BEFORE THE
PUBLIC SERVICE COMMISSION
OF MARYLAND

In the Matter of the Application	**)**	
Of OneEnergy Dorchester, LLC for a	**)**	
Certificate Of Public Convenience and	**)**	**Case No. 9370**
Necessity To Construct a 15.5 MW Solar	**)**	
Photovoltaic Generating Facility in	**)**	
Dorchester County, Maryland	**)**	

DIRECT TESTIMONY OF ROBERT A. SADZINSKI

ON BEHALF OF THE

MARYLAND DEPARTMENT OF NATURAL RESOURCES

POWER PLANT RESEARCH PROGRAM

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April 3, 2015

Q. PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.

A. Robert A Sadzinski, Program Manager, Power Plant Research Program (PPRP), Department of Natural Resources (DNR), Tawes State Office Building, Annapolis, Maryland 21401.

Q. WHAT POSITION DO YOU CURRENTLY HOLD WITH PPRP?

A. I am a Program Manager for PPRP and responsible for the management, oversight, and analysis of environmental impact assessments related to the construction, operation, and maintenance of high voltage transmission lines and power plants, including utility-scale solar facilities. A brief statement of my educational background, occupational history, and professional qualifications is attached to this testimony as Appendix A.

Q. PLEASE DESCRIBE YOUR EXPERIENCE WITH PPRP.

A. I have held the position of Program Manager with PPRP since December 2014 and have worked for the Maryland Department of Natural Resources (DNR) for over twenty years. As Program Manager, I am responsible for leading the Certificate of Public Convenience and Necessity (CPCN) licensing reviews of new electric generation projects before the Public Service Commission (PSC), in which I coordinate the project review with other State agencies, prepare written testimony, and serve as expert witness in CPCN proceedings.

Prior to joining PPRP, I was employed as an Environmental Reviewer for the Integrated Policy and Review Unit of DNR and held that position for almost five years. In this position, I assessed the potential ecological impacts of thousands of projects throughout Maryland counties including solar, hydroelectric, liquefied natural gas and nuclear facilities. As such, I was the lead environmental reviewer for the Department and responsible for

assessing and evaluating ecological impacts.

Q. WHAT ARE YOUR RESPONSIBILITIES IN THIS POSITION?

A. As a Program Manager for PPRP, I provide technical and administrative direction on a variety of environmental assessment projects and tasks performed by PPRP staff and consultants related to electricity generation and transmission line projects. My responsibilities include directing the evaluation and analyses necessary to provide a comprehensive assessment of environmental and socioeconomic impacts associated with the construction and operation of transmission lines and electric generating facilities. With respect to applications for a CPCN for new or modified transmission or generation facilities, I oversee a comprehensive independent environmental and socioeconomic review of such projects and coordinate the development of recommended licensing conditions that are submitted to the PSC. This process is described in Maryland's Power Plant Siting Act of 1971, Chapter 31 of the Laws of Maryland of 1971, which, along with Maryland's Environmental Policy Act, requires the PSC to consider a broad range of socioeconomic, environmental, health, safety, and system reliability impacts associated with proposed power plants, and new or modified overhead electric transmission lines in excess of 69,000 volts (69 kV). PPRP coordinates the review of such projects with other units within DNR and other State agencies, including Maryland's Department of Agriculture, Environment, Business and Economic Development, Planning (including the Maryland Historic Trust), Transportation, and the Maryland Energy Administration.

PPRP is supported by contractors that address economic (Exeter Associates), atmospheric (ERM, Inc.), biological (Versar, Inc.), and engineering (ERM, Inc.) issues. Under my direction, appropriate members of these staffs participated in the reviews and evaluations of the documents submitted by the Applicant and participated in field investigations.

Q. WHAT IS YOUR EDUCATIONAL BACKGROUND?

A. I received my Bachelor of Arts Degree in Biology in 1985 from The King's College, Briarcliff Manor, NY and a Master's of Science Degree from Clarion University of Pennsylvania in 1991.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to provide the PSC with a summary of the findings and preliminary recommendations resulting from PPRP's evaluation of the OneEnergy Dorchester, LLC (OneEnergy) CPCN application to construct a solar photovoltaic (PV) farm in Dorchester County, Maryland. This project is referred to as the Linkwood Solar Project (Project). My testimony summarizes PPRP's evaluation and presents the initial licensing recommendations for this Project.

