From The Desk Of

Michael J. Fournier

April 19, 2018

Appendix

to

Fournier to Burgess 4-19-18

Re. Case No. 17-F-0602: Application of Franklin Solar, LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 of the Public Service Law for Construction of a Solar Electric Generating Facility Located in the Town of Malone, Franklin County.

This appendix consists of all the articles referred to in DMM submission, "Fournier to Burgess 4-19-18." Articles are attached in "footnote sequence," clearly marked with a bold stamp at the top of each article. (Thus the first article corresponds with footnote 1. The second with footnote 2. Etc.)

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www.geronimoenergy.com

Footnote 1, 2, 6

We would love to show you around!

If you are interested in visiting one of our operating solar projects, or to learn more about Geronimo Energy, visit any one of our office locations or call us at 952.988.9000. You can also email your questions and comments to info@geronimoenergy.com, or visit us on the web at www.geronimoenergy.com.

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Sources

Fengxiang Chen and Lisheng Wang (2011). Light Trapping Design in Silicon-Based Solar Cells, Solar Cells Silicon

Lazard Levelized Cost of Energy Analysis v9.0 , November 2015

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MN SEIA, "Solar Industry Data". http://www.seia.org/research-resources/solar-industry-data. February 24, 2015.

Shea P. Stephen, Ph.D. Evaluation of Glare Potential for Photovoltaic Installations, pg 3-4, August 2012.

Solar Energy: Frequently Asked Questions

GERONIMO® ENERGY

farmer-friendly
adjective: exhibiting a respect and appreciation for hardworking farmers, their communities, and the rural American way of life.

We know that nobody knows the land better than our landowner partners and tenants – which is why we retain open lines of communication with each of our land partners throughout the development process and compensate our land partners fairly.

Who is Geronimo Energy?

We are farmer-friendly. Geronimo Energy was founded with deep roots in agriculture and an understanding and respect for farming, farmers, and their local communities.

Geronimo Energy is a top Midwest renewable energy developer headquartered in Edina, Minnesota. We're experienced, competitive, and trusted by both customers and industry partners. Geronimo Energy has over 1,600 megawatts (MW) of wind and solar project either under construction or in operation - and has an additional development pipeline of over 2,000 MW across the United States.

Geronimo is excited to partner with our landowners to bring millions of dollars into their local economy via renewable energy development. We promise prompt responsiveness and diplomacy at all times, as well as a willingness to answer questions from supporters and objectors alike.

We look to hire from the existing local work force near our projects.

We work closely with our landowners and their neighbors during the siting process to ensure that our projects are well-received by the community to yield sustaining support for the long term operation of a project.

As of May 2016, there are over a million solar panel installations in the United States alone, including residential installations, totaling over 22,700 megawatts (MW). That's enough to power 4.6 million American homes.

Solar Energy Basics

Photovoltaic Solar Panels

Photovoltaic (PV) solar panels are designed to absorb as much incoming sunlight as possible. As light passes through the front surface of a solar panel, it is trapped in the panel's solar cells and converted to electricity. The most common solar panels available today are polycrystalline, thin film and monocrystalline.

Did you know that as of May 2016, there are over a million solar panel installations in the United States alone, including residential installations, totaling over 22,700 megawatts (MW)? That's enough to power 4.6 million American homes. Chances are, you live near or have seen a solar panel installation and didn't even realize it: solar panel installations rarely cause glare or glint issues, fit easily into their surrounding environment and often go unnoticed.

Tracking Technology Maximizes Electric Output

While each site warrants its own unique design, the increase in the use of tracking solar panels has resulted in maximum solar resource for many of Geronimo Energy's projects. Tracking solar racking systems have unique technology that allows the panel to track the sun as it travels across the sky throughout the day. This allows for maximum solar energy absorption, extended sunlight capture in the mornings and evenings and greater electrical output during peak demand.

Fixed Tilt Technology

Fixed tilt racking systems are the most abundant type of racking system in the US. They typically face south to maximize the sun's rays throughout the year. The advantage of fixed tilt racking is their capability to withstanding greater topographical grades and are a more economic choice over tracking systems.

Solar Energy Projects Are Reliable

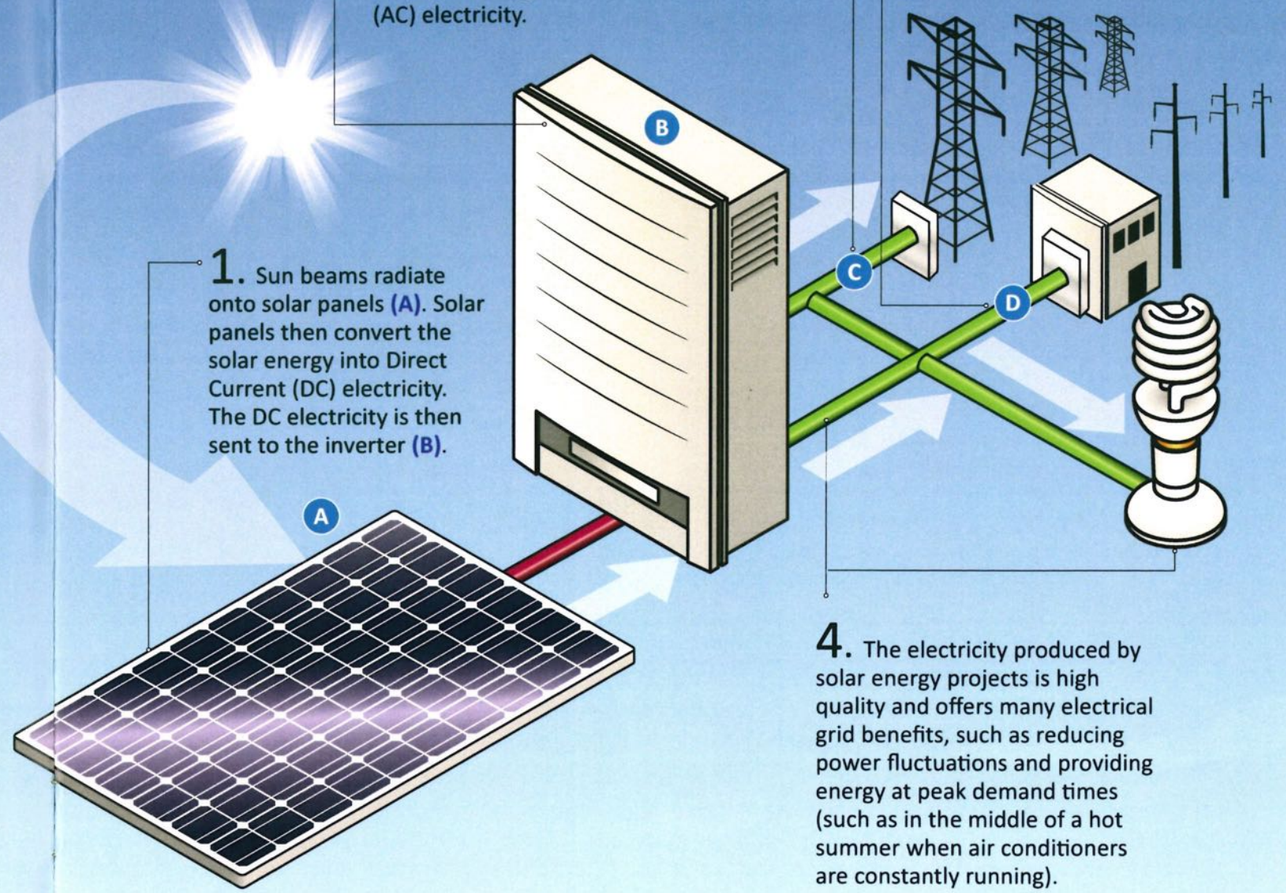
Did you know that no power plant is 100% reliable? Back-ups are needed for every type of energy producer. A modern solar panel produces electricity 100% of the time the sun is shining, but generates different energy outputs depending upon the solar strength and other factors. Over the course of a year, a solar panel can be expected to generate approximately 20% of its maximum output, which is known as the "net capacity factor."

How a Solar Panel Works

1. Sun beams radiate onto solar panels **(A)**. Solar panels then convert the solar energy into Direct Current (DC) electricity. The DC electricity is then sent to the inverter **(B)**.

2. An inverter's job is to convert DC electricity into Alternating Current (AC) electricity.

3. AC electricity is then pumped into the local electric grid, either through transmission lines **(C)** or via local distribution lines or substations **(D)**.



4. The electricity produced by solar energy projects is high quality and offers many electrical grid benefits, such as reducing power fluctuations and providing energy at peak demand times (such as in the middle of a hot summer when air conditioners are constantly running).

Solar Energy Facts

Geronimo's farmer-friendly development approach ensures that each of our projects will benefit the local area for generations to come.

Responsible Planning and Siting

Geronimo Energy works hard to ensure our solar facilities are built to the highest of standards. When considering locations for our solar sites, we consider: the projected size of the facility, land type and quality, localized environmental impacts, the local climate and (if necessary) snow load, the host community's receptiveness to renewable energy, the electric service territory ownership, the proximity of the site to nearby existing electrical infrastructure, as well as permitting and interconnection considerations, among other factors.

Geronimo has experience in acquiring hundreds of thousands of acres for renewable energy projects and works diligently on identifying the best land through local jurisdictions, permitting authorities, and landowner interest. Geronimo's farmer-friendly development approach ensures that each of our projects will benefit the local area for generations to come. Geronimo is committed to providing each of its landowners with prompt responsiveness, expert advice and fair compensation. We work closely with landowners and neighbors during the siting process to ensure that projects are well received by the community and yield sustaining support for the long term operation of the project.

Advanced Solar Technology Keeps You Safe

Solar arrays not only produce clean energy for current electricity demand, but also provide clean energy for future generations. While stray voltage can be an issue with traditional electric generation sources for famers with livestock, solar facilities that are built correctly will not produce stray voltage. All Geronimo Energy solar facilities are built to electric code and thoroughly reviewed for any possible electrical impacts on the surrounding community. When siting and designing a project, stray voltage is addressed through various methods, including soil studies. Soil studies are conducted to determine the corrosive nature and thermal capacity of the earth. This helps ensure that all grounding equipment and buried cable are designed correctly and no stray issues arise from corroded grounding equipment.

Electromagnetic Field (EMF)

The term electromagnetic field (EMF) refers to electric and magnetic fields that are present around any electrical device. Electric fields arise from voltage or electrical charges, and magnetic fields arise from the flow of electricity or current that travels along transmission lines, power collection lines, substation transformers, house wiring, and electrical appliances. The intensity of an electric field is related to the voltage of the line, and the intensity of a magnetic field is related to the current flow through the conductors (wire). EMF can occur indoors and outdoors. In fact, all power lines produce EMF, including those that connect your home to the electrical grid.

While the general consensus is that electric fields pose no risk to humans, the question of whether or not exposure to magnetic fields potentially causes biological responses or even health effects continues to be the subject of research and debate. For a solar project, the sources of EMF are from electrical collection lines that will likely be buried underground and from the transformers installed at each inverter pad. EMF from underground electrical collection lines dissipates right next to the lines because they are installed below ground inside insulated shielding. There is a small magnetic field directly above the lines that, based on engineering analysis, dissipates to indistinguishable levels for anything within 70 feet of either side of the installed cable. A solar facility has to comply with the National Electric Code, which ensures proper installation, safety procedures, and equipment specifications for all of the electrical components utilized in the array. As a result, Geronimo Energy does not anticipate any issues to arise regarding EMF.

Reflection and Glare

The glass surface of modern solar panels can include an anti-reflective coating, similar to that used on optical equipment (camera lenses), as well as texturing to minimize any loss of incoming light. Studies have shown that PV solar panels reflect as little as 2% of incoming light, which means that PV solar panels are less reflective than water or window glass.

