STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

DWW SOLAR II, LLC PETITION FOR DECLARATORY RULING THAT NO CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED IS REQUIRED FOR A 26.4 MEGAWATT AC SOLAR PHOTOVOLTAIC ELECTRIC GENERATING FACILITY IN SIMSBURY CONNECTICUT	:	**PETITION NO. 1313**
	:	**SEPTEMBER 5, 2017**

ORIGINAL

DEPARTMENT OF AGRICULTURE WITNESS AND EXHIBIT LIST

Witnesses:

1. Kipen (Kip) Kolesinskas – Mr. Kolesinskas, a consulting conservation scientist, is expected to testify as to his background, education, qualifications, experience, and observations. He is further expected to testify concerning the impacts on agriculture of the solar array project that is the subject of this Petition.

Exhibits:

1. Pre-Filed Testimony of Kipen (Kip) Kolesinskas.

STEVEN K. REVICZKY, COMMISSIONER
CONNECTICUT DEPARTMENT OF AGRICULTURE

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Certification of Service

I, Jason E. Bowsza hereby certify that a copy of the foregoing Department of Agriculture Witness and Exhibit List was sent on September 5, 2017, by e-mail and by first class mail, postage prepaid to the following parties on the Service List in this matter:

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PRE-FILED TESTIMONY OF KIPEN (KIP) KOLESINSKAS

1. Q: What is your name?

A: Kip Kolesinskas.

2. Q: What is your profession?

A: I am a consulting conservation scientist.

3. Q: What does that involve?

A: I provide soil science and conservation based consulting services to agencies, non-profit organizations, and private farmers and landowners throughout New England.

4. Q: How long have you been in your current consulting position?

A: Since 2012.

5. Q: Prior to that, were you employed?

A: Yes. From 1977 through 2011, I worked for the United States Department of Agriculture (USDA), Soil Conservation Service (SCS), and Natural Resources Conservation Service (NRCS).

6. Q: What is NRCS?

A: In 1935, after the experience of the Depression-era "Dust Bowl" in the United States, Congress recognized that the loss of soil and water resources on farm, grazing, and forest lands is "a menace to the national welfare," and established SCS as a permanent agency within the USDA. After 1994, SCS was changed to

the NRCS.

NRCS' mission is to protect the nation's soil and water resources through "Helping People Help the Land" by means of technical and financial assistance programs. NRCS is a decentralized federal agency with offices in every state and most counties.

One of the main things NRCS does is to create tools and technical standards and information that people can use when doing land use planning, development, farming, and conservation. For example, NRCS as a federal agency has the lead responsibility for mapping, classifying, and interpreting soils information, and develops technical standards and soils information for lands across the United States. One of the outputs is the digitally published soil survey available to the public. Another main task of the agency is to educate, train, and consult with all manner of planners, developers, engineers, farmers, governments, non-profits, and businesses in how to protect and conserve our natural resources.

7. Q: What were your titles and duties with NRCS?

A: From 1977 to 1978, when I was still an undergraduate at Cornell University, I was a student trainee. I was graduated from Cornell in 1978 with a Bachelor of Science in Soil Science. When I started fulltime with SCS in 1978, my title was Soil Scientist. I worked on developing soil surveys all over New York State: as part of a team I went to locations, transected the landscape, took samples, and classified the soils based on their characteristics. Then, I prepared the soil maps, descriptions, and interpretations for those areas.

8. Q: Soil maps?

A: Yes. NRCS, as I stated, maps soil types nationally for use in planning and conservation. These were the maps I was creating for soil survey areas in New York State. The maps and information I created are still in use, and now they are available digitally to the public.

9. Q: How long were you in that position?

A: In 1983, I left USDA SCS in New York. I moved to Connecticut for a new position as a Resource Soil Scientist and have been here since then. I continued to do field investigations and sampling. It's fair to say I have dugs holes all over the State of Connecticut.

One of my responsibilities was helping people with using the soils information. I did on-site investigations, and assisted farmers, planners, engineers, and developers to use the information. I assessed soils on farms for farmers so they could address erosion, manure management, and other problems, and successfully preserve and conserve the soils for farming. I trained local wetlands agents and

commissions – as you probably know, the identification of wetlands in Connecticut is based on soil type. I served on NRCS committees and task forces. I worked with local communities on farmland preservation using LESA – The Land Use Evaluation Site Assessment System – which is a program that ranks farmland parcels and assesses their vulnerability to development.

