

**APPENDIX A: PUBLIC SCOPING AND DRAFT EA NOTICE OF
AVAILABILITY DOCUMENTS**

Notice of Public Scoping postcard



NOTICE OF PUBLIC SCOPING

The U.S. Department of Energy (DOE) is requesting public input on the scope of environmental issues and alternatives to be addressed in an Environmental Assessment (EA) for the Seneca Nation of Indians Wind Turbine (SNI), DOE/EA-2004.

The U.S. Department of Energy (DOE) is proposing to authorize the expenditure of federal funding to the Seneca Nation of Indians, to design, permit, and construct a 1.7-megawatt wind turbine on Tribal common lands in the Cattaraugus Territory, New York. The turbine will be located near Lucky Lane and Gil Lay Arena. An EA will be prepared by DOE pursuant to the requirements of the National Environmental Policy Act (NEPA). The notice of scoping and description of the proposed project is available for review at the DOE Electronic Public Reading Room at:

<http://energy.gov/eere/golden-reading-room-environmental-assessments>

Public comments on the NEPA process, proposed action and alternatives, and environmental issues will be accepted until February 4, 2015. Comments may be submitted by letter to the attention of Mr. Casey Strickland, U.S. Department of Energy, Golden Field Office, 15013 Denver West Parkway, Golden, CO 80401, by e-mail to gonepa@ee.doe.gov, or by fax to 720-356-1350.

Scoping notice that appeared in the SNI Newsletter

Notice of Public Scoping

The U.S. Department of Energy (DOE) is requesting public input on the scope of environmental issues and alternatives to be addressed in an Environmental Assessment (EA) for the Seneca Nation of Indians Wind Turbine (SNI).

The U.S. Department of Energy (DOE) is proposing to authorize the expenditure of federal funding to the Seneca Nation of Indians, to design, permit, and construct a 1.7-megawatt wind turbine on Tribal common lands in the Cattaraugus Territory, New York. The turbine will be located near Lucky Lane and Gil Lay Arena. An EA will be prepared by DOE pursuant to the requirements of the National Environmental Policy Act (NEPA). The notice of scoping and description of the proposed project is available for review at the DOE Electronic Public Reading Room at:

<http://energy.gov/eere/golden-field-office-reading-room>

Public comments on the NEPA process, proposed action and alternatives, and environmental issues will be accepted until February 4, 2015. Comments may be submitted by letter to the attention of Mr. Casey Strickland, U.S. Department of Energy, Golden Field Office, 15013 Denver West Parkway, Golden, CO 80401, by e-mail to gonepa@ee.doe.gov, or by fax to 720-356-1350.



Letter that was posted on the DOE Public Reading Room website



Department of Energy
Golden Field Office
15013 Denver West Parkway
Golden, Colorado 80401

January 15, 2015

SUBJECT: Notice of Scoping – Seneca Nation of Indians (SNI) Wind Turbine Project, Chautauqua County, Irving, New York (DOE/EA-2004)

The U.S. Department of Energy (DOE) and Seneca Nation of Indians (SNI) are proposing to authorize the expenditure of federal funds for a project on SNI-owned sovereign land in Erie County, New York. The Seneca Energy Corporation, chartered and owned by the Seneca Nation of Indians, is proposing to construct one wind turbine to generate electricity on Tribal common lands in the Cattaraugus Territory, New York. The turbine will be located near Lucky Lane and Gil Lay Arena. The proposed project would include construction and installation of: one turbine and foundation, an associated access road extension, and an electrical substation. The wind turbine would be able to produce approximately 1.7-megawatts of electricity, which would be used to offset power use by Seneca Nation administrative buildings which will be credited back to Cattaraugus Territory Residents electricity users. The project would be beneficial to the country's energy objectives by providing electricity from a renewable resource and reducing pollutant emissions. It would also allow Seneca Energy to generate an energy credit and therefore a lower per kwh energy cost that will be passed along to SNI residents to create a rate parity between SNI territories. The attached Project Description provides additional information on the proposed project.

Pursuant to the requirements of the *National Environmental Policy Act* (42 U.S.C. 4321 et seq.; NEPA), Council on Environmental Quality regulations (40 CFR Parts 1500 to 1508), and DOE NEPA implementing procedures (10 CFR Part 1021), DOE, with the SNI as a partner, is preparing a draft Environmental Assessment (EA) to:

- Identify any adverse environmental effects and potential associated mitigation measures should this proposed action be implemented;
- Evaluate viable alternatives to the proposed action, including a no action alternative;
- Describe the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity;
- Characterize any irreversible and irretrievable commitments of resources that would be involved should this proposed action be implemented; and

- Analyze past, present, and reasonably foreseeable actions to evaluate potential cumulative impacts.

Probable Environmental Effects/Issues Scoped for the Environmental Assessment

The EA will describe and analyze potential impacts on the environment that would be caused by the project and, as applicable, will identify possible mitigation measures to reduce or eliminate those impacts. At a minimum, the EA will evaluate the impacts that could affect:

- Land Use;
- Air Quality;
- Biological Resources
- Cultural Resources
- Water Resources;
- Waste Management and Hazardous Materials;
- Noise;
- Infrastructure;
- Traffic and Transportation;
- Aesthetics and Visual Resources;
- Health and Safety;
- Socioeconomics; and
- Environmental Justice.

Development of a Reasonable Range of Alternatives

NEPA requires DOE to consider a reasonable range of alternatives to the proposed action during an environmental review. The definition of alternatives is governed by the “rule of reason”; that is, an EA must consider a reasonable range of options that could accomplish the agency’s purpose and need and reduce environmental effects. Reasonable alternatives are those that could be feasible based on environmental, technical, and economic factors. The No-Action Alternative will be addressed as well.

Public Scoping

DOE invites the public; federal, state, and local agencies; and American Indian Tribes to identify issues they feel DOE should consider in the EA. DOE will post this letter, as well as the draft EA, when available, in the DOE Golden Field Office online reading room:

<http://energy.gov/eere/golden-reading-room-environmental-assessments>

The DOE Golden Field Office welcomes your input throughout the NEPA process. To ensure DOE receives your comments in time for consideration in the draft EA, please provide them on or before February 4, 2015, to:

Mr. Casey Strickland, NEPA Document Manager
U.S. Department of Energy, Golden Field Office
15013 Denver West Parkway

Golden, Colorado 80401
Email: gonepa@ee.doe.gov
Fax: 720-356-1350

We look forward to hearing from you.

Sincerely,

A handwritten signature in blue ink that reads "Casey Strickland". The signature is written in a cursive, flowing style.

Casey Strickland
NEPA Document Manager

Attachment: Project Description and Location

ATTACHMENT – PROJECT DESCRIPTION AND LOCATION

The Seneca Nation of Indians (SNI) intends to install and operate one 1.7 MW wind turbine on SNI-owned sovereign lands in Erie County, New York. Using industry standard wind resource assessment tools from AWS TruePower and New York State Energy Research and Development Authority (NYSERDA) and existing anemometry at the site, we have determined an available wind resource of 7.13 meters per second at a hub height of 60 meters for this site. SNI, with its partners Utility Reduction Specialists, Inc. (URS), New West Technologies, LLC (New West), and Sustainable Energy Developments, Inc. (SED), will install one 1.7 MW turbine which will produce approximately 5,000,000 kWh of electricity, per year.

Figure 1. Aerial view of proposed project location.



Figure 2. Preliminary development plan



Public Comment #1

From: Daryl Post [<mailto:daryl.post@yahoo.com>]

Sent: Saturday, January 24, 2015 5:25 PM

To: GO NEPA

Subject: MR. Casey Strickland, US Department of Energy Golden Field Office NEPA process, proposed action and alternatives, and environmental issues

I AM ONLY FOR IT IF THEY ADD SOLAR ENERGY All all Seneca Members on the Cattaraugus Indian Reservation Territory To have a design, permit, and construct a 1.7-megawatt wind turbine on tribal common lands on the Cattaraugus Territory and Solar Energy panels To help with all Seneca Members on the Cattaraugus indian Reservation. After the solar energy is put in First then I will be for the 1.7 =megawatt wind turbine. Approval

Again Solar Energy panel for all Seneca Member on the Cattaraugus Indian Reservation then the megawatt wind turbine is after. Then i approve.

Sincerely,

Daryl W Post

12749 Route 438

Irving, New York 14081

716-710-2110

Tribal Roll # 3926.1000

Public Comment #2

Emailed 2/13/15



United States Department of the Interior



FISH AND WILDLIFE SERVICE

3817 Luker Road
Cortland, NY 13045

February 13, 2015

Mr. Casey Strickland
NEPA Document Manager
U.S. Department of Energy
15013 Denver West Parkway
Golden, CO 80401

Dear Mr. Strickland:

The U.S. Fish and Wildlife Service (Service) has reviewed the Department of Energy's (DOE) Notice of Scoping to study a proposed single wind turbine on Seneca Nation of Indians (SNI) sovereign land located in Town of Brant, Erie County, New York. Our review and comments are being provided as part of the National Environmental Policy Act (42 U.S.C. 4321 et seq.) scoping process. Comments are also provided pursuant to the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d), Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), and Migratory Bird Treaty Act (MBTA) (40 Stat. 755; 16 U.S.C. 703-712).

We may provide future comments under the BGEPA, ESA, and MBTA, as well as the Clean Water Act (CWA) of 1972 (33 U.S.C. §1251 et seq.), which is administered jointly by the U.S. Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency in coordination with the Service under the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), as applicable.

The Project involves the construction of a single 1.7-megawatt wind turbine on land owned by SNI. A portion of the property has been previously disturbed and currently houses a gaming facility and parking areas, as well as forest and wetland habitat.

Currently, the DOE is receiving input on the scoping and content of an Environmental Assessment (EA) report which will be used as a decision making document by the agency. We recommend during this scoping process that the DOE develop a detailed project description, range of alternatives, appropriate studies of the issues identified, and a complete impact assessment of affect resources to be found within the EA. A list of the proposed subject areas to be evaluated was provided in the Notice of Scoping.

Information on the proposed project is currently limited to a brief project description and project location maps. No data on the turbine size was provided in the project description, although it appears that the structure will be a large commercial turbine. We recommend the project description be expanded to include turbine information as well as more detailed data on existing site conditions, proposed construction activities to complete the project, and expected operating conditions of the turbine. Site boundaries showing property ownership should also be included in the EA. We note that information is lacking on project infrastructure such as roads, buried electric cable, overhead transmission lines, and substations. This information should be provided in the EA.

The Notice of Scoping provided one potential site for the wind turbine but mentioned that a range of alternatives would be explored. We encourage DOE and SNI to look at alternate sites. While a portion of the proposed site has been disturbed in the past, we recommend that the project sponsor reevaluate the project design and move the turbine and infrastructure out of forest areas and away from the adjacent wetland. We are aware of another site located among agricultural fields which was under consideration last year. The EA should explore viable sites which pose less risk to wildlife and limit habitat disturbance.