In the past, solar panel glare had primarily been a concern only for the aviation industry. However, recent studies have proved that solar panels pose minimal concern to pilots. In fact, there are numerous solar panel installations near U.S. airports, and there has never been a documented case of an accident due to solar panel glare. Hindawi Publishing Corporation, in conjunction with International Scholarly Research Notices, recently conducted an experiment that measured the potential glare that an aircraft pilot could experience as a result of ground-mount solar panels. Their findings concluded that "the potential for hazardous glare from flat-plate PV systems is similar to that of smooth water and not expected to be a hazard to air navigation."

By working with expert construction and technology partners, Geronimo Energy is able to model facility locations and solar panel arrays with no reflective glare issues or safety concerns. Geronimo Energy develops each solar site with the approved Federal Aviation Administration (FAA) and Sandia Labs solar glare hazard analysis tool, which identifies and mitigates solar glint and glare.

Protecting the earth, environment and its inhabitants is at the heart of why we do what do: solar energy is one of the least harmful types of energy production.

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Solar Energy and the Environment

Geronimo Energy: Diligent Developer

Protecting the earth, environment and its inhabitants is at the heart of why we do what do: solar energy is one of the least harmful types of energy production. The solar energy industry as a whole off-sets billions of tons of carbon dioxide emissions, consumes little to no water, and uses a naturally occurring and replenishing fuel source. Our business is the business of environmental stewardship, and Geronimo Energy will continue to take every step to ensure that we conduct business in the most environmentally responsible way possible.

Solar is a Good Neighbor

Solar projects are a relatively low impact development option for communities. They are low to the ground (approximately 10-12 feet above grade), are pollutant free, virtually noiseless, improve water quality, reduce runoff and do not create any odors or undesirable impacts.

Solar Projects Are Free Of Pollutants

Solar projects do not generate air or water emissions, produce any hazardous waste, deplete natural resources, cause environmental damage through re-source extraction and transportation, or require significant amounts of water during operation. Solar power's pollutant-free electricity helps offset the environmental damage caused by other forms of power generation.

Wildlife Advocates

Prior to constructing a solar project, Geronimo Energy conducts local wildlife studies to ensure that each project is developed in the most environmentally-friendly way. Factors such as animal breeding areas and wildlife corridors are all considered when choosing a location for a solar project. Maintenance plans for the solar facility also take into consideration wildlife that may live within the fence. Geronimo Energy also follows DNR siting and seed mix guidance for solar arrays.

Geronimo Energy often develops a habitat conservation plan for our solar projects. After a solar project is constructed, grassland and vegetation conducive to promoting local mammal and avian habitat, as well as butterfly and honeybee habitat, is placed in and around the panels. In this way, Geronimo Energy's solar projects not only protect the environment by reducing carbon dioxide emissions and water usage, but they also help provide a safe harbor for vital ecosystem species. The creation of a stable habitat also helps reduce runoff and will improve water quality, two important issues for rural communities.

Protecting the environment

The solar energy industry as a whole off-sets billions of tons of carbon dioxide emissions, uses little to no water consumption, and uses a naturally occurring and replenishing fuel source.

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The Economics of Solar Energy

Unlike fossil fuels, whose costs fluctuate with the market, solar energy does not rely upon market-dependent fuel costs. Such stability means there is a possibility of locking in solar energy pricing for the life of the project.

The Strong Market for Solar Energy

The solar industry has experienced exceptional growth since 2010, driven primarily by dramatic reductions in the installed cost of the solar plants. Lazard reports that over the past six years, the cost of solar has fallen nearly 82% and has led to a dramatic increase in the amount of solar energy installed in the U.S. In fact, through the first half of 2015, 40% of all new electric generating capacity in the U.S. came from solar. These price decreases have made solar energy cost competitive with traditional energy sources and is now the least expensive renewable energy resource available in many areas of the United States today.

Contrary to popular belief, while federal tax credits have helped to push the cost of solar energy down, solar energy is cost-competitive with conventional energy sources without consideration for subsidies, such as the Federal Investment Tax Credit (ITC). Lazard recently reported that the *unsubsidized* cost of solar photovoltaic utility-scale projects range in price from $50 to $70 per megawatt hour (MWh). Comparatively, natural gas ranged from $68 to $101/MWh, nuclear ranged from $97 to $136/ MWh, coal ranged from $65 to $150/MWh, and peaking gas ranged from $165 to $218/MWh. Additionally, solar energy is a peaking resource, which means that in general, solar's peak energy supply occurs when it's needed most. For example, on hot sunny, summer days when everyone turns on their air conditioning, solar projects are operating at their highest capacity and can best support the increased demand for electricity.

Solar Energy is a Stable Investment

Unlike fossil fuels, whose costs fluctuate with the market, solar energy does not rely upon market-dependent fuel costs. Such stability means there is a possibility of locking in solar energy pricing for the life of the project. Furthermore, because of the recent significant technological advancements, solar energy has seen a steady decrease in its cost to produce energy, so today's fixed price is significantly less than the fixed prices of years past.

Solar Projects are Popular and Lucrative for Farmers

Solar projects are popular with farmers because solar projects provide an additional revenue source for their family. Geronimo Energy calls this supplemental revenue "Extraordinary Seed Crop".

Extraordinary Seed Crop is guaranteed revenue provided by hosting a Geronimo Energy solar project. In uncertain times, our operating solar projects provide American farmers (our land partners) with income certainty. As we all know, the commodity markets fluctuate up and down and are unpredictable. Solar energy provides income certainty for generations to come. No other "seed crop" can promise that kind of certainty. Additionally, whenever you add revenue streams, you diversify your income, raise your income certainty and lower the risk related to your existing farming revenue.

Solar energy brings substantial money to local communities

Solar projects bring significant economic impact on their host communities throughout the development, construction and operation phases. During the development phase, solar projects bring an influx of spending to the host and surrounding communities in the form of sponsorships, travel, lodging, meals, and legal and recording fees. Throughout development, Geronimo Energy may bring construction companies, power purchasers and other solar industry constituents into the local area to survey the project location, which puts money back into the community's pocket via restaurants, gas stations, hotels and retail shops.

During the construction phase, solar project communities experience another boom in all of the above mentioned spending categories, but this time, multiplied by the dozens. Solar projects cause an influx of new construction jobs in the local area, which means even more revenue for local shops, restaurants and hotels, plus a boost to the local economy in the form of increased resident income.

Once a solar project is operational, it contributes to the local tax base, which can include increased income for local school districts, fire and police departments, counties and townships. These additional revenue streams afford communities the ability to build and improve schools, roads, bridges and other infrastructure items.

Price decreases have made solar energy cost competitive with traditional energy sources and is now the least expensive renewable energy resource available in many areas of the United States today.

Compare the *unsubsidized* cost of solar photovoltaic utility-scale projects:

Solar Photovoltaic	Natural Gas	Nuclear	Coal	Peaking Gas
$50-$70 MWh	$60-$101 MWh	$97-$136 MWh	$65-$150 MWh	$165-$218 MWh

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The Life of a Solar Project

Construction of a Solar Project

Construction of larger solar projects (100+ MW) typically takes eight months from commencement of construction to commercial operation. Smaller projects (less than 100 MW) typically take up to 6 months to reach commercial operation. As you can imagine, a lot goes into the construction of a solar project, but the process always includes: civil preparation (including clearing and grubbing of the property), fence installation, structural work such as the installation of steel piers and the racking system on which the modules sit, electrical cable installation and trenching, and module and inverter installation. After equipment installation is complete, the property will be seeded into a stable low growing seed mix. Testing and commissioning are the final stages of construction, which include utility testing to ensure safe and effective delivery of electricity to the grid.

After construction, any property that may have been disturbed is restored to its pre-construction state. Any type of crop damage incurred by our development process will be compensated to the landowner. Geronimo Energy repairs and covers the cost for this crop damage repair by placing a very generous crop damage clause in every lease we sign. Geronimo Energy works with our landowners to ensure they are educated about our crop damage payments and to make sure they are comfortable with the reimbursement levels.

In addition to crop damage payments, it is part of Geronimo Energy's core development philosophy to consider drain tile when designing solar projects. For every solar project we develop, we analyze the location of existing drain tile and try our best to design project layouts around it. If for some reason, we are unable to design around drain tile, we take great care when cutting into the tile in order to minimize impacts.Just like our crop damage clause, Geronimo Energy offers drain tile damage payments, which ensures that drain tile is restored to it original state after project construction is complete.

Solar Project Layout Design

Throughout the development process, Geronimo will remain open and honest – we will work with you to make sure you are comfortable with the proposed project layout and will answer any questions you may have regarding the locations of panels.

Solar equipment has a life span that extends for decades - sometimes up to 50 years. Modules will continue to produce electricity well past their warranties. At the end of the life of the project, solar equipment can be removed, recycled and salvaged for additional value. Because solar energy projects are considered low impact development, solar projects allow for flexibility in regards to the land use of after its removal. Some solar project lands are even returned to their original agricultural use.

If at any time during the life of the project new module technology would be further boost the economics of the project, the project may be repowered with new modules.

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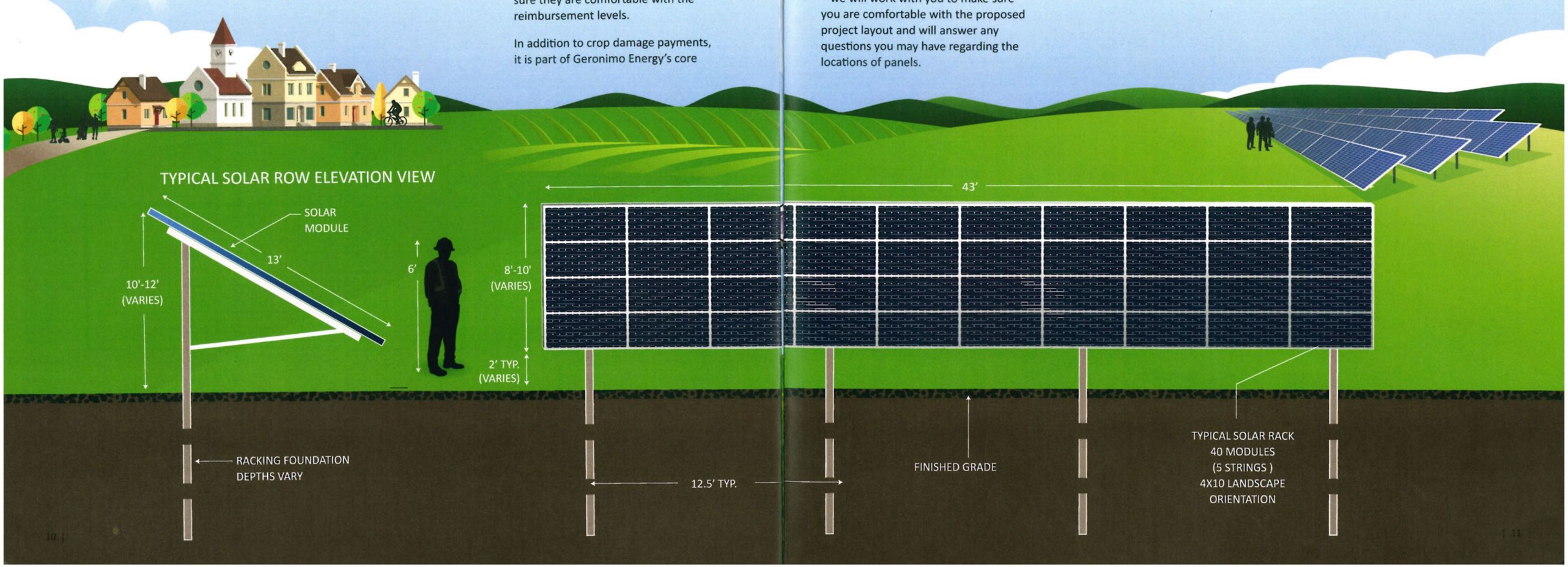
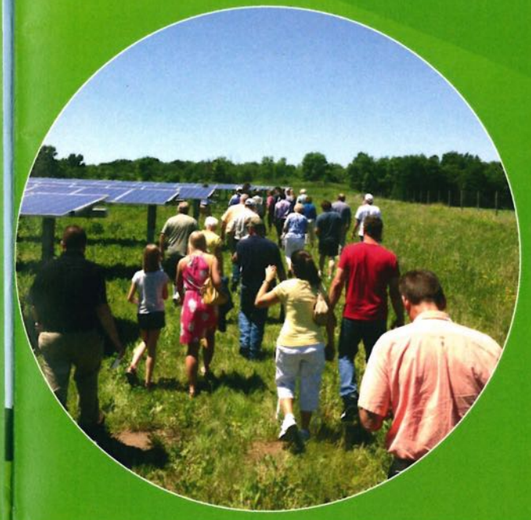


What Does a Solar Project Look Like?



