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TO: Agency Members and Designees

FROM: Terry Martino, Executive Director

DATE: November 10, 2021

RE: Solar Generation Planning

During the Agency's October 14, 2021 meeting, Board members posed a range of diverse questions related to planning and permitting solar energy generation facilities in the Park. Below is a list of those questions, sorted by topic, with answers from Agency staff.

Topic: Solar Planning

1. **What are the opportunities to plan for solar in the Park? How do we move forward in a larger planning realm? How do we develop a broader plan to place each project in context?**

As an executive agency, the Agency's powers are granted by statute by the NYS legislature through the NYS APA Act, the NYS Freshwater Wetlands Act, and the NYS Wild, Scenic and Recreational Rivers Act. In regard to land use planning, the APA Act established the Adirondack Park Land Use and Development Plan which includes land use areas and overall intensity guidelines for the number of principal buildings that may be developed within them. Major Public Utilities (MPUs), which include electricity generating facilities, do not constitute a principal building and as such, subject to a permit, there are no maximum density restrictions for MPUs in any land use area. Per the act, there are no specific uses that are prohibited in any land use area. Under the Act, applicants have the right to propose any type of project on any privately-owned land in Park and the Agency has the statutory responsibility to evaluate the proposal under Sections 809(10) and 805(4). The Agency may reclassify land from one land use area to another through its map amendment processes, but these changes still do not dictate where any use may or may not occur.

In this context, the Agency works proactively with prospective applicants, economic developers, and third-party permittees, such as the New York State Energy Research and Development Authority (NYSERDA), to help guide projects to sites and areas within sites where solar development is best suited to occur and away from sites with significant environmental constraints. This process includes pre-application meetings,

guidance documents, project review, and consistent permitting. The Agency has worked with NYSERDA to identify at least one site well-suited for solar in the Benson Mines location. The Agency is open to additional collaboration with diverse third-party permittees regarding pre-permitted solar projects. However, pursuant to the Adirondack Park Agency Act (APA Act), applicants may still apply for a solar project on sites not identified in collaboration with NYSERDA or any other third party.

2. **What planning role does the Agency have for solar?**

The Agency's opportunity to amend the Adirondack Park Land Use and Development Plan is limited to map amendments. Other changes are the purview of the New York State legislature. While the Agency actively partners with outside entities on diverse planning initiatives, these projects do not benefit from the regulatory authority of the Agency. For example, initiatives the Agency has participated in include the Upstate Cellular Task Force, Regional Economic Development Council planning, local zoning and comprehensive planning activities, and the Lake Champlain Basin Program, amongst other planning activities.

3. **What opportunities does the Agency have to plan beyond the basic parameters of the APA Act?**

Any effort to regulate for areas where solar projects or any other land use may locate would require an act of the New York State legislature. The Agency can provide advice and guidance on solar siting but cannot develop plans with regulatory effect beyond the existing statute. The Agency can and does provide planning tools including mapping of soils, slopes, and transmission lines to assist in siting.

Topic: Land Availability

1. **We need to keep in mind that much of the Park's land is undevelopable due to steep slopes, wetlands, etc.**

This is correct in that development constraints may prevent certain portions of land from being developed.

Topic: Agricultural Land

1. **Agricultural Districts are not perfect for determining where agriculture use is occurring. Local assessments do not always reflect actual land use and so agriculture use determined by local land use classifications are imperfect as well.**

The Agency recognizes that Agricultural Districts and local land classifications are imperfect measures for how much land is in agricultural use in the Park. As such, the Agency reports both statistics with the understanding that these measures may not be exact figures.

2. **How much farmland is "suitable" for solar?**

It is difficult to determine how much existing farmland could accommodate solar use. Agricultural Uses predominantly do not require an Agency permit without some other jurisdictional threshold and as such the Agency has not evaluated site-specific development constraints on much of the Park's farmland. It is important to note that site considerations including wetlands, key wildlife habitat, and visual impacts may render many agricultural lands unsuitable for solar development upon project review.

Solar project developers seek sites that provide for quick permitting times and optimally no or limited environmental mitigation expenses. As such, large solar projects are typically proposed on lands with few wetlands, critical wildlife habitats, steep slopes, or other environmental constraints. Often, current and former agricultural lands have less of these constraints than an undeveloped property.