The EA should provide information on the lighting of the turbine, buildings, or substations which may be used for the project. The Service would support a lighting design that uses motion detectors at buildings and turbine doors to reduce the amount of excess stray lights that may attract night migrating birds during inclement weather. Light leaking from a nacelle during inclement weather at a West Virginia wind turbine in 2011 is believed to have caused confusion and mass mortality of songbirds. We recommend that any lighting within a turbine nacelle should be on a timer or motion activated sensor. Lighting on the outside of the nacelle should follow Federal Aviation Administration standards, using red flashed with minimum intensity and duration and maximum allowable off time as possible to reduce avian attraction.

A meteorological tower is currently being used to measure wind speeds, but it is not clear if one will be needed to collect data once the turbine is constructed. Some meteorological towers are supported by guy wires. Birds are known to collide with support wires resulting in injury or death. The Service recommends a monopole design where no guy wires are used to support the structure. In addition, the tower should be as short as possible since the risk of avian collision increases with tower height (USFWS 2011).

The EA should discuss the potential for invasive plant species to occur in the project area and if construction activities could promote the spread of these species. A plan to minimize the impact of invasive species should be provided. We recommend that the project sponsor coordinate with the New York State Department of Environmental Conservation (NYSDEC) on an appropriate invasive species control plan. In addition, we recommend that all existing locations of invasive species within proposed construction areas be identified and mapped. Further, these areas should be treated to eliminate invasive plant species prior to construction. We recommend that all disturbed areas be promptly seeded to limit soil erosion and reduce the potential for establishment of invasive plant species.

To limit construction impacts of the project on birds protected by the MBTA, we recommend no vegetation clearing during the breeding season, generally April 1 to July 15. If vegetation is cleared outside of the breeding season, seeding of disturbed areas with an annual grass, such as winter wheat or annual rye, should be used to limit soil erosion until project construction commences.

For the Biological Resources section of the EA, we recommend a thorough discussion of existing natural resources be provided. Although the project consists of only a single turbine, several factors can influence the risk the turbine poses to wildlife. For example, the project is located along the eastern shore of Lake Erie, a known major spring migration corridor for birds. In fact, two raptor monitoring stations are located north and south of the project site. Also, there is a large wetland complex within approximately 200 feet of the proposed turbine location. Additional wetlands are found to the north and south of the site as well as Cattaraugus Creek. These habitats could attract wildlife to the project area and may elevate the risk of collision. The EA should thoroughly discuss the habitat types of the project area. In addition, mapping of the habitat types should be completed to inform what species are expected to occur there.

At the present time, the turbine is proposed in a forested area. In order to gain a clear picture of what wildlife is at potential risk, we recommend surveys be completed at the project site to determine the fish and wildlife species currently found on the site. The surveys should take place during all seasons and be of sufficient intensity to document the wildlife using the area. We are particularly interested in information on migrating and breeding birds and bats. However, if the turbine is sited in a disturbed area, such as an agricultural field, surveys may not be necessary.

Bat acoustic data was collected by the Service in locations north (Tiff Nature Preserve and Evangola State Park) of the project area to monitor bat activity and attempt to determine species composition. This information, collected in 2011, indicated a large number of bats using the region adjacent to Lake Erie, possibly for migration. This information may be useful for the project evaluation and the project sponsor should contact our office to discuss the data.

Currently, we have no site-specific information on federally-listed species that suggests they would be found on the project site. However, we know of no survey information for the area. As you are probably aware, the northern long-eared bat (*Myotis septentrionalis*) (NLEB) is currently proposed for listing as an endangered or threatened species under the ESA and a final listing decision is expected in April 2015. At this time, no critical habitat has been proposed for the species. The EA should address the potential for impacts to the NLEB from the proposed project.

As you are aware, Federal agencies have responsibilities under Section 7(a)(2) of the ESA to consult with the Service regarding projects that may affect federally-listed species or "critical habitat", and confer with the Service regarding projects that may affect federally-proposed species or proposed "critical habitat." In addition, pursuant to Section 7(a)(4) of the ESA, federal action agencies are required to confer with the Service if their proposed action is likely to jeopardize the continued existence of the NLEB. Action agencies may also voluntarily confer

with the Service if the proposed action may affect a proposed species. We look forward to working with the DOE to evaluate the effects of the project on listed species.

The most recent compilation of federally-listed and proposed endangered and threatened species in New York is available for your information. Until the proposed project is complete, we recommend that you check our website every 90 days from the date of this letter to ensure that listed species presence/absence information for the proposed project is current.* Any additional information regarding the proposed project and its potential to impact listed species should be coordinated with both this office and with the NYSDEC.

Our records indicate that bald eagles (*Haliaeetus leucocephalus*) use the project area and nest in the region around the project. Numerous bald eagle nests are known from along Cattaraugus Creek (within 4 miles of the site) and another site 5 miles southwest of the proposed turbine location. Bald eagles have been delisted pursuant to the ESA, but remain protected under the MBTA, BGEPA, and by the state of New York.

The Service's National Bald Eagle Management Guidelines (Guidelines), which can be found at <http://www.fws.gov/northeast/ecologicalservices/eagle.html>, were developed to assist with project planning and minimize impacts to bald eagles. We recommend that the project sponsor consult these Guidelines for information regarding bald eagles and information needed to assess risk to this species. Measures to conserve eagles and their habitat have been provided in guidance recently developed by the Service. For more information on wind energy and bald eagle conservation plan guidance please see http://www.fws.gov/windenergy/eagle_guidance.html.

It appears that the proposed project may affect species under the Service's jurisdiction pursuant to the MBTA. Migratory birds, such as waterfowl, passerines, and raptors are federal trust resources and are protected by provisions of the MBTA. The Service is the primary federal agency responsible for administering and enforcing the MBTA. This Act prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests except when specifically authorized by the Service. The word "take" is defined as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect." The unauthorized taking of birds is legally considered a "take" under the MBTA and is a violation of the law. Neither the MBTA nor its implementing regulations, 50 CFR Part 21, provide for permitting of "incidental take" of migratory birds that may be killed or injured by wind projects. However, we recognize that some birds may be killed at structures such as wind turbines even if all reasonable measures to avoid it are implemented. Depending on the circumstances, the Service's Office of Law Enforcement may exercise enforcement discretion. The Service focuses on those individuals, companies, or agencies that take migratory birds with disregard for their actions and the law, including when conservation measures have been developed but are not properly implemented.


At this time, we continue to encourage existing and proposed wind developments to follow current Service recommendations on wind power siting and construction found in the *U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines* (2012). The Service hopes to work

cooperatively with wind developers to appropriately site wind projects, and consider fish and wildlife during the design, construction, and operation of these facilities.

If the project proceeds, the Service recommends that the site be monitored for impacts to wildlife following construction and during turbine operation. A post-construction bat and bird mortality monitoring plan should be developed and provided for review. Proposals for conducting monitoring should be coordinated with both the Service and the NYSDEC to ensure they are comprehensive, accurate, and correctly timed. Information gained from post-construction monitoring will continue to aid the Service and project sponsors as we learn more about potential impacts, or lack thereof, to wildlife in the project area. Monitoring should also be part of a strong adaptive management program for the project. We recommend that project approval not be given until after the details of the post-construction monitoring plan and adaptive management program have been reviewed and approved by the Service and the NYSDEC.

We appreciate the opportunity to provide comments on the EA Notice of Scoping. We look forward to working with the DOE and SNI in reviewing additional project information so that potential impacts to wildlife can be adequately evaluated. If you have any questions regarding this letter, please contact Tim Sullivan at 607-753-9334.

Sincerely,



David A. Stilwell
Field Supervisor

*Additional information referred to above may be found on our website at:
<http://www.fws.gov/northeast/nyfo/es/section7.htm>

References:

U.S. Fish and Wildlife Service. 2011. Avian collisions at communication towers - sources of information. Available at:
<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>

U.S. Fish and Wildlife Service. 2011. Draft Eagle Conservation Plan Guidance. Available at:
<http://www.fws.gov/migratorybirds/BaldAndGoldenEagleManagement.htm>

U.S. Fish and Wildlife Service. 2012. http://www.fws.gov/windenergy/eagle_guidance.html

U.S. Fish and Wildlife Service. 2012. Final Land-Based Wind Energy Guidelines. Available at:
<http://www.fws.gov/windenergy/>

cc: NYSDEC, Albany, NY (Attn: B. Gary)
NYSDEC, Buffalo, NY (Attn: C. Adams)

Public Comment #3



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

FEB 05 2015

Mr. Casey Strickland, NEPA Document Manager
U.S. Department of Energy, Golden Field Office
15013 Denver West Parkway
Golden, Colorado 80401

RE: Seneca Nation of Indians Wind Turbine Project

Dear Mr. Strickland:

The Environmental Protection Agency (EPA) has reviewed the January 15, 2015 notice of scoping for the construction of a wind turbine, foundation, and an associated road extension to generate approximately 1.7-megawatts of electricity. The turbine will be located near Lucky Lane and the Gil Lay Arena in Irving, New York on Tribal common lands. The electricity generated will be used to offset power use by the Seneca Nation administrative buildings, which will be credited back to Cattaraugus Territory Residents electricity users. We offer the following scoping comments.

1. The environmental assessment should include an evaluation of the alternatives to the proposed project, including reasonable alternatives not within the jurisdiction of the lead agency.
2. The attached map did not identify an exact site for the turbine, and there are National Wetland Inventory wetlands in the area of the map. We recommend that the project avoid, or minimize impacts to wetlands to the maximum extent possible.

Thank you for the opportunity to comment. If you have any questions concerning this letter, please contact Lingard Knutson of my staff at (212) 637-3747.

Sincerely yours,

A handwritten signature in blue ink that reads "Grace Musumeci".

Grace Musumeci, Chief
Environmental Review Section
Sustainability and Multimedia Programs Branch

Internet Address (URL) • <http://www.epa.gov>

Recycled/Recyclable • Printed with Vegetable Oil Based Inks on Recycled Paper (Minimum 50% Postconsumer content)

Notice of Availability of Draft EA postcard



Notice of Availability and Solicitation of Public Comments

The U.S. Department of Energy (DOE) proposes to authorize the expenditure of federal funding to the Seneca Nation of Indians (SNI) to design, permit, and construct up to a 2.0-megawatt wind turbine on Tribal common lands in the Cattaraugus Territory, New York. The turbine will be located near Lucky Lane and Gil Lay Memorial Sports Arena. DOE and SNI jointly prepared the *Draft Environmental Assessment for the Seneca Nation Wind Turbine Project Cattaraugus Territory Erie County, New York* (DOE/EA-2004) to evaluate the potential environmental impacts of this proposed project and are soliciting public comment. The Draft EA will be available from the following website for a 30-day public review period beginning August 17, 2015:

<http://www.energy.gov/node/1143511>

The comment period closes on September 16, 2015. All comments must be submitted to Mr. Casey Strickland, U.S. Department of Energy, Golden Field Office, 15013 Denver West Parkway, Golden, CO 80401 or submitted via email to gonepa@ee.doe.gov or fax to 1-240-562-1640. Envelopes and the subject line of emails and faxes should be labeled "SNI Wind Turbine Project Draft EA Comments."