Q. PLEASE PROVIDE A BRIEF DESCRIPTION OF THE PROPOSED PROJECT.

A. OneEnergy proposes to build a nominal 15.5-megawatt (MW) alternating current (AC) solar PV project on a 116-acre parcel located at 3714 Linkwood Drive in Linkwood, Maryland. The Project site is located southeast of the city of Cambridge, in the northern portion of Dorchester County. The Project will involve a long-term lease agreement with the owner of the 116 acres, although only 93 acres of the site is proposed to be developed for the Project. Following CPCN approval, construction is anticipated to be initiated in the late Spring/early Summer of 2015 with completion and operational startup in the Fall of 2015 to the Winter of 2016.

The Project site is rural in nature and has primarily consisted of agricultural fields for conventional crops over the last few decades. The landowner converted the fields into a golf course in 2003, but the site has since been

converted back to agricultural fields.

There are no residences on the Project site, but there is one building that was previously used as the golf course club house. There is also an existing forest conservation easement along the southern portion of the property that borders Linkwood Drive, which will be unaffected by the proposed Project.

The Project site is bordered by a wireless communications tower and residential dwellings to the east; Linkwood Road to the south, three chicken coop buildings and residential dwellings to the west; and a forested area and industrial property to the north. The development envelope is clear of trees, but there is a forested area just to the north of the site as well as the forest conservation easement, which borders the Project site to the south.

OneEnergy will deliver its produced electricity via a short tap line connecting the Project interconnect facilities with the existing Delmarva Power & Light (DPL) West Cambridge-Vienna 69kV circuit, which is located on the southern side of Linkwood Drive.

Q. HAS THE APPLICANT PROVIDED ANY DOCUMENTS CONTAINING ITS ENVIRONMENTAL AND SOCIOECONOMIC ANALYSIS OF THE PROPOSED PROJECT?

A. Yes. OneEnergy described its environmental and socioeconomic analyses of the potential effects of the proposed Project in its CPCN application, direct testimony, and in responses to PPRP data requests. OneEnergy also provided an Environmental Review Document prepared by Davis, Moore, Shearon, & Associates of Centreville, Maryland.

Q. HAS PPRP PERFORMED AN INDEPENDENT ENVIRONMENTAL AND SOCIOECONOMIC EVALUATION OF THE PROPOSED PROJECT?

A. Yes. PPRP has performed an independent environmental and socioeconomic evaluation of the proposed Project by reviewing application materials and testimony provided by OneEnergy. PPRP gathered information necessary to verify the evaluations that OneEnergy included in its application for a CPCN. PPRP also participated in a field review of the Project on 29 April 2014 and 8 January 2015.

Q. WHAT IS THE STATUS OF PPRP'S ENVIRONMENTAL AND SOCIOECONOMIC EVALUATION OF THE PROPOSED PROJECT?

A. This filing represents a summary of the technical and environmental analyses of the proposed Project completed to date, as well as preliminary conclusions and initial recommendations.

Q. ARE PPRP AND OTHER INTERESTED STATE AGENCIES FILING INITIAL RECOMMENDED LICENSING CONDITIONS WITH THE PUBLIC SERVICE COMMISSION AND THE PARTIES OF RECORD FOR THIS PROCEEDING?

A. Yes, PPRP is including the initial recommended licensing conditions as PPRP Exhibit ___ (RAS-2) with my direct testimony. PPRP developed these recommended conditions in coordination with the Departments of Environment, Natural Resources, Agriculture, Transportation, Business and Economic Development, Planning, and the Maryland Energy Administration. These initial recommended conditions have been approved by the Secretaries and Director of these seven State agencies. These initial recommended licensing conditions may be amended, added to, or deleted in the final recommended conditions submitted by PPRP to the PSC, as necessary, to address any issues and impacts that may arise as a result of the hearings. However, unless additional issues arise requiring such modifications, the proposed initial licensing conditions submitted with my testimony as PPRP Exhibit ___ (RAS-2), will serve as the State's final

recommended conditions to be incorporated into any order issuing a CPCN in this case.

Q. HAS ONEENERGY REVIEWED THE RECOMMENDED CONDITIONS YOU ARE FILING WITH YOUR DIRECT TESTIMONY?

A. Yes. It is my understanding that OneEnergy does not object to any of the recommended licensing conditions as filed with my direct testimony.