3. **Are we looking at dual use for farmland?**

To date, no project application has proposed solar projects in conjunction with active farming or grazing activities around the panels. At the time a developer proposes a dual use solar/farming project, the Agency will review the proposal per its review processes. Industry leaders have indicated that the feasibility of grazing between panels is dependent on overall project size with larger projects being more advantageous to dual use projects. Projects with adequate sizes for grazing are anticipated to trigger NYS Office of Renewable Energy Siting (ORES) jurisdiction and review (ORES has jurisdiction on solar projects over 25MW and projects between 20MW and 25MW may opt into ORES regulation).

It is important to note that while the APA Act designates solar as an MPU, it is by function a commercial activity. The Agency does not have the legislative authority to require one commercial activity, such as solar electricity generation, to include another activity, for example farming, as part of its project.

Topic: New York State Energy Research and Development Authority

1. **Is NYSERDA working with APA to identify all solar project sites, or just those where NYSERDA is the applicant?**

NYSERDA has various tools to incentivize renewable development and to work with developers, but similarly to the Agency, NYSERDA does not have the ability to tell developers where to site solar projects. The Agency has worked with NYSERDA to identify one project at Benson Mines (in pre-application) on which NYSERDA anticipates being the applicant. NYSERDA has not worked with the Agency to identify sites on any other approved project, proposed project, or pre-application.

2. **Is NYSERDA pre-permitting only larger projects that require Office of Renewable Energy Siting approval or are they pre-permitting smaller projects as well?**

It is anticipated that the Benson Mines solar project being pursued by NYSERDA will involve an Agency permit, and not an ORES permit. As such, it is the Agency's understanding that NYSERDA is actively pursuing projects that are smaller than the ORES jurisdictional threshold (25MW).

3. **Does NYSERDA pre-permit projects or does the end user go through permits themselves?**

Pre-permitted projects refer to projects where a third party pursues the Agency's permitting process with the intention of transferring the permits to an end user that will be identified in the future. At this time, NYSERDA is anticipated to be the applicant on the Benson Mines project. NYSERDA would then transfer the entitlements to another developer or end user upon conclusion of the permitting process.

Topic: Solar Policy

1. **Should the Agency have a policy for solar?**

The Agency has a Policy on Energy Supply, Conservation and Efficiency in the Adirondack Park. Additionally, the Agency has a flyer on solar and wind energy. At the November 2018 meeting, the Agency Board authorized the public release of a proposed updated Policy on Renewable Energy Production and Energy Supply. During the comment period the Agency received more than seventy comments on the policy. Public opinion was divided on whether the Park should be a location for solar and wind energy projects. In Board discussion at the December 13-14, 2018 meeting it was agreed to make no changes to the existing policy at that time. Separate from the policy, the Agency determined there was a need for an application specific to the development of solar projects. The application was designed in 2019, used for the first time in January 2020, and revised in 2021. The application is available for all commercial solar applicants.

Topic: Forest Land

1. **When is forestland suitable for solar development? How many trees are acceptable to take down for a solar project?**

Forests throughout the Adirondack Park vary in their ecological value and environmental functions. Individual characteristics of different parcels are reviewed upon receipt of a formal application. Based upon the development considerations and conditions of the site, various evaluations may be required including a biological inventory to assess the ecological value of the forest being converted.

Topic: Wetlands

1. **What are the potential impacts of solar panels in wetlands?**

The Agency's wetland regulations require projects to first avoid wetland impacts. If impacts cannot be avoided, they should be minimized to the maximum extent practicable and any impacts must be mitigated. To evaluate wetland impacts, the Agency needs to review the value of the wetland systems and functions they are providing. The Agency must then consider what changes to the specific wetlands may occur as a result of the project, both during and after construction. Depending on the site, some potential impacts include wetland fill, ground disturbance and sedimentation, shading, vegetation removal, and soil compaction.

2. **Do we have guidance on when a developer could impact wetlands?**

The Agency's regulations provide developers with clear guidance on wetland impact review and implications. To supplement this information, the Agency has drafted its "Compensatory Wetland Mitigation Guidelines" to help developers navigate wetland impacts.