I also helped update the eight previously-published soil surveys and bring them up to current standards to be digitized. GIS (Geographic Information System) was just really getting rolling, and one of the things NRCS was doing was to digitize its soil maps and make them available to the public. In fact, the federal government in general was making a big push to put its data on-line.

10. Q: Did you take on new duties over time in your position as Resource Soil Scientist?

A. Yes, I continued to take on additional responsibilities, and in 1991, I became the State Soil Scientist for Connecticut and Rhode Island. I continued doing field work, on-site investigations, and training and outreach to planners, municipal engineers, and wetlands agents for soil identification and conservation. I had responsibility for training NRCS staff and was the primary soils trainer for the Connecticut Department of Energy and Environmental Protection's municipal inland wetlands training program.

I was also supervising numerous people by this time, and I developed and reviewed technical standards for the national soils program as well as soil conservation practices – things like nutrient management and erosion control.

I also continued to update and digitize the Connecticut soil survey and the Rhode Island soil survey. Under my supervision, we updated Connecticut's eight previously-published county soil surveys and made them into a modern seamless statewide soil survey that is available on-line.

In 1995, NRCS started the Farmland Preservation Program. This is a program that supplies federal dollars to conservation partners to preserve local farmland. I was running the Connecticut portion of that program. This involved evaluating sites to see if they qualified for farmland preservation, working with and advising recipients, and reviewing and developing deed language.

I also had two details to Washington, D.C. In the first, which was during the Clinton/Gore administration, I was working on digital standards for soil surveys. I worked with the United States Geological Survey on this. In the second, I was with NRCS' Resource Analysis Division developing a national analysis of resource trends across the United States such as, for example, loss of farmland.

11. Q: Did you have other duties?

A. Yes. During the entire time I was with NRCS in Connecticut, I was responsible for reviewing the impacts of projects on prime farmland.

12. Q: What is "prime farmland"?

A: Prime farmland is actually defined by federal law, and it is "soils defined by the United States Department of Agriculture as best suited to producing food, feed, forage, fiber and oilseed crops." The definition can also be found at Conn. Gen. Stat. § 22-26bb(g).

13. Q: The USDA defines prime farmland?

A: Yes – actually, it is the NRCS part of USDA that defined it. The full definition is:

Land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is also available for these uses. It has the soil quality, growing season, and moisture supply needed to produce economically sustained high yields of crops when treated and managed according to acceptable farming methods, including water management. In general, prime farmlands have an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, acceptable salt and sodium content, and few or no rocks. They are permeable to water and air. Prime farmlands are not excessively erodible or saturated with water for a long period of time, and they either do not flood frequently or are protected from flooding.

There are also definitions and processes for defining "statewide important farmland," "locally important farmland," and "unique soils."

14. Q: When USDA maps soils – and when you did your soil mapping for NRCS – did that mapping include analyzing the soils and then showing on the maps which areas are prime farmland?

A: Yes, that is one of the soil interpretations that have been developed.

15. Q: You just mentioned that you were responsible for reviewing the impacts of projects in Connecticut on prime farmland; what was that about?

A: In 1981, Congress passed the Farmland Protection Policy Act, which says if there are federal dollars in a project, the project's impacts to prime farmland must be assessed. Final rules and regulations for this Act were adopted in 1994. I was responsible for assessing these impacts for projects in Connecticut.

Also, from 1995 to 2011, I managed the federal Farm and Ranch Lands Protection Program in Connecticut, which protected over 10,000 acres of

Connecticut farmland.

16. Q: What have you been doing since you left NRCS at the end of 2011?

A: As I stated, I am a consulting conservation scientist. Major clients of mine include the American Farmland Trust (AFT), which is an organization founded in 1980 to save the land that sustains us by protecting farmland, promoting sound farming practices, and keeping farmers on the land. Their motto, which you may have seen, is "No Farms, No Food." Other clients of mine are the Connecticut Department of Agriculture (CTDOA) and the University of Connecticut Cooperative Extension (UConn Extension).

I am currently assisting UConn Extension with a three-year grant, developing and presenting courses and providing technical assistance on soil science, soil health, land access, and climate change and adaptation for new and beginning farmers.

I am also currently assisting AFT with a number of projects, including developing soil landscape analysis as part of the *"State of America's Farmland"* project, which is going to be a comprehensive analysis of our nation's land use changes and loss of agricultural lands.

