klemens document.

MR. PERRONE: And back to that countersunk fence topic, would excluding box turtles from the field disrupt their present home

ranges?

THE WITNESS (Butler): Yes. If -- if they're present there, which we don't have any imperial evidence, and on mountain -- mountainous areas, the density of box turtles tends to be less, in my personal experience, than that of others.

That being said, the transformation of the habitat would be an alteration of it to begin with. We opted as -- in some instances solar arrays opt to raise the fence and allow wildlife to move freely. We didn't think that was the desirable course of action in this instance.

As I said, other species will be able to perambulate the array field at their leisure or at their convenience, but we thought it was more important to keep the adult stage of box turtles, which are probably very rarefied on the landscape as is, keep them at bay from an area where there would be an internal hazard potentially.

Meanwhile, they will have the shade arrays -- shade aprons, rather, on the exterior of the fence that they can use as forage, as thermal regulation and potentially as nesting habitat, again if they're present there and in significant

numbers.

THE WITNESS (Bukowski): Can I just add one more thing?

MR. PERRONE: Sure.

THE WITNESS (Bukowski): As part of this layout one of the things to note is that the array itself has been pulled back further from the wetland than what was originally proposed.

MR. PERRONE: One last item on the fence topic. With respect to turtles, since the fence would be countersunk into the ground would turtles be intercepted by the fence and perhaps left vulnerable to predation?

THE WITNESS (Butler): They would be intercepted or displaced and diverted by the fence, if you will. The box turtle is fortunately a pretty durable -- as an adult a durable animal.

Hatchlings and very young stage animals could ostensibly get inside the array. It would probably not be a habitat they would want to persist in. Hatchlings are very sessile. Hatchlings stay under cover in typically a woodland environment in the first several years.

So if they went in they would be able to freely exit, but an adult box turtle is at the

most critical lifestage. If you look at life tables and life history as related to box turtles the most important stage to preserve is the adult, the breeding adult age animals that can breed from age 10 or 12 to age 80. And so the mortality of those is the most highly avoided, or the most desirable to be avoided aspect of that issue.

MR. PERRONE: And one last item on the topic. Could you tell us why the countersunk fence option was chosen rather than the six-inch gap at the bottom option?

THE WITNESS (Butler): Again, it's to exclude on the presumption that box turtles are present in some measurable number. We thought it was more prudent to keep them to the external, or exterior of the array fields.

But they will again have the shade aprons as an area to be managed I believe not more than twice a year in the off-season for box turtles, the November 1 to April 15th inactive period, or relatively inactive period.

Box turtles do not hibernate in a fairly successional old scrub or old field habitat environment. So you don't have to worry about

effecting the animals that might utilize those shade aprons during the growing season or during the active season, but you do your mowing or any other maintenance activities in the nonactive season.

They'll be hibernating in the woods, a forested environment rather than hiding in the shade aprons or in the array.

MR. PERRONE: And one very last question also related to panels potentially located in the field.

If some panels were located in the open field, let's say, taken from the north and moved to the south, could that result in the material reduction in the loss of core habitat?

THE WITNESS (Butler): I believe mathematically it could just because you'd be taking that five acres, although the geometry when you take the five-acre piece and displace it to another area would not necessarily be a linear -- I have not thought it out, but I assume theoretically unless some of the other members have a different thought, taking that and displacing into another location would reduce the number of trees cut, and therefore some buffering

zone associated with that.

MR. PERRONE: And lastly, I'd like to ask about the difference between electricity sales and power flow. I understand -- well, I'd like to get into the distinction between the two.

For example, I understand the proposed project would be tied into the grid, but your actual electricity sales would be out of state. Could you explain the difference between electricity sales which may potentially be out of state versus actual power flows?

THE WITNESS (Walker): The power flows follow the laws of physics and will go within that area and will serve the needs of that area. And how we operate is governed and controlled by ISO New England, but it will serve that area.

The electricity itself will not go into Massachusetts. It's does flow -- not like a highway where you can identify an electron and send that electron to Massachusetts.

During our discussions and negotiations with the utilities they're most interested in the renewable energy credits and what they informed us -- and this is just from their verbal communications with us. That they plan to

immediately sell that electricity into the grid at that point in time, that this was for -- this is an accounting process for them. They need to have a certain amount of renewable energy credits.

So the sale of electricity and the sale of RECs is an accounting function. The actual electricity and electrons will be in that region.

MR. PERRONE: And one last thing. Is a REC essentially a certificate that you've generated one megawatt hour of class one?

THE WITNESS (Walker): Yes, that's what it is. Yeah.

MR. PERRONE: Thank you. That's all I have.

THE CHAIRMAN: Okay. Thank you. We'll now continue with cross-examination by the Council.

Mr. Silvestri?

MR. SILVESTRI: Thank you, Mr. Chairman, and good morning.

Could you explain to me the relationship between Ameresco, Candlewood Solar LLC, and New Milford Clean Power?

THE WITNESS (Walker): Ameresco owns the Candlewood, LLC, for -- and all our projects are

owned that way. They're financed, and separately. The New Milford is owned by a separate entity and they're leasing the land to us. There's no -- there's no relationship except that we have -- we'll have a lease agreement with them.

MR. SILVESTRI: Okay. So who will own and operate the solar generation facility if approved and when it begins operations?

THE WITNESS (Butler): Ameresco's LLC, which is Candlewood.

MR. SILVESTRI: Mr. Walker, I wanted to go back when you had mentioned you're proposing to change inverters. Will the numbers stay the same, eight?

THE WITNESS (Walker): So what -- what has been filed is what that proposed change is. We've already made the change. We were asked to make that change by Connecticut Light & Power, and we did so.

THE WITNESS (Lindsay): The number should be the same. They're generally the same size. There's just some different controls associated.

THE WITNESS (Walker): It's really a function of controls that allows ISO New England

to have greater control over our array.

MR. SILVESTRI: Thank you. If I could have you look at the original drawing E-100 and also E-101? And I'll give you a moment to find those.

THE WITNESS (Lindsay): We are there.

MR. SILVESTRI: So far so good. More particularly with E-101, when we talked earlier about spacing between the rows of panels, if I look at the original design that was being proposed, the spacing varies according to the drawing of E-101 and E-100.

And I was wondering if you could explain why towards the bottom of the drawing, the spacing looks a lot greater than when you get to the top of the drawing there where it says, vernal pool?

THE WITNESS (Lindsay): To some extent that's a little bit of just a design artifact. That's -- there's probably not a significant amount of difference, but it may vary some.

Just based on our designers looking at these specific areas and what they're trying to fit in a specific area and that, well, that's something that will be finalized by our engineers once the overall -- overall space that we're using

is finalized. So there's -- there's not a significant amount of variation between, in terms of inter-row spacing, and it might be an artifact of the figure itself showing maybe -- maybe more than it really is going to be.

There's an average spacing and there's really not -- there's not a need to change that spacing significantly other than maybe some local variations in terrain.

MR. SILVESTRI: So when I continue with that and look at the more blown-up drawings, for example, I have 7 of 14, and 6 of 14, I still see a very compact array towards the north of the property and a very spread out a ways as you go further south.

THE WITNESS (Walker): Right. And actually my -- really what it probably is most attributed to is that it's steeper up at the northern end. So by definition you don't have as much row-to-row shading when it's steeper. So you can actually move the rows somewhat closer together. So they would potentially be closer there.

Really that's really the main area where it's significantly, somewhat significantly steeper

than the remainder of the area.

MR. SILVESTRI: So when you mentioned the six to eight-foot shading earlier in response to Mr. Perrone's question, that would be more towards the southern part where you don't have much of a slope?

THE WITNESS (Lindsay): Yes, but it would not get any -- the spacing would not get any less than, I think, it's five feet, eight inches.

MR. SILVESTRI: Even on the northern part?

THE WITNESS (Lindsay): Yes.

MR. SILVESTRI: Okay. Thank you.

Going back to both of those drawings -- actually, the E-100 old and revised. I did not have the same scale that I could actually overlap both of the drawings to really see what the changes were being proposed.

Could you take a minute to describe the new E-100 and the changes that you made on it?

THE WITNESS (Lindsay): The main changes, the main changes are as we discussed in terms of the actual area that the array is using.

So in response to some of the additional information that was developed with regard to the

cryptic vernal pools, we've pulled the array essentially to the west. We've moved the array to the west relative to the old configuration on the -- this is kind of confusing, but on the eastern edge of the array.

That has been moved to the west to provide more buffer and to account for staying out of identified optimal habitat areas for the slimy salamander. So they're providing more buffer for the vernal pools and to stay out of the habitat areas. So that's the main change in terms of the area.

We did have a couple of additional notes. We noted that the field on Candlewood Mountain Road would be a potential temporary lay down area. And the other differences are also associated with those additionally identified vernal pools. The buffer -- the buffers are drawn around those on the figure.

So you can see that it kind of creates an overall buffer area. As Mr. Butler mentioned, they kind of intercept, so it creates an overall buffer area.

MR. SILVESTRI: I'm going to call them access ways, or access routes. Did they change

somewhat between the two drawings as well within the field itself?

THE WITNESS (Lindsay): Yes. I think there's some changes there. And again, that's something that we've done based on making sure that there's access while accommodating the fact that we shrunk the eastern end, the eastern side of the array. So it potentially eliminated some of the access ways there.

But that's not, you know, internal to the array. Those can be adjusted somewhat in terms of the final design.

MR. SILVESTRI: Okay. Thank you.

Would the change from a 15 degree tilt to a 12 degree tilt, what effect does that have on electricity production?

THE WITNESS (Lindsay): It has a small effect on the actual kilowatt hours generated per kilowatt of an array. So it does have a small effect on the -- essentially the specific production of the array. It lessons it somewhat because you're at a lower tilt.

MR. SILVESTRI: Overall do you still stay at 20 megawatts AC?

THE WITNESS (Lindsay): We do.

MR. SILVESTRI: You do.

Staying with the arrays themselves, you're proposing to use JASolar panels?

THE WITNESS (Lindsay): That is what we had currently looked at. That is subject to change based on availability of panels going forward in the next few months, but we always used tier one solar panels. We use panels that are considered, you know, high-quality panels, but the -- the actual manufacturer, it could potentially change.

MR. SILVESTRI: Thank you.

And with the arrays themselves and the racking system, why is the bottom edge of the panels about two to three feet above ground?

THE WITNESS (Lindsay): A number of reasons. In northern climates it's best to have panels off the ground. Well first of all, in terms of -- in terms of them considered pervious, you want to have them off the ground.

But also in terms of potential snow accumulation, it's best to keep panels at a height where they wouldn't actually be inundated by accumulated snow on the ground in the winter. And also it keeps them at a height where grass can

grow, but doesn't have to be mowed down to golf course level. That it can grow somewhat, but you've got, you know, approximately two feet there.

So it keeps the need for mowing down to more like haying a field, more like a couple times a year.

MR. SILVESTRI: Does the change to the 12 degrees tilt, does that affect the distance off the ground at all?

THE WITNESS (Lindsay): At the top end it does. It lowers the distance from the ground at the high end of the table.

MR. SILVESTRI: But not on the other end?

THE WITNESS (Lindsay): No.

MR. SILVESTRI: Is there a point somewhere where the angle of the sun could be above the horizon, but still impede solar production?

THE WITNESS (Lindsay): I'm not sure. By impede do you mean --

MR. SILVESTRI: If you look at terrain surrounding the area, is there something? Trees? A hillside? Whatever that the sun is going to get

to, say, 20 degrees above the horizon and not be effective for you?

THE WITNESS (Lindsay): There is a degree of shading of the facility at the edges that we have to account for, because we want to limit as much as possible the amount of clearing for shading. And so that's a calculation that's done specifically to look at different times of year what the amount of shading would be.

MR. SILVESTRI: But you don't have that number right now?

THE WITNESS (Lindsay): Well, it's not a single number. It's more of a calculation we'll get. What's the overall production based on assuming a certain amount of shading from nearby trees? And so we -- we account for that in the modeling.

MR. SILVESTRI: Okay. I wrote a note on my paper and I'm having a hard time trying to find why I wrote it down. So I want to ask the question to you.

I have it that no arrays would be in areas of slope greater than ten degrees?

THE WITNESS (Bukowski): Yeah, I recall that coming up at the last hearing. So in general

the racking manufacturer dictates what's the maximum allowable slope, and ten degrees is typical.

In southern facing slopes they can go a little bit steeper, which as Joel mentioned earlier, the northern side of the array, it's a little bit steeper there which is why that interval spacing is a little bit closer.

MR. SILVESTRI: Okay. So that's where that came from. More with the manufacturing spec?

THE WITNESS (Bukowski): Right.

MR. SILVESTRI: Okay. Thank you.

If I look at the TerraSmart attachment that you had looking at equipment specs, it lists 120 mile-per-hour wind speed for the racking system. How many panels could be placed on a racking system and still maintain -- or sustain 120-mile an hour winds?

THE WITNESS (Lindsay): That's an interesting way to put the question? I think in terms of the -- the tables that we have and Rob, you can chime in here, too. In terms of the tables they're designed so that, you know, that design limit is not exceeded.

And that's the typical, the installation

that we showed -- in fact on one of the interrogatories we provided a cross-section that accounts for that limit in terms of what the racks are able to handle.

MR. SILVESTRI: What I saw in the cross-section was five panels high laid out landscape-wise. I'm not sure how many long.

THE WITNESS (Lindsay): Yeah, it's four. There should be 20 panels per table.

MR. SILVESTRI: So it would be five by four?

THE WITNESS (Lindsay): Yeah.

MR. SILVESTRI: Okay. And the wind speed that it could sustain, is that regardless of tilt?

THE WITNESS (Lindsay): Yes. In fact, a lesser tilt is -- is more advantageous.

MR. SILVESTRI: Staying with the racking system, the snow loading is rated as 50 PSF. I would also ask is that regardless of tilt?

THE WITNESS (Lindsay): Yes, the panels themselves, and we've had a lot of experience with this, they slough off snow themselves. It's a little bit less when you get a lesser tilt, but we're not making a significant change in the tilt.

It's only a three degrees change going from 15 to 12.

MR. SILVESTRI: You know, if I turn the clock back to February 9th of 2013 parts of the state ended up with 30 to 40 inches of snow. How does, say, 40 inches compare to 50 PSF?

THE WITNESS (Lindsay): It's not a problem in terms of loading. It would only be a problem in terms of -- and it's really only an issue in terms of production during that period until the snow melts and it sloughs off.

MR. SILVESTRI: So the racking system could --

THE WITNESS (Lindsay): The racking system can withstand it. It's more of an issue of you will lose production on some portion of the array that doesn't slough off that snow immediately.

MR. SILVESTRI: Thank you.

Mr. Walker, you had mentioned before about renewable energy credits, the RECs.

THE WITNESS (Lindsay): Can I just add one thing? I'm sorry.

We do have structural engineers evaluate every single one of our systems including --

including this one to make sure that all those requirements are met.

MR. SILVESTRI: Thank you.

Mr. Walker, getting back to my question. You mentioned renewable energy credits before for the project. Who actually gets those?

THE WITNESS (Walker): There, they're sold as part of the project.

MR. SILVESTRI: To?

THE WITNESS (Walker): So the utilities who are buying power get those RECs and then they do what they want with them.

MR. SILVESTRI: Would they go through Eversource or that's still open right now?

THE WITNESS (Walker): The -- the four utilities, after we generate the RECs the four utilities take title to those RECs.

MR. SILVESTRI: And I found a note that you would be participating in ISO's forward capacity auction. Is that correct?

THE WITNESS (Walker): Yes. We will. That's part of the requirements of the utilities.

MR. SILVESTRI: What happens if you don't clear the auction?

THE WITNESS (Walker): Well, hopefully

we do clear the auction, but it will be our objective to figure out the strategy and the price so that we do clear the auction, but I'm -- we have someone who's an expert at that within our office. I'm not that expert.

MR. SILVESTRI: And nobody here could?

THE WITNESS (Walker): No, but -- nobody here is.

MR. SILVESTRI: We'll leave that for the time being.

If I could have a look at the -- or have you look at the New Milford farmland and forest protection committee. They had issued a memo and a question I wanted to ask as a followup. Was there an item number four? Is it feasible to use sheep or other livestock to graze the solar area?

THE WITNESS (Lindsay): We're not aware of any location where it's been done. Whether it's feasible is hard to say. It may be.

It's something that would probably be very challenging in terms of our financing for a project like this, or anyone financing a solar project in terms of just additional liability within the solar array.

MR. SILVESTRI: No, I asked not only

because it was in there, their memo, but on the news yesterday there was a couple cemeteries in the area that are actually using livestock to keep the grass down, hence my question to you.

And in keeping with that memo there was item number six that talked about the potential for a permanent easement, or deeding to a land conservation organization following decommissioning. Did anything, further discussions or anything else happen with that thought?

THE WITNESS (Lindsay): Not specifically with the forests and farmland preservation commission, but as part of our most recent submittal we did submit a plan for preservation of land around the -- on the parcel and on an adjacent parcel.