Notice of Availability of Draft EA that appeared in the SNI Newsletter

DEPARTMENT UPDATES

Notice of Availability and Solicitation of Public Comments

Submitted by Anthony J. Giacobbe, General Manager, Seneca Energy, LLC

DOE proposes to authorize the expenditure of federal funding to the Seneca Nation of Indians (SNI) to design, permit, and construct up to a 2.0-megawatt wind turbine on Tribal common lands in the Cattaraugus Territory, New York. The turbine will be located near Lucky Lane and Gil Lay Memorial Sports Arena. DOE and SNI jointly prepared the *Draft Environmental Assessment For The Seneca Nation Wind Turbine Project Cattaraugus Territory Erie County, New York* (DOE/EA-2004) to evaluate the potential environmental impacts of this proposed project and are soliciting public comment. The Draft EA will be available from the following website for a 30-day public review period beginning August 17, 2015. <http://www.energy.gov/node/1143511>.



The comment period closes on September 16, 2015. All comments must be submitted to Mr. Casey Strickland, U.S. Department of Energy, Golden Field Office, 15013 Denver West Parkway, Golden, CO 80401 or submitted via email to gonepa@ee.doe.gov or fax to 240-562-1640. Envelopes and the subject line of emails and faxes should be labeled "SNI Wind Turbine Project Draft EA Comments."



Letter that was posted on the DOE Public Reading Room website



NOTICE OF AVAILABILITY

The U.S. Department of Energy (DOE) and the Seneca Nation (SNI) have prepared a draft Environmental Assessment (EA) to analyze and describe the potential environmental impacts associated with:

**The Seneca Nation Wind Turbine Project
Cattaraugus Territory, Erie County, New York
DOE/EA-2004**

DOE's Golden Field Office and SNI have prepared the draft EA in accordance with the National Environmental Policy Act (NEPA). DOE is proposing to authorize the expenditure of federal funds for an SNI project on SNI-owned sovereign land in Erie County, New York. Seneca Energy, a chartered and wholly owned subsidiary of SNI, is proposing to construct one wind turbine to generate electricity on Tribal common lands on the Cattaraugus Territory. The turbine will be located near Lucky Lane and Gil Lay Memorial Sports Arena. The proposed project would include construction and installation of one wind turbine and foundation, an access road extension, and an electrical substation. The wind turbine would be capable of producing up to 2.0 megawatts of electricity, which would be used to offset existing power used by Cattaraugus Territory residents' individual electricity account holders. The project would be beneficial to the country's energy objectives by providing electricity from a renewable resource and reducing pollutant emissions. It would also allow Seneca Energy to generate an energy credit and, therefore, a lower kilowatt per hour energy cost that will be passed along to SNI residents to create rate parity between SNI territories. The draft EA is available for review at the following website:

www.energy.gov/node/1143511

Written public comments on the EA's analysis and results of the environmental impacts of implementing the proposed action will be accepted until **September 16, 2015**. Please mail comments to the DOE Golden Field Office, c/o Mr. Casey Strickland, 15013 Denver West Parkway, Golden, CO 80401, by fax to 240-562-1640, or by email to gonepa@ee.doe.gov.

APPENDIX B: AGENCY CORRESPONDENCE



Seneca Nation of Indians

Fish & Wildlife Department

3689 Center Road, Salamanca, NY, 14779



January 30, 2015

The Seneca Nation Fish and Wildlife Department has reviewed the Seneca Nation of Indians (SNI) Wind Turbine Project, located on 1.5 acres of land off Lucky Layne in the SNI Cattaraugus Territory, Erie County, New York. We have been involved in the project site location selection process and completed a site evaluation.

The Seneca Nation Fish and Wildlife Department actively monitors bald eagle populations and various other wildlife species found on SNI native lands. Currently there are no nesting bald eagles and no other wildlife species federally-, or state-, listed as endangered, threatened, or of special concern near the project site.

The Seneca Nation Fish and Wildlife Department has determined that no significant threat to wildlife will occur from proposed wind turbine construction and operation or maintenance activities; and no species federally protected by the United States, or protected by the New York State Department of Environmental Conservation, will be affected by this project. We will continue to work closely with Seneca Energy to ensure minimal direct losses or threats to wildlife throughout the Wind Turbine Project construction and lifespan.

If you have any questions or concerns please feel free to contact me at the address below.

William Miller, Fish & Wildlife Director
Seneca Nation Fish & Wildlife Department
3689 Center Road, Allegany Territory, 14779
716-945-6421



SENECA NATION OF INDIANS
TRIBAL HISTORIC PRESERVATION OFFICE
90 OHIYO' WAY
SALAMANCA, NY 14779
PHONE: (716) 945-1790 FAX: (716) 945-8133



Archeological Survey

SNI THPO #15-4936

Anthony Giacobbe: Seneca Energy

The site location is on the North East side of the Bingo Hall on the Cattaraugus Reservation.

A Desk review of the proposed Project is in an area of low probability of encountering sites. Because the Proposed Wind Turbine Location is in an undisturbed wooded area, the site will need an on-site survey once the snow cover is gone.

The access road from Old Lake Shore Road is in an area of former ground disturbance and does not need a Phase 1 survey and is clear for construction.

Construction of an access road for the Proposed Wind Turbine Project will have "no effect" on cultural resources and the site is clear for immediate construction. The Turbine tower site is pending until a survey can be completed upon favorable weather conditions.

Principle Investigator: Jay Toth, SNI archeologist

A handwritten signature in blue ink that reads "Jay Toth".



SENECA NATION OF INDIANS
TRIBAL HISTORIC PRESERVATION OFFICE
90 OHI:YO' WAY
SALAMANCA, NY 14779
PHONE: (716) 945-1790 FAX: (716) 945-8133



April 06, 2015

THPO 15-4936-B Catt.

RE: Seneca Energy/ tower site

TO: Seneca Energy

Seneca Historic Preservation Office has done a pedestrian survey of the APE for the tower site. The majority of the project is located within a semi-wet soil conditions and a majority of the site has been previously disturbed.

Pursuant to Section 106 of the National Historic Preservation Act, the Seneca Nation Tribal Historic Preservation Office has a finding of "No Effect" regarding the Wind Turbine project on historical properties eligible for or included on the National Register of Historic Places.

Seneca Nation Tribal Historic Preservation Office has no further issues if the proposed plans are followed. However, if at any time your scope of work changes or you become aware of any archeological items, burials, historical sites, or cultural resources which might be affected by the proposed work, please notify this office as soon as possible.

Thank You

A handwritten signature in cursive script that reads "Jay Toth".

Jay Toth

Seneca Nation Tribal Archeologist

Jay.toth@sni.org

Ext. 3582



Department of Energy
Golden Field Office
15013 Denver West Parkway
Golden, Colorado 80401

April 6, 2015

David Stilwell
Field Office Supervisor
U.S. Fish and Wildlife Service
3817 Luker Road
Cortland, NY 13045

Subject: Section 7 Endangered Species Consultation
Seneca Nation of Indians (SNI) Wind Turbine Project, Erie County, New York

Dear Mr. Stilwell:

The U.S. Department of Energy (DOE) is proposing to authorize the expenditure of federal funds for a project on Seneca Nation of Indians (SNI)-owned sovereign land in Erie County, New York. The proposed project consists of the construction, operation, and eventual decommissioning of up to a 2.0-megawatt wind turbine on approximately 1.5 acres of SNI-owned land located on the SNI Cattaraugus Territory, Erie County, New York.

In 2003, SNI and the DOE embarked on the development of a strategic energy plan that would allow SNI to comprehensively address energy-related issues on the SNI tribal lands. The SNI Wind Turbine Project was competitively selected as a recipient of a DOE grant through the Department's Tribal Energy Program. SNI intends to use the grant funds to design, procure, and install an access road, transmission cables, and up to a 2.0 megawatt wind turbine on SNI-owned lands on the Cattaraugus Territory.

The proposed project involves construction and installation of one turbine and accompanying foundation, an associated access road, and an electrical substation near the Gil Lay Memorial Sports Arena and the SNI Bingo Hall. The proposed 1.5-acre site is located north and east of NY 5 and approximately 200 feet west of the existing railroad. Attachment 1 shows the location of the proposed project. The specific turbine selection process is ongoing; for planning purposes, the turbine would have a maximum rotor diameter of 330 feet and a rotor hub height of 265 feet. The total maximum height of the wind turbine is expected to be 430 feet from the bottom of the tower to the blade tip at its highest point.



The Seneca Nation Fish and Wildlife Department (SNFWD) actively monitors bald eagle populations and various other wildlife species found on SNI-owned lands. The SNFWD confirms there currently are no nesting bald eagles and no other wildlife species federally or state-listed as endangered, threatened, or of special concern at or near the project site (i.e., within a 1-mile radius around the site) and has determined that no significant threat to wildlife would occur from the proposed project. The SNFWD also determined that no federally or state-protected species would be affected by this project (Attachment 2).

Pursuant to the requirements under Section 7(a)(2) of the *Endangered Species Act*, DOE is requesting concurrence from the USFWS that the proposed project *is not likely to adversely affect* the threatened northern long-eared bat (*Myotis septentrionalis*) and the fifteen bird species of conservation concern (Table 1) covered under the *Migratory Bird Protection Act* and the *Bald and Golden Eagle Protection Act*.

Table 1. Migratory Birds of Conservation Concern in the Project Area

Species Name (Scientific Name)	Seasonal Occurrence in Project Area
American bittern (<i>Botaurus lentiginosus</i>)	Breeding
Bald eagle (<i>Haliaeetus leucocephalus</i>)	Year Round
Black-billed Cuckoo (<i>Coccyzus erythrophthalmus</i>)	Breeding
Black-crowned Night-Heron (<i>Nycticorax nycticorax</i>)	Breeding
Blue-winged Warbler (<i>Vermivora pinus</i>)	Breeding
Canada Warbler (<i>Wilsonia canadensis</i>)	Breeding
Common tern (<i>Sterna hirundo</i>)	Breeding
Golden-Winged Warbler (<i>Vermivora chrysoptera</i>)	Breeding
Least Bittern (<i>Ixobrychus exilis</i>)	Breeding
Pied-billed Grebe (<i>Podilymbus podiceps</i>)	Breeding
Prairie Warbler (<i>Dendroica discolor</i>)	Breeding
Red-headed Woodpecker (<i>Melanerpes erythrocephalus</i>)	Breeding
Short-eared Owl (<i>Asio flammeus</i>)	Wintering
Upland Sandpiper (<i>Bartramia longicauda</i>)	Breeding
Wood Thrush (<i>Hylocichla mustelina</i>)	Breeding

Source: <http://www.fws.gov/migratorybirds/NewReportsPublications/SpecialTopics/BCC2008/BCC2008.pdf>

Northern long-eared bats winter by hibernating in high humidity caves and mines free of air flow. During the summer, these bats roost alone or in small groups underneath bark, in cavities, or in crevices of both living and dead trees. Males and non-reproductive females may also roost in cooler places like caves and mines. Northern long-eared bats forage at dusk by flying through the understory of forested hillsides and ridges, feeding on moths, flies, leafhoppers, caddisflies, and beetles, which they catch while in flight using echolocation. The bats also feed by gleaning motionless insects from vegetation and water surfaces. Erie County generally has been identified as an area potentially providing suitable wintering habitat and summer roosting and foraging habitat for this species in large expanses of mature forest. There is no known suitable hibernacula habitat in the immediate project area. Summer roosting is not known to occur in the immediate project vicinity. However, it is possible that some individuals of the northern long-eared bat could occur in the region surrounding the project site during the summer and pass through the area during migration to and from winter hibernacula.