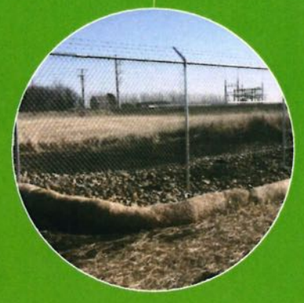
Racking

Fixed Panels

Tracking Panels

Inverters

Communications and Technical Equipment



Fencing

Footnote 3

Vermonters for a Clean Environment

December 20, 2017

To Whom it May Concern,

Vermont has had a lot of experience with the development of solar projects in the last three years. Vermonters for a Clean Environment has been listening and learning about the issues that have arisen with this new industry. We have reviewed the materials submitted by Claresholm Solar Farm and offer the following observations.

Claresholm Solar Farm is an enormous project, and is being proposed to be located surprisingly far from where people live. The best use of renewable energy is to build close to load. Line losses from transmission result in reduced power available from the project, and is inefficient. This project is a good example of how to do renewable energy wrong.

For several years, Vermont's approach to solar energy was to approve everything. We have seen solar projects built on primary agricultural soils, Class 2 wetlands, and forests have been clear-cut for solar projects. All of these sites have resulted in problems that have caused the state to develop new rules that reward projects on "preferred sites" while penalizing projects on green fields. "Preferred sites" include landfills, gravel pits, quarries, rooftops, brownfields, and the already-disturbed landscape. Green fields, agricultural fields are now identified as less than desirable.

Taking active agricultural fields out of production has had a ripple effect, where hay fields, corn fields, and pastureland have forced farmers to have to find new fields. This has had a ripple effect that pushes one set of animals onto another's fields, displacing others.

Claresholm Solar proposes to graze sheep under the panels. That would be a huge number of sheep, and only for three months of the year. The project also proposes to use herbicides. Grazing sheep and herbicides are incompatible uses. We have seen a couple of projects in Vermont that use sheep or goats. In practice, it appears to be more symbolic than meaningful, as they do a spotty job and the weeds grow up and still require mowing. We have not had enough time to evaluate how well the grass grows when it is shaded by solar panels, and whether there is much useful pastureland beneath the panels. Some people are concerned about the toxic chemicals contained in the panels and whether that might contaminate the soil as the panels age and degrade. To date we have been unable to confirm whether this is an issue of concern. Twenty years from now perhaps we will know the answer. In the meantime, it would be prudent to avoid such potential problems by focusing development on brownfields and already-degraded sites.

One issue that has been a surprise is glare. Solar developers have claimed in their applications that glare is not an issue. After the fact, we have learned that it is a serious problem.

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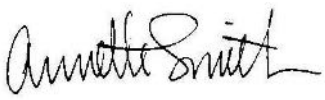
- In one case, a neighbor to the west must keep his blinds closed and cardboard in his windows from 7 to 9 in the morning to block out the blinding glare. He cannot use his front yard due to the blinding glare.
- In another case, a neighbor to the east must keep his blinds drawn from 1 to 4 in the afternoon, requiring the use of lights in the home due to having to keep the blinds closed to block out the glare from the solar panels.
- Neighbors a mile to the southeast of a 2 MW solar array experience blinding glare from the panels in the afternoon such that they can no longer enjoy being in their backyards, and an elderly woman experiences glare from the panels in her upstairs bedroom.
- At least two solar arrays put out blinding glare that drivers on the roadways experience. I have personally experienced one of these project's glare, and after glancing at it for less than a minute while driving by, my eyes hurt for more than 10 minutes.

It is imperative to evaluate the glare potential, not only for neighbors but to determine whether there is potential for what is called a "lake effect" where birds are attracted to the blue surface and think it is a lake. With 880 acres of solar on pastureland, it seems like the lake effect could be a serious issue, and the materials presented indicate a wide variety of bird species that utilize the area.

Many of the agricultural fields used in Vermont have grassland bird habitat. This is another issue that we were not prepared for, and solar developers have paying into a mitigation fund in order to destroy the grassland bird habitat. Bobolinks are the primary birds of concern in Vermont. It is unclear from the materials submitted if a thorough enough evaluation has been done by the developer. We have become all too accustomed to environmental studies commissioned by developers that are inadequate due to being done at the wrong time of year, for not enough time, or with a bias towards not finding things that are not advantageous to the developer. Due to the extensive wetlands and wildlife species of this large site, it is recommended that the developer pay for independent experts chosen by stakeholders so there is more confidence in the materials upon which the decision is made.

In summary, our review of this proposal finds many problems and few benefits. Far from load, on active pastureland, too close to neighbors who are likely to experience glare and loss of property values, this enormous project will potentially make huge profits for the investors, while externalizing costs onto the community.

Sincerely,



Annette Smith
Executive Director
Vermonters for a Clean Environment, Inc.

Manchester airport remains in dark over solar-panel glare solution

By MARK HAYWARD
New Hampshire Union Leader
August 06. 2013 8:15PM
Solar panels at Manchester Boston Regional Airport.

mhayward@unionleader.com

Footnote 9

MANCHESTER — Engineers have recommended that solar panels on top of a Manchester airport parking garage be repositioned toward the east — rather than the sun-drenched south — to prevent glare that has bothered air-traffic controllers, an airport official said.

The recommendation comes as the Manchester-Boston Regional Airport continues to drape tarps over some of the 2,200 solar panels on top of an airport parking garage. The drapes went up last August when controllers started complaining about early morning glare.

Since then, the airport, Federal Aviation Administration, controllers and others have been working with consultants to fix the problem, said J. Brian O'Neill, deputy airport director.

The $3.5 million solar panel installation, the largest in New Hampshire, was paid for with a federal grant and is designed to power the parking garage and sky bridge that lead to the airport terminal. In the summer, the airport sells excess electricity to Public Service of New Hampshire.

Before the project was built, airport officials hired a consultant — Harris, Miller, Miller & Hanson of Burlington, Mass. — to apply for the FAA grant and study glare issues. The firm earned $41,570.

Ever since the glare emerged, the firm has been working with the airport, O'Neill said.

"They've been very thorough with their due diligence," O'Neill said. "There hasn't been any 'No, no, no. We're not responsible, this is your problem, not our problem.' They've been very cooperative to work with."

An email sent to the firm Tuesday was not returned.

The next step is for the firm and its insurance company to present the ideas on how to solve the glare issue, O'Neill said. The firm could either agree with repositioning the panels or suggest another solution.

Another team of consultants, which involves engineers from the Massachusetts Institute of Technology, the Volpe Center and Sandia National Laboratories, has recommended repositioning the panels to the east.

O'Neill acknowledged that the repositioning will reduce the energy output of the panels; sun from the east is not as strong as sun from the south.

But the plan calls for adding another 180 panels, so the energy output — 560,000 to 575,000 kilowatt-hours of electricity a year — will remain the same, he said.

The airport still expects to reach its target of $100,000 in energy savings a year, he said.

O'Neill said the consultants and working group are moving into the second phase of discussions, which involve who has to pay to correct the problem. The price tag would also include $34,800 for work done by the MIT/Volpe group.

"We're going to get back together and discuss responsibility and discuss the path for correcting the problem," he said.

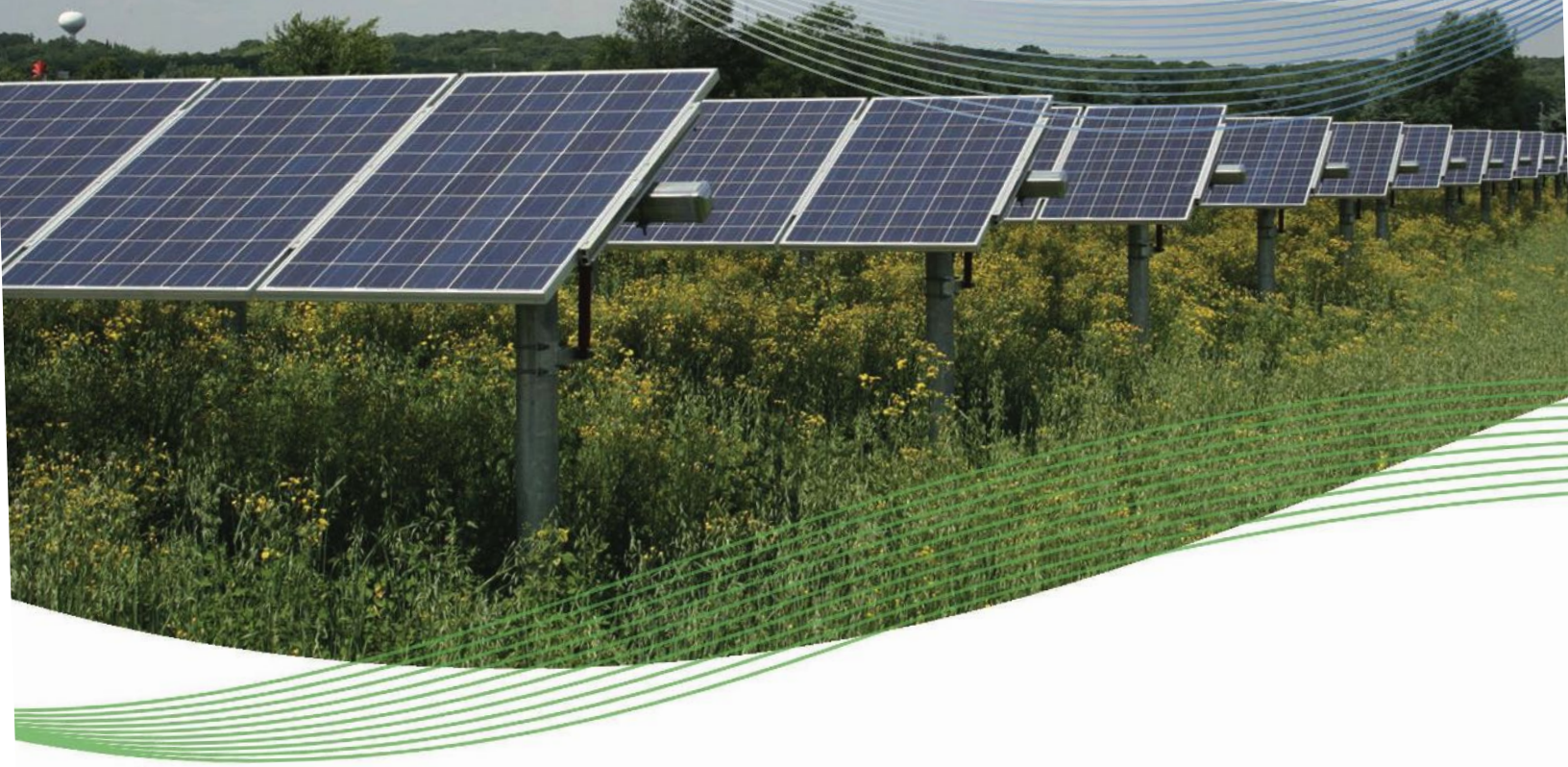
PUBLIC INVOLVEMENT PROGRAM PLAN | NOVEMBER 2017

Footnote 10

Franklin Solar Project

Prepared by:

Geronimo Energy
For Franklin Solar, LLC



GERONIMO® ENERGY

PUBLIC INVOLVEMENT PROGRAM PLAN

Case 17-F-0602

FRANKLIN SOLAR PROJECT

Town of Malone
Franklin County
New York State

Prepared by:
Geronimo Energy
For Franklin Solar, LLC

November 2017

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TABLE OF CONTENTS

TERMS AND ABBREVIATIONS

DEC: the New York State Department of Environmental Conservation, a department of the New York State government responsible for managing New York's natural resources and enforcing the state's environmental laws and regulations

DPS: the New York State Department of Public Service, a department of the New York State government responsible for regulating the electric, gas, water, steam, and telecommunication industries in the state

MW: megawatt, a unit of power equal to one million watts

NYISO: the New York Independent System Operator, the entity overseeing the electrical transmission system in New York State

PIP: Public Involvement Program, the plan required by the New York Department of Public Service as the first formal step toward Certification under Article 10 of the New York Public Service Law

PSL: the New York Public Service Law. Article 10 of the PSL governs the siting of major electric generating facilities.