I am working with CTDOA on a number of programs, including farmland restoration and farmland preservation. This has included evaluating the soil quality of farmland that has been impacted by mining, construction, and agricultural activities.

I also participate in all of the Connecticut initiatives around land access, affordability, and technical assistance to new and beginning farmers. I have served as a technical advisor to a number of statewide efforts including the Working Lands Alliance, Governor's Climate Change subcommittees, Long Island Sound Management Committee, Connecticut Council on Soil and Water Conservation, and the Farms, Food, and Jobs Working Group.

17. Q: Have you done any teaching?

A: Yes. In 2016-2017, I taught two courses at UConn Extension's Solid Ground Farmer Training: BF 104 - Soil Health and Management; and BF 102 - Finding Farm Sites, Leasing Farmland.

From 1983 through 2011, I taught Soils Training for Municipal Inland Wetland Commissions, which was offered by the Connecticut Department of Energy and Environmental Protection. Also from 1983 through 2011, I taught Soils Training for Sanitarians and Engineers, which was offered by the Connecticut Department of Public Health. I was also the primary trainer on soils for NRCS employees.

In 2012 and 2016, I taught Plants and Agriculture- Environmental Studies School, offered through the Federated Garden Clubs of Connecticut.

I have also given webinars, lectures, field sessions, and classes on: understanding and using soils information; soils and conservation planning; soil health and quality; Connecticut wetland and hydric soils; soil classification; soil mapping; describing soils; soil interpretations; farmland protection; conservation easements; accessing federal and state grants; farmland access and affordability; farmland restoration; best management practices for agriculture; climate change adaptation strategies for agriculture; and large landscape strategic planning for a variety of audiences at national, regional, state, and local levels. Audiences include federal and State agencies, land trusts, engineers, sanitarians, soil scientists, conservationists, municipal planners, wetland and conservation commissions, farmers, foresters, landowners, and agricultural and environmental organizations. Venues have included Yale University Seminars, AFT conferences, NRCS, the Connecticut and New York Farm Bureaus, and conferences of the Connecticut Land Conservation Council.

18. Q: Do you have additional education beyond your Cornell undergraduate degree?

A: Yes. I have had hundreds of hours of training in all aspects of soils and conservation, through USDA, including additional coursework at Texas A&M University and Lancaster College and Schumacher College in the United Kingdom.

19. Q: Do you have any current professional affiliations?

A: Yes. I am a member of the Connecticut Council on Environmental Quality. I also am currently affiliated with the following organizations:

Soil and Water Conservation Society
Working Lands Alliance Steering Committee
New Connecticut Farmer Alliance
Connecticut Land Conservation Council
Connecticut Food System Alliance
Connecticut Northeast Organic Farming Association
National Young Farmers Coalition
Northeast Sustainable Ag Working Group
Connecticut Farmland Access Working Group

20. Q: Do you have any publications?

A: Yes. I have contributed to the content and outreach for many publications, including the following:

A. PLANNING FOR AGRICULTURE: A GUIDE FOR CONNECTICUT MUNICIPALITIES, American Farmland Trust and Connecticut Conference of Municipalities, 2016 edition.

B. PLOWING AHEAD: Farmland Preservation in 2010 and Beyond, Working Lands Alliance, March 2010.

C. ZONING REGULATIONS AND ORDINANCES FOR LIVESTOCK- Guidance and Recommendations for Connecticut Municipalities, Eastern Connecticut Resource Conservation and Development Area, Inc., 2012.

D. FARMLAND CONNECTIONS- A Guide for Connecticut Towns, Institutions, and Land Trusts Using or Leasing Farmland, American Farmland Trust and University of Connecticut, 2011.

E. CONSERVATION OPTIONS FOR CONNECTICUT FARMLAND- a Guide for Landowners, Land Trusts and Municipalities, 2015.

F. A LANDOWNERS GUIDE TO LEASING LAND FOR FARMING, Land for Good, Land Access Project, 2012.

G. UNITED STATES DEPARTMENT OF AGRICULTURE, Natural Resources Conservation Service, Soil Survey of Connecticut, 2008.

H. UNITED STATES DEPARTMENT OF AGRICULTURE, Natural Resources Conservation Service, Soil Survey of Chenango County, NY, 1985.

I. UNITED STATES DEPARTMENT OF AGRICULTURE, Natural Resources Conservation Service, Soil Survey of Sullivan County, NY, 1989.