3. **When is it better to go into a wetland than cut down trees?**

This balance is considered throughout Agency project review. The answer is site-specific based upon the Section 805(4) development considerations including key wildlife habitats, visual impact, and wetland values and quality.

4. **Why bore under wetlands for power lines?**

Directional drilling can be preferential because it does not result in an open cut at the surface. Open cuts have temporary impacts to wetland functions, some of which may become permanent, such as introducing invasive species. Directional boring has negligible impact on wetlands.

Topic: Remediation

1. **Is remediation under Agency control? Do we make clear what the remediation on the land will be?**

As part of every solar project, the Agency requires a decommissioning plan that is enforceable through the Agency's enforcement processes. Agency staff check the specifics of each decommissioning plan to be sure that all aspects of development will be removed to a sufficient soil depth to allow for future re-use of the site.

Topic: Wildlife

1. **Have we evaluated for animal migrations?**

Impacts on habitat and animal migration are evaluated on all projects proposed to the Agency. Agency staff consult with the Department of Environmental Conservation (DEC) if the proposal is likely to result in the taking of any species listed as endangered

or threatened and require DEC signoff on the potential taking as part of the application review. Agency staff also check that fence designs allow for passage of small to medium sized animals beneath / through the fence.

Topic: Soils

1. **What kinds of questions do we ask about soils?**

In the "Application for Solar Generation Facility," the Agency asks soil-related questions in the context of solid waste disposal, suitability for any proposed on-site wastewater treatment, and erosion and sedimentation controls. If in the course of project review additional considerations related to soils arise, the Agency asks those site-specific questions through its Notice of Incomplete Permit Application process.

One of the Section 805(4) development considerations is "viable agricultural soils" which are maintained through solar development.

2. **Do soil removal plans need to be consistent with Department of Environmental Conservation regulations and/or oversight?**

The Agency coordinates its review with the Department of Environmental Conservation (DEC). DEC regulations and oversight address hazardous waste, soil contamination, and remediation needs for a given use.

Topic: General Environmental Constraints

1. **Have we covered all of the environmental constraints for solar?**

The Agency's Section 805(4) development considerations allow the Agency to evaluate all potential environmental impacts related to solar projects. Inherent in any solar project are the review of constraints including forest resources, open space resources, existing drainage and runoff patterns, scenic vistas, natural and man-made travel corridors, and wetlands, amongst others.

2. **What are the general considerations we should have on solar projects?**

The Agency's review of environmental constraints for solar projects are outlined in Sections 809(10) and 805(4) of the Adirondack Park Agency Act. The Agency's Solar Generation Facility Application outlines the general considerations for potential applicants as well as the general public for projects that are jurisdictional to the agency.

3. **Can we be creating design standards for environmental impact?**

Project review is a site-specific process that evaluates the development constraints of an individual project site. The APA Act provides the Agency with the ability to implement the latest science and utilize current regulatory standards in the review of each project and tailor how projects can avoid, minimize, and mitigate undue adverse environmental impacts.

The Agency works proactively with prospective applicants, economic developers, and third-party permittees, such as the New York State Energy Research and Development Authority (NYSERDA), to help guide projects to sites and areas within sites where solar development is best suited to occur and away from sites with significant environmental constraints. This process includes pre-application meetings, guidance documents, project review, and consistent permitting.

Topic: Town Support and Assistance

1. **Do Towns receive enough support on solar? Local Government officials seem to want more support on zoning, farmland protection and feasibility studies from the APA.**

Agency staff are available to assist each of the Park's 101 towns and villages in local planning and zoning efforts. Specific to local solar regulation, the Agency is pleased to also serve as a conduit to State resources at NYSERDA and NYS Department of State. Both Agencies offer significant local land use planning resources to communities for solar regulation.

Fourteen towns in the Adirondack Park have adopted land use regulations specific to commercial solar. The majority of these codes have been based on the NYSERDA model solar code.