PSS: Preliminary Scoping Statement. The PSS will be filed no earlier than 90 days after filing of the revised PIP and will outline the proposed scope of studies to be conducted, the results of which will form the basis for the Article 10 application, as well as other relevant information about the Project that will also be included in the Article 10 application.

PV: photovoltaic, capable of generating power by converting the sun's rays into electricity through a collection or "array" of solar panels

I. INTRODUCTION

Franklin Solar, LLC ("Franklin Solar" or the "Applicant"), a subsidiary of Geronimo Energy, LLC ("Franklin Solar"), proposes the construction of a 150-megawatt ("MW") photovoltaic ("PV") solar energy generation facility ("Facility") in the town of Malone, Franklin County, NY, called "Franklin Solar." Franklin Solar submits this Public Involvement Program ("PIP") plan to the Department of Public Service ("DPS") under Article 10 of the New York Public Service Law ("PSL") and Part 1000 of the New York State Board on Electric Generation Siting and the Environment's ("Siting Board") rules.

Article 10 of the PSL[1] and its associated regulations[2] govern the process for developers to apply for siting review by the Siting Board. The Article 10 process enables developers to permit a major electric generation facility in a single unified proceeding at the state level. Creation and submission of the PIP plan is the first formal step toward Certification under Article 10, with submission required at least 150 days prior to Franklin Solar filing a Preliminary Scoping Statement ("PSS").[3] The Article 10 regulations require a PIP plan to include:

(1) consultation with the affected agencies and other stakeholders;

(2) pre-application activities to encourage stakeholders to participate at the earliest opportunity;

(3) activities designed to educate the public as to the specific proposal and the Article 10 review process, including the availability of funding for municipal and local parties;

(4) the establishment of a website to disseminate information to the public;

(5) notifications; and

(6) activities designed to encourage participation by stakeholders in the certification and compliance process.[4]

Geronimo values its relationships with local stakeholders, and, before undertaking necessary approval processes for and development of any project, Geronimo conducts extensive public outreach to educate interested parties on all aspects of a proposed solar plant. The purpose of this PIP is primarily to present a proposed outreach and engagement plan including steps to: introduce Franklin Solar to the public; identify local and state stakeholders and their interests; engage stakeholder, other interested parties, and the general public in the Article 10 process in order to understand their varied interests as they relate to the Project and to seek their input as to how to address their interests and concerns as the Project moves forward; and explain how the Applicant's efforts satisfy New York legal and regulatory requirements. As with all Article 10 PIPs, the results of Franklin Solar's outreach efforts described herein will inform Franklin Solar's PSS and Application. Through this process, stakeholder concerns can be evaluated, addressed and considered by the Siting Board.

In accordance with the Siting Board's rules, the Applicant respectfully submits this PIP to the DPS for review and comment. The Applicant will continue to consult with DPS Staff at appropriate times during the outreach period and through early development of future filings.

[1] The Article 10 law can be found at http://www3.dps.ny.gov/W/PSCWeb.nsf/All/D12E078BF7A746FF85257A70004EF402.
[2] The Article 10 regulations can be found at http://www3.dps.ny.gov/W/PSCWeb.nsf/All/143595FA3BE36AEA852579D00068B454.
[3] 16 NYCRR § 1000.4(d).
[4] Id.

II. DESCRIPTION OF GERONIMO ENERGY AND THE FRANKLIN SOLAR FACILITY

Geronimo Energy

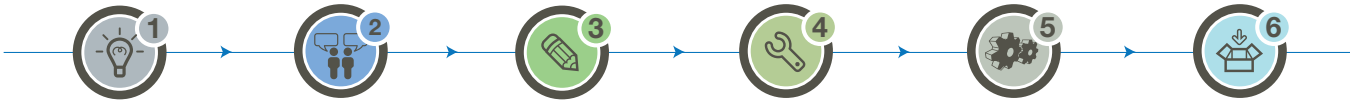
Franklin Solar is a wholly owned subsidiary of Geronimo Energy. Geronimo Energy is a leading independent North American renewable energy development company based in Minneapolis, Minnesota.

Geronimo provides renewable electric energy development solutions for utilities, Independent Power Producers ("IPPs"), corporations, and public entities looking to harness renewable energy for business growth. With deep and comprehensive expertise in wind and solar energy development, Geronimo's resume boasts over 1,600 megawatts of U.S. wind and solar energy projects that are either operational or under construction. Geronimo's near-term development pipeline has an aggregate nameplate capacity exceeding 2,000 megawatts of additional clean energy.

Before developing any project, Geronimo engages in extensive stakeholder outreach to fulfill Geronimo's core mission of leaving the world a better place than it was before we touched it:

- environmentally, through the deployment of clean and renewable energy;
- in our communities, through economic development;
- for our employees, through personal improvement and pride in what we do; and
- for our shareholders, through profitable operations.

Keeping in line with its rural focus and farmer-friendly practices, Geronimo develops its projects with integrity, transparency, and honesty. Key aspects of the Geronimo development process include:



1 IDENTIFY
- Energy Resource
- Transmission Access
- Construction Feasibility
- Customers
- Environmental Feasibility
- Stakeholders

2 ENGAGE
- Local Landowners
- Community Leaders
- Permitting Authorities
- Customers
- Financial Partners
- RTOs/ Transmission Providers
- Stakeholders

3 DESIGN
- Project Footprint
- Pre-construction Studies
- Permit Applications
- Construction Plan
- Transmission Path
- Delivery Schedule

4 PROCURE
- Power Purchase Agreement
- Interconnection
- Equipment & Components
- Land Lease Agreements

5 CONSTRUCT
- Foundations
- Access Roads & Towers
- Generation Equipment
- Substation, Collection System, O&M Building(s)
- Interconnection Facilities

6 DELIVER
- Power to the Grid
- Payments & Taxes
- Post-construction Studies
- Ongoing Customer Care

Franklin Solar

Franklin Solar ("Project") will have a nameplate capacity of 150 MW, estimated to generate enough renewable green energy to power over 25,000 New York households.[5] The Project's size, location, and interconnection make it an economical resource, allowing Franklin Solar to provide New York State with affordable renewable energy as described in New York's Clean Energy Standard. The Project will also achieve maximum output during hot summer afternoons when air conditioner usage is at its highest. Increased levels of solar energy production during peak energy usage decrease the need for fossil-fuel-fired energy production, reducing air pollution and power prices during periods of peak energy demand. The Project will also provide economic development benefits to host and adjacent communities and neighbors.

[5] Energy Information Administration.

The Project will sit on approximately 950 acres of private land. With extensive experience developing solar projects in agricultural areas and in and adjacent to communities, Franklin Solar carefully considers the size, location, and environmental impact of the project, as well as local politics, landscapes, and land uses. Franklin Solar anticipates that the Project will have minimal impact on its neighbors, nearby communities, and surrounding landscapes. The proposed Project will be relatively low in height, estimated to be no more than 15 feet, will not emit air or water pollution, will have no odors, and will produce minimal noise. Franklin Solar will also use a variety of fencing, screening, setback, and landscaping strategies to preserve existing viewsheds and maintain the scenic character of the surrounding area.

The Project is in the town of Malone and village of Malone in Franklin County. Located in northern New York, the region is the northernmost portion of the state of New York; the Project area is located approximately ten miles from the Canadian border. The Project is directly southwest from the village of Malone, abutting the village limits. As such, the area to the north and east of the Project area is developed.

The land within the Project area is mostly cultivated cropland. The area around the Project, excluding the village of Malone, is cultivated cropland interspersed with hay and pasture, forest, and woody wetlands. The Project area is relatively flat, with topography increasing to the south. The Project site is zoned as "Agricultural" by the town of Malone. The Applicant sited the project here due to access to transmission capacity, relatively few anticipated environmental impacts, open and available land, and willing participant landowners.

The Applicant will conduct various surveys and studies throughout the Article 10 process to assess and measure environmental and community impacts, as well as potential opportunities for avoidance, minimization, and mitigation. The Project will have significant positive impacts as well, including economic benefits for the local community, county, region, and state in the form of clean energy generation, payments to landowners, tax revenue to local communities, and jobs and contracts for local goods and services.

Franklin Solar's solar projects positively impact the environment by providing natural vegetation that can serve as wildlife habitat and improve water quality by reducing stormwater runoff. As required by Article 10, the Project will have a decommissioning plan that includes financial security to ensure that the cost of removing the facility's infrastructure at the end of the project's life will be covered. The Project area will have multiple use options at the end of the Project lifespan. The Project may be repowered if financially feasible, or could be restored to farmland or repurposed for another use.

The Project will consist of photovoltaic ("PV") panels installed on low-profiled racking systems mounted on poles driven directly into the ground. Inverters, which collect the electricity by the panels and convert it from direct current to alternative current, are spaced throughout the Project. The substation will take the power from the inverters and step it up in voltage; a short transmission line carries the power directly to the electrical grid. A protective fence will surround the Project. Additional temporary laydown and staging areas will be used during construction to store and position vehicles and equipment.

Franklin Solar plans to connect directly to National Grid's 115kV Malone substation which is located directly adjacent to the facilities eastern boundary along Webster Street with a short overhead line of approximately 300 feet (details subject to change based on electrical optimization and finalized interconnection studies for the facility). Additionally, the Nicholville to Malone 115kV transmission line bisects the facility boundary and connects to the Malone substation. A map has been provided below to depict the location of the substation and transmission line. The project has applied for interconnection in accordance with the specifications laid out by Attachment X of the New York Independent System Operator's ("NYISO") Open Access Transmission Tariff ("OATT") on March 30, 2017, which details the Large Facility Interconnection Procedures ("LFIP") for facilities that exceed 20 MW in size. Franklin Solar has had scoping meetings with staff from NYISO and National Grid to review the feasibility of the project interconnection and is in the process of finalizing the Scope for the project's System Reliability Impact Study ("SRIS"). It is anticipated that the SRIS study will be completed on time for the project to enter the NYISO Class Year study process in March of 2018. For reference, Franklin Solar is number 624 in the NYISO interconnection queue.

In addition, the Franklin Solar Project may also include an Energy Storage System (ESS) consisting of pre-fabricated enclosures, a master site controller, batteries, Power Conversion System, fire detection, fire suppression, and HVAC systems. The ESS will be located within the existing footprint of the Project and will charge off the solar array sharing inverters and a common generator step up transformer. New ESS software offers the ability to control and acquire data from batteries, inverters, and numerous

other sources, such as building load, solar output, and SCADA signals. Additionally, an increasing library of storage applications are available to provide hardware-neutral applications, such as frequency regulation, capacity shifting, and demand charge management, among other applications. The location of the potential Energy Storage System will be further identified as project engineering activities refine the electrical optimization of the facility. The outreach activities described in this PIP will also address the ESS, should this option be included in the final project design. Franklin Solar will provide additional details regarding the ESS as Project engineering activities refine the electrical optimization of the facility.