MR. SILVESTRI: And who is that with?

THE WITNESS (Lindsay): That is with -- will be with the conservation organization to be determined. There's been several that -- that are in discussions.

MR. SILVESTRI: Thank you.

Question, what is Lookout Point? This is located somewhat north of the larger cleared

field within the parcel.

THE WITNESS (Butler): It's a vista point on the east side of the property. Whether it's on this property or on the adjacent parcel is not entirely clear to us, but it's mapped on the USGS topographics. And there is a slightly improved trail to it out there on the east -- east of wetland one for orientation. So it's basically just a landmark that you can see, kind of out over the valley.

MR. SILVESTRI: So there's public access to it that people could hike?

THE WITNESS (Butler): Right now it's, I guess, ostensibly private. Under the CR, I assume it would be allowed as long as the conservation organization were agreeable to that, to the public access.

MR. SILVESTRI: Thank you.

Going back to what's transpired in Connecticut in the area within the past two weeks. At least at my residence on Sunday I ended up with three and three quarter inches of rain in a couple hours. Last week was three and half in a couple hours. And I'm looking at the stormwater management report and it has information there

that spans a 24-hour period, but really doesn't talk about the deluge type of storms that we've had, you know, the three, four or five inches.

Have you considered deluge events in looking at stormwater for the project?

THE WITNESS (Bukowski): We modeled this project based on the Connecticut DEEP guidelines. So if there's different storm frequencies, really storm events there, in your terms of a hundred-year storm, it's really a probability of the event occurring. But we -- we based it on those guidelines.

MR. SILVESTRI: Which doesn't have deluge events.

THE WITNESS (Bukowski): Well I mean, it has different storm frequencies, but it's hard to really define, you know, exactly what the deluge would be. So we -- we go based on the guidelines that the State provides.

MR. SILVESTRI: Thank you. And I don't recall, but for a tree removal was the general plan to flush cut and leave the stumps, or take the stumps out and grind them? I'm not sure what the plan was.

THE WITNESS (Bukowski): Within the

fenced-in area the stumps would be removed, but between the fenced area and the limit of work the stumps could be left in place.

MR. SILVESTRI: Okay. If I could turn your attention then to attachment four. The attachment lists a number of meetings and public forums that have been held.

For the public the number is one, however on page 17 under description of the proposed project it states that several public meetings with the residents were held. The first question I have is, which is correct? Was it one, or more than one?

THE WITNESS (Lindsay): We had one public forum and then we -- we attended and presented at several public meetings that were held by -- well, all the meetings that were public in terms of forest and farmland preservation committee, the town council meetings.

So I think what we're referring to is all the meetings we presented at which were publicly attended meetings in addition to the public forum that we had held.

MR. SILVESTRI: When you had that one public forum roughly how many people attended?

THE WITNESS (Lindsay): I would say probably 30.

MR. SILVESTRI: Okay. Thank you.

Concerning fire prevention emergency management plans, I didn't see anything in the application. Do you have plans that address those issues?

THE WITNESS (Lindsay): In terms of fire prevention there's -- there's not specific things that are required other than we meet all the requirements of the National Electric Code.

And we also note that there's -- there has been some -- that CAL FIRE produced basically solar installation guidelines and those require for ground mount installation, or at least they recommend for ground mount installation that all brush be cleared within ten feet of the arrays to limit the amount of fuel potential.

And we're going to actually be clearing actually 75 feet outside the array based on the fence line and then clearing in -- within the shading apron.

So again, everything is enclosed and the system is monitored 24 hours a day, 7 days a week for any kind of short-circuit or anything like

that that could potentially produce a spark.

In addition in terms of emergency management, again we would work with the local emergency responders to train them in how to respond and what -- what to do when they get to the site if there was a need to respond. And also to give them access and the ability to shut down the site.

MR. SILVESTRI: How do DC arc falls fit in with fire prevention, or the potential for DC arc falls?

THE WITNESS (Lindsay): Well, the system is designed to minimize that kind of condition from occurring. You know, that's something that again in our experience we haven't seen it occurring. It's something that we -- because the system is monitored and everything is fully enclosed we wouldn't anticipate that. So you know, everything is done to minimize the possibility of that happening.

MR. SILVESTRI: Thank you.

If I could have you turn your attention to the first set of interrogatories and responses from the council? The first question I have on these is in the response to number eight.

In your response to the interrogatory you mentioned to the best of the knowledge of Candlewood Solar, LLC, there is no environmental contamination on the proposed site from previous agricultural use or other land use.

My question is, what constitutes to the best of the knowledge? Was testing performed?

THE WITNESS (Lindsay): Testing was not performed. There, there had been previously I think associated with a previous owner that had been a phase one that was done on the site and -- but there is -- we have not done any additional testing or investigation. We didn't think it was necessary.

MR. SILVESTRI: So the comment was more on either the phase one or limited paper research?

THE WITNESS (Lindsay): Right.

MR. SILVESTRI: Thank you.

Staying with those interrogatories, if you could look at number 20? In your response to that interrogatory you comment -- and the Chairman might want to get involved with this one, too -- but you comment that battery storage is the topic and you have that the proposed system will not have a battery or any other type of energy

storage. All energy produced will be injected into the grid.

Was the use of battery storage ever discussed with Eversource, or during the RFP proposal?

THE WITNESS (Walker): We were responding to the RFP that was given to us, which did not request a pricing for battery storage. It was strictly a price for kilowatt hours and RECs, and that's what we responded to. Any -- any other price for batteries would have increased our price, and in our mind would have made us not competitive.

MR. SILVESTRI: Can the proposed project accommodate battery storage at some other point in time?

THE WITNESS (Walker): It's -- it's possible. We would -- we would have to have a means by which we could have those batteries paid for. Under the existing contract that's not possible.

THE CHAIRMAN: Well, would it be technologically possible?

THE WITNESS (Walker): Yes, we're -- we're working. We have solar plus battery

installations at military bases and it is technologically possible, but it does increase the cost of the project and that would have to be factored into it.

But we -- we do, for example, in Paris Island we're installing ten megawatts battery plus storage. Paris Island, for the Marines.

THE CHAIRMAN: But is there anything in your agreements that would prohibit it if, for example, somehow it became feasible from a price standpoint?

THE WITNESS (Walker): It's not contemplated in our agreements. All the power is contemplated to be sold to the utilities and the RECs. I would imagine it would require a renegotiation with the utilities.

THE CHAIRMAN: The reason for the question is you're proposing a project that will be in operation for 20 years. And I would say I'm a layperson, but from all I've read it's hard for me to conceive that within that period of time, and I would say a much shorter period of time, that battery storage technology will not have advanced to such a point that it may be desirable to include that, or retrofit that in. Am I

hearing that -- no?

THE WITNESS (Walker): Technically you're hearing that it's -- it's possible and we are doing it at other projects, but contractually we are already contractually obligated to sell all the kilowatt hours to the utilities.

So if there was a change in how the kilowatt hours flowed, in other words, they flowed into a battery and then out into the grid that would require, I'm imagining, a change in the contractual obligations that we have with the utilities and the power purchase agreement.

In addition, the project will be financed and if the electrons are going different than what's contemplated on the existing power purchase agreement that agreement would also have to be renegotiated.

THE CHAIRMAN: Okay. I hear that.

I guess the other part of my question is resiliency, and this probably is a question more aptly placed to DEEP or somebody else -- but they're not going to be here and you're here.

Is it my understanding that if for some, or due to some a major event, whether it's a storm, a cyber attack or whatever, that if the

grid goes down this project will not provide any electricity to anybody?

THE WITNESS (Walker): That's correct. That's a requirement of the utility. The utility requires us put in protection devices so that the system has to shut down in milliseconds, I believe it is, so that we don't damage the rest of the utility system by generating power when the rest of the utility system is off.

And from their standpoint they view it as safety. They don't want someone working on a -- to repair power lines, but the power lines are still live with electricity because we're generating into that. So that's a complex topic. We are currently -- we are following the safety regulations/requirements that are -- that we must follow to meet the utility interconnection.

THE WITNESS (Lindsay): The only thing I would add is it wouldn't be any different if there was a battery on site. If the grid was down there would still be a requirement that we would have to shut down to not feed in for safety purposes.

But the fact that the facility is there, you know, if the grid is not down or, you know, if there's sources of electricity that are down but

the grid is not, then that doesn't preclude the system from continuing to provide electricity to the grid if the grid itself is not down.

THE WITNESS (Walker): So what you're referring to is something called a micro-grid.

THE CHAIRMAN: Well for example, a portion of this could be -- I mean, we've done minor. We've had major -- well, I shouldn't be the one testifying. So -- but catastrophes.

And for us to be doing something that at least in theory could service, I don't know, 500 -- or 5,000 homes, or a hospital or something. And just to be blind and when there's technology available, I mean, I have solar on my roof. So if the grid goes down I can look at the solar panels and I don't have any electricity.

But I've also been told if I'm willing to pay the money and I want to install batteries and a different kind of inverter, I could at least have part of that servicing my refrigerator.

THE WITNESS (Walker): That's correct.

THE CHAIRMAN: So I'm having trouble understanding other than why it's not -- it wouldn't be feasible. In the case of something which we might say will only happen in a hundred

years, but we've had more than one in this hemisphere happen in the last month or two, that we can't be thinking about how to make these things resilient.

But again, the question is probably better asked of both DEEP and the utilities, which obviously are not here.

THE WITNESS (Walker): Right. What you're asking are, could we have a micro-grid set up? In your house you can install what's called a nano-grid. And that allows your house to what's referred to as being islanded from the grid so that you can still run power within your house.

And you might do this with either a solar array or a Generac charging station -- and that's right. The protective devices will shut the power off from going out into the grid while you can still receive power in your house.

This is a separate system that where the power is going right into the grid. So -- and we are required by law and by regulation to meet the utilities' requirements for safety in milliseconds to have that unit shut down. We have no -- it's not our role. You know, we must do that or we're not going to be given the -- we're not going to be

allowed to interconnect to the utility. We don't have a choice at that.

Alternatively, we are working in other communities where we have a solar array, let's say, on a parking area and that parking area is at a middle school, and the middle school is used as a shelter during a storm. So we've set up in a way with a special inverter that that school can be islanded from the utility and only the school gets the power.

So it's beyond what -- what any of us here can tell you. It requires changes in how utilities think about islanding, think about micro-grids. This is not a micro-grid project. It's a project to sell power right into the grid at a wholesale level.

THE CHAIRMAN: No, no. I understand what it is. I just think it's being shortsighted and I'm not pointing the finger at you. I think it's shortsighted by the regulators, those who are doing the regulation and at least state that they want resiliency. And utilities always have to be -- I'm trying to look for the polite word -- nudged into the 21st century. We'll leave it at that.

MR. SILVESTRI: I'd like to continue with the first set of responses to the interrogatories. The next one I have is a response to number 26 regarding the access road.

The proposed access road would have a width of 12 feet. Is that correct?

THE WITNESS (Bukowski): Yes, it's a minimum width of 12 feet. It does vary somewhat. We've designed the road to be able to accommodate a fire truck, a typical pumper truck. So around some of the radii of the road the width expands a little bit just to accommodate the turning radius of the truck.

MR. SILVESTRI: Have you had discussions with the town emergency responders on that?

THE WITNESS (Bukowski): We have not.

MR. SILVESTRI: Okay. So what guideline are you using that it would fit the emergency response vehicles?

THE WITNESS (Bukowski): So the design, we just use a typical pumper truck which is, I think, 40-something feet long.

MR. SILVESTRI: And also with the access, is there another access to Candlewood Mountain Road other than Route 37?

THE WITNESS (Lindsay): Do you mean an access from the project?

MR. SILVESTRI: To get into the project?

THE WITNESS (Lindsay): No.

MR. SILVESTRI: You need to come in on Candlewood Mountain Road. Thirty-seven seems to be the only way that you can get into Candlewood Mountain Road.

THE WITNESS (Lindsay): Thirty-seven? I'm not sure if I'm following. The access to the project is off of Candlewood Mountain Road. That's the only access.

MR. SILVESTRI: Right. And again, coming from outside the area?

THE WITNESS (Lindsay): You mean, Route 7? Or --

MR. SILVESTRI: I thought it was 37?

THE WITNESS (Butler): Route 7 is north.

THE WITNESS (Lindsay): Route 7 is the -- yeah. I think Route 7 is the main, but maybe there's another access to the south.

MR. SILVESTRI: Yeah, Michael mentioned to me 37, yeah, would lead into it off of 7. But that's the only way to get into Candlewood Mountain Road is what I'm getting at?

THE WITNESS (Lindsay): That would be the primary way.

MR. SILVESTRI: Again, staying with the first set of interrogatories. Looking at the responses for 55 and 56 which talks about aquifer protection and wells. Do you know what the depth is to groundwater overall at the site?

THE WITNESS (Foster): Yeah. Based on the wet soil surveys on the project site the depth is about 18 to -- it's about 18 to 37 inches on the solar array site.

MR. SILVESTRI: And do you know the location of the nearest well to the site?

THE WITNESS (Lindsay): We have not done a definitive survey, but we anticipate the nearest well would be 4 to 5 hundred feet away at one of the residences on Candlewood Mountain Road.

MR. SILVESTRI: Again, going back to the racking system and looking at the response to question number 61. What are the ground screws actually made of?

THE WITNESS (Bukowski): I believe they're steel.

MR. SILVESTRI: Plain steel or galvanized?

THE WITNESS (Bukowski): That, I don't know.

MR. SILVESTRI: Okay.

Staying with the screws, do the ground screws actually go directly into the ground? Or is there some type of pre-drilling that would have to be done?

THE WITNESS (Bukowski): It depends on the soils. So in rocky conditions like this there would typically be some pre-drilling.

MR. SILVESTRI: So rocky outcrops you'd have pre-drilling, but non-rocky outcrops they might be able to go directly into the ground.

THE WITNESS (Bukowski): Correct. Sometimes -- depending on the contract and sometimes they will have to predrill all the holes because it makes the ground screws go in a little bit quicker.

MR. SILVESTRI: And they would be drilled, not driven?

THE WITNESS (Bukowski): Correct.

MR. SILVESTRI: Okay.

How many machines do you envision would be operating at one time to screw in the anchors?

THE WITNESS (Bukowski): I think that's

to be determined depending on the final schedule, but typically if they're predrilling there may be one machine that does the predrilling and another one that comes behind it to advance the ground screws.

MR. SILVESTRI: And what type of noise impact would there be using a screw drilling machine?

THE WITNESS (Bukowski): I don't know what the decibel level is, but it would sound similar to a typical drill rig. It's usually a small rig, almost like a geo-probe type rig. I'm not sure if you're familiar with that, but I mean, the workers around it would be wearing hearing protection. I'm just not sure exactly how far that noise would -- would extend out.

MR. SILVESTRI: Yeah, I'm looking at how far it may extend, what could be potential impacts to the residents during different times of day, but I don't think anybody would want to be disturbed with a 7 a.m. noise such as that. You know, hence my question of a concern that I have.

THE WITNESS (Lindsay): Yeah, and that's the -- I mean, the level of noise from a driver like that is, you might say it's typical of a

construction project. We would work within the hours allotted, the workhours allowed by the Town. You know, we wouldn't be working outside any normal work hours.

And the distance to the -- and this is not a -- where this is going to be happening is going to be within an area that's going to be encircled by -- by trees and it's going to be several hundred feet away from the nearest residents.

MR. SILVESTRI: No, and understood. It's just I don't know what kind of noise to expect. That's why I was asking the question.

One more I have on the interrogatories. It kind of goes with question 66 and question 67, you know, getting major deliveries, doing construction. Overall what kind of plans do you have for site security during construction and for equipment deliveries?

THE WITNESS (Bukowski): So, I'm sorry. You're asking the number of deliveries per day?

MR. SILVESTRI: No. I'm asking for site security. You're having deliveries made to the site. What do you have for security to make sure whatever equipment is there stays there, does not

get tampered with, et cetera?

THE WITNESS (Bukowski): I think that's to be determined. Sometimes Ameresco has used a temporary construction fence around staging areas or around the area where things are being stored.

MR. SILVESTRI: Would you propose security guards?

THE WITNESS (Lindsay): We don't typically do that. In -- in this location I would anticipate not proposing security guards, but it's something that we'll look at, you know, when we get to that point. It's just not something that we typically have to do.

MR. SILVESTRI: Thank you.

I have two other topic areas that I'd like to cover. You had mentioned before that you didn't think that the revised tilt from 15 degrees to 12 degrees would have an impact on the glare analysis for FAA, but if you could turn back to the FAA data that you had submitted?

I do have some questions regarding the results, the computer printouts that were there. This, this goes back to attachment three of the interrogatory set.

THE WITNESS (Lindsay): Of the

interrogatories?

MR. SILVESTRI: Yeah. There was an attachment. I believe it was the interrogatory. It might have been the application itself that was submitted. My papers get mixed up after a while, but the topic of it was solar glare hazard analysis flight path report.

Did you find it?

THE WITNESS (Lindsay): Uh-huh.