Topic: Community and Public Input

1. **What is the community reaction to solar? What do towns say about solar development? Can the Agency's Local Government Services seek community input?**

The Agency's review process provides significant opportunity for public comment. When an application is received, the Agency notifies the local municipal and county governments in which the project is located, the Adirondack Park Local Government Review Board, and adjoining landowners. Upon permit application completion, the local municipality, the county, the Adirondack Park Local Government Review Board, and adjoining landowners are again notified. Additionally, a formal public comment period is opened with all major projects, including all solar projects, being listed both in the Environmental Notice Bulletin and on the Agency's website. The opportunities for public comment have contributed to the Agency receiving numerous comment letters on projects with high public interest.

In contrast to the Agency, towns have zoning abilities to establish zones where solar projects can and cannot be located subject to overriding ORES jurisdiction for facilities over a certain size. Zoning codes can also establish maximum panel heights, maximum lot coverages, fencing standards, and decommissioning requirements. Throughout the writing of these codes, as well as individual local project review, the public has the

opportunity to comment at the municipal level. Agency staff will extend invitations to local government leaders who have adopted solar regulations to speak at a future Agency meeting. Agency staff will identify opportunities for additional community outreach.

2. **Should we have a public hearing while solar is still in its infancy? Can NYSERDA, ORES, Ag and Markets, DEC, and APA have a combined public input session?**

The Agency will explore having a public input session with relevant State agencies.

For relevant information, the Office of Renewable Energy Siting (ORES) hosted seven public hearings during the fall and winter of 2020 where the public and local governments had an opportunity to comment on the proposed regulations implementing the 2020 Accelerated Renewable Energy Growth and Community Benefit Act, Executive Law § 94-c.

During the promulgation or ORES regulations, the public submitted a significant number of comments related to solar and wind energy production in the Adirondack Park. The ORES public comments can be found here.

Topic: Benefits

1. **What are the economic benefits of solar?**

There are diverse economic benefits from solar development. These benefits include construction jobs, lease payments or property purchases to local landowners, augmented revenues to municipal, school and special districts, and more affordable electricity to end users. Overall, nearly 2,000 jobs in the North Country are supported by renewable energy and the average wage of a solar industry job is approximately $42,000 annually. This compares favorably to many jobs in the region as 42% of workers are employed in occupations with a median annual salary equivalent, including tips, of below $30,000. Most recently, Brookfield Renewable announced that it is moving the national control center for its hydroelectric, solar, and wind power generation business from suburban Boston to the Town of Queensbury, Warren County. The move will bring 50 new jobs to the region.

The economic impact of a particular project varies project by project and is dependent upon lease/property purchase agreements, payment in lieu of taxes (PILOT) or community benefit agreements, and the size of the project. As part of the most recent project reviewed by the Agency, the project developer anticipated signing a PILOT agreement with the local taxing jurisdictions that would have provided $40,000 in additional combined revenue in the first year, with the amount growing two percent (compounded) annually.

2. **What are the benefits to the end user?**

Solar power is typically cheaper to produce and sell than other electricity sources. According to NYSERDA, subscribers to Community Solar projects can see about a 10% savings on their electric bill without having to install panels on their property. Developers of projects already approved by the Agency have also suggested an approximate 10% savings on energy costs for purchasers of their electricity.

3. **How does solar benefit climate change?**

According to the U.S. Department of Energy's National Renewable Energy Laboratory, solar produces less life-cycle greenhouse gas (GHG) emissions than conventional fossil fuel energy sources. While there are some GHG emissions produced during the manufacturing and recycling of the solar system, the generation of energy from the solar system results in zero GHG emissions.

Topic: Scale

1. **How much solar is enough? What is our target of solar production in the Park – should it exceed Park demand? Where are we as a State and as a region in regard to solar development?**

In 2019, New York State adopted the Climate Leadership and Community Protection Act, (Climate Act). The Climate Act set nation-leading targets in GHG emissions reductions aiming toward 70% renewable energy production by 2030, 100% carbon-free electricity generation by 2040, and an overall 85% reduction in GHG emissions below 1990 levels by 2050. The Climate Act specifically calls for over 6,000 Megawatts (MW) of solar electricity generation in New York by 2025. The law did not spatially allocate where the projects totaling 6,000 MW would be developed.

The APA Act, which the Agency administers, does not set target levels for the provision of private sector and utility services, including renewable energy. Similarly, the APA Act does not set maximum levels for the provision of private sector services.