Q. HAS PPRP EVALUATED POTENTIAL ENVIRONMENTAL AND SOCIOECONOMIC IMPACTS FROM THE PROPOSED PROJECT?

A. Yes. PPRP has examined potential environmental impacts of the proposed Project on vegetation resources; wildlife; rare, threatened and endangered species; and wetlands at the Project location in Dorchester County. PPRP has also examined the potential socioeconomic impacts to economic and fiscal issues, transportation, land use, visual impacts, historic and archaeological sites, public services and safety, and property values. In addition, PPRP examined the noise and electromagnetic field impacts from the proposed Project.

Environmental Impact Assessment

Q. WOULD CONSTRUCTION AND OPERATION OF THE PROJECT RESULT IN IMPACTS TO VEGETATION RESOURCES?

A. The Project as proposed would not have significant impacts to vegetation resources. This was confirmed during a visit to the project site, conducted by PPRP in May 2014. The Project would be developed on a 116-acre parcel in Dorchester County, about two miles east of Cambridge, Maryland (immediately south of Route 50). The entire property is agricultural in nature and has recently been farmed for agricultural crops. It was also previously developed as a golf course in 2003, and then was subsequently returned back to cultivation.

Vegetation and land cover in the immediate vicinity of the Project site consists of actively cultivated land with narrow parcels of upland mixed deciduous forest along its eastern and northern boundaries. The local topography is nearly flat to slightly rolling. The only infrastructure currently present on the project site is a narrow gravel access drive that exists along the eastern part of the site.

Vegetation observed at the Project site during the April 2014 PPRP field visit consisted of a fallow corn crop throughout. The fields included typical weedy herbaceous plants often associated with cultivated fields in the region. Some of these species include Faber's foxtail grass (*Setaria faberi*); yellow foxtail grass (*Setaria glauca*); black mustard (*Brassica nigra*); Canada goldenrod (*Solidago canadensis*); common burdock (*Arctium minus*); cocklebur (*Xanthium strumarium*); pokeweed (*Phytolacca americana*); dandelion (*Taraxacum officinale*); and common chickweed (*Stellaria media*).

There are also two parcels of mixed deciduous forest currently at the site. A large parcel of mixed deciduous forest is located on the north side of the property; this forest forms the riparian boundary of an unnamed perennial tributary to the Transquaking River. OneEnergy has indicated that this forest will remain undisturbed. The forest consists of trees with canopy heights of 50 to 80 feet. Principal trees here include loblolly pine (*Pinus taeda)*, sycamore (*Platanus occidentalis*), black cherry (*Prunus serotina*), willow oak (*Quercus phellos*), black gum (*Nyssa sylvatica*), sweetgum (*Liquidambar styraciflua*), and red maple (*Acer rubrum*).

There is also a small, narrow parcel of forest along the southern boundary of the property that forms the riparian boundary of another small unnamed perennial tributary to the Transquaking River. According to OneEnergy, parts of this parcel were planted in 2005 by the landowner as part of Forest Conservation Act compliance when they transformed the area from agricultural use to a golf

course. Many of these planted trees are white pines (*Pinus strobus*), with average canopies of thirty to fifty feet in height.

The Maryland Forest Conservation Act (FCA) establishes standards for land development that make the identification and protection of forests and other sensitive areas an integral part of the site planning process. Although development projects that clear land for public utility rights-of-way or electric generating stations can be exempted from the FCA, the project is reviewed through the CPCN licensing process, which endeavors to minimize forest loss from the project. As proposed, however, the Project would not require clearing of any trees, thus minimizing forest loss. As such, the Project will have no mitigation obligations under the FCA.

Q. WOULD CONSTRUCTION AND OPERATION OF THE PROJECT RESULT IN IMPACTS TO WILDLIFE?

A. The Project site currently offers little wildlife habitat. The number and variety of habitats are limited as a result of historical agricultural practices. These cultivated and mowed/maintained lands have been intensively managed, limiting nesting by birds or occupancy by other wildlife such as amphibians, reptiles, and mammals. The two parcels of forest to the north and the south likely provide habitats for some edge-nesting bird species such as northern cardinal (*Cardinalis cardinalis*) and Carolina wren (*Thryothorus ludovicianus*). Other species noted during the site visit in May 2014 included common bobwhite (*Colinus virginianus*), killdeer (*Charadrius vociferous*), northern mockingbird (*Mimus polyglottis*), common crow (*Corvus brachyrhynchos*) and mourning dove (*Zenaida macroura*). In addition, signs of white-tailed deer (*Odocoileus virginianus*; tracks) and woodchuck (*Marmota monax*; burrow) and were also observed. There may also be some limited aquatic habitats for amphibians and reptiles along the two perennial tributaries to the Transquaking River. These streams

and their forested buffers, however, would not be disturbed by construction or operation of the proposed Project.