MR. SILVESTRI: Okay. The first section talks about south flightpath and right below the heading it says, glare found. And I'm wondering what that means. If you could explain those two words?

THE WITNESS (Lindsay): So if you look in the actual printouts what it found is that for a very short period during one part of the year there is what is referred to in the output as low potential for temporary afterimage, and that is the terminology that's used in the glare analysis model for saying that there's, for a short time along that flightpath, there's a small amount of glare.

And it's color coded because typically what they look at is if you're in yellow or red,

when you actually have the potential, then that's, you know, something to look at further. But if you're in low potential or, you know, you've got a short-term minimal amount of glare it's, you know, not typically considered a significant issue.

So it's not -- what it means is that some amount of glare was found at some particular point and that's what we show in the output, but it's -- it's referred to as low potential for temporary afterimage.

MR. SILVESTRI: Does the FAA look at that and still say that would be acceptable?

THE WITNESS (Lindsay): Yes, but the FAA does not need to look at -- they don't require looking at a glare for a non-federally funded airport. So it's not something that -- they evaluate the obstruction issue and, you know, the glare issue is -- the glare is not -- is not looked at for an airport like this one, but we evaluate it anyway, obviously.

MR. SILVESTRI: Let me see if I can ask maybe a more qualifying question to get this clear in my head. You have flightpath observation points that are listed throughout that appendix and it has thresholds of different mileage, a

quarter mile, half mile, three quarters of a mile. And then over on the right-hand side it basically has a question of yes or no for glare.

THE WITNESS (Lindsay): Right.

MR. SILVESTRI: How many yes' would say you have a problem?

THE WITNESS (Lindsay): I don't know the answer to that. You know, it's subjected to, you know, it would be subject to some further evaluation. But as you can see, you know, there's -- there's one, yes.

MR. SILVESTRI: Yeah. I caught a quarter mile on the northern approach as a yes. And again, I don't know if it's good or bad, but I wanted to try to get some clarity as to what the report meant?

THE WITNESS (Lindsay): Again, it's considered a very minimal glare for a short period of time.

MR. SILVESTRI: One last question I have goes back to the interrogatories. This time it's the response to number 52 and it mentions that the topic is invasive species control plan.

And the response was that there is no invasive species control plan for the project as

there's minimal potential for invasive species becoming established in disturbed wetland areas, but I believe the whole project calls for the possibility of importing topsoil.

Is that correct?

THE WITNESS (Bukowski): The plan is to try to reuse as much as possible on site, but if there is any importing that that may be a possibility.

MR. SILVESTRI: So if you import wouldn't it be advisable to have an invasive species control plan?

THE WITNESS (Bukowski): Yes.

MR. SILVESTRI: Thank you.

Thank you, Mr. Chairman.

THE CHAIRMAN: Thank you.

Mr. Levesque, do you have a question?

MR. LEVESQUE: A few after that.

Why don't you look at your petition, the main volume, attachment eight. It's the New Milford farmland and forest preservation committee memorandum. And you know, you might have answered some of this already in your interrogatory answers or other parts, but how about just the recommendation number two?

You want to answer that? That's a simple one. The question was planting pasture grasses instead of traditional turfgrass.

THE WITNESS (Lindsay): I don't think we have any issue with that and we would be willing to do that and work with them on that.

MR. LEVESQUE: Where you'll consult with your experts and put something in the detailed plan later, something suitable for you?

THE WITNESS (Lindsay): Yeah.

MR. LEVESQUE: And how about the more unusual one, and more creative, but using sheep or other livestock to graze the area, or parts of it?

THE WITNESS (Lindsay): We have looked into it. We can't commit to that at this point. It is a potential liability issue. We understand what they're getting at. It's just not something that has typically been done. So it's -- it's not something that we have committed to at this point.

MR. LEVESQUE: I guess the sheep are rather large animals. Did you get a chance to research, or in the future examine any such examples like in places they have more developed smaller scale farms like with solar, like in Germany or in Italy?

THE WITNESS (Lindsay): We haven't -- we haven't found any specific instances. My guess is that there could be. We just haven't found them. I know that it's even been talked about in Vermont at some locations, but I'm not sure if it's been implemented.

It's a challenge -- and I don't know, Jim, if you want to add anything. It's challenging in terms of getting financing and covering there, the interests in terms of liability.

THE WITNESS (Walker): We yet haven't picked the final bank that's going to provide the financing, but we have talked to -- and these are major banks. These are very large banks in the United States. They are very conservative and they are -- so far they're not keen on this idea and they will be the ones that make the final decision.

MR. LEVESQUE: I mean, in speaking in favor in farmland and forest preservation and our own state agricultural department, you do have a fenced in area. You do have grass, and I can see that you wouldn't want to do it for the whole area, but it would be quite better supported for

future projects if you tried something smaller, a demonstration project.

Or even like -- I just came back from Italy and I was surprised at the number of free range chickens I saw. Hundreds of them everywhere I went in small roads. They were just loose in the vineyards and eating a lot of stuff there in the grass, the bugs, the seeds and whatever. And they're sort of smaller and less of an impact, but then you need a complicated lease agreement with some local farmer to comply with your leasing requirements.

Okay. And how about number five? You did address some of this already, the public access for the area of the Blue Trails. Have you finalized that yet?

THE WITNESS (Lindsay): It's not finalized, but I think that it's contemplated given that we have made a proposal to set aside a considerable amount of land, approximately a hundred acres that includes the terminus of the Blue Trail.

I think I can speak for the -- our land development partner, that they would, you know, that would -- that would be something that we

would work into making access to that -- to that, some public access to that area.

MR. LEVESQUE: Some already exists, so you'll be able to contact the Connecticut Forest and Park Association and DEEP?

THE WITNESS (Lindsay): Correct.

MR. LEVESQUE: Okay. Thank you very much.

THE CHAIRMAN: Thank you. I have a few questions.

Really quickly, in your site search did you limit -- was it to just Connecticut for sites for a project such as this? Was it limited to just Connecticut?

THE WITNESS (Walker): For what we were doing we were just -- this was just limited to that area with our -- with the land owners. We did not do -- Ameresco did not do a site search at that time in Maine or New Hampshire or other parts of Connecticut.

This project site became available. We looked at it and it made sense to us in the timeframe that we had to respond to the RFP.

THE CHAIRMAN: Okay. Thank you. And I just want to be clear as far as your mitigation

strategies, specifically it's a hundred acre preservation. Is that correct?

THE WITNESS (Lindsay): That's correct.

THE CHAIRMAN: Okay. And you're looking for an entity to receive it?

THE WITNESS (Lindsay): That's right.

THE CHAIRMAN: And that's your mitigation that you're proposing. Right?

THE WITNESS (Lindsay): Well, there's -- there's several elements to what we've done in terms of mitigating impacts to vernal pools and local species, which -- some of which has been discussed. And I won't detail all of those, but the setting aside of the area of land as part of what we're doing to mitigate the impacts of the project.

THE CHAIRMAN: Okay. I believe staff brought this up, and maybe others. The issue of whether or not some of the solar arrays that are in the steeper parts may be closer to more environmentally sensitive areas could be relocated to the five-acre field and I'm not talking about not necessarily the whole five acres. And I think you mentioned there's a visibility issue.

Are there other issues that would

preclude that?

THE WITNESS (Lindsay): Visibility is also the complexity that's added in terms of adding an area that's quite a distance away from the main array. So there is some additional complexity regarding needing to connect that area to the -- to the main array and to the point of connection to the interconnection route.

And so you know, part of our evaluation of the site was that we could do it in such a way that it did make it quite removed from, you know, local residents, make it less visible. And so this kind of changes that, but also the complexity.

THE WITNESS (Walker): We did evaluate it, because to be quite honest we would prefer to be at 15 degrees and we would prefer to be in a footprint that we were originally in.

But we moved. We changed the tilt angle a little bit and we moved the array to accommodate the, you know, the information that we had from our last hearings.

But we did also look at, well, could we use that property, that particular property? We did not do, you know, a thorough analysis of what

electrically that would mean, but our number one concern of using that property was we already knew that the neighbors were not happy with the site. And we decided, well, let's not cause any more concern. Let's just stay away from that site, and so that was a unilateral decision that we made and we stopped looking at it.

THE CHAIRMAN: Okay.

This is a very broad, broad question, but I think maybe this might be helpful just to have it on the record. And that is the three states got together for this RFP, for these renewable, for the RECs with utilities -- I'm oversimplifying it.

Behind that, why are we doing this? Why aren't we just looking for a site -- and I'm not saying by any means it would be this site -- but approximately a 30-acre site that would have availability of gas in interconnection and just build a powerplant, you know, which would be gas which is relatively economical and relatively less polluting?

So again, this is a policy issue, but again, I think maybe it would be helpful to have it on the record. Why are we even going through

this process?

THE WITNESS (Walker): Well, that is a policy issue and the states all have renewable portfolio standard requirements that are built into their laws. And they must meet the increasing renewable portfolio standard requirement year over year. And I'm not sure of the requirement in Connecticut, but in Massachusetts it increases 1 percent per year.

So the states all got together with the utilities and decided that a combined request for proposal was the most cost-effective, beneficial way in which to obtain renewable energy supplies and to meet the renewable portfolio standards for ratepayers. And in fact, DEEP was quite explicit in the RFP and in the analysis, that it would follow in the RFP that it was -- it would be a cost-effective selection for ratepayers. That was the main decision.

Now with respect to natural gas, that's both a policy issue and also a physical issue. You may be aware that it's very -- the natural gas pipeline system, interstate pipeline system is constrained into New England. All the capacity on the existing pipelines is rented out, if you will,

for the firm natural gas ratepayers which are the natural gas ratepayers that use natural gas for heating in the wintertime.

In the wintertime during -- a cold spell has happened during that several years ago. You may recall that electricity prices spiked and that's because there was not enough natural gas to supply the electric powerplants that required natural gas, because the gas was going to home heating uses.

So from a policy standpoint there's a decision to diversify from being solely dependent upon natural gas, because natural gas is constrained in the wintertime. And in the wintertime you may not be able to get the electricity that you hope to get, which is why they've had additional RFPs for wind in Massachusetts, wind and hydropower.

That's a long-winded answer, but it's a policy decision.

THE CHAIRMAN: Okay. I just have one last question, because I think some of us are getting hungry -- oh, Mr. Perrone.

MR. PERRONE: Thank you, Mr. Chairman. Just two final questions. I understand you

changed to a different inverter design. With the updated inverter/transformer combos would you still be able to meet the DEEP noise control standards?

THE WITNESS (Lindsay): Yes.

MR. PERRONE: And lastly, with the proposed revised configuration, about what would we be looking at for total project cost?

THE WITNESS (Walker): I don't have the exact number off the top of my head. It's in the 40 million-dollar price range.

MR. PERRONE: Thank you. That's all I have.

THE CHAIRMAN: I just have one final question. It has to do with after the 20 years to decommission, the array is removed and potentially it could be used for either agriculture or reforested.

Would you be willing to work with the relative agencies whether it's DEEP or the Department of Agriculture, whoever, to make sure that your process for doing that results in soils that can then be reused in that way?

THE WITNESS (Walker): I'm not sure how to answer that. I'll ask our experts here.

As part of our agreement with the -- with New Milford we agreed to change the zoning and it's currently zoned for high-density residential. And we agreed to rezone it to two acre zoning. Is that correct?

THE WITNESS (Lindsay): Correct.

THE WITNESS (Walker): After it's decommissioned, I can't remember what's the tab, but I know that we agreed that we would work with the Town to redo the zoning, and we'll do that now as we can.

THE WITNESS (Lindsay): Right. And I think -- I wouldn't speak for the landowner, but in terms of the impact on soils we don't expect there to be any impact on the nature of the soils from the project itself, because it's relatively low impact.

There would be some small holes drilled, as we know, but that's about it. I don't know if that's really answering your question.

THE CHAIRMAN: No, it does. It just clarifies some of -- apparently from the Town's standpoint, and I guess we could ask them when they are testifying. They would like to see this eventually a residential subdivision, a

low-density residential subdivision with houses, driveways, new roads, et cetera, and not necessarily reverted to a forest area.

That's probably a question for them.

THE WITNESS (Lindsay): That would be a question for them. The only thing we can say is that the pilot agreement includes a provision that we agreed to that would -- that would allow for a rezoning of the property, but that would have to go through the town zoning commission, too.

THE CHAIRMAN: Okay. We're going to break for lunch. We will come back here at 1:45.

(Whereupon, a recess was taken from 12:57 p.m. to 1:45 p.m.)

THE CHAIRMAN: Good afternoon, ladies and gentlemen. I'd like to resume our hearing on this item we started this morning.

So we'll now continue with the appearance of the Department of Agriculture, a party to these deliberations. And we'll start with the swearing in of the witnesses by Attorney Bachman. So if the witnesses would please rise.

K I P K O L E S I N S K A S,

S T E V E A N D E R S O N,
called as witnesses, being first duly sworn by the Executive Director, were examined and testified under oath as follows:

THE CHAIRMAN: Mr. Bowsza, since you didn't stand I assume you're sort of the commander-in-chief.

MR. BOWSZA: Chief cook and bottle washer.

THE CHAIRMAN: And you've offered exhibits under hearing program Roman numeral 4B, one through two for identification purposes. And we'll go through the process of verifying them, if it's okay with your witnesses.

So I'll ask if -- and I guess each one can just, you know, give either an affirmative or a nod, or if they have any changes let us know.

Did you prepare or assist in the preparation of Exhibit 4B, one through two, the two exhibits?

THE WITNESS (Kolesinskas): Yes.

THE WITNESS (Anderson): Yes.

THE CHAIRMAN: Do you have any additions, clarifications, deletions or modifications of these documents?

THE WITNESS (Kolesinskas): No, I do not.

THE WITNESS (Anderson): No.

THE CHAIRMAN: Are these exhibits true and accurate to the best of your knowledge?

THE WITNESS (Kolesinskas): Yes.

THE WITNESS (Anderson): Yes.

THE CHAIRMAN: And do you offer these exhibits as your testimony here today.

THE WITNESS (Kolesinskas): Yes.

THE WITNESS (Anderson): Yes.

THE CHAIRMAN: Do you offer them as full exhibits?

THE WITNESS (Kolesinskas): Yes.

THE WITNESS (Anderson): Yes.

THE CHAIRMAN: Thank you.

Do any of the parties or interveners have any objection to the admission of these exhibits?

MR. MICHAUD: No.

THE CHAIRMAN: Okay. So the exhibits are admitted.

So we're going to begin cross-examination first by staff, Mr. Perrone.

MR. PERRONE: Thank you, Mr. Chairman.

I'd like to turn your attention to the interrogatory responses from the Department of Agriculture that the Council -- based on the Council's questions, number 18, where the Council was following up on a CEQ comment regarding the removal of stones and possible reclassification.

Anyway, in the Department of Agriculture's response it notes that a field visit is warranted to evaluate if the surface stones have been removed since the mapping was completed. And my question is, in your opinion would a field visit to evaluate the surface stone removal be key in determining if important farmland soils or prime farmland soils are present.

THE WITNESS (Kolesinskas): Yes, they would. That basically the -- some of the soils that are mapped have -- were listed as having a very stony or extremely stony surface modifier. And that is what has kept those soils out of being considered prime or statewide important categories.

And so a field visit would be necessary to go out there and look and see stone cover on the surface and extent of stone cover. And there are ways to determine whether or not there's

still -- if enough of them have been removed that they're no longer a barrier to agricultural use, particularly plowing and harvesting.

And if that's the case then they could potentially be reclassified into another category.

MR. PERRONE: And how could that evaluation be done? Would it just be visual, or would you take samples potentially?

THE WITNESS (Kolesinskas): Well, one of the -- one of the exhibits that we included there was the national soil survey manual. And the soil survey manual actually has information. This is from the soil survey manual. Rock fragments in the surface and how you evaluate them. And basically there's a percentage that you're looking at.

So it would be a visual test and you may do some transects, and it's -- it's basically stones that are over ten inches in size, stones or boulders, or what would be considered a barrier. So there's a process you'd go through of using a point count line intersect procedure to determine if -- how many are there to give a percentage and whether or not it has been changed since -- from the original mapping.

MR. PERRONE: Thank you very much. That's all I have.

THE CHAIRMAN: I just have a follow-up on that. But did anybody from the Department of Agriculture actually go to the site and do any of this investigation?

THE WITNESS (Kolesinskas): No, we did not do an on-site investigation. We were not asked to do an on-site investigation. And looking through the information from the consultant, basically they used the soil survey report from USDA NRCS. And it didn't mention whether or not they had evaluated those fields to see whether or not they -- it was mapped. The current mapping needed to be changed or evaluated.

THE CHAIRMAN: Okay. Mike, that's your question? Do you have any more?

MR. PERRONE: No.

THE CHAIRMAN: Now we'll go to cross-examination by members of the Council. Vice Chairman, Senator Murphy.

MR. MURPHY: I have no questions at this time, Mr. Chairman.

THE CHAIRMAN: Okay. Mr. Silvestri?