Agency staff routinely partner with outside entities on economic and community development planning efforts. Often, the plans developed through this work set specific community development goals which include targets for economic development. These goals and targets cannot be mandated by the Agency's regulatory authority. Projects in the plan may or may not be subject to Agency regulation.

As discussed earlier, initiatives the Agency has participated in include the Upstate Cellular Task Force, Regional Economic Development Council planning, local zoning and comprehensive planning activities, and the Lake Champlain Basin Program, amongst other planning activities.

2. **What volume of solar is appropriate for the Park? How much solar is too much?**

As stated above, the APA Act does not limit the number or size of MPUs, which include electricity generating facilities, in any land use area. Nor does it prohibit any uses. Under the Act, applicants have the right to propose any type of project on privately-owned land in Park. The Agency considers factors including the development considerations in APA Act section 805(4) and whether the project has no undue adverse impacts under APA Act section 809(10) in determining whether a particular project will be permitted.

Efforts to set a limit to how much solar may be developed in the Park or to regulate for areas where solar projects may or may not locate would require an act of the New York State legislature.

3. **With the solar projects that are proposed, we are halfway to the total electric energy demand within the Park.**

The Agency, to-date, has approved projects that total 35MW of solar energy. All approved permits, proposed projects, and pre-applications currently being evaluated by the Agency would, if approved and developed, cumulatively provide 164MW of electric generation capacity. The Agency has identified that the year-round population of the Park would need 223 – 312 MW of solar capacity to provide for just their household usage. Additional analysis is necessary to determine the total electricity needs of the Park including for seasonal residential, industrial, hospitality, government, and commercial usage. Additionally, some or all of the approved permits, proposed projects, and pre-applications being evaluated by the Agency may never actually be constructed, approved, or formally proposed for an Agency permit.

4. **What if 1,000,000 acres are developed? That will certainly have undue adverse impacts.**

Agency staff agree. There would also be a significant level of impact from any type of development that does not have density limitations. Other types of projects that lack density limitations include coal-fired and other power plants, industrial agricultural facilities, and manufacturing facilities. It is the Agency's understanding that towns within and outside the park are also being confronted with cumulative impacts to their communities from solar developments.

Topic: Incentives

1. **Is there any way the Agency can incentivize solar in certain areas and discourage solar in other areas?**

As discussed above, the Agency works proactively with prospective applicants, economic developers, and third-party permittees to help guide projects to sites and areas within sites where solar development is best suited to occur. This process includes pre-application meetings, guidance documents, project review, and consistent permitting. Projects that take advantage of Agency guidance typically benefit from a

more-streamlined permitting process as significant environmental impacts are avoided during site selection.

Efforts to establish financial or other types of formal incentives would require an act of the New York State legislature.