Direct take to bats from wind turbines typically occurs from barotrauma near, or direct collision with, turbine components (usually rotor blades). Potential bat mortality primarily occurs during fall migration of migratory or tree-dwelling bats, especially during times of low wind speeds. Bats can also coincidentally collide with wind turbines while foraging for insects. Wind turbines cause bat mortality more frequently during times of low wind speeds, particularly in the two hours immediately after sunset.

Because of the small area that would be cleared for the proposed project (approximately 1.5 acres), the potential loss of any potential bat summer habitat would be negligible. Because the project involves a single wind turbine and the northern long-eared bat is not known to roost in the project site, the potential impact to the species from the construction and operation of the wind turbine is expected to be negligible. It may be possible that some individual northern long-eared bats may be incidentally taken during migration to and from hibernacula or from individuals periodically passing through the area during foraging activity even when all reasonable measures to avoid a take have been implemented. The project may impact some individuals but is *not expected to adversely affect* the species.

Clearing approximately 1.5 acres of forest is expected to have negligible impacts to migratory birds. There is little evidence that birds are attracted to wind turbines. Exceptions may be at night when certain lighting is installed and during inclement weather. Spring and fall migration periods are potentially the highest-risk times of bird mortalities simply because of greater numbers of birds flying in the region. In addition, many species use areas along the Lake Erie shoreline as stopover locations during migration. The average migratory flight height in the spring and fall estimated from radar studies (conducted between 2005 and 2008) in New York was between 950 and 2,100 feet, which is significantly above the rotor swept area (Stantec 2010).

Bald eagles are known to nest to the southeast (along the Cattaraugus River) and southwest of the project site (Stantec 2010). The immediate project site does not contain habitat that would attract bald eagles, and current human activity (roads, railroad, and commercial businesses) adjacent to the wind turbine should minimize eagle use of the area. The primary risk would be collision mortalities to eagles migrating or flying through the area. However, because of the lack of habitat that would attract eagles to the site, human activity nearby, and only a single turbine, the probability of mortality from the proposed project would be reduced.

Although some mortality of individual birds could occur, the operation of the wind turbine is not expected to adversely affect migratory birds. Implementation of various best management practices also would minimize impacts to migratory birds.

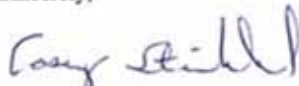
Several best management practices could be implemented to minimize potential impacts to the aforementioned species. Clearing the proposed project site during the non-nesting (birds) or roosting (bats) season would avoid impacts to these species. To verify whether incidental take is even a concern, an avian and bat mortality monitoring plan could be implemented to assess potential impacts. Turbine lighting consistent with the USFWS wind energy guidelines (i.e., red, or dual red and white strobe, strobe-like, or flashing lights, not steady burning lights, to meet FAA requirements for visibility lighting) would be used to minimize attracting bats and birds. Minimizing night lighting in the vicinity of the wind turbine, such as via redirecting the lights downward and using motion sensitive lights, also may reduce attracting migrating birds or insects that are attracted to the lights, which in turn may attract foraging bats.

Normal turbines operate at cut-in speeds of approximately 7 to 10 miles an hour. An assessment of the relationship between bats and wind turbines found that bat mortality was reduced by 40 to 90 percent when rotor blade cut-in speeds were increased to approximately 11 miles per hour (Arnett et al. 2005). Increasing the cut-in speed would curtail turbine operations during times of lower wind speeds, thus reducing the mortality rate under these conditions. Operating at increased cut-in speeds would result in a negligible overall reduction in annual power generation (about 1 percent) (Arnett et al. 2005). Adjustments to cut-in speeds could be made adaptively as needed depending on monitoring results by the SNFWD.

DOE, in cooperation with SNI, is preparing a Draft Environmental Assessment (EA) for the SNI Wind Turbine Project under the Council on Environmental Quality's *National Environmental Policy Act* (NEPA) implementing regulations (40 CFR Parts 1500 to 1508) and DOE NEPA implementing procedures (10 CFR Part 1021). The EA will describe the potential environmental impacts to biological resources, including eagles, the species mentioned in this letter, and other migratory birds. Your office will be notified upon the availability of this document.

Please contact the DOE NEPA Document Manager, Mr. Casey Strickland, U.S. Department of Energy, Golden Field Office, 15013 Denver West Parkway, Golden, CO 80401, or via email: gonepa@ee.doe.gov, with any questions or concerns regarding this project. Thank you in advance for your attention in this matter.

Sincerely,



Casey Strickland

NEPA Document Manager

Enclosures:

Attachment 1 - Proposed project location

Attachment 2 - Seneca Nation of Indians Fish and Wildlife Department letter

Literature Cited:

Arnett, E.B.; Erickson, W.P.; Kerns, J.; and Horn J. 2005. *Relationships between bats and wind turbines in Pennsylvania and West Virginia: An assessment of fatality search protocols, patterns of fatality, and behavioral interactions with wind turbines. A Final Report Prepared for the Bats and Wind Energy Cooperative.* Available online at: <http://www.batsandwind.org/pdf/postconpathfatal.pdf> (accessed March 27, 2015).

Stantec Consulting Services, Inc. 2010. DRAFT Initial Bird and Bat Risk Identification Report for a Proposed Wind Project In the Counties of Erie, Chautauqua and Cattaraugus Counties, New York. Prepared for Stantec Consulting Services, Inc. & The Seneca Nation of Indians. April.



Attachment 1: Site Layout Plan for the Proposed Wind Turbine

Attachment 2



Seneca Nation of Indians

Fish & Wildlife Department

3689 Center Road, Salamanca, NY, 14779



January 30, 2015

The Seneca Nation Fish and Wildlife Department has reviewed the Seneca Nation of Indians (SNI) Wind Turbine Project, located on 1.5 acres of land off Lucky Layne in the SNI Cattaraugus Territory, Erie County, New York. We have been involved in the project site location selection process and completed a site evaluation.

The Seneca Nation Fish and Wildlife Department actively monitors bald eagle populations and various other wildlife species found on SNI native lands. Currently there are no nesting bald eagles and no other wildlife species federally-, or state-, listed as endangered, threatened, or of special concern near the project site.

The Seneca Nation Fish and Wildlife Department has determined that no significant threat to wildlife will occur from proposed wind turbine construction and operation or maintenance activities; and no species federally protected by the United States, or protected by the New York State Department of Environmental Conservation, will be affected by this project. We will continue to work closely with Seneca Energy to ensure minimal direct losses or threats to wildlife throughout the Wind Turbine Project construction and lifespan.

If you have any questions or concerns please feel free to contact me at the address below.

William Miller, Fish & Wildlife Director
Seneca Nation Fish & Wildlife Department
3689 Center Road, Allegany Territory, 14779
716-945-6421



United States Department of the Interior

FISH AND WILDLIFE SERVICE

3817 Luker Road
Cortland, NY 13045



May 8, 2015

Mr. Casey Strickland
NEPA Document Manager
U.S. Department of Energy
15013 Denver West Parkway
Golden, CO 80401

Dear Mr. Strickland:

The U.S. Fish and Wildlife Service (Service) has reviewed the Department of Energy's (DOE) letter, dated April 6, 2015, regarding the proposed single wind turbine on Seneca Nation of Indians (SNI) sovereign land located in the Town of Brant, Erie County, New York. Our comments are being provided pursuant to the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d), Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), and Migratory Bird Treaty Act (MBTA) (40 Stat. 755; 16 U.S.C. 703-712).

The project involves the construction of a single 1.7-megawatt wind turbine on land owned by the SNI. A portion of the property has been previously disturbed and currently houses a gaming facility and parking areas, but it also contains forest and wetland habitat.

We previously provided scoping comments to the DOE in a letter dated February 13, 2015. In that letter, we provided specific recommendations on studies to gather information on wildlife which may be affected by the project. It appears that, to date, those studies have not been initiated, and it is unclear if they will be completed at all. Yet, your recent letter draws conclusions about, and dismisses the potential for, impacts of the project on wildlife. We have concerns about making conclusions at this stage of the project. Also, we ask that you consider our previous recommendations on the siting, design, construction, and operation of the project to minimize wildlife impacts.

While the risk to wildlife from one operating turbine is much lower than a larger project, there will be some risk, especially if the turbine is sited in a location frequented by birds and bats. That is the reason why we asked for baseline studies to determine how the current forest and wetland habitat on the site is being used by wildlife.

In addition, the location of the project near the shore of Lake Erie and along a known raptor migration corridor could mean higher than normal mortality for these types of birds. The site is

also located along Cattaraugus Creek which supports a diverse avian assemblage, including breeding bald eagles (*Haliaeetus leucocephalus*). As we previously mentioned, it is important to remember that numerous bald eagle nests are found along Cattaraugus Creek (within 4 miles of the site) and at another site 5 miles southwest of the proposed turbine location. Bald eagles have been delisted pursuant to the ESA, but remain protected under the MBTA, BGEPA, and by the State of New York. In addition, the turbine would be situated between nesting and foraging locations, increasing the risk for collision. Therefore, we again recommend flight observations of this species within the project area. If bald eagle activity occurs in the project area, a BGEPA permit may be required.

In your recent letter, you indicated that the project is not expected to adversely affect the northern long-eared bat (*Myotis septentrionalis*) (NLEB). The DOE based this determination on the fact that only one turbine would be constructed and the loss of summer habitat would be negligible. However, the letter goes on to say that some individuals may be incidentally taken (killed or injured by spinning blades) during migration or during foraging. As you may be aware, this species was recently listed as threatened under the ESA. Federal agencies, such as the DOE, have responsibilities under Section 7 of the ESA to consult with the Service regarding projects that may affect federally-listed species or designated critical habitat, and confer with the Service regarding projects that are likely to jeopardize federally-proposed species and/or adversely modify proposed critical habitat.

At this time, we cannot concur with your determination based upon a lack of information regarding the project construction and operation and the potential presence of the NLEB. For example, please provide additional descriptions of the proposed tree removal (assessment of suitability for bat roosting or foraging, proposed timing of the removal, etc.). The NLEB is known to occur in Erie County and also uses forested areas for roosting, foraging, and commuting habitat. Therefore, it may use the project area for breeding and/or migration. We again recommend data be collected to determine if impacts will occur to the NLEB.

The DOE letter mentions the potential to minimize potential collision risk to this species by curtailing the turbine operation during certain parts of the year; however, no commitment is made at this time. It is mentioned that a proposal could be developed to curtail the turbines when wind speeds are less than 11 miles/hour (4.9 meters/second [m/s]), but this does not provide complete avoidance of injury or mortality. The Service uses the level of 6.9 m/s as the threshold where we believe that injury and mortality will no longer occur to listed bats.

The NLEB may also become a listed species in the State of New York. Any additional information regarding the proposed project and its potential to impact listed species should be coordinated with both this office and with the New York State Department of Environmental Conservation's (NYSDEC) Region 9 Buffalo Office.