MR. SILVESTRI: Thank you, Mr. Chairman.

Two questions that I have for you. The first one, are you aware of any solar projects in Connecticut or perhaps elsewhere where viable crops have been planted and succeeded under solar panels?

THE WITNESS (Kolesinskas): I -- I'm not aware of any in Connecticut, but there, there are projects around the world where agricultural use has been designed as part of the project. And it's been as part of the project up front typically, and of either having some row crop production in between -- in between solar panels or making arrangements to have grazing paddocks that both would control vegetation and provide forage for livestock.

MR. SILVESTRI: Any specific on crops that you can recall?

THE WITNESS (Kolesinskas): I believe that there was a project in Japan where they were growing lettuce, and because it can tolerate some shade that they were growing some lettuce in part of the solar array.

MR. SILVESTRI: I'm curious. In your opinion, could things like potatoes, carrots, even mushrooms kind of flourish in those environments?

THE WITNESS (Kolesinskas): Obviously there needs to be a lot more information about, you know, what the soils are and the condition of the soils, how they were treated during the construction and installation project.

And you know, what kind of yields are going to be economically practical because obviously if the soils are disturbed or there's low light or there's other management considerations it may impact -- impact the yields.

And again, it depends, you know, is it annual -- annual crops or a perennial crop? So I certainly think it's possible to design a structure that may be able to have some -- some agricultural production with it, but obviously it's going to be very site specific.

MR. SILVESTRI: Thank you. The other question I have, if you think about the orientation of solar panels -- I've seen them at 25 degrees. The current proposal here is for 12.

And from what I understand there is some type of spacing between the way the panels are laid out in the racks. However, the question I have for you is, what happens to the quality of soil below the panel racks if they receive, say,

no direct sunlight and a very limited amount of water?

THE WITNESS (Kolesinskas): Right. That's a good question. I would say there's a lack of research about the soil biological systems in a large-scale solar array. And though I would expect that it would have an impact on the biological community of the soil, and then also on cycling of nutrients in the soil system as well because a portion of it either having -- being in lowlight conditions and dryer.

And then on the front of the panel where, you know, you're going to have in Connecticut 48 to 58 inches of precipitation coming off the front of the panel, of having more precipitation in a very concentrated zone that you could get excessive amounts of leaching of nutrients.

MR. SILVESTRI: Thank you.

I have no further questions, Mr. Chairman.

THE CHAIRMAN: Mr. Harder?

MR. HARDER: No questions.

THE CHAIRMAN: Mr. Hannon?

MR. HANNON: Thank you, Mr. Chairman.

I mean, the question or questions I have really relate to your response to question 9, where can agricultural fields that are managed as grasslands for 20 to 25 years be restored from production?

I mean, my understanding is -- at least what was proposed on this is there would be some type of low-growing grass pretty much planted on the entire site even below and in front of, and behind all the panels. So there would be maybe one or two mowings a year to try to maintain that.

So I'm not sure I understand the response in saying the question is outside the scope of the proceedings because what's proposed for the majority of the project is not grasslands, but if grass is being proposed to help stabilize that area, I guess that's kind of where the question is. And I'm not sure I follow what your response was.

THE WITNESS (Kolesinskas): Okay. Well again, I would say what it -- what's being proposed is not grassland. What's being proposed is a large-scale solar array that may have some vegetation growing underneath to prevent erosion and stabilize the soil.

A definition of grasslands would be a plant community that's dominated by grassland species that's specifically managed for -- for certain kinds of ecosystem functions, whether it's for agriculture, whether it's for habitat or it could also -- you know, and it would have other functions.

So I don't really see it being managed as grasslands, per se. So that was part of the -- of the comment.

MR. HANNON: Okay. So you're looking at the technical definition as to what you would consider to be grassland?

THE WITNESS (Kolesinskas): Right. And I don't want it to be misconstrued that this is a grasslands project. They're not attempting to clear this woodland and use these fields for grassland. They're using it for a solar array and they need to have some vegetation. They've chosen to have vegetation underneath as the cover rather than stone or woodchips, or some other kind of groundcover.

MR. HANNON: I was just trying to get a clarification as to your response in that, because the bigger question I have just in general is

whether or not there's any literature out there -- and my guess is there's probably not -- about the long-term impact of solar projects on agriculture soils.

If at some point in the future those solar projects are removed and you go back to the natural ground, what impact do those solar panels have on the quality of soil for agricultural purposes? Is there anything out there on research, or is this really sort of brand-new territory?

THE WITNESS (Kolesinskas): Yeah, I would say it's brand-new territory. You know, probably the closest of anything that's, you know, might be decommissioned would probably be out there in California someplace.

And I haven't seen any literature plus the, you know, soils and the climate are -- are so different there than they are here. Again, a lot of it depends on what did you start out with? What was -- what were the soil conditions to start with and how were they treated during the construction process, as well as how the soils and vegetation are treated throughout the lifespan of the project would all have an impact on its

suitability and its potential for agriculture afterwards.

MR. HANNON: In your professional opinion do you feel as though if you take these agricultural soils out of use for agricultural purposes for 20, 25 or 30 years, might they still be a valuable agricultural soil? Or not?

I mean, I just wonder what you're sort of best guess is on that. I know you've got a long history in dealing with these types of things. I'm just curious as to what your opinion is?

THE WITNESS (Kolesinskas): Right. Again, I think a lot of it depends on how the -- how the project was implemented. You know, is there -- is there grading that's disturbing the soils? Is there a lot of trenching? Was there erosion on the site? Was there a lot of heavy equipment that was used that's created compaction?

So it's -- it's possible that after it's decommissioned that there may be, you know, deep, deep compaction that you really -- the evidence is that you can't really get rid of deep compaction that's -- that's more than two feet down. And that it may take a number of years before you

would be able to restore a certain level of productivity to it.

And then, you know, here because most of Connecticut -- because of our soil parent material which tends to be fairly acid, that the soils would continue to acidify to some extent. So if they're not -- if the soil fertility isn't managed it could take a number of years to restore soil fertility for a certain kind of crop production as well.

So I'd say it's, you know, it's potential for future use for agriculture depends a lot on the soils that you started with and then how they're managed through the construction process and how much disturbance. The more disturbance the more likely it is that they're going to be degraded for the long term.

THE CHAIRMAN: And just one final question. One of the things that the Council has been discussing on past projects that are sort of larger in scope is on a project like this where there is sort of that outside boundary line where it's being cleared so that you don't have shading on the panels, does that lend itself for planting or growing some type of pollinator crops?

Is that something that would be looked at favorably?

THE WITNESS (Kolesinskas): Well certainly, you know, pollinators are in trouble around the world and increasing pollinator habitat is certainly valuable from a, you know, a biological system, from an ecosystem perspective.

As far as its benefit for agriculture specifically, certainly some of it would depend, you know, are there crops being grown in agriculture nearby that would benefit by having additional pollinator plantings?

And then the thing is, too, is that to actually manage it for pollinator plantings is more than -- it's probably going to be more than just, you know, mowing it twice a year, because of course we have a tremendous problem with -- with invasive species and species that would very quickly take over.

So it would take active management to be able to keep it longterm as pollinator habitat. And again, depending on the kind of agriculture that's nearby, a pollinator habitat could be -- could be helpful.

MR. HANNON: Thank you. I have no

further questions.

THE CHAIRMAN: Mr. Lynch?

MR. LYNCH: Just a couple questions. My first one is just I'm having a hard time figuring out why you're here. In my neck of the woods a lot of farmers, be they tobacco or vegetable farmers are losing the land or selling their land.

Now does this mean that every time they want to sell it or develop it the Department of Agriculture is going to come into a state agency or to a local planning and zoning and tell them what they can do with that land?

It's a loaded question. I know.

THE WITNESS (Kolesinskas): Yeah, I don't know. Do you want to take a shot at it first, Steve? Or no? I certainly would have some thoughts on that.

THE WITNESS (Anderson): Well, I think the reason why we're here is it's specifically about -- it's more related to the statute and whether or not the statute applies in this case.

MR. LYNCH: Could you repeat? I just can't hear it. I'm a little hard of hearing.

THE WITNESS (Anderson): The reason why we're involved in this is more related to 17-218.

MR. LYNCH: That doesn't apply.

THE WITNESS (Anderson): Well, that's why we became a party, and you know, that's why we're here. That's why we're here in this case.

I mean, I know that since then you guys have said that it doesn't apply, but that's why we became a party and that's why we're here. And you know, I don't know if you have more to add to that?

THE WITNESS (Kolesinskas): Well, I guess that I would say that, you know, wherever there's a significant land-use change we need to have all the relevant facts and as much information as possible as far as the impacts of a major land-use change. And so to not consider the impacts on prime and important farmland on agriculture in any land-use change I think is very, very shortsighted.

So it doesn't matter to me whether it's a hundred-acre subdivision or a hundred-acre solar array. It still deserves that everyone has the relevant facts and understands the impact on natural resources. And soils are very important natural resources and they're only going to become more important.

MR. LYNCH: And I just wanted to make it clear that it wasn't just the solar group that was being done. That it would be commercial and residential development also?

THE WITNESS (Kolesinskas): Well, there's -- there's a process. Again, if there's federal funds that are involved in a process, there's the Federal Farmland Policy Protection Act that applies. And if there's state funds involved there's a process overview that applies. And at the municipal level there's a process of review of looking at the impact and what -- what kind of review and information is required.

MR. LYNCH: Thank you.

My next question really revolves around renewable energy. And right now it seems to be the -- the number one choice seems to be solar. And you need -- my panel can correct me if I'm wrong, but you need at least five acres to produce one megawatt of power. And when you get the larger solar development farms coming in, you know, they will use up a lot of land that you're talking about that you want to protect.

Where do you see -- if you want to get 20 percent renewable power over the next few years

state and federal, what would you suggest as an alternative to solar panels?

THE WITNESS (Anderson): As an alternative technology to solar panels, or alternative locations? I mean, we've suggested --

MR. LYNCH: Actually I didn't think of location, but I'll take both.

THE WITNESS (Anderson): We've suggested areas like brownfields, places like that, alternative locations. Certainly, you know, groups of buildings and, you know, any large areas as an alternative. But -- and what was -- the rest of it was?

MR. LYNCH: Just the alternative technology?

THE WITNESS (Anderson): Alternative technologies? You know, wind. You know, I mean, there's other areas. I mean, we were up at Southbury training school and we had got some land up there that the department has custody and control over. There's some good winds up in that part of the state. And you know, so there's wind and there's also offshore wind that are sort of alternative technologies.

And anaerobic digesters, another

technology that could be explored. That's a renewable class one, I believe. So that's another one.

MR. LYNCH: And now you mentioned brownfields, and this was a question I was going to ask the panel. I'll get to it later, but with brownfields it's not always conducive to being into the southwest sunlight. You know, isn't that a restriction on some brownfields? You know, you've got to have some sun.

A lot of brownfields may still have, you know, buildings surrounding them that would make it rather, you know, not very conducive to putting in solar panels.

THE WITNESS (Anderson): Yeah, I really am not in a position to answer that. I'm not really an expert on the siting of the --

MR. LYNCH: It's a question I'm going to ask them later on.

THE WITNESS (Anderson): The best location as far as orientation goes and what they go with, someone else would have to answer that.

MR. LYNCH: Thank you.

THE WITNESS (Kolesinskas): Again, I just would make the point that this, you know,

Connecticut is, from what we know about land use, land cover, is only about 12 percent agricultural land and only about 7 percent of that is agricultural fields.

And so there's a smaller percentage of that that's primarily important farmland that is our best agricultural soil, but we're 39 percent developed. So there's certainly plenty of brownfields and rooftops and buildings at other locations that can be used.

We should always use developed properties before green fields if we can. Sometimes it does need to be used, green fields for certain purposes where it makes sense, but again we need to have a much more thorough discussion about where any sort of a large solar array project goes.

And again, access, farmland access is a real problem in this state and taking a large chunk of farmland out of an agricultural community has a lot of unintended consequences.

MR. LYNCH: Understood.

Thank you very much, Mr. Chairman.

THE CHAIRMAN: Mr. Hannon has a followup.

MR. HANNON: With your comment you just reminded me of a question. It looks as though in the State we're starting to see more projects that are being promoted for hydroponics. And is that something that can help offset some of the loss of prime ag soils?

THE WITNESS (Kolesinskas): Hydroponics and greenhouses are certainly a component of crop production, but there are some crops that don't lend themselves well to that and this a very -- there's an up-front cost to those kinds of facilities.

The other thing is, too, there are not only some agricultural products that have to be grown out of doors, the other thing is, is that those agricultural landscapes provide so many other ecosystem goods and services and social and economic benefits that you're just not going to get.

So it's not simply about agricultural, you know, product and dollar value. It's -- it's all those other things that well-managed agricultural land can provide as well.

MR. HANNON: Okay. Thank you.

THE CHAIRMAN: Mr. Perrone.

MR. PERRONE: Thank you, Mr. Chairman. Just one or two final things on the reclassification topic.

Going back to that response number 18, the Department of Agriculture notes that there's possible reinterpretation as important farmland soils.

With stone removal is it also possible to be reclassified as a prime farmland soil?

THE WITNESS (Kolesinskas): Yes, that is possible, that some of the areas of Paxton soils, it certainly could be classified so that they would be considered prime farmland, not just be statewide important or locally important.

MR. PERRONE: As far as reclassification on important or prime, would that depend on the concentration of stones remaining?

THE WITNESS (Kolesinskas): That is correct. So one would be, you know, was -- wasn't initially mapped correctly, and then have sufficient surface stones been removed? So it's no longer a barrier to agricultural production, specifically plowing.

And if that is the case then they would -- would be reinterpreted as prime farmland

soils. Or if they were at, you know, areas that may be more sloping, 8 to 15 percent slopes would be statewide important rather than prime farmland.

MR. PERRONE: Thank you very much. I'm all set.

THE CHAIRMAN: I have a few questions. If for whatever reason this project would not go forward, does not go forward, the solar project, what guarantees can I guess your department provides that these lands would not be subsequently developed for some other nonagricultural use?

THE WITNESS (Kolesinskas): Well, I mean the -- the areas of fields, there it's certainly possible that the landowner could apply for one of the conservation easement programs and a partnership that could possibly include the State of Connecticut -- may be interested in purchasing or getting a donated easement on a portion of the property.

THE CHAIRMAN: Okay. You need a willing landowner?

THE WITNESS (Kolesinskas): Correct. The easement programs are voluntary.

THE CHAIRMAN: Are you aware of the

current zoning on the project area? It's in the record.

THE WITNESS (Kolesinskas): Yes, it's in the record. I remember reading it, but I don't recall specifically what it -- what it's zoned.

And though, I do know that like many communities, New Milford does have a variety of tools such as you would be able to use, you know, a conservation subdivision or cluster development concept. So that there are areas of forestland, wetlands, farmland that could be protected if it were to be developed into some other use.

THE CHAIRMAN: It's a somewhat interesting history of the current zoning and the current proposed development. I won't go into that detail. I'm not an expert and that would probably be a question for the Town when we get there.

But as I have read it, it's for a rather intense residential development. I believe the proposal was -- and at least the zoning would allow, but the site plan was ultimately denied, the final site plan. So I think it was something like 500 housing units on this, this property.

So I'm having a little trouble balancing

your theoretical -- somewhat theoretical answer that, yes, the landowner could apply to X, Y, and Z. They're from the Town or from the Department of Agriculture. And the fact that it's presently zoned -- and I believe if I'm not mistaken the property is owned by a bank. So I mean, I think one of the things we really have to look at is, what is realistic?

And I think we really need -- if this is really contrary to protecting green fields do we have any real opportunity to protect them given that, one, we need a willing property owner and, two, we have existing zoning regulations?

THE WITNESS (Kolesinskas): Well, you know, part of it is in a capitalist society what will the market bear?

There's certainly a number of farmers that I know that have purchased lands that developers and banks either were no longer interested in, or that there wasn't the market or -- and there have also been many conservation properties that have also been protected that have been purchased from developers and from banks because the market wasn't there for the product.

And of course as we know, just because

something is zoned a certain way it doesn't necessarily mean that's ultimately, you know, the way that it's going to end up being developed.

But I understand your point. I think we can do better than we're doing in the State as it relates to how we approach developing a large parcel, whether it's residential, solar.

THE CHAIRMAN: Does the Department of Agriculture, can they actually own property and then lease it to farmers?

THE WITNESS (Kolesinskas): Yes, they can and they do.

THE CHAIRMAN: They do. I hope you're doing better in the budget that most agencies.

So again, following up on Mr. Lynch's question, when this property was rezoned, which I think was around 2005 -- that was the first. Again, this was material that's been provided and then subsequently, obviously to a fairly, you know, intensive residential use.

Did the Department of Agriculture testify at that hearing? Appear at that hearing, send anything written? Because that was a major change on land that's -- so I'm testifying again.

Well, answer the question and then maybe

I'll have a follow-up.