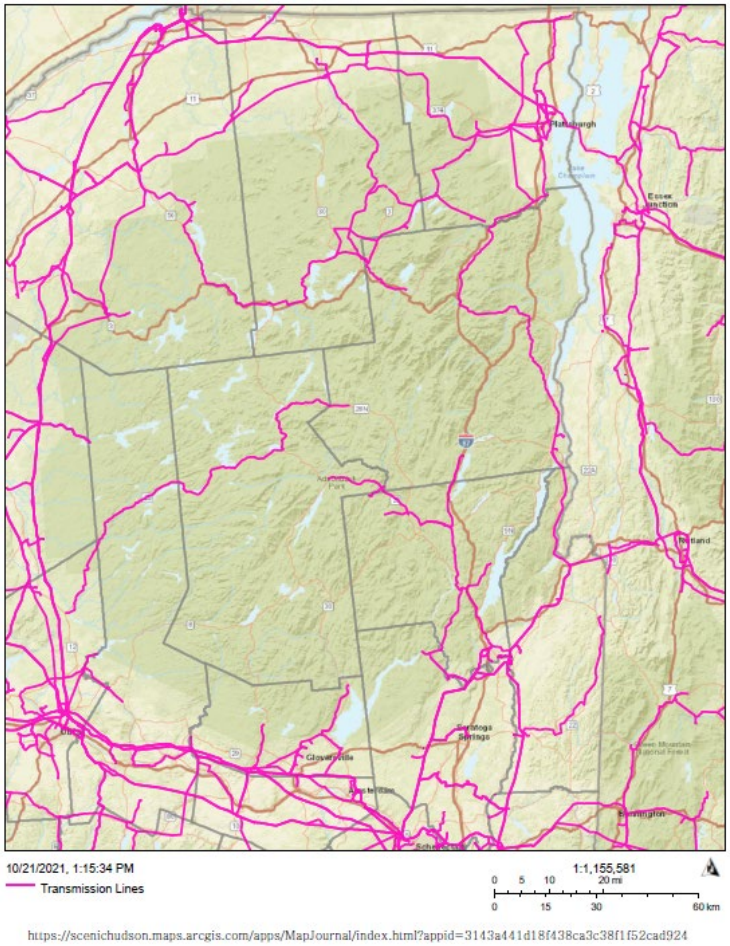
Topic: Energy Grid

1. **Some lands are unproductive, but it is hard to get transmission infrastructure. How does this factor into project siting?**

Solar developers seek to maximize the financial benefit of a project. As such, developers search for sites with proximity to three-phase power and easy interconnection points. The need to construct significant new transmission infrastructure renders many sites in the Adirondacks financially unfeasible for solar development.

2. **We need more information about the transmission grid to see where solar is most likely to be built.**

The below map indicates where regional transmission lines are located in the Park. It is staff's understanding that proximity to the transmission lines is a critical site consideration for solar developers. It is important to note that not all transmission lines have the same carrying capacity and as such may not be suitable to carry power from additional development. For example, the Champlain Hudson Power Express project is building new transmission lines under Lake Champlain to efficiently transport power from Quebec to downstate regions instead of using the existing grid.



A link to the interactive map his here.

Topic: Miscellaneous

1. **Are panels ever totally flat?**

Solar panels seek to maximize exposure to the sun. As the Adirondack Park is located a latitude of approximately 43-degrees north, and the nearest latitude that the sun reaches is 23.5-degrees north, it is anticipated that solar panels will always tilt to have an orientation to capture the southern exposure. Additionally, most proposals seen by the Agency involve single-axis panels that track east-to-west as the earth rotates to align panel surface areas to the sun.

2. **What is the purpose of fencing?**

Security and safety are the primary purposes for fencing. Fencing is designed to protect people and property from accidentally coming into contact with electrical equipment.

3. **Is fencing or planting better for screening?**

Typically, trees provide the most natural-appearing screening for solar projects. Determined on a site-specific basis, a combination of fencing and trees may be used to screen a project.

4. Is it possible to not have fences around solar projects?

The answer to this question depends on the applicable siting approvals necessary, applicable codes, and the size of the system.

For projects over 25 megawatts, and therefore, subject to the jurisdiction of ORES, fencing is required by the ORES regulations. See 19 NYCRR §900-6.4, Facility Construction and Maintenance, subdivision (i) "Fencing. All mechanical equipment, including any structure for storage of batteries, shall be enclosed by fencing of a minimum height of seven (7) feet with a self-locking gate to prevent unauthorized access."

For any project 5 megawatts or larger, New York Code requires that '[a]ccess to PV electric supply stations shall be restricted by fencing or other adequate means in accordance with 110.31." See, Section 691.4(2), NFPA 70 (National Electric Code). This cross-referenced section of New York Code requires that "a wall, screen, or fence shall be used to enclose an outdoor electrical installation to deter access by persons who are not qualified. A fence shall not be less than 2.1 m (7 ft) in height or a combination of 1.8 m (6 ft) or more of fence fabric and a 300 mm (1 ft) or more extension utilizing three or more strands of barbed wire or equivalent.)." See, Section 110.31, NFPA 70.

For projects less than 5 megawatts, the protections listed out under Section 690 of NFPA 70 control. The fencing requirements for such facilities are largely dependent on the site, the equipment used, and the individual authority having jurisdiction for code purposes. Solar projects without fences are allowed under the National Electric Code so long as the conductors are not readily accessible.

In addition to the codes mentioned above, fencing may be required by the local authority having jurisdiction or applicable siting/permitting body. For each site, local siting requirements must be consulted, as they vary from site to site and can be dependent on the equipment used and specific hazards related to the site.