Study Area

While the Article 10 regulations suggest a five-mile study area radius, a smaller radius is likely more appropriate for solar projects as they have a relatively low profile, as discussed in section II(b), above.[6]

Franklin Solar has designated a two-mile radius around the Project's proposed above-ground components in all directions as the proposed study area ("Study Area"). The Study Area includes the village of Malone, the Malone Golf Club, and some surrounding agricultural lands, as well as the hilly, forested area to the south. The hill to the south does continue to increase in elevation beyond the study area, but Franklin Solar expects that the rolling topography and forest in the area, particularly to the south of the Project area, will sufficiently screen the Project from areas beyond the Study Area. Overall, as a form of development with minimal impacts to water or air quality, Franklin Solar anticipates that the project will not cause significant environmental or viewshed impacts to any nearby communities or natural areas.

[6] 16 NYCRR § 1000.2.

FIGURE 1. **Regional Location.**

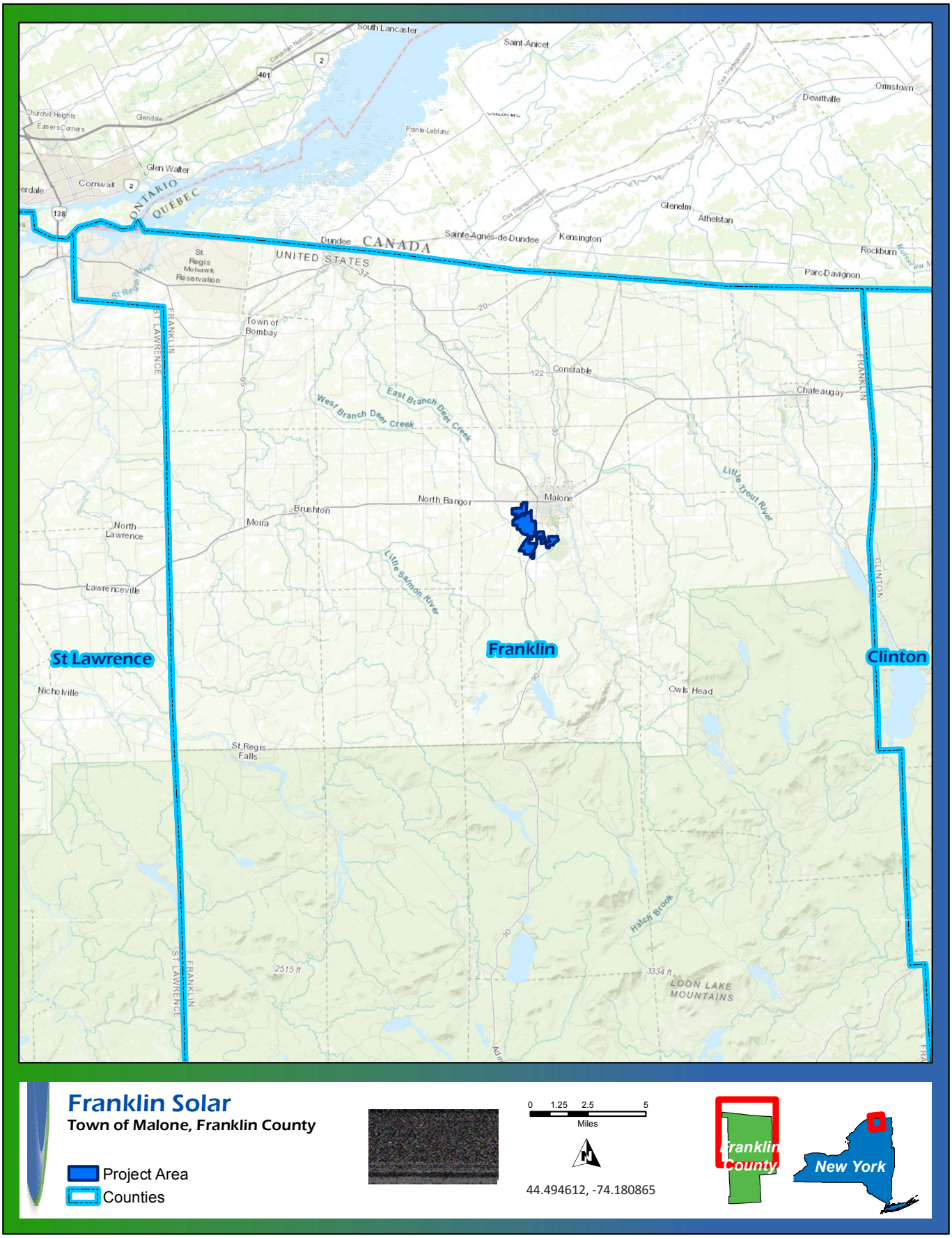


FIGURE 2. **Facility Location**

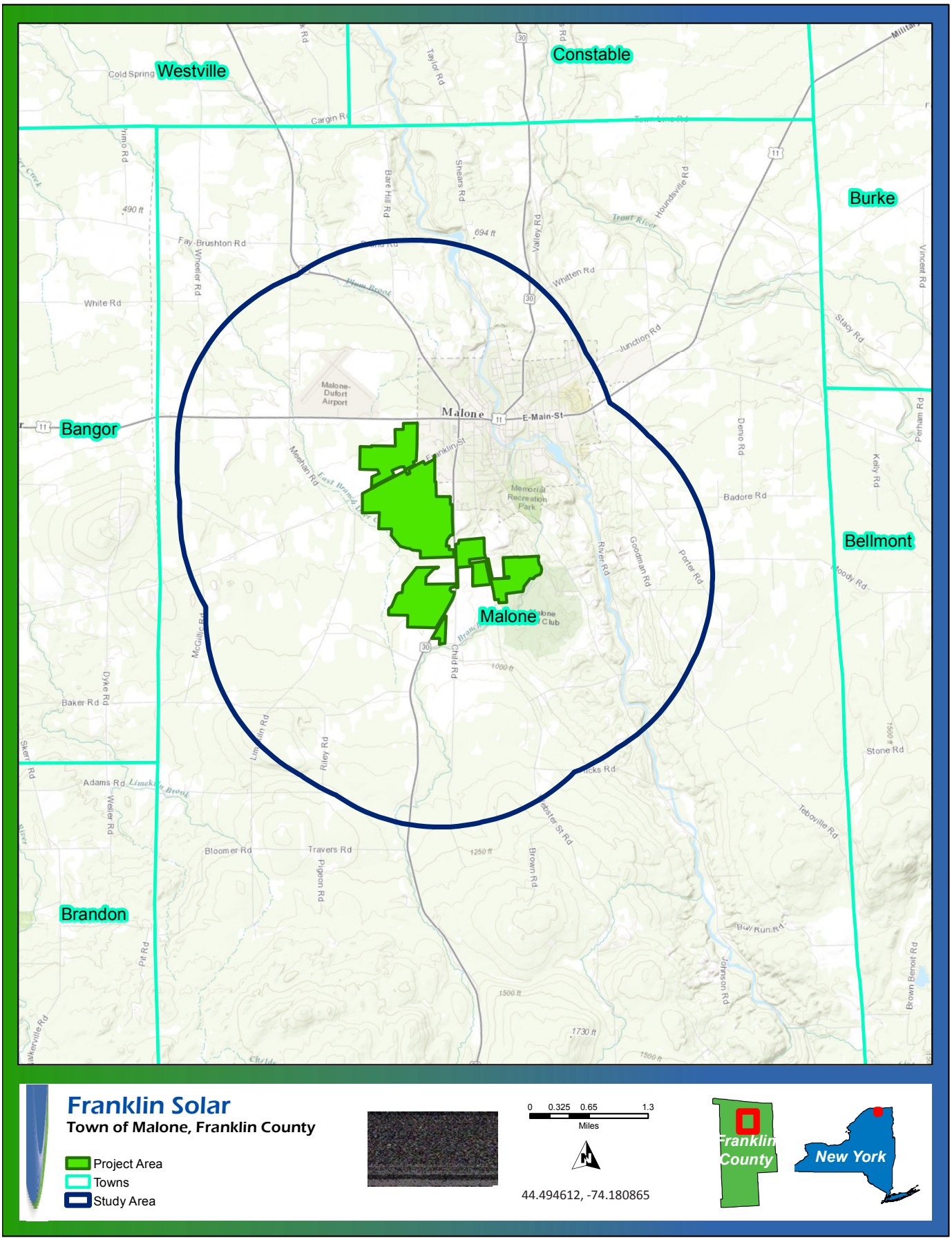
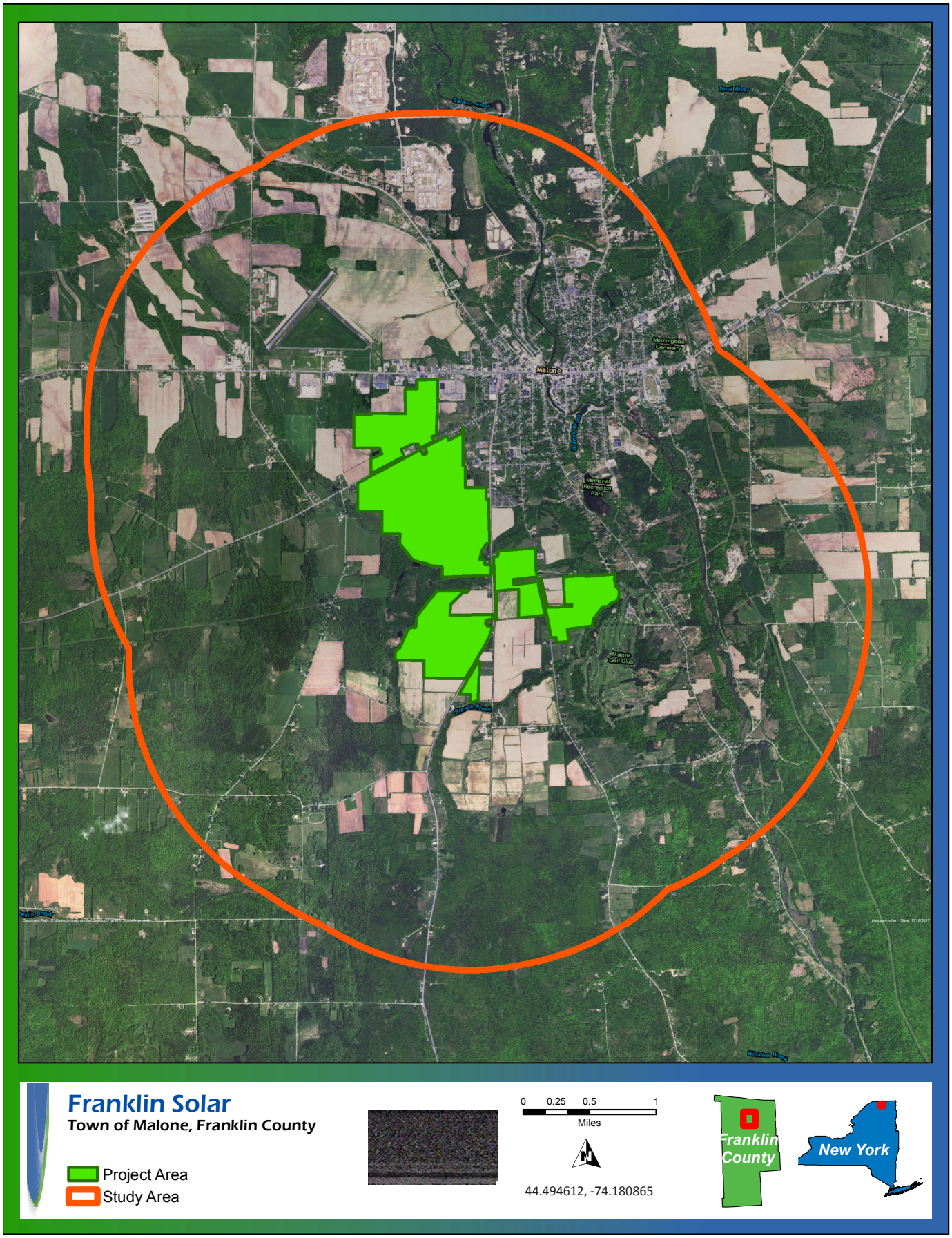


FIGURE 3. **Study Area**



III. THE HOST COMMUNITY

Demographics

The town of Malone serves as a regional retail and government center. The town has an economy based on retail, public administration, agriculture, and construction. Dairy farming contributes significantly to the local economy. The median income for the town ($37,500) is lower than that of New York State ($51,691), but the cost of living in the town is lower than in many other parts of the state.