The Project could provide benefits to wildlife by establishing and maintaining native grasses within the facility. Native grasses can grow well even on low fertility soils, have strong root systems that hold soil in place, and act as a filter of stormwater runoff by removing sediment. If left unmowed, the grasses remain standing throughout the winter, thereby providing cover for wildlife. PPRP has recommended a CPCN license condition that directs OneEnergy to follow guidance from the Dorchester County Soil Conservation District for establishing and maintaining vegetation at the solar facility. PPRP also recommends restricting mowing during the ground-nesting bird season from May through August, to the extent practicable.

Q. ARE THERE ANY KNOWN LISTED THREATENED AND ENDANGERED SPECIES PRESENT ON OR ADJACENT TO THE SITE?

A. No. In response to a letter requesting environmental review of the proposed Project, the Maryland Department of Natural Resources, Wildlife and Heritage Service (WHS) indicated in a 14 February 2012 letter that there are no records for rare, threatened, or endangered (RTE) species within the boundaries of the Project site. OneEnergy is continuing to coordinate with the U.S. Fish and Wildlife Service and the WHS regarding assessments for the Delmarva fox squirrel (*Sciurus niger cinereus*), as the Project site is within the range of this species. However, according to OneEnergy, no Delmarva fox squirrels have been observed to date on or adjacent to the Project site.

Q. WOULD CONSTRUCTION AND OPERATION OF THE PROJECT RESULT IN IMPACTS TO WETLANDS OR STREAMS?

A. Yes. Three areas of wetlands currently exist at or are directly adjacent to the

Project site. A very small nontidal herbaceous wetland is located near the south-central part of the Project site; this wetland is on the location of a former golf course pond, when the site was used for that purpose. One area of forested and scrub/shrub wetlands exists along the northern boundary of the site, forming the riparian zone of a perennial tributary to the Transquaking River. This nontidal wetland is primarily only adjacent to the northern boundary of the site (i.e., most of this wetland is offsite). Additionally, a forested area bordering the southern part of the site forms the riparian boundary of another perennial tributary to the Transquaking River; this parcel contains a narrow area of nontidal forested wetlands.

According to OneEnergy, ground disturbance for the installation of the solar and interconnection attachment facilities will include some grading of the site, including potential use of the small former golf course pond wetland area. OneEnergy has submitted a *Joint Federal/State Application for the Alteration of any Floodplain, Waterway, Tidal or Nontidal Wetland in Maryland* to MDE and USACE for approval to use or fill part or all of this wetland.

Additionally, development of the Project should implement the procedures and requirements of Dorchester County Stormwater Management, Grading, Soil Erosion, and Sediment Control Ordinance, to avoid or minimize the potential for impacts to aquatic systems. Under this ordinance, stormwater management is implemented by using Environmental Site Design (ESD) to the maximum extent practicable. Grading and sediment erosion and sediment control must be implemented by following best management practices for preventing soil erosion and sediment transport, pollution, and adverse impacts on waterways and properties. OneEnergy also indicated that it will be working closely with Dorchester County to implement County Storm Water Management planning criteria.

Socioeconomic Impact Assessment

Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE ECONOMIC, DEMOGRAPHIC AND FISCAL IMPACTS OF THE PROPOSED PROJECT?

A. Construction would occur over a 5 month period. During the peak construction period, the Project would employ between 85 and 115 design, management and construction personnel on site. Because most construction activities are not expected to require highly specialized skills, many jobs would be sourced from the local labor pool if area subcontractors competitively bid the work. This would have a positive effect on the local economy from construction worker payrolls and subsequent consumption expenditures, local purchases of common construction materials and associated multiplier effects. Not all Project benefits would accrue to Maryland since specialized components such as PV panels are manufactured elsewhere.

With most of the construction workforce within daily commuting distance, the Project would have no effect upon population and housing, or population-related public service provision. With public service levels largely unaffected, the net benefit of Project construction would be positive for Dorchester County and Maryland.

The Project would have no operations or maintenance facilities on-site nor would it have a permanent O&M workforce. Fiscal benefits would be in the form of corporate income tax revenues to the State, income tax revenues on lease payments to the landowner, and to a lesser extent, real property tax revenues.

