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Department of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114

RE: Comments: SREC-II Update Proposed Design

To whom it may concern:

The Massachusetts Department of Transportation (MassDOT) Aeronautics Division provides the following comments regarding the SREC-II Update Proposed Design and the SREC-II Solar Carve-Out Policy Development. We ask that you consider modifications to the proposed SREC-II Solar Carve-Out Policy Development that incorporates solar installations at public-use airports into the Landfill/Brownfield site category for SREC factors for the following reasons:

Ground-based solar installations at public-use airport are similar in nature to ground-based solar installations at landfills/brownfield sites as indicated in the following points.

- Airports, like landfill and brownfield sites, own land that is undevelopable and/or unusable due to various factors but most often due to airport safety requirements and height restrictions.
- Airports occupy areas of large open space.
- Of the Commonwealth's 39 public-use airports, most are municipally owned (30% are privately owned but open to the public) and all must find ways to leverage assets to generate revenues to fund future capital improvement projects.
- Like landfill/brownfield sites, careful considerations are also needed for designing and developing solar on an airport. Extensive feasibility assessments are required to evaluate the potential of installing solar at airports to determine permitting needs, site limitations and construction location.
 - The design of airports and their facilities is strictly regulated to ensure that airports operate in a safe and efficient manner. An airports primary mission to serve the flying public and facilitate safe and convenient air travel. All other activities occurring at airports must support this primary mission and therefore must be consistent with those fundamental activities. In assuring compatibility, airport owners should use guidance provided in the Airport Design AC (150/5300-13) when siting solar installations and work with the FAA, State Aeronautics Divisions, and stakeholders on master planning activities. Working through the issues to understand the basic implications of siting decisions will require information gathering, consultation, and education. In determining

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whether a proposed solar project is compatible with aeronautical activities, airport owners should consider the following.

- The project requires a Federal Aviation Administration (FAA) land release. As recipients of federal grants through the Airport Improvement Program (AIP), there are certain obligations an airport needs to meet. According to the FAA's AIP, airport property must be used for aeronautical purposes. Any non-aeronautical use of the land must be requested by the airport owner and approved by the FAA to determine the extent of federal obligations associated with the tract of land in question. The FAA refers to this as a "release" from the owner grant assurance obligations giving the airport owner approval to use the parcel for non-aeronautical purposes. A release is necessary if an airport would like to change the use of airport property for non-aeronautical purposes (like solar installations) regardless of how it was acquired.
- The project cannot be located in protected safety zones such as a Runway Object Free Area, Obstacle Free Zone, Runway Safety Area, Taxiway Object Free Area or a Taxiway Safety Area.
- The project cannot penetrate imaginary surfaces that define the lower limits of airspace including the clearway.
- The project must demonstrate that glare will not impact airspace safety and have ocular impact on pilots. The airport is required to conduct a glare and ocular analysis per FAA policies for any on-airport solar installation.
- The project must consider construction period impacts on aviation. Airside projects may result in modifications to typical flight procedures if contractors and equipment produce a temporary impact on airspace. This may result from the need to access the project site by passing vehicles and equipment close to runways. It may also occur if a large crane is necessary for installation and the crane penetrates airspace due to its height.
- The evaluation of a project's consistency with aviation and airport activities must be conducted in consultation with the FAA, using the Airport Layout Plan (ALP).
 - The project will require an ALP update
 - The airport owner will need to file a FAA Form 7460, Airspace Review.
- Federal, local and state environmental permits may be required
 - The action of releasing airport property is normally categorically excluded under the National Environmental Policy Act (NEPA), but may require the completion of a federal environmental assessment.
 - Wetland Notice of Intent (NOI) and Order of Conditions (OOC) from the local conservation commission
 - Wetlands Protection Act Request for Determination from the local conservation commission

- Massachusetts Endangered Species Act (MESA) may require a Natural Heritage Endangered Species Program (NHESP) conservation and management permit if habitat is effected by the project
- Massachusetts Environmental Policy Act (MEPA) filing may be required if the project exceeds certain thresholds
- National Pollution Discharge Elimination System (NPDES) permit for stormwater runoff may be required

A secondary benefit of ground-based solar installations at public-use airports is enhanced safety.

Solar energy has recently become a practical consideration for renewable energy generation at airports. Solar energy presents itself as an opportunity for airports to produce on-site electricity and to reduce either long-term electricity use and energy costs or to provide land leases to third party installers (providing an opportunity for the airport to generate revenues to fund future capital improvement projects). In addition to the energy generation and land lease benefits afforded to the airport, we have found that many solar installations can or have provided secondary benefits.

14 CFR Part 77 imaginary surfaces establish standards for determining obstructions in navigable airspace surrounding airports. These imaginary surfaces extend out from the runway in a manner that reflects where aircraft are likely to fly while also accommodating unforeseen aircraft maneuvers. The height above the ground of the imaginary surface is lowest near the runway and increases at distance from the runway. Away from airports, airspace begins at 200 feet above ground level. Airports must maintain vegetation, prevent building, and manage any temporary construction activity to conform to Part 77 analysis determinations.

Natural obstructions (trees/shrubs) and manmade (buildings and large structures, like communication towers and wind turbines), often exceed 200 feet in height and therefore could be an impact to these surfaces. Structures shorter than 200 feet but located within 20,000 feet of a runway may also penetrate navigable airspace. Solar panels, when tilted properly to the south-facing sun, extend to a height of as little as three feet above the ground making it possible for siting close to runways without penetrating an imaginary surface. Projects that have located solar panels in close proximity to runways and taxiways have often removed existing penetrating obstructions allowing the airport to conform to Part 77 and thus, enhancing airport safety.

Conclusion

Not every airport within the Commonwealth will install solar at their facilities due to various reasons (FAA land release is not granted, proposed solar installation impacts protected safety zones or imaginary surfaces, proposed solar installation analysis indicates glare or ocular impacts, environmental impacts, and etcetera). Of the 39 public-use airports, five airports currently have either ground-based, roof mounted, or both types of solar installations at their facilities. Two airports are currently in negotiations for installations (both ground-based and roof mounted), while ten other airports have shown interest but have not initiated feasibility assessments. The market for airport solar is somewhat limited in size in comparison to the 490 potential landfill sites that could install solar. Therefore, we ask that you consider modifications to the proposed SREC-II Solar Carve-Out Policy Development that incorporates solar installations at public-use airports into the Landfill/Brownfield site category for SREC factors.

Please feel free to contact me to discuss this matter further at 617-412-3680 or christopher.willenborg@state.ma.us.

Sincerely,



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