J. UNITED STATES DEPARTMENT OF AGRICULTURE, Natural Resources Conservation Service, Soil Survey of Putnam and Westchester Counties, NY, 1994.

K. LANDSCAPE DETERMINANTS OF SOIL CARBON AND NITROGEN STORAGE IN SOUTHERN NEW ENGLAND, Kulmatiski, *et al.*, 2014.

L. ECOSYSTEMS: BALANCING SCIENCE WITH MANAGEMENT, Vogt, *et al.*, 1996.

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21. Q: Have you read the Petition for Declaratory Ruling in this case?

A: Yes.

22. Q: Have you reviewed Ex. H to that Petition, which is entitled "Soil Scientists Report"?

A: Yes.

23. Q: Does that Report include a document called, "Custom Soil Resource Report for State of Connecticut"?

A: Yes.

24. Q: Now, this Custom Report has the NRCS letterhead on the first page – why is that?

A: This is a custom soil survey report that includes a soil map for the area in Simsbury where this project is going to be located. This is an example of the soil maps I was talking about earlier that are available digitally to the public through the NRCS. The petitioner here is using the NRCS map to identify the soils, and which ones are potentially dominated by prime farmland soils.

25. Q: Could you explain how to read this map to find out where the prime farmland is?

A. Yes. Page 6 of the Custom Report has the map on it. There are five areas (polygons), indicated by green labels numbered 1 through 5. Each of these areas has several orange numbers clustered in it. These orange numbers are symbols that denote "map units."

Pages 8 through 10 contain a chart that has a box for each green area. Within the box for each green area, there is a list of the orange numbers, called "map unit symbols," that appear in that area. For example, green area #1 has eight (8) map unit symbols: 23A, 34A, 34B, 38C, 38E, 305, 306, and 308. Each of these map unit symbols corresponds to a dominant soil or soils, called "map unit name" on the chart.

Then, pages 12 through 45 contain a brief description of dominant soils. For example, the first soil type for green area #1 is Sudbury sandy loam, which is map unit symbol 23A. The brief description of the dominant soil in this map unit, Sudbury sandy loam, is found on pages 19 – 20. The description of the soil type includes, on the last line under the first heading ("Map Unit Setting"), the farmland classification for the soil type. You can see that Sudbury sandy loam is designated prime farmland.

26. Q: Are there other types of farmland soils besides prime farmland?

A: Yes. Under the Farmland Protection Policy Act, which I mentioned earlier,

farmland also includes farmland "that is of statewide or local importance for the production of food, feed, fiber, forage, or oilseed crops, as determined by the appropriate State or unit of local government agency or agencies, and that the Secretary [of Agriculture] determines should be considered as farmland for the purposes of this chapter." 7 U.S.C. § 4201(c).

27. Q: Does this Custom Report show that the project will be located on farmland soils?

A: Yes. This project will be located on about 213 acres of farmland soils out of the 289 total acres, or 74%.

28. Q: Does the Custom Report indicate that any of this is prime farmland?

A: Yes. About 90 acres of this is prime farmland.

29. Q: Does the Custom Report indicate that any of the farmland is farmland of statewide importance?

A: Yes. About 123 acres of this is farmland of statewide importance.

* * * * *

30. Q: What makes soil good for farming?

A: There are many factors, including: texture (whether it's sandy, silty, or clay-like); consistence (whether it's firm or soft); structure (how the soil particles are bound together, that is, whether the soil is crumbly or compacted); nutrient status (there are 13 different nutrients); the soil biology (what biota are present); depth to bedrock and the water table; and the slope of the land (the rise or run over 100 feet). Current and past management practices, climate, and spacial extent are also important.

There are five soil-forming factors that combine to make soils different. We have very complex soil landscape patterns in Connecticut. For example, in this portion of Simsbury, the parent material is dominated by sand and gravel deposited by glacial meltwaters. In combination with the topography, biota, climate, and passage of time, it has created the soils we see today.

The soils in Simsbury have been 16,000 - 17,000 years in the making. Over time, soils develop a sequence of layers – called "horizons." The number of horizons varies with the soil. There can be anywhere from 2 to 30 horizons. The upper 6 feet are the most important for supporting plant growth; the upper 24 inches are the most critical. Each horizon will have different physical and chemical properties and vary spatially across the landscape. So, understanding the horizons and the order that they appear, and their variability is also very important for

classifying and interpreting the soils for different uses, including for agricultural productivity. It also helps us understand how water, nutrients, and biota move over and through the soil.