THE WITNESS (Kolesinskas): I -- I do not know that they did or they didn't. And though it's, you know, it would be unlikely for the Department of Agriculture to go and testify at individual planning and zoning hearings on a parcel development unless it were directly impacting a piece of protected farmland that was -- that was adjacent, or if someone were mistakingly trying to develop a piece that had been protected with an easement by the Department of Agriculture.

THE CHAIRMAN: It get back -- I won't belabor it, but it gets back to the question of, why are you here then? Why are you testifying now and forgetting -- I mean, the issue you raised, unless you want to challenge, subsequently is a moot issue because the Council has already ruled on the procedural issue.

So to me, why is this any different in importance than if the Town or some property owner on a large piece of property -- this is a large piece of property -- wanted to rezone it to a use that, as far as my understanding, could not revert back to agriculture if it was developed?

So I'm just trying to figure out why now and not then, and also if you could give me specific examples of where you have a major piece of the property. Testify.

I'm not saying it's wrong for you to do it. I'm just trying to understand, again given that the procedural issues are no longer, you know, before us, at least in our view. Why you're making this exception when, as far as I know, we don't even know if these soils are those category because no one has checked the stones or whatever it is.

So I'd really like to get a better understanding because this is -- I've been on the Council for a number of years. We've never had solar, but I've never had another state agency -- and it's fine for you to appear, but I've never seen this. I'm trying to really get a sense of why.

THE WITNESS (Anderson): I'll sound like a broken record, but we got into this simply because it's a project that's greater than two megawatts, and it's on -- we believe that it materially affects our prime farmland potentially. I mean, we have it from's Kip's authority that

this is prime farmland and we suspect that's where it would fall if it was surveyed properly.

And so that's why we're here. It's really quite simply because of 17-218. We think the statute applies. And I know that since then you've said that it doesn't, but that was our position going into this, and that's our position now.

So that's -- that's it. Sorry if I sound like a broken record.

THE CHAIRMAN: Okay. No, that's fine. You're saying -- and I won't belabor that part of it. You're saying then without question that this is prime agricultural land. That's what you just said?

THE WITNESS (Anderson): We believe if it was surveyed, and I'll let Kip speak to it, but I think he's going to say that we believe that if it was fully surveyed in the way that Kip is explaining that it should be, that it would probably come up as prime farmland. I -- I can't say because --

THE CHAIRMAN: Okay. That's fine. I don't want to go on because I have -- and just again this is from a layman's standpoint. If it's

forested -- because I saw this and I thought it was interesting, but analysis of how you can -- or maybe it can reconvert forest back into agricultural land.

Is that something that's an objective of the Department of Agriculture, to take a forested land and convert it into agricultural land? I mean, you gave us a process --

THE WITNESS: Yes, it is. Right. In the late 1800s, something like 75 to 80 percent of Connecticut was cleared and used for agricultural purposes.

And so it's through a variety of reasons that a lot of it went back to forested or went into development. And though, there's a significant portion of it that were excellent soils that have reverted back, and because we have a deficit of agricultural land in the state, or in the heart of the marketplace within just two hours of Connecticut, there's, you know, millions and millions of people and customers that there's a huge need for agricultural land.

So there's -- the Department of Agriculture has a farmland restoration program which offers a cost share for people to bring land

back into production. And so there have been several thousand acres that have been restored back into agricultural land.

So it is possible done very carefully to clear invasive and brushy areas and woodland and -- and use it for cropland as well as other forms of agriculture that are using the forest as part of agricultural activities with specialty crops and limited grazing and some of those other kinds of agricultural activities.

So we have -- we have a list of the Connecticut Farmlink of over 400 people looking to farm in Connecticut, but they can't get access to land.

THE CHAIRMAN: Do you know -- this gets to municipal zoning. Do you know of any towns that have zoning categories specifically to preserve/maintain agricultural land?

THE WITNESS: Well, of course there's a number of towns that have been very active in understanding agriculture is an important part of their community. In partnering with the State, particularly with the community farms program which are for protecting smaller parcels with willing landowners, as well as with land trusts,

as well as with the federal government.

So there are many towns that have participated in protecting farmland. There are -- I believe that Suffield and -- there are a couple of other towns that specifically have a special zoning category for protected farmland, farmland that's been protected with an easement so that it gives it additional protection from nuisance complaints and from competing land uses that are nearby.

So -- but we don't have, you know, agricultural districts or something like that that they have in New York or Pennsylvania, or parts of the Midwest. But -- and towns have additional -- there are a number of towns that have additional planning and zoning tools, whether it's tax abatements or tax, taxing, tax credits or special right-to-farm laws that they've approved as well to protect and enhance agriculture.

THE CHAIRMAN: Okay. I think that's all I have. There's other questions, but that will have to wait until you testify at the other hearing where you presented prefiled comments, which that's a separate petition. So we'll have to wait for that one where you did some balancing

of agriculture versus renewable, the importance of renewable, which I thought was interesting.

But we'll have to save that for another day I guess.

Mr. Lynch?

MR. LYNCH: Just a point of clarification. When you talk about protected lands, farmlands, whatever that the towns do, would that fall under the umbrella of open space?

THE WITNESS (Kolesinskas): I don't like to use the term "open space." I prefer to talk about what it's being used for. So I would say that land that's protected with an agricultural conservation easement which we would call a working lands easement is specifically so that it can be used for agriculture and for agricultural economic activity.

But some towns, you know, may include it in their open-space plans, or plans of conservation and development as open space.

MR. LYNCH: Thank you.

THE CHAIRMAN: Mr. Levesque, do you have any?

MR. LEVESQUE: Sure.

When the Chairman asked about

alternative supportive sites for solar power, would you prefer that the solar panels be along the -- off some of the extensive rights-of-way owned by DOT instead of agricultural land?

THE WITNESS (Kolesinskas): I think that that's certainly something to consider. I realize that it's, you know, they're relatively small, but I think that there are all kinds of -- and that those are disturbed soils and with providing limited ecological function.

So I would certainly prefer to see some of those areas, you know, little cloverleafs, right-of-ways I think have the potential for solar arrays.

MR. LEVESQUE: And you see the many, many miles of sound barriers they have, which can be where you can mount a lot of solar panels and maybe even private industry would be interested in using that space that's already disturbed, or the wide medians where it's safe?

THE WITNESS (Kolesinskas): And we have a lot of our industrial parks and industrial areas that have huge amounts of lawn that have -- that need to be maintained and aren't really providing

ecological function either -- would be potential areas, and there's a lot of -- lot of acres in between those industrial buildings.

MR. LEVESQUE: Thank you, Mr. Chairman.

THE CHAIRMAN: Mr. Silvestri?

MR. SILVESTRI: This might be beyond your database, but I'm going to ask it anyhow.

Farms have barns. Farms have silos. Do you have any sense of how many farms in Connecticut are actually using solar power or other types of renewables?

THE WITNESS (Anderson): Yeah, it is beyond our database. I think the person who has kind of the best fix on that is Connecticut Farm Energy, Amanda Fargo-Johnson at Connecticut Farm Energy. She's got a real good fix on the projects that have come through on individual farms.

And you know, so that's where I'll have to leave it. We can probably get that information from her for you if you wanted, what she has, but it's up to you.

THE CHAIRMAN: We'll continue with the cross-examination by the petitioner.

MR. MICHAUD: Can I just have a couple?

THE CHAIRMAN: You can ask whatever you

want.

MR. MICHAUD: Okay. Thank you.

You didn't file any prefiled testimony in this proceeding. Did you?

THE WITNESS (Anderson): No.

THE WITNESS (Kolesinskas): No, we did not.

MR. MICHAUD: Can you explain to me why you did not?

THE WITNESS (Kolesinskas): I think that it was, you know, as far as trying to maximize the -- the resources and time that there was another project that had a much more significant impact on prime farmland and agricultural, on the agricultural community.

So that because of the interest, as Steve explained, in feeling that we thought that agricultural and prime farmland soil needed -- needed a voice and not a waiver that -- to be listed as a party. But again, because of this, the time commitment of putting our resources towards a different project.

MR. MICHAUD: And is it true that you didn't submit to Candlewood Solar any interrogatories in this proceeding also?

THE WITNESS (Kolesinskas): Only as relates to from the -- from the Siting Council. But as far as the department submitting any to anyone else? No.

MR. MICHAUD: Okay. So how did you formulate your case today?

THE WITNESS (Kolesinskas): We responded to the interrogatories from the Siting Council.

MR. MICHAUD: And is it true if 17-218 was never enacted by the Legislature you wouldn't be here today? Is that correct?

MR. BOWSZA: May I object to that? Isn't that not kind of speculative?

MR. MICHAUD: I believe it's a similar question that was asked by a member of the Council.

THE WITNESS (Anderson): I can't -- I can't say for certain, but I would have to say probably not. We -- we haven't been involved in other -- other hearing -- I don't know of any that we were involved in before then, but I don't know for sure.

MR. MICHAUD: Okay. Thank you.

That concludes my questions.

THE CHAIRMAN: Thank you. The Town of

New Milford.

MS. RIGDON: Good afternoon. Rebecca Rigdon. I'm the Town Attorney for the Town of New Milford. I just have a couple quick questions.

We've heard some testimony today that soil may be brought into the site, that they would use what they can, but they may also bring soil in.

What effect, if any, would that have on when this project is decommissioned and turning it back into a farmland situation?

THE WITNESS (Kolesinskas): Well, again part of it would be depending on, you know, what the soil that was brought in is being used for and what the quality of that soil is. You know, certainly is it free of contaminants? What's the texture and the structure? How it's being applied.

So certainly I would encourage in any site is to try to do as little soil disturbance as possible to minimize the grading and the trenching as much as possible and not have it to rely on bringing in soils from -- from offsite.

So again, it would depend on what the soils are, how they're treated, how they're

applied, and how -- how useful they might be as part of an agricultural soil in the future.

MS. RIGDON: So the soil that could potentially be brought in could bar a future agricultural use. Is that your testimony?

THE WITNESS (Kolesinskas): If it's not -- if it's not a quality soil and, say, if it were, you know, a very clay soil that was applied when it was wet, and that may actually not incorporate well into the existing soils on site, and you know, be a barrier to roots or plant growth in the future.

MS. RIGDON: Okay. And we've also heard some testimony that this is a bank owned property. Has your department in the past worked with banks to conserve these types of properties? Are banks willing to put conservation easements on their properties?

THE WITNESS (Kolesinskas): Yeah, I would say banks -- as far as I know I'm not familiar with any projects where through the Department of Agriculture that a bank has applied directly for a project and there are -- certainly banks have been a component because there are certainly a number of properties that have been

protected with agricultural easements where the -- there's a mortgage. And so the banks have to be a willing partner in that process.

MS. RIGDON: Okay. And one last question. In all the information -- and I'm new. I've only been town attorney for a month. So I've been trying to get caught up with all of you.

There's been a lot of public need language used. Can you tell me in terms of public need, is there a greater public need for agricultural land, or do you believe in your opinion there's a greater need for solar projects?

THE WITNESS (Kolesinskas): It's not an either/or. It can be an either/or. It's not an answerable question. There's not enough relevant facts.

The reality is we're all working towards sustainability to be able to stay on this planet. So as a component of that we know that fossil fuels are not a renewable resource, that renewable energy source is -- is solar. And though, you know, we all eat every day. So we know that we need to have sustainable agriculture as well.

So to decide that agriculture and prime farmland soils -- prime farmland soils are not --

there's less than 3 percent of the planet that's capable of growing our food. So why would we squander those resources on something when there are other places that we can do different kinds of development scenarios?

So we need to be thinking very carefully about what we do where, just the same as, you know, wetlands that we know they have a very important function and agricultural landscapes do as well. So it's more of deciding what's an appropriate use where and of what quantity. So we need both.

MS. RIGDON: No further questions.

THE CHAIRMAN: I will follow up that question at the other hearing -- well, let me just, since it was posed. Everybody is laughing, but I can't resist. It is ultimately, among other things, one of the key questions.

So if -- and you know, we have a number of ifs. You know, if the zoning is changed or if they get a conservation, easement, but if for example this project were to go forward and if the applicant were to use all the best practices when it comes to preserving the soil and minimizing the -- having large tractors, which also happened

to also traverse farmland, but you know, all those things either didn't bring in any new soil or made sure that it met all the highest standards, could that property after 20 years, if the decommissioning was all done correctly, revert to agricultural lands?

I think you say that in your other --

THE WITNESS (Kolesinskas): Yeah, I would say, yes, it certainly could. I guess that part -- part of the issue, again as it relates to access to the farmland, the fact that we -- we have a deficit.

So that you know, every time we lose farmland, because basically, yes, maybe, it may be farmable in 25 years, but that's 25 years that those acreages have now been available to somebody to farm. So there's -- there's that issue.

And then again, depending on if -- depending on how that soil has been treated it may be suitable for some kinds of agriculture. Maybe not for others, but yes, in theory. Yes, it could be that in 25 years that it could be, when it's available for agriculture, that it could be used for agricultural purposes, and though it's been -- hasn't been available for 25 years for somebody to

use.

THE CHAIRMAN: Okay. So then the flipside of that, if -- and somebody had that great quote in one of the hearings from Hillel the Elder. If not now, when? What about in the case of our climate?

If we don't collectively -- and this is a tiny, tiny piece of that collective -- do something now, in 20 years can we reverse the greenhouse gas? Are we going to be able to reverse that, whatever it is, the fraction of a percent increase in temperature?

THE WITNESS (Kolesinskas): Well, climate change is already here. So --

THE CHAIRMAN: That's not what I asked.

THE WITNESS (Kolesinskas): And we need to do both. So agriculture is part of the mitigation and adaptation to climate change. It's not separate from.

So just like we need to have renewable energies, agriculture can store carbon, that having food grown close to where people live reduces the number of food miles. It's shown that there's less -- less food waste with agriculture closer to where people live. And again as far

as -- because most of our farms are only -- are only a portion of active productive land, they also have -- they have wetlands. They have habitat. They're storing groundwater.

So they're providing a lot of other functions that are really important as it relates to climate change mitigation and adaptation as well. So we need to do both. It's just where and of what size is appropriate. We're the fourth most densely populated state in the country. So size matters of, you know, of a land-use change.

THE CHAIRMAN: One last thing. You are aware that the applicant is proposing to preserve -- and I assume more than 20 years -- a hundred acres as part of mitigation? You're aware of that?

THE WITNESS (Kolesinskas): I did see in the -- on the Siting Council site a map, but I wasn't -- don't know, you know, if there was actually any sort of legal document that's been put forward as far as land protection and -- and what the strategy is and what the -- as it relates to any sort of management or decommissioning, how that relates to a potential easement or preservation project.

THE CHAIRMAN: Mr. Lynch?

MR. LYNCH: I'm going to ask you a selfish question, and I'll probably get a verbal from the Chairman later.

But myself being a cigar smoker, is the tobacco industry in Connecticut both shade and broadleaf still on a decline?

THE WITNESS (Kolesinskas): I would say shade is definitely on a decline. I think that broadleaf, there are some people that are still doing very well with -- with broadleaf. So there is still a tobacco industry, but it's changing.

MR. LYNCH: I told you it was a selfish question. Thank you.

THE CHAIRMAN: Actually it's -- well, a related question.

THE WITNESS (Kolesinskas): So just to -- apparently that broadleaf is on the upswing. Shade is on the downswing. Broadleaf is on the upswing.

THE CHAIRMAN: Mr. Hannon?

MR. HANNON: Just to follow up on what you're saying. I'm pretty sure I know what the answer is, but I'm going to ask it anyway. Given sort of two choices that you have agricultural

property here, whether it be here or anyplace else, if there's a chance of putting on something like a solar project where in 20, 25 or 30 years you may be able to reclaim the property for agricultural use, versus what the property is currently zoned for in the town where it's a high-density use, which would you guys prefer to see?

THE WITNESS (Kolesinskas): Well, I think there's other choices besides that as well. I think that's --

THE CHAIRMAN: Answer the question.

THE WITNESS (Kolesinskas): I think there's more than, you know, there's a lot of gray area. There's not just a black-and-white of one thing or the other. I guess that I would say that certainly having something, knowing something is going to be protected with a conservation easement if, you know, the soils and the hydrology have not been so disturbed that it's not going to be usable for agriculture.

That it's not going to, you know, be able to grow back a robust, you know, other kinds of vegetative community. You know, I would certainly say a conservation easement would be

valuable.

MR. HANNON: Let me ask it this way. Are you aware of any residential properties whether it be low development or high development that have been converted back to agricultural use?

THE WITNESS (Kolesinskas): Oh, yeah. We have urban -- we have agriculture in every town, in every city in the state. So there's, you know, I've been down looking at agricultural land in -- in Bridgeport that's being used to grow food.

MR. HANNON: These are some of the small parcels?

THE WITNESS (Kolesinskas): They're small parcels. So it's --

MR. HANNON: Local gardens?

THE WITNESS (Kolesinskas): That's right. So their ability to grow a large amount of food is, you know, they're not growing huge amounts of food. And typically they have to bring in soils. They have to be very careful of contamination.