The town is largely residential, with approximately half of the town's land used for year-round residential dwellings. The town has a minimum residential lot size of one acre; approximately one quarter of residential properties are five acres or more in size. Residential growth has been spurred by the influx of residents in the 35- to 44-year-old age groups; families with children have been moving to the town in recent years and purchasing homes. Correspondingly, the second-largest population group is children ages 5 to 14. Figure 4 depicts the Project in relation to the town of Malone.

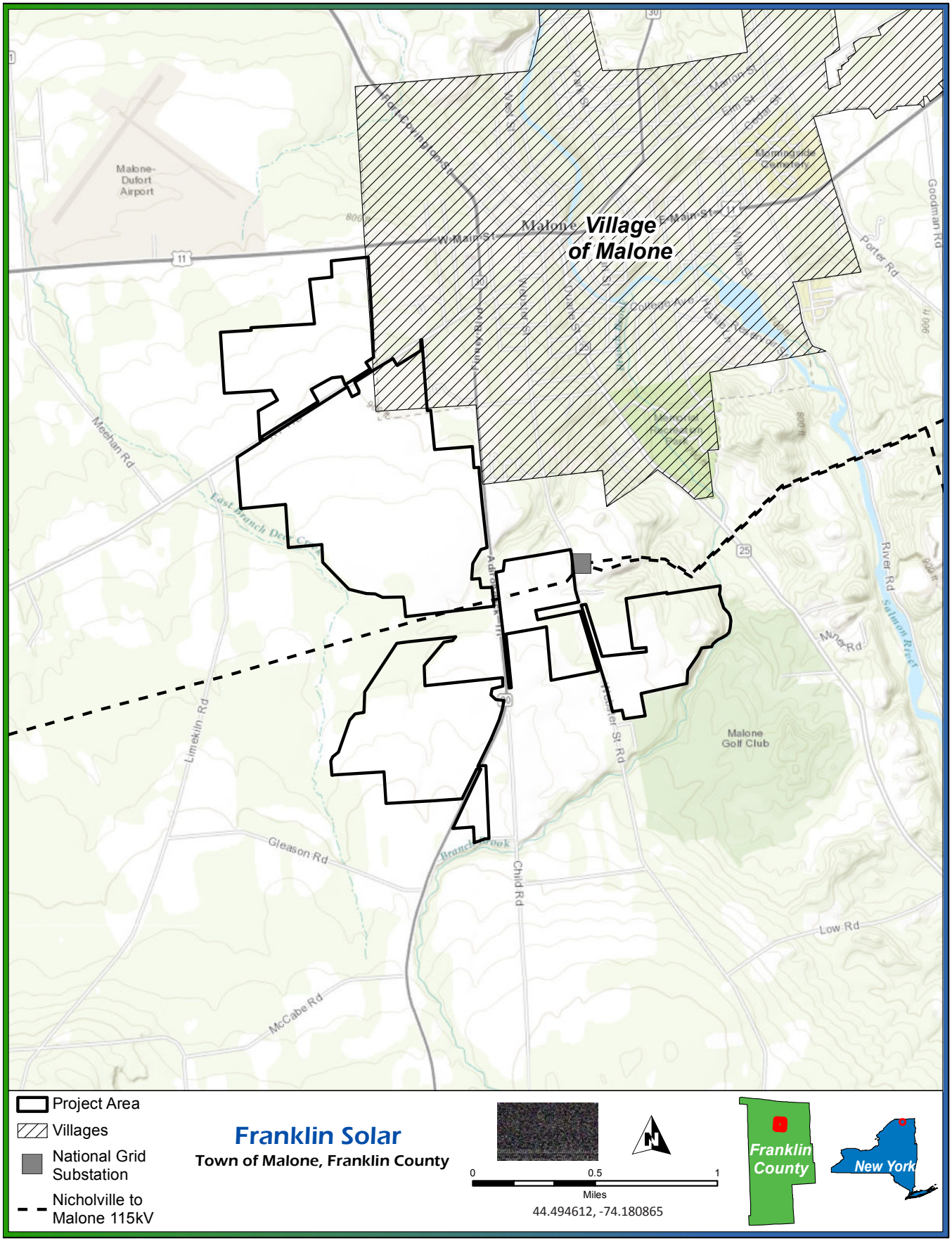
The small portion of the Project will also be located in the village of Malone. The village of Malone is within the Town of Malone and is the county seat of Franklin County. Primarily a farming community, the village of Malone is surrounded by dairy farms.

The population of the village is approximately 6,000. Population density is around 1,900 per square mile. The median income for a household is approximately $25,000 and the median income for a family is approximately $35,000.[7] Figure 4 depicts the Project in relation to the village of Malone.

The region provides many opportunities for outdoor recreation. Within the facility study area is the Malone Golf Club which lies directly east of the project boundary as well as the Franklin Snowmobilers trail that runs approximately one and a half miles due east from the Project. Outside the study area, the Titus Mountain ski operation lies approximately four and a half miles to the south of the facility, and Lake Titus, a recreational lake surrounded by permanent homes, seasonal homes, and a campground is approximately 5.5 miles to the South. Five to ten miles south of the facility, there are several state forests and numerous hiking and snowmobiling trails within ten miles of the Project area.

[7] Town of Malone Comprehensive Plan, available at http://www.malonetown.com/PDF/Planning%20&%20Zoning/townmaloneplan_text_nov15_07.pdf.

FIGURE 4. **Facility Area**



Languages

The Article 10 Regulations require an applicant developer to identify in its PIP (1) any language other than English spoken according to United States Census data by 5,000 or more persons residing in any 5-digit zip code postal zone in which any portion of such zone is located within the Study Area for the facility; and (2) any language other than English spoken by a significant population of persons residing in close proximity to the proposed facility, alternative locations, or interconnections.[8]

According to U.S. Census Bureau data, a total of 1,224 people within all of Franklin County speak a language other than English at home.[9] The entire Project area falls within the 12953 zip code, which is wholly located within Franklin County. As there do not appear to be more than 5,000 persons within the Project's zip code speaking a non-English language, the Applicant does not propose any non-English public outreach for this project. The following chart breaks down the languages spoken in the 12853 zip code.

The following chart breaks down the languages spoken in the 12853 zip code.

Subject	Estimate
Population 5 years and over	14,878
Speak only English	13,654
Speak a language other than English	1,224
Speak a language other than English	
Spanish	1,007
Other Indo-European languages	177
Asian and Pacific Island languages	32
Other languages	8

[8] 16 NYCRR § 1000.4(d).
[9] https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml.

Nearby Environmental Justice Communities

The New York Department of Environmental Conservation ("DEC") regulations describe the process for an Article 10 applicant to determine whether a proposed project is likely to impact an environmental justice area, defined as "a minority or low-income community that may bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations . . ."[10]

The DEC's Environmental Justice Policy (CP-29) further provides criteria for an environmental justice area as follows:

1. At least 51.1% of the population in an urban area reported themselves to be members of minority groups; or
2. At least 33.8% of the population in a rural area reported themselves to be members of minority groups; or
3. At least 23.59% of the population in an urban or rural area had household incomes below the federal poverty level.

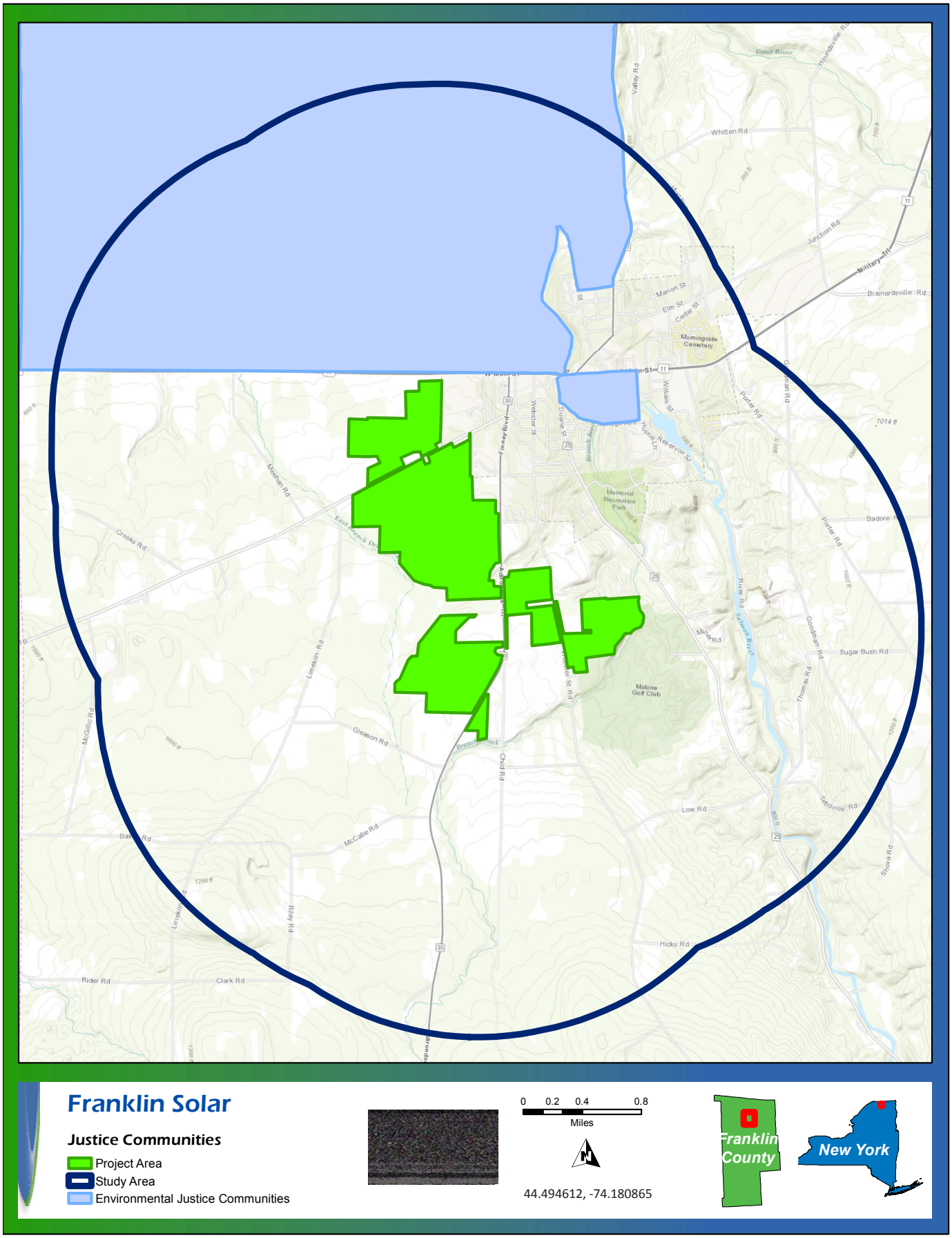
CP-29 has limited applicability, applying only to applications for major projects and major modifications for permits relating to water pollution, air pollution, solid and hazardous waste management, and siting of industrial hazardous waste facilities. The Project will not require any such permits. Accordingly, CP-29 is not applicable to the Project. Although CP-29 is not applicable, the Applicant has considered whether the Project could have negative impacts on nearby environmental justice areas. Based on the Applicant's review of the DEC's GIS Tools for Environmental Justice website,[11] the Applicant does not expect that the Project will have impacts on any environmental justice areas. There appear to be two EJ communities within the Study Area. The larger community to the north of Route 11 and encompassing the three corrections facilities is, based on DEC information, an EJ community based on its 67% minority population. The smaller EJ community south of Route 11 and in the Town of Malone is based on 37.76% of the population being below the federal poverty level.

The two EJ communities will be added to the stakeholder list. Franklin Solar will explore additional outreach activities beyond those contained in this PIP and continue to consult with DPS and DEC Staff to identify the appropriate outreach activities.