Finally, the DOE letter indicates that although some mortality on individual birds could occur, the operation of the turbine is not expected to adversely affect migratory birds. We recognize that one turbine may have limited impact, but the MBTA liability threshold is only one individual. However, we recognize that some birds may be killed at structures such as wind turbines even if all reasonable measures to avoid it are implemented. Depending on the

circumstances, the Service's Office of Law Enforcement may exercise enforcement discretion. The Service focuses on those individuals, companies, or agencies that take migratory birds with disregard for their actions and the law, including when conservation measures have been developed but are not properly implemented. Our previous recommendations should be considered as conservation measures.

If the project proceeds, the Service recommends that the site be monitored for impacts to wildlife following construction and during turbine operation. A post-construction bat and bird mortality monitoring plan should be developed and provided for review. However, the plan should not be developed until our previous concerns have been addressed. Proposals for conducting monitoring should be coordinated with both the Service and the NYSDEC to ensure they are comprehensive, accurate, and correctly timed. Information gained from post-construction monitoring will continue to aid the Service and project sponsors as we learn more about potential impacts, or lack thereof, to wildlife in the project area. Monitoring should also be part of a strong adaptive management program for the project. We recommend that project approval not be given until after the details of the post-construction monitoring plan and adaptive management program have been reviewed and approved by the Service and the NYSDEC.

We look forward to receiving the additional information regarding the potential for impacts to the bald eagle and NLEB. We look forward to working with the DOE and SNI in reviewing additional project information so that potential impacts to wildlife can be adequately evaluated.

If you have any questions regarding this letter, please contact Tim Sullivan at 607-753-9334.

Sincerely,


David A. Stilwell
Field Supervisor

cc: NYSDEC, Albany, NY (Attn: B. Gary)
NYSDEC, Buffalo, NY (Attn: C. Adams)



Department of Energy
Golden Field Office
15013 Denver West Parkway
Golden, Colorado 80401

July 22, 2015

David Stilwell
Field Office Supervisor
U.S. Fish and Wildlife Service
3817 Luker Road
Cortland, NY 13045

Subject: Section 7 Endangered Species Act (ESA) Consultation
Seneca Nation of Indians (SNI) Wind Turbine Project, Erie County, New York

Dear Mr. Stilwell:

The U.S. Department of Energy (DOE) is proposing to authorize the expenditure of federal funds for a project on Seneca Nation of Indians (SNI) owned sovereign land in Erie County, New York. The proposed project consists of the construction, operation, and eventual decommissioning of up to a 2.0-megawatt wind turbine on approximately 1.5 acres of SNI-owned land located on the SNI Cattaraugus Territory, Erie County, New York. On April 6, 2015, the Department of Energy (DOE) sent the U.S. Fish and Wildlife Service (FWS) a Section 7 consultation letter regarding the potential effects of the SNI Wind Turbine Project on the northern long-eared bat, which was recently listed as threatened under the ESA. The DOE concluded that the project "may affect, but would not likely adversely affect" the northern long-eared bat. In response to DOE's finding, FWS raised several issues and concerns and stated that FWS could not concur with DOE's finding at that time based on a lack of information regarding project construction and operation parameters and the potential presence of the northern long-eared bat (FWS letter dated May 8, 2015). FWS expressed concern that no field studies had been conducted at the site to evaluate potential roosting habitat or presence of the species. FWS also was concerned that no commitments had been made to implement specific mitigation actions during project development that would address potential impacts to the northern long-eared bat. Subsequent to the FWS letter on May 8, 2015, the DOE and SNI have held several conference calls to discuss ways to conserve and protect the northern long-eared bat.

In general, there is a lack of information regarding the abundance and distribution of the northern long-eared bat across the landscape within its range. In the absence of definitive information on presence or absence of the northern long-eared bat near the project site, FWS, DOE, and SNI are assuming that the northern long-eared bat occurs in the vicinity of the project during the summer roosting season for the purposes of evaluating potential impacts (Email 7/1/2015 Sullivan [FWS] to Giacobbe [SNI]). FWS also provided new information in the email regarding northern long-

eared bat hibernacula (i.e., caves). There are two known hibernacula for northern long-eared bats that are about 45 and 55 miles from the project site. Caves are important not only for winter hibernation but also for swarming behavior in the fall when mating occurs for the next year prior to hibernation. The area surrounding caves used for swarming are areas of high bat activity during the late summer and fall and therefore of concern if located near a wind turbine. In the absence of caves in the vicinity of the project, it can be assumed that concentrations of bats related to either hibernation or breeding (spring staging and/or fall swarming) do not occur near the project site. Therefore, most bats, including any northern long-eared bats, will likely have left the project area by October 1 each year. To avoid potential impacts to any northern long-eared bats that may be using the project site or the immediate surrounding area during the summer roosting season, FWS recommended that any tree removal for site construction be done between October 1 and March 31 when bats are not likely to be present. DOE and SNI agree with this recommendation. A Best Management Practice (BMP) committing to this recommendation will be included in the Environmental Assessment (EA) being prepared for the project.

DOE and SNI had previously identified in the EA increases in the wind turbine cut-in speed (i.e., the minimum wind speed at which the turbine would start operating) as a way to reduce or avoid potential risks to northern long-eared bats and also other bat species that may be present in the vicinity of the wind turbine during operation (Arnett et al. 2010). Research has demonstrated that bats are less likely to fly (forage or migrate) at higher wind speeds therefore avoiding either collisions with turbine blades or barotrauma from air pressure changes near the blades. FWS recommended increasing cut-in speeds to 6.9 meters per second (15.4 miles per hour) from April 1 to October 1 as a complete impact avoidance measure. SNI evaluated the potential impact that this increased cut-in speed would have on power production and energy cost savings. Although this cut-in speed would have some cost impact, SNI and DOE agree that this mitigation would be acceptable and will be integrated as a BMP into the EA.

SNI has also agreed to prepare an avian and bat mortality monitoring plan in coordination with the SNI Fish and Wildlife Department and conduct mortality monitoring for three (3) years (3 seasons: spring, summer, and fall) after initiation of full operations to monitor the effectiveness of the mitigation measures. On June 9, 2015, the Federal Aviation Administration (FAA) issued a "Determination of No Hazard to Air Navigation" for the SNI Wind Turbine Project. As a condition of this Determination, per FAA requirements the wind turbine must be painted white and marked with synchronized red lights in accordance with FAA Advisory Circular 70/7460-1K Change 2. This requirement is consistent with preferred tower lighting procedures to avoid steady burning lights that may attract birds, bats, or the insects on which they may feed.

After discussions with FWS, DOE and SNI believe that these measures address the concerns raised in the May 8, 2015 FWS letter and will protect any northern long-eared bats that might occur in the vicinity of the SNI Wind Turbine Project. In summary the BMPs include:

- Conduct vegetation clearing on the project site after nesting and roosting seasons for birds and bats, respectively (October 1 through March 31).

- Prepare an avian and bat mortality monitoring plan and conduct mortality monitoring for three (3) years (3 seasons: spring, summer, and fall) after initiation of full operation in coordination with the SNI Fish and Wildlife Department to assess potential impacts.
- The wind turbine cut-in speed from April 1 – October 1 (during avian and bat migration and bat roosting) would be set at 15.4 miles per hour (6.9 meters per second). (The period and/or cut-in speed may be able to be reduced once further data has been compiled by SNI and FWS.)
- Employ only red strobe-like or flashing lights, not steady burning lights, to meet FAA requirements for visibility lighting of the wind turbine to avoid attracting birds or bats and insect prey.
- To the extent practical, minimize lighting in the surrounding area and use downward directed and motion sensitive lights

DOE has determined that, with the implementation of these BMPs, the proposed project may affect but is not likely to adversely affect the northern long-eared bat as the likelihood of any adverse effects is discountable. DOE respectfully requests concurrence with this determination pursuant to the requirements under Section 7(a) (2) of the Endangered Species Act and the FWS implementing regulations (50 CFR Part 402). These BMPs will be included in the Environmental Assessment (EA) for the SNI Wind Turbine Project and will be incorporated into the terms and conditions of the DOE funding agreement with SNI.

Please contact the DOE NEPA Document Manager, Mr. Casey Strickland, U.S. Department of Energy, Golden Field Office, 15013 Denver West Parkway, Golden, CO 80401, or via email: gonepa@ee.doe.gov, with any questions or concerns regarding this project. Thank you in advance for your attention in this matter.

Sincerely,



Casey Strickland

NEPA Document Manager

References:

Arnett, E. B., M. M. P. Huso, J. P. Hayes, and M. Schirmacher. 2010. Effectiveness of changing wind turbine cut-in speed to reduce bat fatalities at wind facilities. A final report submitted to the Bats and Wind Energy Cooperative. Bat Conservation International. Austin, Texas, USA.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

3817 Luker Road
Cortland, NY 13045



July 24, 2015

Mr. Casey Strickland
NEPA Document Manager
U.S. Department of Energy
15013 Denver West Parkway
Golden, CO 80401

Dear Mr. Strickland:

The U.S. Fish and Wildlife Service (Service) has reviewed the Department of Energy's (DOE) letter, dated July 21, 2015, regarding the proposed single wind turbine on Seneca Nation of Indians (SNI) sovereign land located in the Town of Brant, Erie County, New York. Our comments are being provided pursuant to the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d), Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), and Migratory Bird Treaty Act (MBTA) (40 Stat. 755; 16 U.S.C. 703-712).

The project involves the construction of a single 1.7-megawatt wind turbine on land owned by the SNI. A portion of the property has been previously disturbed and currently houses a gaming facility and parking areas, but it also contains forest and wetland habitat.

The DOE letter indicates that through consultation between the DOE, SNI, and the Service, the project has been evaluated and measures have been developed to avoid potential direct impacts to the northern long eared bat (*Myotis septentrionalis*). Several Best Management Practices (BMPs) have been developed by the DOE and SNI for the construction and operation phases of the project. These include the clearing of trees on the site between October 1 and March 31 of any year when bats are in hibernation, following the Service recommendations for turbine lighting, operating the turbine from April 1 to September 30 of any year at a cut-in speed of 6.9 meters per second (m/s) between dusk and dawn, and conducting post-construction monitoring beneath the turbine for 3 years during the period when bats are active in the spring, summer, and fall to document any avian and bat mortality. The details of the monitoring protocols will be developed by the DOE and SNI and provided to the Service for review.

Your letter states that based upon the information shared during the consultation process and the above BMPs, the DOE has determined that the project may effect, but is not likely to adversely affect, the northern long-eared bat. Given the proposed conservation measures listed above (e.g., conducting tree removal between October 1 and March 31, operating the turbine at a cut-in speed

of 6.9 m/s between April 1 and September 30), we do not anticipate any measurable impacts to the northern long-eared bat. Therefore, we concur with your determination.

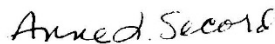
At this time, the DOE and SNI are writing an Environmental Assessment (EA) report for the project. It is anticipated that the document will review the project's potential impact not only for listed species but other wildlife as well. In our previous letter of May 8, 2015, we indicated that the location of the project near the shore of Lake Erie and Cattaraugus Creek could pose a risk to bald eagles (*Haliaeetus leucocephalus*) which are known to nest along Cattaraugus Creek (within 4 miles of the site), and at another site 5 miles southwest of the proposed turbine location. However, a risk assessment has not been performed. We recommend information be provided in the EA which evaluates this issue. The Service is willing to provide technical assistance if needed.