So it's much easier to grow crops and have agriculture on soils that have not been highly disturbed and with a lot of human influence

than those that have.

MR. HANNON: But you're talking typically very small parcels. The issues you have to worry about are lead in the soils, things of that nature that occur over time. I'm talking more like a larger project. I mean, I'm not aware of any.

THE WITNESS (Kolesinskas): Yeah. Well, right. Urban Oats in New Britain. I actually have a friend that lives in Detroit and -- where of course there's lots of vacant lots and she's been buying up house lots and farming them.

And typically in some older residential areas where they just dug a basement hole and they didn't do as much soil disturbance as we typically do, there's more natural soils. It's very -- easier to bring it in, but again, there's a huge cost to deconstructing the house and the driveway and all those kinds of things. It's always better to try to and protect the best soils than -- than have to restore them afterwards.

MR. HANNON: Okay. Thank you.

THE CHAIRMAN: Okay. We will now go to cross-examination by rescue Candlewood Mountain.

LISA OSTEN: We need to decline at this

time. The counsel is not present, but we did write in and inform Ms. Bachman that counsel would not be present.

THE CHAIRMAN: We're not calling back the witnesses. So this is really your opportunity here. You should have made sure your counsel -- because this --

LISA OSTEN: We are fully aware of that. We are fully aware of that, but without counsel here we need to decline.

THE CHAIRMAN: Well I mean, you don't need an attorney. Do any of you -- a spokesperson for the group? And you don't have to ask questions, but we don't want to preclude your opportunity.

LISA OSTEN: We would appreciate at this time that if you had any questions for us that we could answer you.

THE CHAIRMAN: No. You're going to be cross examined at a different -- at a subsequent meeting.

LISA OSTEN: Yes, we are aware. Counsel could not be here. We are aware. He did write in.

MR. BOWSZA: Do you folks have any

questions for us?

THE CHAIRMAN: That's what we're trying to ask.

MR. BOWSZA: If not, that's fine. Just making sure you have an opportunity.

LISA OSTEN: Could you give me one moment.

THE CHAIRMAN: Sure.

LISA OSTEN: We do not have any questions at this time, but we thank you very much for the opportunity, and we understand.

THE CHAIRMAN: Okay. We appreciate it.

We're just going to go see -- you guys are all set?

THE WITNESS (Kolesinskas): Okay. Thank you very much for the opportunity.

THE CHAIRMAN: We might even see you in a couple days.

MR. BOWSZA: Looking forward to it.

THE CHAIRMAN: You have a preview now.

So we're just going to go around to see if any of the council members have more questions for the petitioner.

MR. MURPHY: I don't have any more.

MR. SILVESTRI: No, sir.

THE CHAIRMAN: Mr. Harder?

MR. HARDER: I just have a few followups. Actually an initial question. The system, as proposed before us anyway, is for 20 megawatts. Is that correct?

THE WITNESS (Walker): That's correct, yes.

MR. HARDER: And you're contractually obligated to provide that system?

THE WITNESS (Lindsay): That's correct.

MR. HARDER: Has it always been, since you initiated the development of this project has it always been 20? Or if not, where did you start and how did you get to 20?

THE WITNESS (Walker): I believe the RFP required a minimum of 20 megawatts. We could not go less than that, but we could have gone higher than that. We decided to stay a 20 megawatts.

MR. HARDER: So you're in a position now before us proposing a 20-megawatt system. You can't go below that?

THE WITNESS (Walker): We could higher than that if we had already bid it, but we did not bid that. We bid a 20-megawatt project, but the RFP -- there are two RFPs. One was a 2 to

20-megawatt RFP, I believe, and one was 20-megawatt and above. We were in the 20-megawatt or above response.

So the utilities required us to deliver at least 20 megawatts. That was their requirement. We could have made the project size larger, but we chose not to in the bidding.

MR. HARDER: But would any changes that might be made or be necessary as a result of our input or our requirements, questions for -- from anyone else? Any other factors, would that effectively kill the project? Or would that just subject you to penalties?

THE WITNESS (Walker): I have to look at the terms of the agreement. There are penalties. Whether or not -- at what point in time we have to pay penalties and the project is rejected I would have to look at that, but the utilities all received approval from their various regulators including DEEP in Connecticut, the DPU in Massachusetts.

For this RFP it would be two 20 megawatts or higher. And the power purchase agreement that we signed was not our power purchase agreement, but it had been already

pre-written and approved by the regulators in each of the states, and the utilities in each of the states.

So we were -- we had to accept what we were given. And during the negotiation phase we had very little, almost no opportunity to change that agreement.

MR. HARDER: Okay. Thank you.

A couple more specific questions regarding the site. The part of the parcel or part of the property, I guess, that abuts Candlewood Mountain Road, is that owned by parties involved in this application?

The point I'm getting to is the access road. It's basically right adjacent to the northern property line of that part of the parcel that's adjacent to Candlewood Mountain Road. And I'm wondering for the person who lives in that house I'm sure it's not, you know, the best situation in the world.

I'm wondering if there are any options available, any possibilities of moving that access road. I know that there's some wet areas as you start to go up in elevation. I'm wondering if there are any options, if you have looked at that,

and if you have rejected them for any reason including the presence of those wet areas?

THE WITNESS (Lindsay): We have not. We have not considered moving that access road, I think, due to the fact that we wanted to minimize additional disturbance. It's already an access way and, you know, we wanted to try to minimize going to -- in the other areas.

It may be possible to move it. I think that in terms of where it goes up the hill from the flatter part that would be also, in our view, problematic to a move because that would involve more disturbance. It's already -- it's already an access way. We wouldn't want to have to move and actually disturb more area since we can already actually use that.

As far as where it goes across the open field, I -- I would say it may be possible to adjust that some, but that's where the opening in the stone wall is, too. So I'm not sure that there would be, you know, if you would have to create another opening in the stone wall if you were going to move it.

THE WITNESS (Bukowski): The only other thing I'll add, and you mentioned this, but there

is a wetland that runs just to the east side of where the road goes up. So moving the road would involve wetland impacts.

MR. HARDER: Right, and I assume that was part of your consideration, but my understanding is it's not a continuous wetland across the entire, you know, eastern edge of that flat area. There are breaks and I just don't know if those breaks would be adequate to allow, you know, an access road through.

I didn't know if you considered that at all, and if you had, what your thought process was.

THE WITNESS (Butler): I think another -- another negative in that regards, if you were to cut across the fields straight up you would have to accommodate that slope that's now taken out by a -- by a graduated ascent and now you'd be facing -- you'd be having to make a haul road that would have to make the same elevation change over a much shorter interval straight on.

MR. HARDER: Right, assuming you went straight up.

THE WITNESS (Butler): Otherwise you would have to come tangentially or at an oblique

angle to the wetland and fill more. Right now there's a high direct crossing there that's the old Hollow Road, the pre-existing Hollow Road. And so the attempts to take advantage of that, because somebody also obviously considered the change in grades there and that's probably the best way to access it without having a very steep ascent.

MR. HARDER: Okay. The next couple of questions have to do with the fact that you've made some changes. You've, I guess at least on the eastern side of the project, you've pulled back from that wetland area, or because of the changes in the panels and the separation between the panels you've been able to pull back on the eastern side.

And my question is, has that allowed you to make any other adjustments on the western side, because some of the panel locations proposed on the western side were also fairly close or closer to wetland areas?

Or is it the opposite? By pulling in from the east are you pushing out any areas to the west to allow you to still provide the same system?

THE WITNESS (Lindsay): We are not pushing anywhere to the west. In fact, I probably oversimplified a little bit that we also are pulling in the array on the southeast and the southwest to some degree.

There were some steeper areas on the southwest, and other panel members can correct me if I get anything wrong, but some steep areas in the southwest where we also pulled back the array due to minimizing impacts on potential habitat areas there.

And also in general on the southeast I think we also pulled back basically to limit the -- to limit the disturbance to essentially to the -- what is currently the open field, or as a point further, previously. So we pulled it back there, but we did not push anywhere. We only contracted.

MR. HARDER: Okay. Was one of those areas where you contracted -- I guess I wouldn't think of it as the southwest. Kind of in the middle west near the corner that's fairly close, I don't know if it's wetland three or one of the wetlands because it juts out a little bit. And part of that was fairly close.

THE WITNESS (Lindsay): I think we -- it depends on if you're talking about kind of north -- further north on the western side, we did not change that.

What I was referring to was the corner on the southwest side which is actually near the -- the access road. That's where we pulled back further. We didn't alter anything on the -- further north along the way.

MR. HARDER: One of the issues, I guess, that concerns me a little bit, I think it's somewhat existing in that corner area that we just talked about. Your internal access roads at least on the drawings are showing basically straight shots directly down the slopes. It doesn't show any turnarounds, which is one question I had. Are you planning any turnarounds circles or anything like that?

The other thing is I know this is an issue that's a concern in various projects, concerns of the DEP folks, the stormwater folks where roadways are constructed straight down slopes. Obviously, it's a greater concern the steeper the slope, but in these situations looking at the drawings it raises that concern.

And I'm wondering, you said you have made or would make changes in response to the department's guidelines for stormwater control at solar farms. How do you look at those issues, especially your internal access roads were they go straight down the slopes?

You've got drainage swales or culverts on both sides going directly down the slopes and I think in most cases at least on the west side ending at the top, and at the beginning of some even steeper slope areas.

THE WITNESS (Lindsay): There is -- as we've said before, there is a neighboring around the entire array that allows for -- that actually basically 60 feet to the -- from the edge of the area disturbance to the fence line, and then there's another 15 feet inside the fence line.

So the array stops essentially 75 feet from the actual end of the disturbance. So that allows for room for the implementation of stormwater control measures. I can let Rob speak to it.

You know, that's something we have to -- we have to incorporate properly. I mean, it's a good question, though, we need to address it in

accordance with the requirements that the department has.

MR. HARDER: I guess, if I could just interject before you answer? I guess, part of the thinking is -- and it gets to Mr. Silvestri's question earlier about deluges. You know, we've all seen sites where maybe the designed stormwater controls that meet the letter of whatever the regulatory agency is, but you have a good storm and those pretty much go out the window, because you know, the result is a mess.

I think that's one reason why the department developed its more recent guidelines. But you know, especially situations like this where you've got a roadway, an access road unpaved with, you know, drainage on both sides going down a somewhat steep slope.

THE WITNESS (Lindsay): I think it's -- well --

THE WITNESS (Butler): Yeah. No, we're -- we still haven't revised the stormwater design based on this new array layout. So we'll consider those when we're -- as we're finalizing the site design?

THE WITNESS (Walker): From my

perspective as owner of the site I'm counting on Amec to make sure that that doesn't happen. I'll be, you know, we do not want to happen. We don't want to have a lot of erosion that's going to harm our investment in our project.

So I absolutely agree with you. We have already asked them, and they've gone in to meet with DEEP. There will be additional meetings with DEEP.

I think this is a -- you're raising a very important issue and we have to make sure it gets addressed so that everybody is happy with the answer. We do not want to have erosion. It's not good for our project, period.

MR. HARDER: One last question related to the erosion and sediment issue. There's references in the petition to sediment traps. And maybe I didn't see it on some of the drawings, but I don't see any reference to actual sediment traps.

I don't think -- in the text it talks about traps ultimately being eliminated or referring to, or being changed to other control methods. There's a drawing, I guess, of a typical sentiment trap.

But could you explain or maybe point me at drawings where they are shown? You know, could you explain if you're still proposing to use traps? I mean, which to me from the drawing in there it looks like a typical sentiment basin.

But could you explain how you intend if you do intend to use them?

THE WITNESS (Bukowski): So the sediment traps would be used to get the runoff during the construction phase from no larger than a five-acre parcel, which is part of the requirements that DEEP has. The idea in trying to limit impact is once those sediment traps are built then they would be converted into sand filters for post construction and water quality treatment as well.

As I mentioned before, we did meet with DEEP, as Jim mentioned. And we're preparing and we're in the process of preparing another subsequent set of drawings and submittal to them that has all the required detail.

MR. HARDER: One final question and not a stormwater question, but from the discussion earlier about the fencing and your decision I think you indicated you decided to extend the fencing down to the ground surface.

It sounded like you evaluated both ways of doing it. I guess you felt it was better to exclude certain species. Other applicants have come before us, and either on their own or after discussion with us have agreed that it's either better or at least not a problem to do it the other way, to have a gap to allow passage of species.

Could you explain your thought process there? Also why you think it's better, and others you may think are, you know, worse? You still have a viable project.

THE WITNESS (Butler): In this, the raised fence configuration would work if you had a very rigorous -- a mowing schedule that was infrequent and particularly cautionary.

But even if this fence were open it's a fairly sizable array. As you're aware, if the fence were open and animals could get in it's not necessary that they would simply use it to traverse the landscape. They don't go left to right, east to west, north or south. So they may spend more time in there, and then I think that puts them in a hazard.

It can be done in both manners. You can

have a raised fence that allows free access. And for a smaller configuration that might have a high desirability, but I think in this size, class, and given the fact that we don't know that there's a particular standing population of box turtles there, the more cautionary approach is what we've adopted here.

Just exclude the adult animals by allowing all the other related reptiles and small mammals and birds and other wildlife, except for medium and large mammals -- will be able to traverse the site and live in them. But keeping the box turtles, as I said earlier in my testimony or oral testimony today, the adult life stage of box turtles is particularly valuable for population stability and persistence, and that's what we're targeting.

THE WITNESS (Walker): Can I just add something? So again, from an owner's perspective I'm not an expert on wildlife. So we're relying on experts who advise us.

If the Siting Council's experts, or DEEP's experts and our expert all come to an agreement on, you know, the best way to do it, we don't care whether there's a space or there's not

a space. We want to do what the experts believe is the best approach for, you know, managing the site.

So if the experts all get together and say, you know, raise it up so many inches, we're fine with that. We're just looking upon the experts to advise us on what is the best approach.

MR. HARDER: Okay. Thank you.

No more questions, Mr. Chairman.

THE CHAIRMAN: Mr. Hannon?

MR. HANNON: Thank you, Mr. Chairman. I do have some questions.

Who is the property owner, current property owner?

THE WITNESS (Lindsay): The current property owner is the bank, Wells Fargo.

MR. HANNON: Okay. And the proposed property owner, that's going to be New Milford Clean Power?

THE WITNESS (Lindsay): Correct.

MR. HANNON: Okay. So for the hundred-acre easement or conservation area that's being proposed, that's something that would have to take place after the purchase from the bank. Correct?

THE WITNESS (Lindsay): (Nodding affirmatively.)

MR. HANNON: If New Milford Clean Power, LLC, is the owner of all of this land, has any thought been given that if this project goes forward that at the end of the project maybe the property be turned over to the Town or a land trust?

THE WITNESS (Lindsay): I really couldn't speak for New Milford Clean Power on that.

MR. HANNON: No, but I think somebody else here is.

THE WITNESS (Walker): No, I don't represent New Milford Clean Power. I don't know what their plans are.

MR. MICHAUD: Can I speak with my client for two seconds?

MR. HANNON: Yes, please.

THE WITNESS (Walker): I think the answer is, well, we haven't talked to them about it. But there -- there is a representative here. I don't know that he's thought about it.

MR. HANNON: I'm just raising the question to at least have people talk about it,

maybe. Okay. That was it on that part.

THE WITNESS (Walker): What we know for sure is that we have to decommission it, and that we have to agree to zoning it from high residential to two-acre zoning. That's what we know for sure.

MR. HANNON: Understood. I'm having a hard time with my math today, so please bear with me. Initially we were talking about 75,000 panels on the site. And now I think the numbers are you're going down to about 60,000, give or take.

You're still able to get the same power output as was originally proposed, the 20 megawatts. So just, I guess I'm still a little confused on how you can physically do that because it takes 75,000 panels to generate 20 megawatts. How are you doing the same thing off of 60,000?

THE WITNESS (Walker): We're -- we're using newer panels with higher wattage per panel.

THE WITNESS (Lindsay): Right. We're using -- we've got a number of things to try to get more energy and meet the requirements of our contract but within a lesser space.

And so that involves a higher wattage panel. It involves moving them a little bit

closer together and it involves some economic sacrifices on the part of the project.

MR. HANNON: Okay. So because of the new panels that you're going with, that allows you to go from the 15 to 12 degree angle and moving the panels closer together?

THE WITNESS (Lindsay): The new -- the new panels are -- are not really different really in size or configuration-wise. It's the changing of the tilt that can change a little bit.

It's a higher wattage, but it's the same sized panel. So it doesn't change anything.

MR. HANNON: So you're getting the power just by having increased wattage output? Okay.

THE WITNESS (Walker): For the same size. For the same exact square feet of the panel.

MR. HANNON: Understood. Thank you.

A question that I have for you based on some of this new information that came in where you identify the vernal pools in wetlands one, but also on one of the maps you're identifying the sensitive archaeological area.

Now by moving the panels further to the west -- so you're creating more of a buffer

between both the vernal pools and the archaeological area. Was part of that done so that they don't have to do any type of archaeological survey?