Generally, soils that are prime farmland soils, and have been properly managed, are excellent for growing common crops with the fewest inputs and least environmental impact. They are also the most resilient to the impacts of climate change.

31. Q: Is the soil where this project is proposed to be located on such soils?

A: Yes. The soils in the Connecticut River Valley, which is where this project is proposed to be located, has some of the highest concentrations of prime farmland soils in Connecticut.

32. Q: Is there anything else unique about the farmland in the Connecticut River Valley?

A: Yes. The Connecticut River Valley (or Lowlands) is also a "micro-climate," that is, it is an area where temperature, humidity, wind, and sunlight vary from the larger surrounding area. It has different climate and soils and a longer growing season than most of New England, with a corresponding different – and greater – potential for agriculture. It is a USDA recognized unique physiographic region known as a Major Land Resource Area.

The AFT has recognized the Connecticut River Valley as one of the most threatened – from a farmland resource point of view – in the United States. It has easy access to highways, is between New York City and Boston, and has a dominance of well drained soils that are easy to develop. It is also in an area where sprawl development is the norm.

* * * * *

33. Q: You testified that you have reviewed the Petition in this case. What, if anything, about the construction of this project will degrade the soil?

A: There are a number of things. The soil will be disturbed by a number of activities: trenching for placing the wiring that connects the panels to the equipment pads and substation; cutting and filling (grading) slopes to maximize solar efficiency; building of access roads; driving of posts into the ground; pouring for concrete supports; general construction activity; potential for erosion and sedimentation; creation of impervious surfaces that will change how water moves over and through the landscape; and changing the vegetation that is already there.

These activities create a number of problems. A major problem is compaction of the soil. All the construction activities at the site will cause compaction. Compaction changes the structure and consistence of the soil, making it harder and firmer. This changes the way water, nutrients, and biota pass through the soil, and that change then leads to changes in the soil's chemistry, biology, and hydrology. Compaction of a soil never leads to greater productivity– it always reduces it.

Another major problem is disturbance of the soil horizons by trenching and grading, and installation/removal of infrastructure, including the steel piles that hold the panels. Any time there is digging in the soil, the soil horizons will be changed. As with compaction, changing the soil horizons will affect the soil's structure, consistence, and possibly texture (if horizons are not placed back in the correct sequence), and will change the way water, nutrients, and biota move over and through it. Remember that the existing soil horizons at the project site have been thousands of years in the making. In their current state, they are providing very productive soil and land. Construction of this project will cause these soil horizons to be changed – for the worse, not for the better.

34. Q: In Section 7.12 of the Petition, the petitioner describes how it plans to minimize the effects of the construction of the project on the soil; do you agree that this analysis is adequate?

A: No.

35. Q: Why not?

A: There is a lack of detail and underestimation of the impact of the activities. For example, if driven steel posts are used to hold the panels, there will be approximately 363 per acre and 45,738+ on the 126 acres! Heavy equipment is needed to pound these into the soils and to remove them in the future. Trenches 3-8 feet across and 3-8 feet in depth will be needed for conduit and wire installation, disturbing over a mile with heavy equipment and disrupting soil horizons and properties. Excavations and heavy equipment will be needed to install the 14 equipment pads and roads. Heavy equipment on the site used under wet soil conditions can exacerbate compaction. Who will decide if it's too wet to drive on the soils? Even under a best case scenario there will be soil impacts that would degrade soil health. Details that include base line soil information, erosion and sediment control, qualified personnel to evaluate and monitor soils during construction, and extra efforts to reduce compaction prior to planting the vegetative cover are needed. Overall there will be over 40 acres of direct disturbance to prime and important farmland soils, hardly a minimal impact.

36. Q: Have you visited the project site?

A: Yes. I went there on August 14, 2017.

37. Q: Did you meet any representatives of the petitioner there?

A: Yes. I met with three people representing the petitioner – Jeff Peterson, who is a soil scientist, and Aileen Kenney of Wind Solar LLC, and Susan Moberg of Vanasse, Hangen, Brustlin, Inc.

38. Q: Did you inspect the site with them?

A: Yes. We looked at portions of each piece of land that will have a solar array on it. We also examined the soils with spade and hand auger in some areas.

39. Q: Did you have any discussions with them about the steps the petitioner was proposing to protect the soils during construction?