Information gained from post-construction monitoring will continue to aid the Service and project sponsors as we learn more about potential impacts, or lack thereof, to wildlife in the project area. We recommend that the details of the post-construction monitoring plan and adaptive management program be included in the EA so that the Service and the New York State Department of Environmental Conservation may review them and provide feedback. The information gathered at wind projects may allow the Service to modify our recommendations on wind turbine construction and operation. To that end, the Service will work with the SNI in exploring operating parameters which reduce bat mortality but provide for increased energy production.

We appreciate the spirit of cooperation provided by the DOE and SNI during the review of the project and the willingness to conserve wildlife. We look forward to working with the DOE and SNI during the remainder of the project review and would be glad to provide additional technical assistance as needed.

If you have any questions regarding this letter, please contact Tim Sullivan at 607-753-9334.

Sincerely,



for David A. Stilwell
Field Supervisor

cc:

Seneca Energy, LLC, Irving, NY (Attn: A. Giacobbe)
NYSDEC, Albany, NY (Attn: B. Gary)
NYSDEC, Allegany, NY (Env. Permits)
NYSDEC, Buffalo, NY (Attn: C. Adams)

SNI Wind Turbine Project

Notice of Proposed Construction or Alteration - Off Airport

<https://ocaaa.faa.gov/ocaaa/external/eFiling/locationAction.jsp?action=K...>



Federal Aviation
Administration

OE/AAA

Notice of Proposed Construction or Alteration - Off Airport

[Add a new Case Off Airport - Desk Reference Guide V_2015.1.0](#)

[Add a New Case Off Airport for Wind Turbines - Met Towers - Desk Reference Guide V_2015.1.0](#)

Project Name: SUSTA-000303197-15

Project Summary : SUSTA-000303197-15

Structure	City, State	Lat/Long	Map	Actions	7450-2 Received	Latest Letter
Old Wind Turbine Work In Progress 2015-WTE-742-0E	Evng, NY	42° 34' 50.30" 79° 6' 30.00"	Show Map	Clone Upload a PDF Add 7450-2		ADD

[Mapping - Desk Reference Guide V_2014.2.0](#) [Attaching Documents - Desk Reference Guide V_2014.2.0](#)

[Upload a PDF to the Project](#)



= OE/AAA

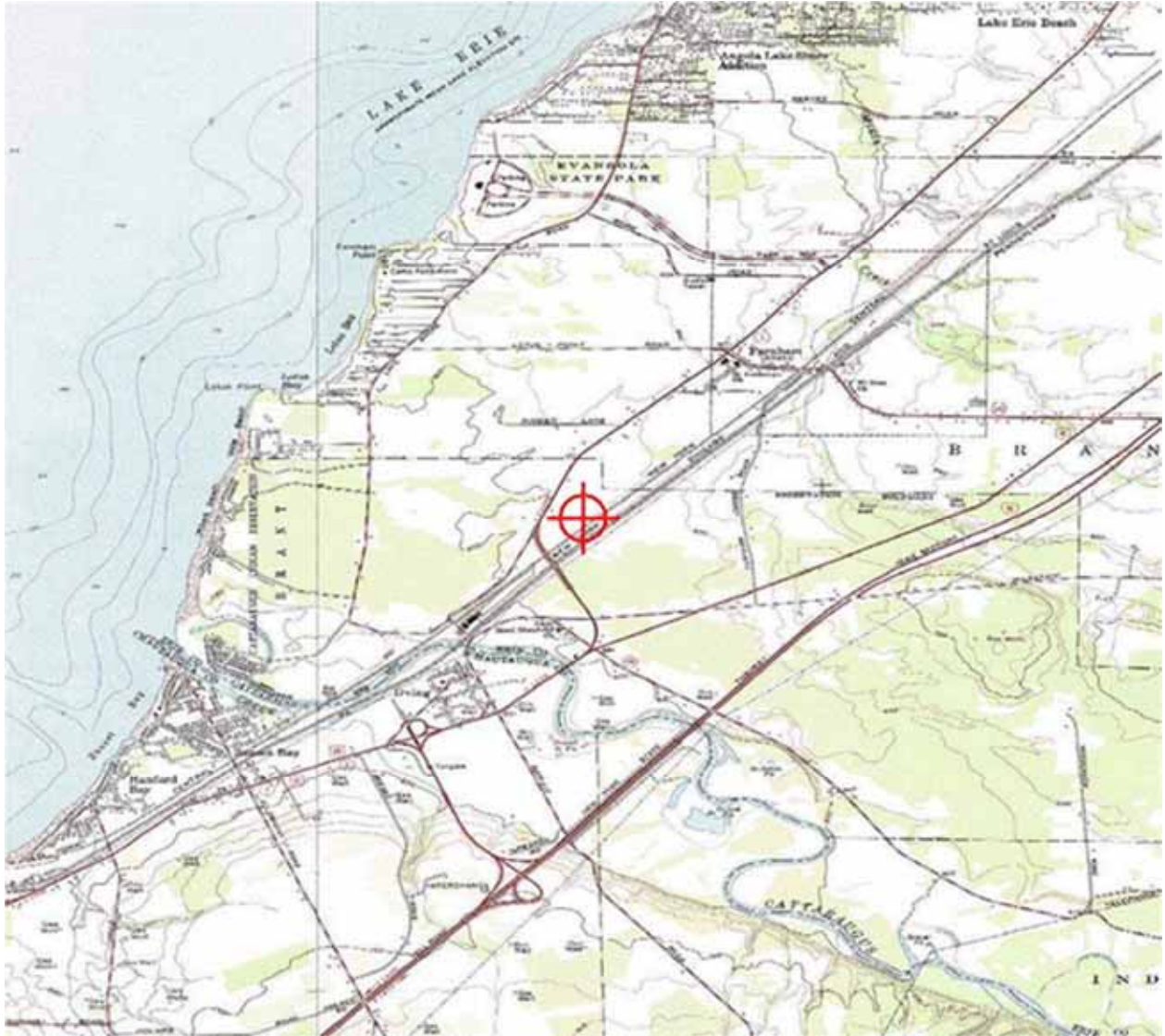
Proposed Case for NY: 2015-WTE-742-OE

For information only.
 This proposal has not yet been studied. Study outcomes will be posted at a later date.
 Public comments are not requested, and will not be considered at this time.

Overview	
Study (ASN): 2015-WTE-742-OE	Received Date: 02/02/2015
Prior Study:	Entered Date: 02/02/2015
Status: Work In Progress	Map: View Map
Construction Info	Structure Summary
Notice Of: CONSTR	Structure Type: Wind Turbine
Duration: PERM (Months: 0 Days: 0)	Structure Name: SNI Wind Turbine
Work Schedule:	FCC Number:
Structure Details	Height and Elevation
Latitude (NAD 83): 42° 34' 50.30" N	Site Elevation: Proposed 658
Longitude (NAD 83): 79° 06' 10.00" W	Structure Height: 441
Datum: NAD 83	Total Height (AMSL): 1099
City: Irving	
State: NY	
Nearest County: Erie	
	Frequencies
	Low Freq High Freq UNLT ERP UNLT

[Previous](#) [Back to Search Result](#) [Next](#)

<https://oeaaa.faa.gov/oeaaa/external/searchAction.jsp?action=displayOECASE&oeCaseID=...> 4/13/2015





Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2015-WTE-742-OE

Issued Date: 02/02/2015

Luke Spencer
Sustainable Energy Developments
317 route 104
Rochester, NY 14519

**** THIS IS NOT A DETERMINATION ****

Additional information is required before we can complete an aeronautical study concerning:

Structure:	Wind Turbine SNI Wind Turbine
Location:	Irving, NY
Latitude:	42-34-50.30N NAD 83
Longitude:	79-06-10.00W
Heights:	658 feet site elevation (SE) 441 feet above ground level (AGL) 1099 feet above mean sea level (AMSL)

Verify and determine the correct ground elevation for the site. Your notice reports the site elevation to be 658 feet MSL. However, the 7.5' topographic chart indicates that terrain elevations in the vicinity of the filed coordinates are approximately 613 feet MSL.

See attachment for additional information.

NOTE: IF NO RESPONSE IS RECEIVED WITHIN 30 DAYS OF THE DATE OF THIS LETTER, ACTION WILL BE TAKEN TO TERMINATE THIS AERONAUTICAL STUDY.

If we can be of further assistance, please contact our office at (202) 267-5235. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-742-OE.

Signature Control No: 242111447-242117880
Tracy Rosgen
Technician

(ADD -WT)

Attachment(s)
Additional Information

Additional information for ASN 2015-WTE-742-OE

Please also provide wind turbines dimensional data as following:

1. Make
2. Model
3. Turbine dimensions (see below)
 - a. Base height
 - b. Base width (at the bottom)
 - c. Base width (at the top)
 - d. Base offset (from the blades)
 - e. Nacelle length
 - f. Nacelle radius
 - g. Blade length
 - h. Blade width



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2015-WTE-742-OE

Issued Date: 04/20/2015

Luke Spencer
Sustainable Energy Developments
317 route 104
Rochester, NY 14519

**** PUBLIC NOTICE ****

The Federal Aviation Administration is conducting an aeronautical study concerning the following:

Structure:	Wind Turbine SNI Wind Turbine
Location:	Irving, NY
Latitude:	42-34-50.30N NAD 83
Longitude:	79-06-10.00W
Heights:	658 feet site elevation (SE) 441 feet above ground level (AGL) 1099 feet above mean sea level (AMSL)

The structure above exceeds obstruction standards. To determine its effect upon the safe and efficient use of navigable airspace by aircraft and on the operation of air navigation facilities, the FAA is conducting an aeronautical study under the provisions of 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77.

**** SEE REVERSE SIDE FOR ADDITIONAL INFORMATION ****

In the study, consideration will be given to all facts relevant to the effect of the structure on existing and planned airspace use, air navigation facilities, airports, aircraft operations, procedures and minimum flight altitudes, and the air traffic control system.

Interested persons are invited to participate in the aeronautical study by submitting comments to the above FAA address or through the electronic notification system. To be eligible for consideration, comments must be relevant to the effect the structure would have on aviation, must provide sufficient detail to permit a clear understanding, must contain the aeronautical study number printed in the upper right hand corner of this notice, and must be received on or before 05/27/2015.

This notice may be reproduced and circulated by any interested person. Airport managers are encouraged to post this notice.

If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-742-OE.

Signature Control No: 242111447-249574859
Cindy Whitten
Specialist

(CIR -WT)

Attachment(s)
Part 77
Map(s)

Additional Information for ASN 2015-WTE-742-OE

Proposal: To construct a(n) Wind Turbine to a height of 441 feet above ground level, 1099 feet above mean sea level.

Location: The structure will be located 8.17 nautical miles northwest of D59 Airport reference point.