Q. IS PPRP RECOMMENDING ANY LICENSE CONDITIONS TO ADDRESS ECONOMIC IMPACTS OF THE PROJECT?

A. No. Given this analysis, PPRP does not recommend including any conditions regarding economic, demographic or fiscal impacts.

Q. WHAT ARE YOUR CONCLUSIONS REGARDING LAND USE IMPACTS DUE TO THE PROPOSED PROJECT?

A. The Project would be about five miles east of the Cambridge municipal boundary near US 50 where most land is in agriculture or forest. The 116-acre parcel is zoned AC – Agricultural Conservation District. Although Maryland's CPCN process preempts local zoning, Dorchester County permits utility scale solar energy systems in the AC zone by Special Exception. The Project site is not within the Airport Protection (AP) District, an overlay district around the Cambridge-Dorchester Airport which lies about 5 miles to the west.

A swath of forested area along the south side of the parcel is protected under a Forest Conservation Act easement. However, no part of the area that would be developed is protected by conservation easement. Two properties to the southwest are protected under Maryland Agricultural Land Preservation Foundation (MALPF) easement, but these are more than one-half mile distant from the Project site and would not be affected by construction or operation of the facility.

The Project, itself is surrounded by a mixture of urban or built-up land uses including residential, industrial and commercial uses. A manufactured housing community lies just west of the Project across Higgins Mill Pond. Large lot homes belonging to family members of the property owner abut the western boundary of the Project. The site is currently under crop cultivation.

The Project would occupy about 93 acres, displacing (until decommissioned) agricultural activities from the Project site. Post-construction, the Project is not

expected to influence land uses of other properties in the area.

Q. IS PPRP RECOMMENDING ANY LICENSE CONDITIONS TO ADDRESS LAND USE IMPACTS OF THE PROJECT?

A. Yes. PPRP has recommended an initial licensing condition requiring OneEnergy to design the facility in substantial conformity to Dorchester County's site plan requirements.

Q. WHAT ARE YOUR CONCLUSIONS REGARDING TRANSPORTATION IMPACTS FROM THE PROPOSED PROJECT?

A. Transportation impacts associated with the Project would be confined to the construction period. Construction traffic would access the site from Linkwood Drive via US 50, the nearest regional highway.

Construction worker traffic would be added to background traffic volumes at the beginning and end of each workday, primarily on weekdays. With a peak on-site workforce of 85 to 115, about 70-100 automobiles or light trucks would be added daily to local roads over the construction period. Given existing traffic conditions, the additional construction worker traffic is not expected to affect adversely the level of service (LOS) of major or minor roads in the vicinity of the Project, even if coincident with morning and evening peak hour traffic.

All materials for Project construction would be delivered by truck. Project construction would require approximately 1,000 truck trips for the delivery of components and other construction materials, and perhaps 50 truck trips for the delivery of excavation, grading and installation equipment if site preparation activities are typical. Component delivery equates to an average of nearly 7 round trip truck trips per day, but would probably average more during the

peak construction period and fewer at the start and end of construction. PPRP has concluded that truck traffic is not expected to affect adversely existing motor vehicle traffic in the vicinity of Project.

During construction, some loads transporting equipment to or from the Project site could be oversize or overweight. The State Highway Administration requires hauling permits for transporting oversize or overweight loads on Maryland highways. PPRP has recommended a licensing condition requiring OneEnergy to comply with all permit requirements for the use of State and Dorchester County roads and obtain appropriate approvals as necessary.

Post construction, the Project would not be a significant traffic generator. Most traffic to the site during operations would be light vehicles.

Q. ARE THERE ANY OTHER MATTERS WITH REGARD TO POTENTIAL TRANSPORTATION IMPACTS FROM THE PROPOSED PROJECT?

A. Yes. Federal Regulation Title 14 Part 77 provides the Federal Aviation Administration (FAA) with the authority to conduct aeronautical studies of proposed activities that could affect airspace. These studies review physical incursions of proposed structures into airspace, interference with radar communications and any other conditions such as glare that might negatively affect air traffic. Off-airport solar projects in the vicinity of an airport have the responsibility to inform the FAA about proposed projects so that the agency can determine if the project presents any safety or navigational problems. No airports are in the immediate vicinity of the Project. The closest airport is the Cambridge-Dorchester Airport, a public use, federally-obligated airport about 5 miles to the west, which would not be affected by the Project

Q. WHAT ARE PPRP'S CONCLUSIONS REGARDING THE PROPOSED

PROJECT'S VISUAL IMPACTS?