So this way by staying out of that area it just makes it easier. It's preserved. Nobody's bothering you so you don't have to do any surveys?

THE WITNESS (Lindsay): I'm going to let Trish speak to this. There was a detailed survey done.

THE WITNESS (Foster): So the phase 1A identified approximately 35 acres within the solar array that had a moderate to high sensitivity for potential archaeological resources.

So the phase 1B shovel test survey did identify this one particular area that had the potential for listing on the NRHP registry. And the tactic we're taking is avoidance and leaving that area alone.

MR. HANNON: Okay. All right. Thank you.

I'd like, if I can, to get a definition as to what your definition of minor grading is?

THE WITNESS (Bukowski): Really in this

case it just means that we're flattening out some of the slopes that are greater than the ten degrees that we mentioned earlier. So it's not a significant, you know, big cut-and-fill job or anything like that.

So the grading, really there are some localized areas that are steeper than ten degrees that would require a little bit of grading and then there's the roadways, but other than that there's not a significant amount of cut or fill.

MR. HANNON: Okay. This goes back to a question that was kind of raised earlier. People were talking about these heavy rains. I mean, I was just in the town on Monday. I think they had 5 and half inches of rain, or 5.49 inches.

So part of my question is, is there any chance if you have rainstorms with that much rain and that type of intensity that will flow to the low end of the panels, if you have a chance of creating any type of rutting thereby leading to potential erosion problems?

THE WITNESS (Bukowski): We do some post-construction inspections for some solar arrays that Ameresco has had in service for a

number of years and we haven't noticed a significant amount of drip edge erosion once the vegetation is established.

MR. HANNON: Okay. And if you did notice something, what would be done?

THE WITNESS (Bukowski): Typically something like a stone would be placed down at the drip edge as to prevent the vegetation from eroding away.

MR. HANNON: Okay. This is just sort of a general question. In terms of how -- in walking on the site you delineated the areas that should be checked for wetlands.

And the reason I'm asking this is because when we were walking on the site -- and I believe you've got a northern portion. It's like a little square, the northern portion. Just a little bit to the south of that when you've got that 90-degree turn, in walking over in that area and checking out the woodland areas there was a lot of evidence of exposed tree root systems, roots high to the ground and things of that nature.

So when you talk about an 18 to 36-inch water table I'm just wondering if some of the

Woodland areas would maybe be also checked to see if they had any type of wetland characteristics. And based on what the trees or other vegetation might be in that area -- or was it really just looking at where there might be some standing water?

THE WITNESS (Bukowski): Our soil scientist checked the entire site. So he walked the site and then based on his observations walking it that's where he did his -- his soil testing to define the wetlands.

MR. HANNON: Okay. So I'm not saying it would definitely come out as a wetland area, but at least it raises the question as to whether or not anybody had gone out there and tested it.

And one of the things I think that was asked at the last meeting is, were any numbers crunched to see if the roadways might have an adverse impact on the direction of stormwater flow where the roadways might be intercepting the stormwater and diverting it away from wetlands?

Was anything done on that?

THE WITNESS (Bukowski): So we're still in the process of doing that. I do recall you mentioning that at the last hearing and that,

that's going to be incorporated as part of the final design.

MR. HANNON: Okay. So that's still something you are working on. Because again, I think that's an important question especially given the greater significance of the quality of the wetlands to the east of in this site.

Okay.

THE CHAIRMAN: Mr. Lynch?

MR. LYNCH: I have a few questions, Mr. Chairman. I wasn't here this morning, so if any of these things were discussed just let me know and I'll read it on my computer.

But I want to start out with -- actually my last question now becomes the first because then Agriculture mentioned brownfields. And at the first hearing the public mentioned brownfields. I know some of the cons with brownfields, but I can't testify -- and I know some of the pros with brownfields.

Can you give me your assessment why brownfields are not considered, or why they could be considered?

THE WITNESS (Walker): Well, I'll start and then I'll let our environmental experts go.

So Ameresco is one of the largest solar developers on landfills, municipal landfills and we have lots of municipal landfill projects with solar on it.

We've looked at brownfields which are different than landfills. We have not made any brownfield projects work mainly because of the legal liability and the banks not wanting to finance those projects. So we need to have a state program, which there is in Massachusetts.

We have to go through a set of hurdles in order to get -- to not have the -- not own the legal liability resulting from that brownfield. A landfill is different. The municipality has the legal liability. We can build on a municipal landfill.

The other reason at this site is this site requires a large number of acreage. We have not seen landfills or brownfields of this size that can be developed with this size of a project.

MR. LYNCH: Correct me if I'm wrong, but with brownfields hasn't that mediation already been done to avoid any type of legal action?

THE WITNESS (Walker): Banks are conservative. That's all I can say. You know, we go to the banks. We ask and they come back and

they want -- absolutely come heck or high water they don't want any possible, you know, legal ramifications from it and they want it in writing.

Do you have any comments on this?

THE WITNESS (Bukowski): From a technical standpoint it can certainly be done. I think, you know, it's really about the contract issues and lending issues that Jim brought up.

MR. LYNCH: Sorry. I just didn't hear. You faded at the end. I didn't hear you.

THE WITNESS (Bukowski): I was saying from a technical standpoint it can certainly be done, but it's really more of a bank issue, as Jim mentioned.

MR. LYNCH: Following up on Mr. Hannon's talk about the new panels, the decrease in size of the footprint. Technology seems to change every few months or so. We're going on 20 years here. So if newer technology comes about with panels, with inverters, with transformers that can reduce the size of the footprint on the property, but give you the same power output that you just told Mr. Hannon that you could get, would you do that?

THE WITNESS (Walker): We could not add a capital project to it in the future. In other

words, we're obligated once we sign the financial documents to guarantee cash flow from that project for 20 years, to pay for the -- the debt and equity that's in that project.

So to open it up would mean someone would have to buy out the bank, pay off the loan, pay off the equity in order to invest additional dollars into it. In other words, we cannot modify that site because that site has collateral. It's collateralized to the bank and -- and they're requiring and expecting a certain cash flow based upon the --

MR. LYNCH: But you already have modified it?

THE WITNESS (Walker): Once it starts operating it's operating and that's as far as we can -- we can't change it after that. It has to deliver the cash flows in order to pay the bank it's expected payments, to pay for the principal and the debt as well as the TechEquity partners.

MR. LYNCH: Okay. Now this is kind of a few general questions. As far as security is concerned and I'm thinking this came up at the last hearing from the public, too.

With regards to fire, I know it's, you

know, it's probably a very low percentage that you could ever have a fire there. But if you do, are you going to give any special training to the local fire department or first responders, you know, with regards to how you deal with the type of fire you're going to have?

THE WITNESS (Walker): In all cases right now -- we have a vice president of safety and that vice president has directors and other people reporting to him for safety, because we do quite a bit of federal government work on military bases. So we have a full safety protocol.

So for our solar projects we have that safety head, or his people who report to him will meet with the fire department and they give a whole seminar on how to respond if there's a fire. So we already have a program set up and it's been very well received by the fire officials.

MR. LYNCH: Just a followup to that. Would the local fire department require any special equipment to deal with a fire at a solar farm?

THE WITNESS (Walker): To date that has not come up. There's been no -- it's not like a high-rise building or anything like that. So

there's no -- no fire department has mentioned to us that they need such equipment and we have projects of this size in other parts of the country and it's not come up.

MR. LYNCH: Just so I heard you correctly, you are going to provide training?

THE WITNESS (Walker): That's correct.

MR. LYNCH: Now as far as storms are concerned, they're concerned about the flooding. But I noticed that in the recent storms in Florida and Texas -- not the fires in California. That's a different story. But I saw some of the damage that was done to solar.

And to my surprise the panels didn't collapse -- and when they were hit with projectiles which totally destroyed the panels. Now my question is similar. We had high winds last night. That could have happened here.

How long would it take you to replace the panels that are damaged and be back up and operating?

THE WITNESS (Walker): So if I could just give some color to that? So we've been operating solar projects for nine years and many of these are on the coast. They have to withstand

110, 120 mile-per-hour winds. And we have seen some nor'easters that have been challenging.

To date we've had no failures from the winds, but we have had failures when an HVAC unit had -- a heating, ventilating and air-conditioning unit up on a roof had it's covering come off and then hit the panels.

So when that happens we have to order, we have to have someone go up, assess the damage, order the new parts, work with the insurance company. It's more than a month to --

MR. LYNCH: Just to stop you for a second. Like I mentioned earlier, when you have anything, 85 to 115-mile an hour winds in your wooded area you're going to get branches that are flying through the air everywhere. And that seems to be what happened more or less in Florida, not as much in Texas.

And the pictures I saw, there was extensive damage to these panels. So you know, your base may be able to withstand 115 mile-an-hour winds, but some of the panels are still going to get hit by projectiles.

THE WITNESS (Walker): Right, and I understand. And that's why I said that's --

that's the only damage we've seen is when projectiles -- but how long will it take to rebuild? It will be site by site. In other words, I don't know how much damage it will be.

Someone will have to go assess it. The insurance company will get involved. We'll order the parts. We'll get contractors out to fix it. The banks will require us to -- and the utilities will require us to do it at the utmost speed, but it will depend upon the amount of damage.

You're asking how much time it will take. It will depend upon the amount of damage.

MR. LYNCH: I guess what my real question is, you know, you're going to be off line, and how long are you going to be off line? Or is there something you can do, you know, to the panels that aren't damaged to stay online?

THE WITNESS (Walker): Are these string arrays or central? Central inverters?

THE WITNESS (Lindsay): They're central.

THE WITNESS (Walker): How many?

THE WITNESS (Lindsay): Eight.

THE WITNESS (Walker): So it's broken up into eight systems. So if all eight are -- in the systems are damaged across the whole array it will

take, you know, months before we can get that back up online. If it's only one area we can still operate the rest of the array.

MR. LYNCH: And now as far as getting the allowable full federal tax credits you have to be up and operating by the end of 2018?

THE WITNESS (Walker): Nineteen, isn't it? I think it's the end of '19, but we will be -- we'll be -- my understanding is that we have to be substantially complete, and we will be substantially complete by that date.

MR. LYNCH: Now my last question is going back to the emergency situation, whether it be a fire -- or is there a vehicle or something, a process in place that can turn off the transformers and the inverters so that anyone walking or going within this, your property is protected and they're safe?

THE WITNESS (Walker): Do you mean emergency people?

MR. LYNCH: Yes. Just whatever is hot, I want to make sure it's turned off.

THE WITNESS (Walker): Yeah. So just to be clear, the emergency responders will -- will have the keys and the ability to shut off the

inverters so that power is -- AC power is not going out into the line.

But if it's sunny out the panels will be live. So we have to train everyone about how to operate around solar panels.

MR. LYNCH: You anticipated my next question. Thank you.

That's all, Mr. Chairman.

THE CHAIRMAN: Thank you.

Mr. Silvestri.

MR. SILVESTRI: Thank you, Mr. Chairman.

What was the wattage of the panels in the original footprint?

THE WITNESS (Lindsay): I think it was 360.

MR. SILVESTRI: And the new wattage is?

THE WITNESS (Lindsay): I'm assuming 400.

MR. SILVESTRI: Four hundred. Could you go larger than 400?

THE WITNESS (Lindsay): We don't know for sure. That depends on what happens with suppliers and what -- what changes they make. We don't know for sure.

MR. SILVESTRI: What I'm looking at, if

you went from one to the other and you reduced your footprint, if you go to another higher wattage out what's readily available, you've reduced your footprint even more?

THE WITNESS (Lindsay): Right. There's not going to be a significant -- in the timeframe that we have there's not going to be a significant change.

THE WITNESS (Walker): I put a lot of pressure on our engineers to try to get a higher wattage panel because I was very unhappy about reducing what we had to do, about making the changes that we made from an environmental perspective.

And they told me that we could not get right now panels greater than 400 watts per panel and be assured of getting that. Then there are a few that are available over in China, but that we could not be assured of getting them. And so we had to make a commercial decision to go with what was available.

MR. SILVESTRI: Just a followup question on the 400 watts. Was that also part of the driver with your change on the inverters?

THE WITNESS (Walker): No. The -- the

driver was a meeting that we had with Connecticut Light & Power to try to get the -- we had been concerned that the approval for our interconnection is now -- six months late? Approximately six months late and we -- we were wondering what's going on. And that's when they informed us that ISO New England was exerting its authority, let's say, onto CL&P and requiring that ISO New England wanted to have control over the generation.

And so what they're thinking is if there's -- and correct me if I'm wrong -- if there's, let's say there's a voltage drop in that part of the region and they want -- so they'll want us to increase the voltage. If there's too much voltage they'll want us to decrease the voltage.

In other words, they want us to act as a -- to help them control the voltage and supply of electricity in that area and they'll have the control over it. And so they wanted us to change the inverters that allows them electronically -- and we have to put in fiber-optic cable so that they can have that control, to control our inverters.

So basically that's going to be a resource to make sure the voltage in that area remains, you know, within whatever bounds they want. But those bounds that ISO New England wants to control it at are outside of the rules and regulations that Connecticut Light & Power operates within.

So there's a debate going on between Connecticut Light & Power and ISO New England about this type of control which we are not a party to. But regardless, we said we would change the inverters and we would -- and we did that.

MR. SILVESTRI: Thank you for that explanation.

Thank you.

THE CHAIRMAN: Okay. That concludes the cross-examination by the Council. Next, the Town cross-examines.

MS. RIGDON: I'm going to apologize in advance because I think some of my questions are a little more elementary than others are asking, but solar is a little over my head. So I'm trying to understand all this.

So I guess my first question to the panel would be, do any of you have experience with

the size of the project? Have you ever done anything this large before?

THE WITNESS (Walker): Yes, Ameresco has done a project that we completed and it's operating in Maryland that's this size. It's at Fort Detrick.

MS. RIGDON: Okay. And what about this sort of terrain? Have you dealt with this sort of terrain before in building an array?

THE WITNESS (Walker): Yeah. Well, actually we've dealt with terrain that's much more complicated than this being landfills, but we've dealt with all types of terrain.

So we've built projects privates along the Mass highway, the Mass Pike, projects that involve tree cutting, a project that was on a cranberry bog that involved tree cutting in the mud. So we've had a very wide range of projects.

Our most complicated project was at Logan Airport where we were on the air side and we were told that if a panel flew off while we were in construction and a jet was there, we just bought a jet. So we don't face that type of a project here.

MS. RIGDON: Okay. And again, this was

before my time the Town, but in terms of the pilot agreement -- and please correct me if I'm wrong. So Candlewood Solar, LLC, will be leasing the property, but Ameresco will be basically funding the project. Is that correct?

THE WITNESS (Walker): Ameresco and its financing entities will own the project. Ameresco will operate and maintain the project for the life of the project. The property owners will receive a lease payment for our use of the land, and the Town will receive a tax payment for our participation of a project within the town.

MS. RIGDON: So I guess my question is in terms of the pilot agreement which speaks of decommissioning and things of that sort, Candlewood Solar has signed onto that pilot agreement, but Ameresco in and of itself has not. But Ameresco seems to have the assets per se.

So the LLC, I don't know what its worth is. I don't know if there are any assets for the LLC.

THE WITNESS (Walker): Big assets. It's a 40-million dollar solar farm.

MS. RIGDON: Okay. So I guess my question is in terms of the pilot agreement would

Ameresco be willing to sign onto that as well aside from the LLC?

THE WITNESS (Walker): No. All of our -- we have -- we've built $5.5 billion of renewable energy projects. All of the projects that are financed have individual LLCs. So you can go to the website and look at -- we're a public company traded on the New York Stock Exchange, so you can look at all the LLCs.

The financing entities that each one finances, there they're financed as separate corporate organizations and -- and that's how project financing is done and financed with the banks.

MS. RIGDON: Okay. I've also -- in looking through all the filings, I have seen a lot about protected species. So the slimy salamanders, the box turtles. Have there been any studies about other species?

We have bobcats in New Milford. We have bears. Has there been any study on the impact of those animals?

THE WITNESS (Butler): No, there hasn't been any study specific to nonregulated or non-wetland dependent species.

MS. RIGDON: And do you know, in your opinion, what impact if any there would be on other species?

THE WITNESS (Butler): You can speculate the change in woodland character to a grassland, or solar panel with grass understory is going to change the dynamics of the -- of the local ecosystem there.

So animals that are dependent on trees are going to be excluded from the new area, or at least marginalized, but it's general -- anytime you displace a natural environment with a somewhat unnatural substitute you have a change in the dynamics.

As I have said before, this case is different than a residential subdivision or a commercial, or almost any other feature in that it doesn't have any road traffic. It will cause ongoing mortality to the residents of the perimeter of this area. There's not going to be vehicular strikes.

There's not going to be animals captured and drowned in the stormwater systems because we're not going to have gutters with deep sunk catch basins and all these kinds of things where

animals go in and where they can't come out.

And so those other legacy impacts aren't going to be associated with this kind of configuration just because it's -- there's no people there. There's no cars there. There's no landscaping there. There's no chemicals applied for keeping your -- your lawn green and your hedges tall and bright. So it lacks all those changes that is more typical for a development of this size or any size when it's got buildings and automobiles and parking lots.