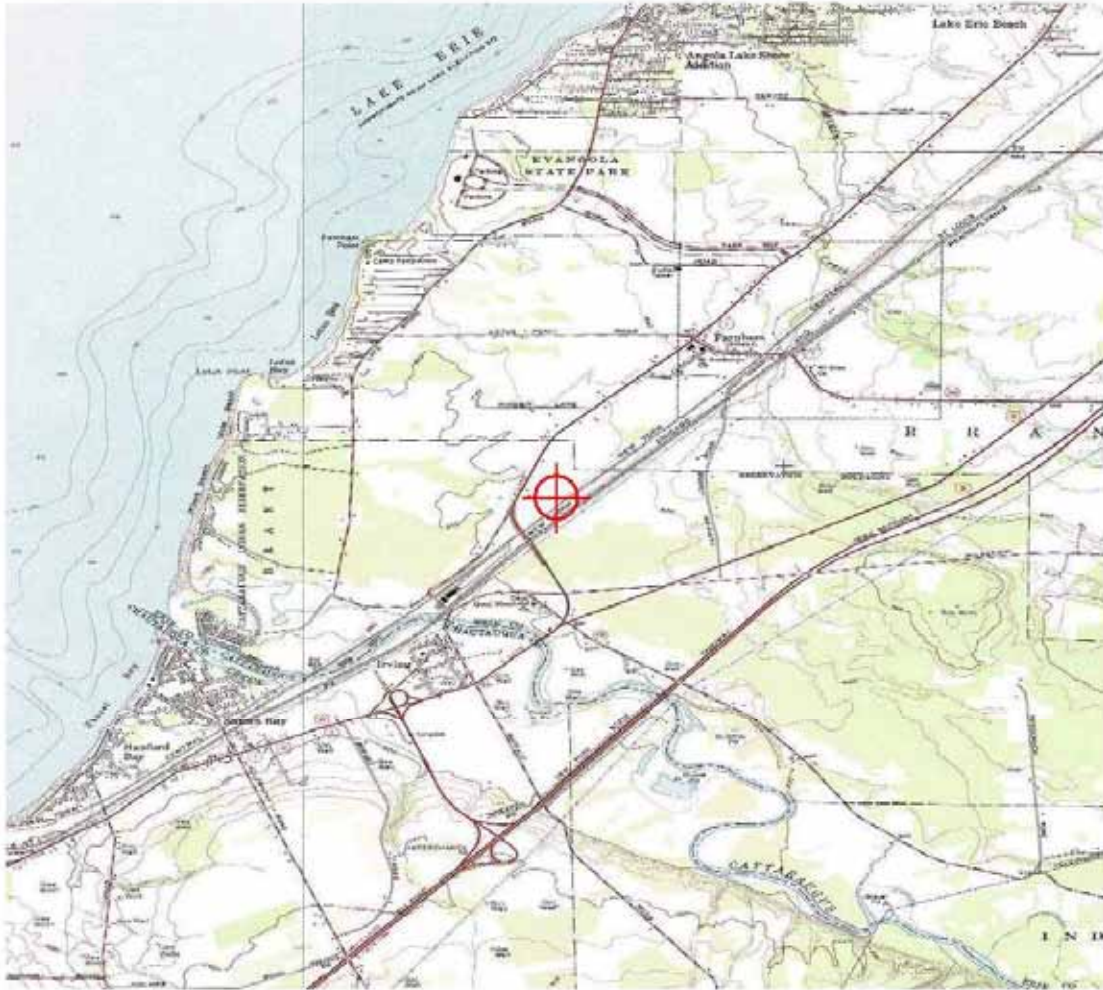
Part 77 Obstruction Standard(s) Exceeded:

Section 77.17 (a) (3) by 99 feet - a height that increases a minimum instrument flight altitude within a terminal area (TERPS Criteria). The proposal would necessitate AT 1099 (4D) AMSL. Dunkirk, New York Chautauqua County/Dunkirk (DKK). VOR RWY 24 DKK 4 DME minimum altitude from 1300 to 1460 (4D), 1400 (2C) NEH: 974 (4D), 1000 (2C) AMSL. Object penetrates the final approach surface. The sponsor will provide a 2C survey.

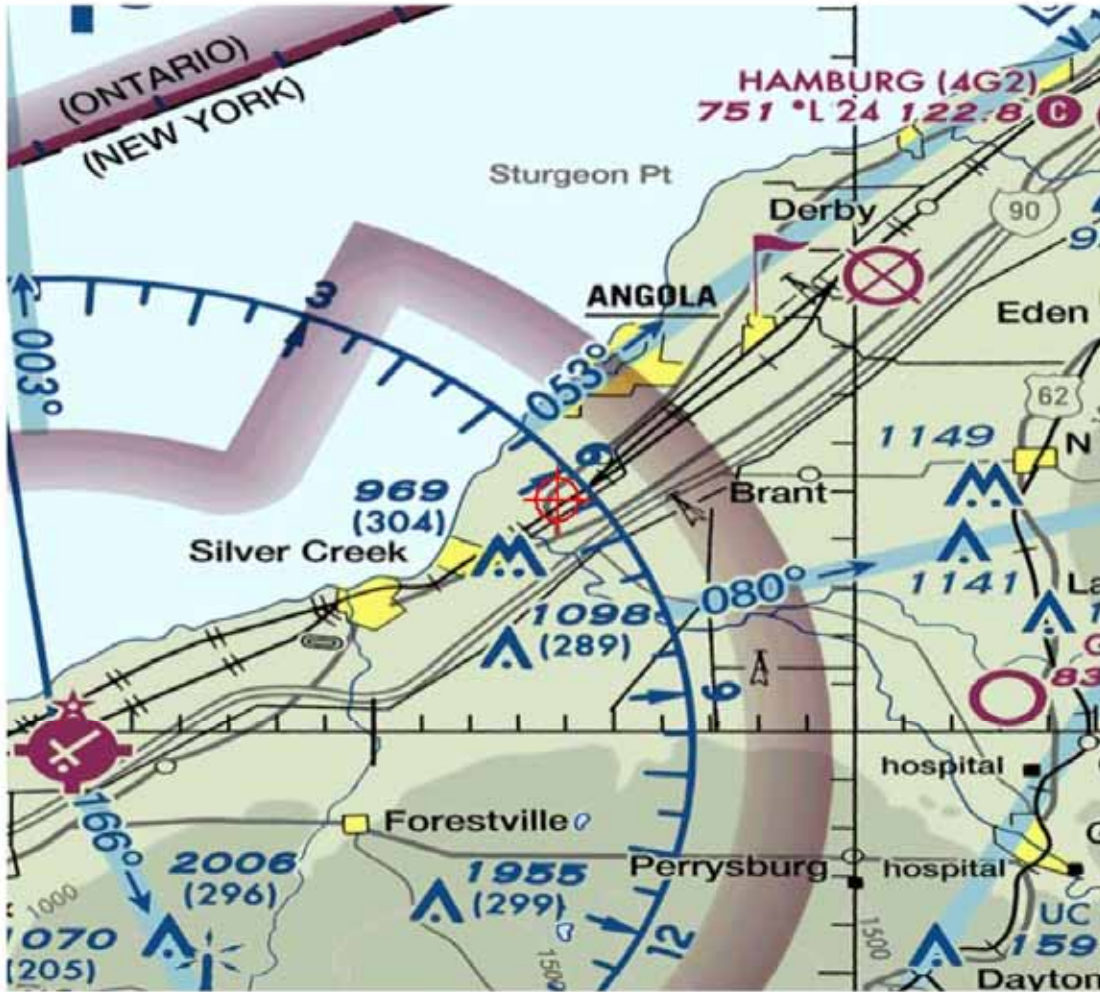
Preliminary FAA study indicates that the above mentioned structure would:

have no effect on any existing or proposed arrival, departure, or en route visual flight rules (VFR) operations.
have no effect on any existing or proposed arrival, departure, or en route instrument/visual flight rules (IFR/VFR) minimum flight altitudes.
not exceed traffic pattern airspace
have no physical or electromagnetic effect on the operation of air navigation and communications facilities.
have no effect on any airspace and routes used by the military.

Map for ASN 2015-WTE-742-OE



Map for ASN 2015-WTE-742-OE





Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2015-WTE-742-OE

Issued Date: 06/09/2015

Luke Spencer
Sustainable Energy Developments
317 route 104
Rochester, NY 14519

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine SNI Wind Turbine
Location:	Irving, NY
Latitude:	42-34-50.30N NAD 83
Longitude:	79-06-10.00W
Heights:	658 feet site elevation (SE) 441 feet above ground level (AGL) 1099 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is marked/lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Any height exceeding 441 feet above ground level (1099 feet above mean sea level), will result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

This determination expires on 12/09/2016 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before July 09, 2015. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on July 19, 2015 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Cindy Whitten, at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2015-WTE-742-OE.

Signature Control No: 242111447-254426142
Mike Helvey
Manager, Obstruction Evaluation Group

(DNH -WT)

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2015-WTE-742-OE

Proposal: To construct a(n) Wind Turbine to a height of 441 feet above ground level, 1099 feet above mean sea level.

Location: The structure will be located 8.17 nautical miles northwest of D59 Airport reference point.

Part 77 Obstruction Standard(s) Exceeded:

Section 77.17 (a) (3) by 99 feet - a height that increases a minimum instrument flight altitude within a terminal area (TERPS Criteria). The proposal would necessitate AT 1099 (4D) AMSL. Dunkirk, New York Chautauqua County/Dunkirk (DKK). VOR RWY 24 DKK 4 DME minimum altitude from 1300 to 1460 (4D), 1400 (2C) NEH: 974 (4D), 1000 (2C) AMSL. Object penetrates the final approach surface. The sponsor will provide a 2C survey.

Preliminary FAA study indicates that the above mentioned structure would:

have no effect on any existing or proposed arrival, departure, or en route visual flight rules (VFR) operations.

have no effect on any existing or proposed arrival, departure, or en route instrument/visual flight rules (IFR/VFR) minimum flight altitudes.

not exceed traffic pattern airspace

have no physical or electromagnetic effect on the operation of air navigation and communications facilities.

have no effect on any airspace and routes used by the military.

The proposal was circularized on April 20, 2015, to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. No comments or objections were received.

Aeronautical study disclosed that the proposed structure would have no effect on existing or proposed arrival, departure, or en route instrument flight rule (IFR) operations or procedures, except as noted above.

The proposed structure would have no effect on any existing or proposed IFR minimum flight altitudes or minimum vectoring altitudes.

The proposed structure would not penetrate those altitudes normally considered available to airmen for VFR en route flight. The structure would not be located within the traffic pattern airspace; therefore it will not conflict with airspace required to conduct normal VFR traffic pattern and/or visual approach operations at any known public use or military airports.

The proposed structure will be appropriately obstruction marked and/or lighted to make it more conspicuous to airmen should circumnavigation be necessary.