A: Yes.

40. Q: And what was the substance of those discussions?

A: They acknowledged that the focus of the soil investigations was to locate map areas of wetland soils and not to provide detailed soils information for construction or remediation. They also agreed that the petitioner should provide more detailed information on how the petitioner intends to protect and restore the soil resources for agriculture.

41. Q: Looking again at Section 7.12 of the Petition, the petitioner describes how soil health at the project site will actually improve if the agricultural fields are taken out of production for 20 – 25 years and covered with grasslands; do you agree with this analysis?

A: No.

42. Q: Why not?

A: If the land is not being managed for agriculture, but is under a vegetative management regime to minimize costs and support the solar array, there will be ongoing changes to the soil that will not be beneficial to the soil health for future agricultural use. The soil health will already have been compromised during the development of the solar arrays. The compaction, grading, and trenching that occurred during construction will change the way water, air, and nutrients move through the soil. This will cause a change in the soil's biological, physical, and chemical properties. For example, different biota will grow. There could be a buildup of nematodes, insects, or weed seeds. Metal posts could corrode and leach contaminates into the soil. Since the soil is not being farmed, this will change the amount and kind of organic matter in it. The pH and other nutrients could drop since lime and fertilizer are not being added. There could be sheeting

of water in front of the drip-edge of the panels, leading to the leaching of nutrients from the soil and the loss of organic matter.

The Petition says that the planting of grasslands will improve soil health, but this is not correct because soil health is a function of assessing and managing dynamic soil properties for a particular use (in this case soil health for agriculture and not for marginal grassland habitat). Since the soils will be degraded by developing the solar arrays, it is already a negative for soil health. Will there be erosion during and after the development? How much compaction will take place pre and post development? How much organic matter will be added with the vegetation under so much shading from the arrays? These potential impacts are likely to further degrade the soil health under solar array conditions. Agriculture in Connecticut is very dynamic and diverse. If the site were to continue in agriculture, a management regime with better soil health than under a solar array is much more likely.

43. Q: Well, is it possible to restore the soil after construction to its pre-construction state?

A: In principal one can attempt to reclaim the soils post-construction to preconstruction conditions, but this project does not provide for that.

44. Q: What do you mean, this project does not provide for reclamation?

A: The first thing one has to know is what the current state of the soil is, so that one has a baseline for what to reclaim the soil to. The idea is to measure what is there before construction and then meet or exceed it after.

One needs to know the vertical and spacial extent of specific soil features and horizons to make sure the restoration doesn't further damage the soils. A qualified soil scientist should take transects in the areas where there will be trenching and grading, and where the concrete pads and access roads will go in order to determine the soil horizons and their physical and chemical properties. Essentially, the petitioner needs to do a field verification of the soils and of the map units listed on the NRCS map in the Custom Report. This has not been done here.

Then, for true reclamation, where there is soil removal and/or disturbance, the topsoil, subsoil, and substratum need to be properly removed, protected, managed, and replaced. Again, during construction, a qualified soil scientist should be on-site measuring the thickness of the soil horizons, working with the installers, and stockpiling the soils separately. The Petition does not say that this is going to be done. In fact, nothing says that the topsoil that is going to be removed is even going to be staying on-site. Right now what would prevent it from being sold?

So, while it is possible to reduce impacts to the soils, there has to be a well thought out process for how the site is developed and how it is managed, which this project lacks. For example, how will the activities be sequenced? Will the areas to be graded just be bulldozed to the desired grade or will soil horizons be carefully removed and then replaced? What is the level of compaction that is going to occur and where?

45. Q: The Petition includes a Decommissioning Plan, which is Exhibit S to the Petition; have you reviewed this?

A: Yes.

46. Q: Does this plan adequately provide for soil restoration and reclamation?

A: No.

47. Q: Why not?

A: There is little detail in this plan that describes how the soils will be protected and restored during the decommissioning process. It appears that project components are going to be ripped from the ground. It also looks as though major components may be disassembled and staged on the ground during the process, further impacting soils. In addition, it appears that not all buried elements are going to be removed. For example, Section 3.5 of the Petition says footings for the concrete pads will extend 4 to 5 feet below grade, but Section 4.3 of the Decommissioning Plan says that anchors for the pads will be removed only to a depth of 2 feet below grade. So that leaves only 2 feet of soil material in those areas which in sandy soils is less than adequate. Where is the back fill coming from, has it been stored on site? The valuable wire will be removed from the ground, but will the conduit be left? Removing it causes more soil disruption; leaving it may change the soil hydrologic system as a preferential flow path. The innovation of placing the gravel road on geotextile to reduce soil disturbance is good, but the compaction needs to be restored to prior development conditions, not just to the current surrounding areas. There is no mention of restoring the soil fertility, or addressing any weeds or invasive species that have taken hold.