A. The terrain within the Project site is relatively flat, ranging from about 16 to 20 feet above mean sea level. Existing views of the parcel from most ground level locations to the north and south of the property are blocked by vegetation. However, the east and west edges of the property are not buffered, exposing residential properties to views over an open agricultural field. Some additional residential properties along Vincent Road (formerly US 50) may have unimpeded views but are more distant from the Project site and overlook foreground views of both Vincent Road traffic and properties bordering the subject parcel.

Sitting between two and six feet above ground depending on orientation, the facility would have a low visual profile. As shown in the Project's site plan, PV arrays would be set back from the property line or areas excluded from development within a 20-foot perimeter gravel road, itself enclosed within a six-foot chain link fence. A 50-foot landscaped buffer outside the perimeter fence would be established between the Project and occupied properties to the east from which structural elements are most likely to be visible. The landscaping plan would be designed in conformance with the Dorchester County requirements codified in §155-50.LL of Supplementary Use Regulations in the Dorchester County Code. To avoid shading the solar facility, the developer plans to plant shrubs ranging in height from 12 to 20 feet within the inner 30 feet of the 50-foot landscape buffer, and ornamental trees that would be up to 30 feet high within the outer 20 feet. Grass would be planted next to the property line. PPRP anticipates the plan would mitigate ground-level views in the post-construction period, although adjacent properties might still have partial views of the Project from elevated locations. Still, PPRP concurs that a landscaping plan that conforms to Dorchester County's buffering requirements is likely to effectively mitigate most views of the proposed facility from adjoining properties. It has recommended an initial licensing condition requiring

OneEnergy, prior to construction, to submit to the Public Service Commission and PPRP for review and approval, a landscaping plan that is in substantial conformance with site plans approved by Dorchester County and Article 155-50.LL of the Dorchester County Code.

PPRP undertook a preliminary glare analysis of the Project upon stationary observation points representing the locations of nearby residences. Simulation results suggest that no property would experience glare from ground level perspectives and only one from a second floor vantage. In the latter case, glare would not be severe and would impact the property only during certain winter months for a short duration in mid-morning.

PPRP has recommended an initial licensing condition requiring OneEnergy to develop a process to document and address admissible complaints related to potential solar reflections. An admissible complaint shall be one formally submitted to OneEnergy within one year of the Project's commencement of operations. If it is determined that the complaint is justified, OneEnergy shall prepare a screening plan to mitigate impacts from reflective glare upon the affected property.

Post-construction, the Project would have minimal lighting requirements. Dorchester County Supplementary Use Regulations prohibit outdoor lighting at utility scale solar energy systems except to the extent required for safety, maintenance or temporary repair. PPRP has recommended an initial licensing condition requiring OneEnergy's lighting distribution plan to conform to Dorchester County's Supplementary Use Regulations for utility scale solar energy systems.

Q. WHAT ARE YOUR CONCLUSIONS REGARDING IMPACTS ON

HISTORICAL AND CULTURAL RESOURCES FROM THE PROPOSED PROJECT?

A. A review of the Maryland Inventory of Historic Properties (MIHP) identified an historic building within the Project property – Canterbury – that was demolished in the 1970's. Otherwise, there is no inventoried property within one-half mile of the Project nor are there any nearby Maryland Historical Trust (MHT) easements or properties on the National Register of Historic Places. The MHT has determined that no historic properties would be affected by the Project.

In the event that relics of unforeseen archeological sites are revealed and identified during construction, PPRP has recommended a licensing condition requiring OneEnergy, in consultation with and as approved by the MHT, to develop and implement a plan for avoidance and protection, data recovery, or destruction without recovery of such relics or sites.

The Project is within the programmatic boundary of the Heart of Chesapeake Country Certified Heritage Area (CHA). PPRP has determined that it is unlikely the Project would have an adverse effect upon cultural awareness or heritage tourism the heritage area seeks to promote. PPRP consulted the Dorchester County Office of Tourism (the heritage area's management unit) about the Project and received a response that the proposed Project does not interfere with any current or future heritage projects or plans. Two of Maryland's Scenic Byways traverse Dorchester County – Michener's Chesapeake Country Scenic Byway and the Harriet Tubman Underground Railroad Byway – although neither bypasses the Project site. Similarly, no designated on-road bicycle route passes the Project.