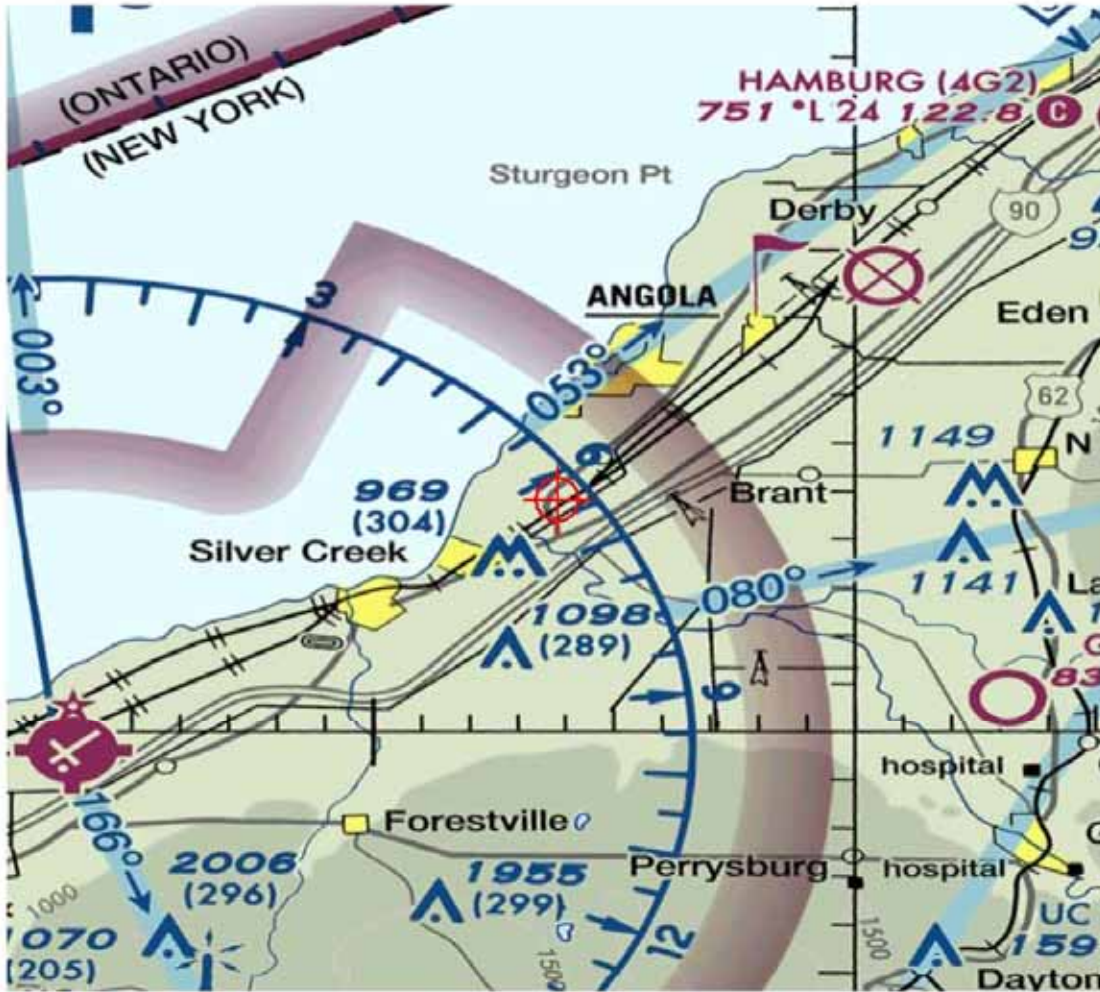
The cumulative impact of the proposed structure, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposal affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed structure would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination are met.

TOPO Map for ASN 2015-WTE-742-OE



Sectional Map for ASN 2015-WTE-742-OE



**APPENDIX C: VISUAL RENDERINGS OF WIND TURBINE FROM
VARIOUS LOCATIONS**



Figure C-1. Location 1: A simulated view of the wind turbine from NY 5 in front of the nearest residence approximately 1,000 feet southwest of the project site. The view of the wind turbine from the actual residence would be partially to fully obscured by trees and foliage located between the highway and the house (behind the photograph view point).



Figure C-2. Location 2: Simulated view of the wind turbine (red outline) approximately 2,000 feet southwest of the project along Old Lake Shore Road, part of the Great Lakes Seaway Trail. The wind turbine would be partially visible in winter but mostly obscured by foliage in summer.



Figure C-3. Location 3: View of the wind turbine from a residential area approximately 3,000 feet south of the project site. The topography and trees block the view of the wind turbine (red outline).



Figure C-4. Location 4: This view point is located off of the Great Lakes Seaway Trail scenic byway on Old Lake Shore Road approximately one mile southwest of the project site. The view shed of the wind turbine (red outline) is blocked by a small hill behind the houses and the trees.



Figure C-5. Location 5: This view location of the wind turbine project site is approximately two-thirds of a mile to the northeast near several residences. The view of the wind turbine (red outline) is mostly obscured (in winter) and fully obscured when trees are in full foliage.



Figure C-6. Location 6: View point is looking southwest from Commercial Street in the community of Farnham approximately one mile northeast of the project site. The wind turbine would be small in size (red outline) in the view shed and mostly obscured from view by trees but may be partially visible during the winter without foliage on the trees.



Figure C-7. Location 7: View of the simulated wind turbine from south bound NY 5 approximately 1,800 feet north of the project site. The wind turbine would be visible through the trees during the winter but would be mostly obscured during the summer and fall with full foliage.



Figure C-8. Location A: View of the wind turbine from approximately 3.8 miles southwest of the project site from Hanover Road near Highway 20. The wind turbine is visible on the horizon line but relatively small (red outline). The elevation of this view point is approximately 40 feet higher than the project site.



Figure C-9. Location B: The wind turbine would not be visible from Evangola State Park looking to the southeast (approximately 1.8 miles) toward the project site. The relative position of the wind turbine is shown in the red outline but would be hidden by the small hill and the trees. The elevation of the view point is approximately 60 feet lower than the project site.



Figure C-10. Location C: View of the simulated wind turbine from an agricultural area approximately 4.2 miles south of the project site. The wind turbine would be visible on the horizon (red outline) but would be relatively small. This location is approximately 210 feet higher in elevation than the project site.



Figure C-11. Location D: View from an agricultural area approximately 4.8 miles east of the project site. The wind turbine (red outline) would be mostly obscured by topography and trees. The elevation is approximately 100 feet higher than the project site.



Figure C-12. Location E: View southwest toward the wind turbine site from the community of Angola approximately 5 miles to the northeast. The wind turbine (red outline) would not be visible because of topography and trees. This view shed has multiple vertical structures including power poles and a water tower. The elevation is approximately 40 feet higher than the project site.

**APPENDIX D: POST-CONSTRUCTION AVIAN AND BAT MORTALITY
MONITORING PLAN ANNOTATED OUTLINE**

Post-Construction Avian and Bat Mortality Monitoring Plan

Annotated Outline

CONTENTS

- 1.0 INTRODUCTION**
- 2.0 MONITORING OBJECTIVES**
- 3.0 SAMPLING PROTOCOL**
- 4.0 DELINEATION OF SEARCH AREA, TRANSECTS, AND VISIBILITY MAPPING**
- 5.0 GENERAL SEARCH PROTOCOL**
- 6.0 FIELD BIAS AND ERROR ASSESSMENT**
- 7.0 ESTIMATES OF FATALITY**
- 8.0 ADAPTIVE MANAGEMENT**

1.0 INTRODUCTION

This annotated outline for the Seneca Nation (SNI) Post-Construction Avian and Bat Mortality Monitoring Plan describes the primary elements that would be included or considered in the SNI mortality monitoring plan. Because all information necessary to prepare a final plan will not be available until project construction has occurred, only an annotated outline was prepared. The monitoring plan assumes that SNI would be implementing an operation curtailment from dusk to dawn during April 1 to September 30 with a wind cut-in speed of 6.9 meters per second.

2.0 MONITORING OBJECTIVES

The objective is to monitor any bird and bat fatalities and if there are any, the species composition of any mortality caused by the SNI wind turbine. Of particular interest is whether there would be any mortality of the threatened northern long-eared bat. Also of interest is the temporal (i.e., monthly) distribution of any bird or bat mortality. Evidence from other post-construction monitoring efforts indicates that wind turbine caused mortality of birds and bats is typically skewed to the summer months (July – September) with 85% or more occurring during this time period.

3.0 SAMPLING PROTOCOL

One of the initial goals is to describe any temporal distribution of mortality if it occurs. Initially this would require distributing surveys from April through September to allow an estimate of monthly mortality, if any. Another element of the sampling protocol that will be included in the monitoring plan will be the frequency (search interval) of field surveys. Search interval is the time between searches. This may be increased or decreased depending on estimated carcass removal rates.

The field surveys will be conducted by SNI's Fish and Wildlife Department (frequency to be determined).

4.0 DELINEATION OF SEARCH AREA, TRANSECTS, AND VISIBILITY MAPPING

Once construction of the wind turbine is complete, a search area surrounding the wind turbine would be defined. Recommendations for search areas include using rotor hub height or 50% of the tip height extending from the base of the tower. Other studies suggest that most wind turbine mortalities are located within an even smaller area around the base of the turbine. Once the search area is defined the vegetation would be mapped into visibility classes.

It is anticipated that the search area will be bare ground and/or grass. The ability to find carcasses, if present, is greatly dependent on vegetation. Bare ground would have the highest visibility rating for finding carcasses.

5.0 GENERAL SEARCH PROTOCOL

The description of general search protocol would cover a variety of detailed field procedures for conducting the field surveys. These would include specific details on the establishment and marking of transects, data recording procedures, marking of carcasses, and processing and handling carcasses. Typically, any carcasses would be photographed, collected, and preserved in a freezer after recording any field details. Weather conditions during the survey and the previous night would be documented. Details would be described in the plan.

6.0 FIELD BIAS AND ERROR ASSESSMENT

Two primary sources of bias and error in mortality surveys include observer bias (imperfect detectability) and scavenger removal. Observer bias is a function of both the individual person conducting the survey and the vegetation condition, which may result in an underestimate of mortality if carcasses are not found. Scavenger removal may also cause an underestimate of mortality as natural scavengers may remove a carcass before it can be counted and recorded. A description of how these sources of bias would be estimated will be included in the monitoring plan.

7.0 ESTIMATES OF FATALITY

There is not a direct relationship between the number of recorded carcasses and the actual number of mortalities. Different areas of search visibility, observer bias, and carcass removal rates all influence the estimate. The method for calculating mortality estimates would be described in the monitoring plan.

8.0 ADAPTIVE MANAGEMENT

A primary goal of the post-construction mortality monitoring plan is to permit operational changes to better utilize the wind resource while at the same time achieving the preservation objectives. As currently planned, the SNI Wind Turbine Project has a relatively conservative 6.9 meter per second cut-in speed from dusk to dawn from April 1 through September 30. One example of an adaptive management adjustment is as follows, wind turbine mortalities at many sites are relatively low from April through June. Depending on monitoring results, it may be possible to adjust the curtailment speed from 6.9 meters per second to 5.0 to 5.5 meters per second from April to June without measurably affecting bird or bat mortality rates and thereby increasing the amount of electricity generated. Research has demonstrated that the largest gain in reducing wind turbine mortalities occurs when adjusting cut-in speeds from the standard 3 to 4 meter per second to the 5 to 5.5 meter per second range. Operational adjustments would be based on the monitoring results.