MS. RIGDON: Do we pose any risk to abutting landowners and pushing black bear and bobcats out of this area?

THE WITNESS (Butler): You say, risk to landowners. I thought you were going to follow up with pushing them onto their land. But you're indicating that pushing them out is the -- is the question?

MS. RIGDON: Well, "pushing them," and that may not be the right term, but you know, displacing animals so that they are going on residences. So you're walking out your back door and there's black bear or bobcat and I know that that's already an issue, but do you think that

this project will increase that for people in the area?

THE WITNESS (Walker): I don't think we studied that. We don't study that. So we're required to study endangered species, not species that are, you know, deer, let's say that are not endangered at all -- and trying to find ways in which to hunt them. So we did not evaluate other species except species that are protected.

MS. RIGDON: Okay. Now in terms of what I will call the access road. So how the array would be accessed, we did hear some questions regarding Route 37 to Candlewood Mountain Road. You know, that's the only way in, the only way out.

Had you looked at any possibility of connecting to Route 7?

THE WITNESS (Lindsay): We have not looked at that, at that detail. We're looking at, you know, coming in if off of Candlewood Mountain road, it's an already existing access way.

MS. RIGDON: And again, this is so over my head, but interconnection lines, you know, I've looked at the site maps. Did you explore any -- I don't even know if any of this is possible, but

there are obviously power lines servicing Candlewood Road.

Would there be a way to tie into those existing poles to get to where you need to go?

THE WITNESS (Lindsay): We -- we are configured so that we need to connect directly to the Rocky River Substation, and so that's what we need to do. We can't do that by going out to Candlewood Mountain Road. And in fact, that would probably be more disruptive to do that anyway.

But it's not -- we're running direct connections to Rocky River Substation.

MS. RIGDON: Okay. And with the interconnection lines where they are placed on the map, is there any risk that they will be visible from Lynn Deming Park, the lake area?

THE WITNESS (Foster): I'm sorry. Can you repeat the question?

MS. RIGDON: The interconnection lines, when you follow the map down to Rocky River they sort of follow the edge of Lake Candlewood. So our public beach is in that area.

Is there any risk that these lines will be visible from that public beach?

THE WITNESS (Foster): So along the --

I'm going to look at the figure. There is an existing access road and it will be visible along that existing access road that's currently -- I believe it's Connecticut Light & Power.

THE WITNESS (Lindsay): Right. That's FirstLight.

MR. MICHAUD: FirstLight. So in terms of seeing the interconnection lines themselves, and I know you spoke about heights and heights of trees, is there a risk that people going to the beach are going to be looking at these lines?

THE WITNESS (Lindsay): There's very little visibility, if any. Most of it runs through an area that will be, you know, within a tree area. There will be -- the poles won't be as high as the trees.

There's only a small section where it comes onto the existing access road where it's -- I don't think it's going to be visible because it's quite a bit lower than the -- than the lake, but it's not -- it's not concealed by trees.

In that area, and in fact most of that area you're at an elevation below the lake. There's an embankment there. So it's going to be largely invisible.

MS. RIGDON: I guess going to the fire hazard issue, which is something else that's over my head, but what is the risk?

Is there a large risk that there could be a fire at this site? Is it minimal? What could cause a fire, I guess is my question?

THE WITNESS (Walker): There's probably a greater risk of lightning causing a fire, a strike. People -- we don't put these systems in on rooftops and fields if they could cause a fire. That would be a really bad event. So they're designed not to cause fire.

MS. RIGDON: And have you in any of your other projects dealt with -- New Milford is a large town, but it's also a small town. We have volunteers as first responders. Have you worked with volunteer fire departments in your training before, or have they been in larger cities where there's paid fire departments?

THE WITNESS (Lindsay): Right. It's both. We've worked in larger and smaller communities. We've worked in a lot of communities.

You know, I think the volunteer emergency responders are just as able to, you

know, absorb and -- and make use of the training that we provide.

MS. RIGDON: Okay.

What about noise? What kind of noise is emitted once the array is constructed?

THE WITNESS (Lindsay): The panels are silent. The inverter -- inverter to transformers will make -- there is a hum during the day. During the night everything is silent because everything is off.

The noise levels -- and I may defer to Amec on this. There in the original petition -- and we outlined -- and in response to some interrogatories we did some outlining of what the noise levels would be. And really the noise levels of inverters are, you know, on the order of 60 -- 60 decibels or so at maybe, you know, just a few feet away.

And the array itself is going to be several hundred feet from any potential receptors. So it's really not going to be -- we don't believe noise is going to be an issue at all. It really won't be audible.

MS. RIGDON: Okay. And I think at the last hearing we had spoken a little bit about

herbicides and pesticides. Is there any intention to utilize those on the property?

THE WITNESS (Walker): No. We don't use herbicides or pesticides on any of our sites.

MS. RIGDON: And going back to Candlewood Solar being -- leasing the property, the property owner or potential property owner, have they committed to this conservation easement that I've heard testimony about surrounding areas? Is that a commitment?

THE WITNESS (Lindsay): Yes.

MS. RIGDON: Okay. Is there any risk with the construction of this project to impact surrounding property values?

THE WITNESS (Walker): We've built a lot of projects. We've never heard anyone tell us that the property values nearby was, you know, was in fact impacted.

MS. RIGDON: Okay. And you've spoken a little bit about system monitoring. What does that entail? How is the system monitored?

THE WITNESS (Walker): All our system is -- has what's called a data acquisition system, and the system is instrumented. So all the data -- well, there's two, a couple places where

all the data goes to.

So some of the data goes to Connecticut Light & Power and to ISO New England so they can have proper control over the -- that they want. We also get data, and so we're monitoring it and that data is coming to us constantly.

And we have an operation and maintenance group that is, you know, evaluating and looking at it and making sure that nothing is going wrong.

We are also happy to make that data available to the community and it can be part of a science program if they would like. We can also work to put it on a website for the community. And we would also be happy to provide materials that are integrated with it for teaching within the schools.

And I don't know the technology that's in the school, but it all can be accessed via the Internet. And the data can be downloaded by the schools and they can run, you know, their own experiments about it's, you know, the weather is going to be sunny tomorrow. How much do you think it will produce?

And anyway, so that data is available for us. It's available for the utility and ISO

New England and we can make it also available to the Town.

MS. RIGDON: So is there an actual -- and probably not cameras, but is there a visual on this project, or just data coming in and out?

THE WITNESS (Lindsay): There's just data. We don't typically have monitoring cameras. We don't -- haven't done that, haven't seen the need.

MS. RIGDON: And in terms of construction, from the time construction begins to the time the project is finished how long do you anticipate that period of time to be?

THE WITNESS (Walker): The construction is going to be, we think, in stages because we have to work around environmental. So we think that tree cutting will happen early in one stage so we avoid -- remind me again the bats? Is that bats we're avoiding?

THE WITNESS (Foster): (Nodding affirmatively.)

THE WITNESS (Walker): But the construction in earnest will not start until we get all the approvals including the interconnection approval from the utility, the

Siting Council approval and any other approvals that we need.

And our own -- I forget how long is our construction?

THE WITNESS (Lindsay): Approximately nine months total.

THE WITNESS (Walker): Nine months total and that the utility will have it's own construction, which will be out on Route 7, I believe, only Route 7.

MS. RIGDON: Do we have an estimate as to how long that construction on Route 7 would take?

THE WITNESS (Walker): I don't think you'll see it. I think they're thinking drilling underneath the road. So I don't think it will affect anyone.

These plans are still being worked on.

MS. RIGDON: Sure. Sure. Just an estimate as to how long the construction would take.

Now in terms of other locations that you investigated I noticed that most, or if not all, of those locations were in New Milford. Did you explore any areas outside of New Milford?

THE WITNESS (Walker): As I mentioned this morning, we did not. The land developers came to us. They had been investigating properties and we only had a very short period of time in which to respond to this RFP by the time it was issued and the time that we had to develop the project.

So we did not have time to, say, look up in Maine or New Hampshire or other states. So this was the project that -- this was the land that came before us and this was the project that was developed.

MS. RIGDON: And I think there was also mention of the Century Brass parcel. Did you explore that parcel?

THE WITNESS (Walker): We did, and there were two -- a couple issues. One, as Joe mentioned, at the time there was a PANDA project being done there.

Two, the project is not -- the site is not large enough for this array. And then there was a wetland issue.

THE WITNESS (Lindsay): Right. There's considerable wetlands, too, which limits the -- the area that you can use at the site.

MS. RIGDON: What about abutting property to that Century Brass piece? Did you explore properties situated around it?

THE WITNESS (Lindsay): We did not, no.

MS. RIGDON: Okay. There was some mention from the Department of Agriculture about soil compression. Do you have any plans in place to avoid the compression?

THE WITNESS (Bukowski): The only areas that would be actively compacted would be the access roads.

MS. RIGDON: And this is probably just a typical lawyer question, but you talked about liability issues with sheep and livestock.

What are those liability issues?

THE WITNESS (Lindsay): I would let anyone chime in who wants to, but they could, I mean, sheep could get spooked. They could run into the panels. They could, you know, inadvertently do damage. They could revert -- inadvertently chew something.

And I think, you know, that's some specific things. I think it's also just the unknowns in terms of introducing that into the array.

THE WITNESS (Walker): But the bottom line is that -- because I think that would be a great idea personally. I love the idea. I keep asking, why can't we do it?

And we have to go to the bank. They don't think like I do, and there's just no way so far. Hopefully we can change their mind at some point in time because I think it's a good idea, but I'm not that good a salesperson.

MS. RIGDON: What does the bank require in terms of insurance for the property?

THE WITNESS (Walker): We will have our own insurance for -- the SNL required insurance. I don't remember the insurance amounts, but we will be fully insured.

THE CHAIRMAN: Mr. Lynch has a followup.

MR. LYNCH: Could I just follow up on the insurance question?

THE WITNESS (Walker): Yes.

MR. LYNCH: Now does that include damage and then liability, or just one or the other?

THE WITNESS (Walker): I'm not the attorney. So I know that -- I know there's insurance for damage, you know, lightning or something happens. Consequential damage, things

that we cause we're on the hook for. Things that we don't cause we're not on the hook for.

And non-consequential damages we're not on the hook for, but that's the most that I -- if you have a follow-up question, I would ask an interrogatory and I'll get our attorney to answer that question.

MR. LYNCH: I would think I would want to have a liability policy, too, in case someone was injured. Am I not correct?

THE WITNESS (Walker): Yeah, we do. I know we do, but the details of our insurance goes on for pages, and I don't remember all the --

MR. LYNCH: I just wanted to make sure it was inclusive of everything.

THE WITNESS (Walker): It's inclusive, yeah. As I said, we -- most of our clients are state, city, town and federal government and they require the full --

MR. LYNCH: I know what the feds require. Thank you very much.

MS. RIGDON: Okay. One last question and it's about box turtles which are, again over my head. But there was mention of a source of mortality for potential box turtles on the

property, which I understand the fencing is taking precautions for mowing and things of that nature.

What about when logging and construction trucks are present on the property? Is there a risk for mortality there as well?

THE WITNESS (Butler): The way it's proposed at the moment is we will cut the trees in the non-bat season, or inactive migratory season and stump the site and then isolate it so that animals, prior to the security fence being installed, animals in the periphery won't have access to it.

That's probably the greatest liability, is you strip a site and if there are any box turtles out there, they smell the denuded soil and that's a great place for them to nest. And so animals may come.

So that's why we want to sequester the entire array field or any working, actively working area during the active season from box turtles. So they don't -- it will prevent animals -- from it being an attractive nuisance for animals that are in the vicinity.

MS. RIGDON: In terms of the fence around the array -- and I'm sure this is in the

materials, but not off the top of my head -- but how tall is the fence?

THE WITNESS (Lindsay): Seven feet.

MS. RIGDON: Okay. Just because I get into the attractive nuisance, you know, the lawyerly concerns.

THE WITNESS (Lindsay): That is a code requirement.

MS. RIGDON: Okay. No further questions.

THE CHAIRMAN: Thank you.

Mr. Levesque, you have a followup?

MR. LEVESQUE: Just one question. You mentioned something about the value of the project. What's the market value of it?

THE WITNESS (Walker): How do you define market value?

MR. LEVESQUE: You said something about $40 million?

THE WITNESS (Walker): That's what it costs to build it. So all the material, all the -- all the workers, us being in this room, you name it.

MR. LEVESQUE: And then -- but your pilot tax, your tax agreement says --

THE WITNESS (Walker): No, no. That excludes the pilot tax agreement. That's for it to get to the point where we have an operating facility.

MR. LEVESQUE: Sure, but your property tax is going to be 75,000 in one year, the first year?

THE WITNESS (Walker): I forget what it is. I don't have the schedule.

MR. LEVESQUE: Yeah, that's on the schedule. Okay. Thank you.

THE CHAIRMAN: Okay. Now I just want to go through to see cross-examination by the Department of Agriculture. Is there anybody still here?

(No response.)

THE CHAIRMAN: Cross-examination by rescue Candlewood Mountain?

LISA OSTEN: We thank you very much for the opportunity. Our counsel couldn't be present today. If we ask questions without counsel present he would have to resign, and we can't afford to lose that.

He did have good reasons for not being able to be here today and we will have to decline, although we might ask you if we could continue that at the next session -- which you may not allow.

THE CHAIRMAN: Well, I couldn't have said that better myself. There will be -- so anyway, thank you for your explanation.

We do our best to try to work this out so everybody gets the opportunity, and we schedule the meetings in advance. There are a lot of different parties and individuals. So we do our best at our end.

So with that said, there is another, which I will get to shortly, November 14th, which we will have a continuation of the hearing which we'll have the appearance by the Town for a cross-examination of the Town, followed by appearance of Rescue Candlewood Mountain to be cross examined by, you know, the various other parties.

If, and I'm only going to say if -- if time allows we will try to give you, through your attorney, the opportunity. So that's an if, but I would also -- it's almost a plea, because I know

your attorney was very thorough, but if he could be -- if you could explain to him that a lot of cross-examination and questions have been asked and answered and the Chairman occasionally gets grumpy when he hears things being repeated because people couldn't make it, so -- so that's the best we can do. We will do our best to, you know, to prevent that.

MR. MICHAUD: Mr. Chairman, may I ask a question?

THE CHAIRMAN: Sure.

MR. MICHAUD: Is the petitioner going to be required to bring our panel back on the 14th or are we done for the day?

THE CHAIRMAN: My attorney does a much better job speaking than into my ear, then who knows what comes out the other end.

MS. BACHMAN: Attorney Michaud, yes, I would say your panel would be required to show up on November 14th, however considering we are starting with the appearance of the Town at 11 a.m. and then we're going to go to the appearance of rescue Candlewood Mountain thereafter, then perhaps your panel could appear at 1:45, the same as was the Department of

Agriculture.

Perhaps they can take the morning off that day, but certainly you'll want to be here for cross-examining the other party.

MR. MICHAUD: Thank you.

THE CHAIRMAN: So did we sufficiently answer your question?

LISA OSTEN: Yes, thank you.

THE CHAIRMAN: So the Council announces that it will continue the evidentiary portion of this hearing in New Britain on Tuesday, November 14, 2017, beginning at 11 a.m., at which time we will commence with the appearance of the Town of New Milford followed by the appearance of rescue Candlewood Mountain, and if time permits cross-examination by Rescue Candlewood Mountain of the applicant.

Please note that anyone who has not become a party or intervener, but who desires to make his or her views known to the Council may file written statements with the Council until the record closes. Copies of the transcript of the hearing will be filed at the town clerk's offices of New Milford, Brookfield and New Fairfield.

And I hereby declare this portion of the

hearing adjourned. Thank you all and drive home safely.

(Whereupon, the above proceedings were concluded at 4:06 p.m.)

CERTIFICATE

I hereby certify that the foregoing 202 pages are a complete and accurate computer-aided transcription of my original verbatim notes taken of the Administrative Hearing in Re: PETITION NO. 1312, CANDLEWOOD SOLAR, LLC, PETITION FOR A DECLARATORY RULING THAT NO CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED IS REQUIRED FOR THE PROPOSED CONSTRUCTION, MAINTENANCE AND OPERATION OF A 20 MEGAWATT AC (26.5 MEGAWATT DC) SOLAR PHOTOVOLTAIC ELECTRIC GENERATING FACILITY LOCATED ON A 163 ACRE PARCEL AT 197 CANDLEWOOD MOUNTAIN ROAD AND ASSOCIATED ELECTRICAL INTERCONNECTION TO EVERSOURCE ENERGY'S ROCKY RIVER SUBSTATION ON KENT ROAD IN NEW MILFORD, CONNECTICUT, which was held before ROBIN STEIN, Chairman, at the Connecticut Siting Council, 10 Franklin Square, New Britain, Connecticut, on October 31, 2017.

Robert G. Dixon, CVR-M 857
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My Commission Expires: 6/30/2020

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