If the Applicant does determine that the Project is likely to impact any environmental justice community north of the Project, or, at a later point in the Article 10 process, the Applicant will provide information about the expected impacts of the Project on those communities at that time. The Applicant intends to voluntarily provide additional information about potential impacts to environmental justice areas in the Preliminary Scoping Statement for the Project, and to comply with the Siting Board's environmental justice regulations[12] throughout the entire Article 10 proceeding for the Project.

[10] 6 NYCRR § 487.3(l).
[11] http://www.dec.ny.gov/public/911.html.
[12] 16 NYCRR § 1000 *et seq*.

FIGURE 5. **Map of Adjacent Potential Environmental Justice Areas**



IV. IDENTIFIED STAKEHOLDERS

As with all projects Franklin Solar develops, Franklin Solar is committed to identifying and involving all applicable stakeholders during development to ensure that the Project enjoys community support and is integrated well into its host community. To ensure that the Applicant successfully identified the relevant stakeholders for the PIP, the Applicant reviewed the following resources, including stakeholders below based on the definitions of "local party" and "affected agencies" described in the Siting Board's rules:[13]

- Land use plans;
- County websites;
- Town websites;
- Tax records;
- GIS resources; and
- Other independent research.

The Applicant developed the following list of potentially interested parties from these resources. Franklin Solar plans to update the list (included as Attachment A to this document) as Franklin Solar identifies additional potentially interested parties. Franklin Solar will provide these updates in revised versions of Attachment A to the DPS.

Host and Adjacent Landowners

Host landowners are those with whom the Applicant has entered (or will enter) into a lease, purchase, or easement agreement for the purpose of installing Project facilities on their land. Adjacent landowners are those with property within 2,500 feet of a solar collector array, or substation, or within 500 feet of other Project components.[14] Franklin Solar has identified adjacent landowners using municipal and tax records, and through personal visits by Applicant representatives. Participating and adjacent landowners will be included in initial mailings, outreach activities and notifications that are provided to the stakeholders identified in this PIP. Participating and adjacent landowners that express and interest in the Project and request that they be added to the stakeholder list will receive additional mailing and notifications as the Project progresses. However, for privacy purposes, the stakeholder list may include addresses or parcel numbers rather than landowner identification.

As Franklin Solar plans to use stakeholder input to further refine the list of host and adjacent landowners, a list is not included here. Franklin Solar will include a final list in the Project's Application. Franklin Solar also has broad additional outreach planned, such as mailings and in-person gatherings. Franklin Solar will keep the DPS apprised of additional outreach by filing revised versions of Attachment C. Franklin Solar also plans to keep the Project's website up-to-date with project development information throughout the Article 10 process. Participating and adjacent landowners will be included in initial mailings, outreach activities and notifications that are provided to the stakeholders identified in this PIP. Participating and adjacent landowners that express an interest in the project and request that they be added to the stakeholder list will receive additional mailing and notifications as the Project progresses. However, for privacy purposes, the stakeholder list may include addresses or parcel numbers rather than landowner identification.

Study Area Communities

Franklin County
Town of Malone
Village of Malone

Study Area School Districts

Malone Central School District
Chateaugay Central School District
Brushton-Moira Central School District

[13] 6 NYCRR § 487. The Article 10 regulations identify "affected agencies" (16 NYCRR § 1000.5 and elsewhere) and "local party" (16 NYCRR § 1000.2(s)), definitions Franklin Solar relied on in compiling the list of stakeholders described herein.

[14] 16 NYCRR § 1000.2(a).

Local Agencies

Malone Chamber of Commerce

Franklin County Emergency Services

Franklin County Economic Development Agency

Franklin County Soil and Water Conservation District

Franklin County Highway Department

Franklin County Public Health Department

Cornell Cooperative Extension of Franklin County

State Agencies

New York State Governor's Office

New York State Attorney General

New York State Department of Agriculture and Markets

New York State Department of Economic Development

New York State Department of Environmental Conservation

New York State Department of Health

New York State Department of Public Service

New York State Department of State

New York State Department of Transportation

New York State Division of Homeland Security and Emergency Services

New York State Energy Research and Development Authority

New York State Office of General Services

New York State Office of Parks, Recreation, and Historic Preservation

New York Independent System Operator

New York Power Authority

Empire State Development Corporation

Adirondack Park Agency

Federal Agencies

National Park Service

National Telecommunications and Information Administration

United States Army Corps of Engineers

United States Department of Defense

United States Federal Aviation Administration

United States Fish and Wildlife Service

Elected Officials

US Senator Kirsten Gillibrand

US Senator Charles Schumer

US Representative Elise Stefanik

New York Senator Betty Little

New York Assemblyman Billy Jones

Non-Governmental Entities

Franklin County Historical & Museum Society

Malone Callfiremen

Audubon Society

The Nature Conservancy

New York Public Interest Research Group

New York Rivers United

Sierra Club

The Wetland Trust

Airports and Heliports

The Article 10 regulations require an applicant to consult with airport or heliport operators if the Project triggers requires a Notice of Proposed Construction to be submitted to the Federal Aviation Administration.[15] The Project will not have any facilities that extend more than 200 feet above ground level, nor does the Project meet any of the other requirements triggering notice in the FAA's regulations.[16] Franklin Solar will include the privately owned and operated Malone-Dufort Airport as an interested party; the airport lies north of the Project area.

Other Identified Interested Parties

National Grid

Time Warner Cable/Charter Communications

Verizon Communications

Franklin Solar will keep the DPS informed of additional identified stakeholders, if any, through filing revised versions of Attachment A and/or through the PSS and Application.

[15] 16 NYCRR § 1000.4(f), referencing 16 NYCRR § 1001.25(f).
[16] 14 CFR §77.9(a-e).

Footnote 11

U.S. Department
of Transportation

**Federal Aviation
Administration**

Advisory Circular

Subject: EXCLUSIVE RIGHTS AT FEDERALLY-OBLIGATED AIRPORTS | **Date:** January 4, 2007 | **Initiated by:** AAS-400 | **AC No:** 150/5190-6 | **Change:**

1. PURPOSE. This advisory circular (AC) provides basic information pertaining to the Federal Aviation Administration's (FAA's) prohibition on the granting of exclusive rights at federally-obligated airports. The prohibition on the granting of exclusive rights is one of the obligations assumed by the airport sponsors of public airports that have accepted federal assistance, either in the form of grants or property conveyances. This AC provides guidance on how an airport sponsor can comply with the statutory prohibition on the granting of exclusive rights. Section 1 explains FAA's policy on exclusive rights, the statutory basis for the policy, and exceptions to the policy. Section 2 provides an overview of how the FAA ensures compliance with applicable Federal obligations.

2. CANCELLATION. AC 150/5190-5, *Exclusive Rights and Minimum Standards for Commercial Aeronautical Activities* (Change 1), dated June 10, 2002, is cancelled.

3. DEFINITIONS. Definitions for some of the terms used in this AC are found in Appendix 1.

4. BACKGROUND. In accordance with the FAA Airport and Airway Improvement Act of l982, 49 U.S.C. § 47101, et seq., 49 U.S.C. § 40103(e), and the Airport Improvement Program (AIP) grant assurances, the owner or operator of any airport that has been developed or improved with Federal grant assistance is required to operate the airport for the use and benefit of the public and to make it available for all types, kinds, and classes of aeronautical activity and without granting an exclusive right.[1] The Surplus Property Act of l944 (as amended by 49 U.S.C., §§ 47151-47153) contains parallel obligations under its terms for the conveyance of Federal property for airport purposes.

Similar obligations exist for airports that have received non-surplus government property under 49 U.S.C. § 47125 and previous corresponding statutes. Airports that have received real property under AP-4 agreements remain obligated by the exclusive rights prohibition even though all other obligations are considered expired by the FAA.[2]

It is FAA policy that the sponsor of a federally obligated airport will not grant an exclusive right for the use of the airport to any person providing, or intending to provide, aeronautical services or commodities to the public and will not, either directly or indirectly, grant or permit any person, firm, or corporation, the exclusive right at the airport to conduct aeronautical activities. The exclusive rights

[1] The legislative background for the exclusive rights provisions discussed in this AC began as early as l938 and evolved under the Federal-Aid Airport Program (FAAP), Airport Development Aid Program (ADAP), and Airport Improvement Program (AIP) and was also adopted in land conveyances.

[2] See FAA Order 5190.6A (Section 2-18) for additional information.

prohibition applies to both commercial entities engaging in providing aeronautical services and individual aeronautical users of the airport. The intent of the prohibition on exclusive rights is to promote fair competition at federally-obligated, public use airports for the benefit of aeronautical users. The exclusive rights prohibition remains in effect as long as the airport is operated as an airport, even if the original period for which an airport sponsor was obligated has expired.

The granting of an exclusive right for the conduct of any aeronautical activity on a federally-obligated airport is generally regarded as contrary to the requirements of the applicable Federal obligations, whether such exclusive right results from an express agreement, from the imposition of unreasonable standards or requirements, or by any other means. Existence of an exclusive right at an airport limits the usefulness of the airport and deprives the public of the benefits that flow from competition.

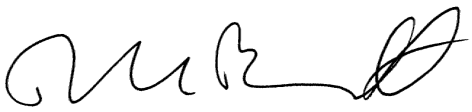
5. RELATED READING MATERIALS.

a. *Federal Aviation Agency Policy Statement, Exclusive Rights at Airports*, Order 5190.1A, as published in the Federal Register (30 FR 13661), October 27, l965.

b. *Rules of Practice for Federally Assisted Airport Proceedings*, as published in the Federal Register (61 FR 53998), October 16, l996.

c. *FAA Airport Compliance Requirements*, Order 5190.6A, October 1, 1989.

d. Further information can be obtained at the Airports District Office (ADO) in your area. A listing of ADOs can be found at http://www.faa.gov/airports_airtraffic/airports/regional_guidance/.



DAVID L. BENNETT
Director, Office of Airport Safety
and Standards

APPENDIX 1. DEFINITIONS

1.1. The following are definitions for the specific purpose of this AC.

a. Aeronautical Activity. Any activity that involves, makes possible, or is required for the operation of aircraft or that contributes to or is required for the safety of such operations. Activities within this definition, commonly conducted on airports, include, but are not limited to, the following: general and corporate aviation, air taxi and charter operations, scheduled and nonscheduled air carrier operations, pilot training, aircraft rental and sightseeing, aerial photography, crop dusting, aerial advertising and surveying, aircraft sales and services, aircraft storage, sale of aviation petroleum products, repair and maintenance of aircraft, sale of aircraft parts, parachute or ultralight activities, and any other activities that, because of their direct relationship to the operation of aircraft, can appropriately be regarded as aeronautical activities. Activities, such as model aircraft and model rocket operations, are not aeronautical activities.

b. Airport District Office (ADO). These FAA offices are outlying units or extensions of regional airport divisions. They advise and assist airport sponsors with funding requests to improve and develop public airports. They also provide advisory services to the owners and operators of both public and private airports in the operation and maintenance of airports. See the FAA Web site for a complete listing of all ADO offices at http://www.faa.gov/airports_airtraffic/airports/regional_guidance/.

c. Airport. An area of land or water which is used, or intended to be used, for the aircraft takeoff and landing. It includes any appurtenant areas used, or intended to be used, for airport buildings or other airport facilities or rights-of-way, together with all airport buildings and facilities located thereon. It also includes any heliport.

d. Airport Sponsor. The airport sponsor is the entity that is legally, financially, and otherwise able to assume and carry out the certifications, representations, warranties, assurances, covenants and other obligations required of sponsors, which are contained in the AIP grant agreement and property conveyances.

e. Commercial Self-Service Fueling. A fueling concept that enables a pilot to fuel an aircraft from a commercial fuel pump installed for that purpose by an FBO or the airport sponsor. The fueling facility may or may not be attended.

f. Exclusive Right. A power, privilege, or other right excluding or debarring another from enjoying or exercising a like power, privilege, or right. An exclusive right can be conferred either by express agreement, by the imposition of unreasonable standards or requirements, or by any other means. Such a right conferred on one or more parties, but excluding others from enjoying or exercising a similar right or rights, would be an exclusive right.

g. Federal Airport Obligations. All references to a Federal grant program, Federal airport development assistance, or Federal aid contained in this AC are intended to address obligations arising from the conveyance of land or from grant agreements entered under one of the following acts:

(1) Surplus Property Act of l944 (SPA), as amended, 49 U.S.C. §§ 47151-47153. Surplus property instruments of transfer were issued by the War Assets Administration (WAA) and are now issued by its successor, the General Services Administration (GSA). However, the law imposes upon the FAA (delegated to FAA from The Department of Transportation) the sole responsibility for determining and enforcing compliance with the terms and conditions of all instruments of transfer by which surplus airport property is or has been conveyed to non-Federal public agencies pursuant to the SPA. 49 U.S.C. § 47151(b).