Q. WHAT ARE YOUR CONCLUSIONS REGARDING IMPACTS ON PUBLIC SERVICES AND SAFETY FROM THE PROPOSED PROJECT?

A. During construction and operation, no additional public services would be required to support the Project under normal conditions. In the event of a fire or accident at the facility, emergency responders would be called on scene through the county's 9-1-1 center administered by the Dorchester County Emergency Management Agency. The Agency's Emergency Medical Services staffs and maintains an ambulance fleet to ensure availability of emergency care in all areas of the county. The closest fire company is the Linkwood-Salem Volunteer Fire Company, about one-half mile from the site entrance. The Dorchester County Sheriff's Department provides police services to all areas of the county except Cambridge and Hurlock.

Solar panels and associated electrical equipment are largely free of flammable materials. Modules for the Project would be comprised of crystalline solar cells, which are primarily made of silicon and are not considered to be hazardous to the environment. With respect to other components, some modern transformers use mineral oil as a coolant while others use dry-type cooling. The flashpoint of mineral oil is 335°F, significantly higher than the U.S. Occupational Safety and Health Administration (OSHA) standard for flammable liquids.

Post-construction, the risk of fire from ground-mounted photovoltaic systems is low if site preparation and maintenance has removed potential fuels from under and around the arrays. Fire prevention guidance for ground-mounted PV installations is contained within the National Fire Protection Association's NFPA 1 Fire Code Handbook and NFPA 70 National Electrical Code. PPRP has recommended a licensing condition requiring OneEnergy to design, install and maintain the Linkwood Solar Farm to meet all applicable minimum standards set forth in the NFPA 70 National Electrical Code and all applicable minimum standards appropriate for ground mounted solar facilities set forth in NFPA 1 National Fire Code.

Although the likelihood of fire is low, a challenge facing firefighters during fireground operations at PV facilities is the risk of electrical shock. Respiratory exposure should also be avoided during fireground operations involving PV systems.

Because the Linkwood-Salem Volunteer Fire Company and other fire companies in Dorchester County are all-volunteer organizations, PPRP is concerned that Standard Operating Procedures (SOPs) or Standard Operating Guidelines (SOGs) may not address fireground operations at PV facilities. PPRP has recommended a licensing condition requiring OneEnergy to contact Dorchester County's Emergency Management Agency and the fire departments whose first and second due response areas include the Linkwood Solar Farm to establish points of contact and timely response options, facilitate emergency vehicle access throughout the site, create a consistent marking protocol for the identification of system components that require special attention during an emergency, and develop appropriate SOPs or SOGs for addressing on-site emergencies.

Q. WHAT ARE YOUR CONCLUSIONS REGARDING IMPACTS ON PROPERTY VALUES FROM THE PROPOSED PROJECT?

A. Views toward the Project property from Linkwood Drive and nearby locations, where available, have changed in recent years due the land transitioning from recreational to agricultural use. The Project would change the landscape once again to one that is more industrial than agrarian in character. With a minimal vertical profile, Project structures would be largely out of sight from nearby properties, particularly after landscape buffers are established. To avoid shading the solar facility the developer plans to plant shrubs and ornamental trees within a planned 50-foot landscape buffer along the eastern property line. Because the trees and shrubs within it would be 30 feet high or less, one or two adjacent

properties, otherwise buffered from the Project, might have partial views from elevated locations in the post-construction period. The Project's operation would not emit significant traffic, noise, air or water pollutants, nor would it generate any hazardous waste that could potentially affect public health. At the end of the facility's useful life, a decommissioning plan would return the Project site to its original state. In other words, the local environment would be minimally affected by the Project. That the proposed facility would have a moderately benign local presence once the facility is operational suggests that property values would be unaffected by the Project.

Noise Impact Assessment

Q. WHAT ARE YOUR CONCLUSIONS REGARDING NOISE IMPACTS FROM THE PROPOSED PROJECT?

A. Noise generally consists of many frequency constituents of varying loudness. Three decibels (dB) is approximately the smallest change in sound intensity that can be detected by the human ear. A tenfold increase in the intensity of sound is expressed by an additional 10 units on the dB scale, a 100-fold increase by an additional 20 dB. Because the sensitivity of the human ear varies according to the frequency of sound, a weighted noise scale is used to determine impacts of noise on humans. This A-weighted decibel (dBA) scale weights the various components of noise based on the response of the human ear. However, sound energy dissipates with increasing distance from the noise source. For every doubling of the distance, the sound pressure level produced by a given noise source decreases by approximately 6 dBA.