Another major problem with the Decommissioning Plan is that no money is being set aside for it. The plan assumes that the salvage value of the project's components will cover the cost of decommissioning; however, there are at least two problems with this. One, decommissioning that actually restores the site and the soils to their original condition is likely to be more expensive than the estimates the petitioner has provided. Two, the future sale of scrap metal is not a secure source of funds – prices can vary; there may be no entity around at the end of the project that is motivated to conduct the sale. A set-aside now of actual funds provides a much better assurance that the funds will be there when they are needed at the time of decommissioning.

48. Q: You've discussed the impacts to the soils at the project site of having a solar array be in place there for 25 years; are there other impacts to agriculture that would result from this land not being farmed for a quarter century?

A: Yes. A basic problem with a project like this is that it takes the land out of agricultural production for 25 years while the solar array is in place. This is a large parcel of high-quality agricultural land. There are certain types of agriculture that need this much space, like large scale specialty crop or forage crop production. We have a deficit of available high quality farmland in the State. For example, the Connecticut Farmlink, a matching service of farm seekers and land owners, has over 400 people looking for land to farm in Connecticut, and that doesn't include many of the existing farms that want a secure land base to grow their businesses. It will be difficult for the current lessee to find comparable acreage, which either puts that business in jeopardy or results in the current lessee out-competing other farmers for a dwindling land base. When access to a parcel of this size and quality is lost, even temporarily, it makes it more difficult for local farming to succeed. Also, as I've mentioned, this parcel is in the unique micro-climate of the Connecticut River Valley, so it is even more valuable as agricultural land. Losing 130 acres in the Connecticut River Valley is significant from a regional perspective. As agricultural land disappears, so does the infrastructure that supports local agriculture, like feed and equipment vendors, technical specialists, and skilled labor, making it even harder for existing farms to survive.

That is an alarming result because we want local agriculture as part of the ecosystem, the economy, and our quality of life. Connecticut has recognized this as a major policy goal. Connecticut has a well-established farmland protection program – it is one of the oldest in the country. Well-managed agricultural land provides habitat, clean air and water, water quantity, scenic vistas, and community character. It protects cultural resources and benefits the local economy. Farms are small businesses that create local jobs, and they support other small businesses that supply them, generating local economic activity by relying on local people and materials. They also generate more tax dollars than they require in State or municipal services, a good deal for us all.

The ultimate goal is sustainability. Locally grown food is important to the food system because it is consumed locally and thus transported shorter distances, reducing our carbon footprint. There is the need for less storage of the food, which also saves energy and results in less food waste. The food is sold directly to consumers, which raises food-choice consciousness.

Actually, the sustainability goal is the same goal that is behind the installation of renewable energy facilities – the obtaining of a local, sustainable source for energy and food. There is no question that a renewable solar energy project like the one proposed here is good, but it should not be put on precious, irreplaceable

agricultural land. From a climate change mitigation and adaptation strategy both local agriculture and solar arrays have much to offer. Agricultural land can be managed to store large quantities of carbon, and prime farmland is more resilient to the impacts of climate change. Connecticut will be one of the few regions of the country that will have a climate suitable for people and for many forms of agriculture. Our agricultural land in New England will only become more critical in the face of floods, drought, unpredictable weather patterns, and searing heat in other parts of the United States. It would be a mistake to jeopardize food security in the region by removing farmland from production for 25 years.

Certification of Service

I, Jason E. Bowsza hereby certify that a copy of the foregoing Pre-Filed Testimony of Kipen (Kip) Kolesinskas was sent on September 5, 2017, by e-mail and by first class mail, postage prepaid to the following parties on the Service List in this matter:

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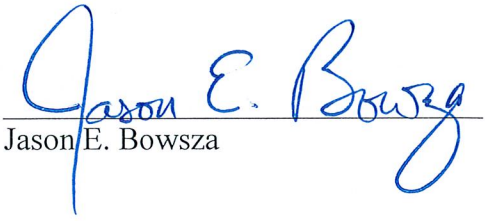

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