The maximum allowable noise levels specified in Maryland regulations (COMAR 26.02.03) vary with zoning designation and time of day. The noise limit for residential areas is 55 dBA during nighttime hours and 65 dBA during

daytime hours. The regulations also allow for construction activity to generate noise levels up to 90 dBA during daytime hours, but the nighttime standard may not be exceeded during construction. A noise source should not create noise that exceeds the allowable levels, as measured at the receiving property.

Operational noise from PV facilities is typically low. The PV panels and support equipment do generate some noise, primarily associated with the power inverters and electrical transformers. Measured noise levels from the PV arrays are expected to decline to ambient background noise levels at distances between 50 and 150 feet. The closest residential dwelling is approximately 445 feet from any inverter pad. Therefore, noise generated by the solar facility will likely be well below ambient background noise levels and will not have any significant impacts at residential receptors.

PPRP conducted an independent evaluation of the potential noise impacts expected to occur during construction and operation of the proposed facility. PPRP concluded that, based on the available information, the Project will comply with both the construction and operational noise limits

Electromagnetic Field Impact Assessment

Q. WILL THE PROJECT CREATE ANY HUMAN HEALTH IMPACTS DUE TO ELECTROMAGNETIC FIELDS (EMF)?

A. EMF levels, in particular magnetic field levels, from the proposed Project are projected to fall below threshold human health standards at a distance of 3 feet, so the typical 50 foot buffer from adjacent properties is sufficient so that EMF levels from the Project are not anticipated to pose a potential health risk to nearby residents.

Q. WHAT ARE YOUR CONCLUSIONS REGARDING THE VIABILITY OF THE PROPOSED PROJECT?

A. Maryland has several policies that encourage the deployment of solar energy systems. The first is the State's Renewable Portfolio Standard (RPS) that calls for 20 percent renewable energy by 2022, including two percent that must come from solar energy sources. Accordingly, utilities must purchase solar generation or face penalties of up to $400 per MWh (declining through time), providing a financial incentive to homeowners, business, and independent developers to install solar renewable energy systems. The RPS is not the lone policy mechanism providing incentives for the development of solar power in Maryland. Also available are State tax credits, grants, loans, and rebate programs.

Currently, there are two primary solar electricity generating technologies – solar PV and concentrating solar power (CSP). The proposed Project will utilize solar PV technology. A solar PV system consists of the solar modules (also known as panels), a mounting system (in this case a ground mount system), and an inverter to convert the direct current (DC) electrical current to AC for household or commercial consumption. OneEnergy would install 62,899 PV panels on approximately 93 acres of land for the Project. The Project will generate 15.5-MW of AC solar PV power. OneEnergy will deliver its produced electricity via a short line between the Project site and the DPL West Cambridge-Vienna 69kV circuit, which is located on the southern side of Linkwood Drive.

Solar PV projects require open land free from shading impacts caused by nearby trees and high buildings. The proposed property meets this criterion, with only limited tree coverage and sufficient land area not impacted by building shading. The solar PV technology is sound and well tested, with thousands of megawatts

of electricity being generated via solar PV technology throughout the United States. Assuming that the remaining approvals and financing are successfully obtained, the OneEnergy Project appears to be a viable project in support of the Maryland RPS.

Q. DOES THAT CONCLUDE YOUR TESTIMONY AT THIS TIME?

A. Yes, it does.

APPENDIX A:

STATEMENT OF QUALIFICATIONS

for Robert A. Sadzinski

Robert Sadzinski has served as a project manager with the Maryland Power Plant Research Program (PPRP) since December 2014. Mr. Sadzinski is responsible for management, oversight and analysis of environmental impact assessments related to construction, operation, and maintenance of high voltage transmission lines and electrical generating facilities. Additional activities include reviewing and editing Environmental Review Documents for transmission lines and power plants.

Mr. Sadzinski has over 20 years of experience managing projects and five years' experience related to the siting, construction and operation of power plants with emphasis on potential impacts to terrestrial and aquatic resources including wetlands, streams, forests, wildlife, vegetation, and rare, threatened, and endangered species; managed and conducted research projects on power plant generation and transmission facilities affecting environmental resources in Maryland. Mr. Sadzinski has reviewed and edited Environmental Impact Statements and Environmental Assessments in accordance with regulations implementing the National Environmental Policy Act (NEPA) that evaluated potential impacts to environmental resources including noise, air quality, biological, aquatic, hydrologic, geologic, cultural and historic, and socioeconomic resources.

Education

B.A. Biology, The King's College, Briarcliff Manor, NY, 1985

M.S. Biology, Clarion University, 1991.