(2) Federal-Aid Airport Program (FAAP). This grant-in-aid program administered by the agency under the authority of the Federal Airport Act of 1946, as amended, assisted public agencies in the development of a nationwide system of public airports. The Federal Airport Act of 1946 was repealed and superseded by the Airport Development Aid Program (ADAP) of 1970.

(3) Airport Development Aid Program (ADAP). This grant-in-aid program administered by the FAA under the authority of the Airport and Airway Development Act of 1970, as amended, assisted public agencies in the expansion and substantial improvement of the Nation's airport system. The l970 act was repealed and superseded by the Airport and Airway Improvement Act of l982 (AAIA).

(4) Airport Improvement Program (AIP). This grant-in-aid program administered by the FAA under the authority of the Airport and Airway Improvement Act of l982, 49 U.S.C. § 47101, *et seq*., assists in maintaining a safe and efficient nationwide system of public-use airports that meet the present and future needs of civil aeronautics.

h. Federal Grant Assurance. A Federal grant assurance is a provision within a Federal grant agreement to which the recipient of Federal airport development assistance has agreed to comply in consideration of the assistance provided.

i. Fixed Base Operator (FBO). A business granted the right by the airport sponsor to operate on an airport and provide aeronautical services such as fueling, hangaring, tie-down and parking, aircraft rental, aircraft maintenance, and flight instruction.

j. Grant Agreement. A Federal grant agreement represents an agreement made between the FAA (on behalf of the United States) and an airport sponsor for the grant of Federal funding.

k. Proprietary Exclusive. The owner of a public-use airport (public or private owner) may elect to provide any or all of the aeronautical services needed by the public at the airport. In fact, the statutory prohibition against exclusive rights does not apply to these owners. However, while they may exercise the exclusive right to provide aeronautical services, they may not grant or convey this exclusive right to another party. The airport sponsor that elects to engage in a proprietary exclusive must use its own employees and resources to carry out its venture. An independent commercial enterprise that has been designated as an agent of the airport sponsor may not exercise nor be granted such an exclusive right.

l. Public Airport. Means an airport open for public use and that is publicly owned and controlled by a public agency.

m. Public-Use Airport. Means either a public airport or a privately owned airport open for public use.

n. Specialized Aviation Service Operations (**SASO).** SASOs are sometimes known as single-service providers or special FBOs performing less than full services. These types of companies differ from a full service FBO in that they typically offer only a specialized aeronautical service such as aircraft sales, flight training, aircraft maintenance and avionics services for example.

o. Self-Fueling and Self-Service. Self-fueling means the fueling or servicing of an aircraft (i.e. changing the oil, washing) by the owner of the aircraft with his or her own employees and using his or her own equipment. Self-fueling and other self-services cannot be contracted out to another party. Self-fueling implies using fuel obtained by the aircraft owner from the source of his/her preference. As one of many self-service activities that can be conducted by the aircraft owner or operator by his or her own employees using his or her own equipment, self-fueling, differs from using a self-service fueling pump made available by the airport, an FBO or an aeronautical service provider. The use of a self-service fueling pump is a commercial activity and is not considered self-fueling as defined herein

and can be subject to minimum standards. In addition to self-fueling, other self-service activities that can be performed by the aircraft owner with his or her own employees includes activities such as maintaining, repairing, cleaning, and otherwise providing service to an aircraft, provided the service is performed by the aircraft owner or his/her employees with resources supplied by the aircraft owner. Title 14 CFR Part 43 permits the holder of a pilot certificate to perform specific types of preventative maintenance on any aircraft owned or operated by the pilot.

Footnote 12

U.S. Department of Transportation
Federal Aviation Administration

Report to Congress
National Plan of Integrated Airport Systems (NPIAS)

2017-2021

Federal Aviation Administration
U.S. Department of Transportation

Report to Congress

National Plan of Integrated Airport Systems (NPIAS) 2017–2021

Report of the Secretary of Transportation to the United States Congress
Pursuant to Title 49 U.S. Code, Section 47103

The NPIAS 2017–2021 report will be available online at: National Plan of Integrated Airport Systems (NPIAS) Report.

TABLE OF CONTENTS

FIGURES AND TABLES

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EXECUTIVE SUMMARY

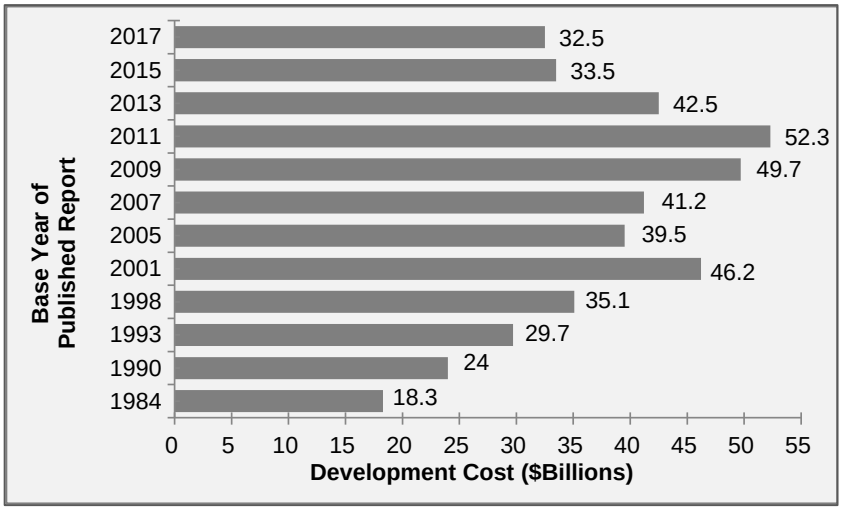
The National Plan of Integrated Airport Systems (NPIAS) report for Fiscal Years (FY) 2017 to 2021 is submitted to Congress in accordance with title 49 United States Code (U.S.C.), section 47103.

The NPIAS report identifies the airports included in the national airport system, the role they serve, and the amounts and types of airport development eligible for Federal funding under the Airport Improvement Program (AIP) over the next 5 years. The Federal Aviation Administration (FAA) has been publishing the NPIAS since 1984.

This edition identifies 3,340 public-use airports[1] (3,332 existing and 8 proposed) that are important to national air transportation and estimates a need for approximately $32.5 billion in AIP-eligible airport projects between 2017 and 2021. This is a decrease of $1 billion (3 percent) from the report issued 2 years ago.

Figure1identifies the development costs at the time each report was prepared and does not reflect constant dollars.

Figure 1: Development Totals, 1984-2017



Airport capital development needs are driven by current and forecasted traffic, use and age of facilities, and changing aircraft technology, which requires airports to update or replace equipment and infrastructure. AIP-eligible development is expected to decrease at large and medium hubs, but development at small hubs is expected to increase, and development at all other airport categories remain flat. Capacity-related development continues to decrease while development to reconstruct pavement, bring an airport up to design standards, and expand or rehabilitate terminal buildings are projected to increase. While this report shows an increase in terminal projects, particularly at the small hubs, many of the large and medium hub airports have terminal projects planned. Since these are generally funded with Passenger Facility Charges (PFC), these costs tend not to be captured in the NPIAS report.

After more than a decade, major airport capacity projects and runway safety area (RSA) initiatives have successfully concluded. This included airport development to increase airport capacity, resulting in 23 major airports completing 27 airfield projects (new runways, runway extensions, or airfield reconfigurations) and to improve all the nonstandard RSAs at commercial service airports to meet dimensional standards or an equivalent level of safety. A new national initiative to improve

[1] The word "airport," as identified in this report, includes landing areas developed for conventional fixed-wing aircraft, helicopters, and seaplanes.

nonstandard surface geometry is beginning, and it is anticipated that increased development costs will be captured in the next NPIAS report.

The FAA considers development included in the NPIAS in the Agency's Airports Capital Improvement Plan process. While all of these 5-year capital estimates are AIP-eligible, some may be funded by other sources, including PFCs or other airport revenue or financing. Funds for airport development are derived from a variety of sources, including Federal/State/local grants, bond proceeds, PFCs, airport-generated funds (landing and terminal fees, parking, aviation fuel, and concessions revenues), and tenant and third-party financing. The availability of funding sources and their adequacy to meet needs varies with type of airport and level of activity.

Cost estimates in the NPIAS are obtained primarily from airport master and State system plans prepared by planning and engineering firms for airport sponsors and local and State agencies. These plans are usually funded in part by FAA, are consistent with FAA forecasts of aeronautical activity, follow FAA guidelines, and have been reviewed and accepted by FAA planners who are familiar with local conditions. Efforts have been made to obtain realistic estimates of development needs that coincide with local and State capital improvement plans. The estimates only include development to be undertaken by airport sponsors (as opposed to projects that might be undertaken by airport tenants, such as airlines and air cargo operators). The development reflected in this report is based on planning documents available through 2015.

The NPIAS cost estimates are based upon planning estimates developed prior to design and full environmental evaluation, which may introduce additional mitigation costs. These development estimates do not include contingency costs (increases in cost based on changes in design or construction uncertainty) or normal price escalation due to inflation (annual increase in costs).

The NPIAS supports the strategic priorities and key initiatives identified in the FAA Administrator's Strategic Initiatives for safety, access, and global leadership by identifying airport improvements that will best meet those priorities. These priorities are identified in Chapter 2 of this report, which addresses the condition and performance of the national airport system, highlighting six topic areas: safety, capacity, environment, pavement condition, surface accessibility, and financial performance.

Overall, the findings are favorable, indicating the system is safe, convenient, well maintained, and that the majority of airport capital improvements are funded by nonfederal sources, such as rents, fees, taxes paid by users, and PFCs. The majority of airports in the national airport system have adequate airport capacity and few delays. However, there are airports that continue to experience consistent delays.

CHAPTER 1: AIRPORT SYSTEM COMPOSITION

OVERVIEW

The national airport system, envisioned when civil aviation was in its infancy, has been developed and nurtured by close cooperation with airport sponsors and other local agencies, as well as Federal and State agencies. Airports are critical to the national transportation system and contribute to a productive national economy and international competitiveness. The enduring principles guiding Federal involvement in the national airport system were articulated more than 20 years ago and were subsequently reaffirmed by FAA and the aviation industry in 2011. To meet the demand for air transportation, airports and the national airport system should have the following attributes:

- Airports should be safe and efficient, located where people will use them, and developed and maintained to appropriate standards;
- Airports should be affordable to both users and the Government, relying primarily on producing self-sustaining revenue and placing minimal burden on the general revenues of the local, State, and Federal Governments;
- Airports should be flexible and expandable and able to meet increased demand and accommodate new aircraft types;
- Airports should be permanent with assurance that they will remain open for aeronautical use over the long term;
- Airports should be compatible with surrounding communities, maintaining a balance between the needs of aviation, the environment, and the requirements of residents;
- Airports should be developed in concert with improvements to the air traffic control system and technological advancement;
- The airport system should support a variety of critical national objectives, such as defense, emergency readiness, law enforcement, and postal delivery; and
- The airport system should be extensive, providing as many people as possible with convenient access to air transportation, typically by having most of the population within 20 miles of a NPIAS airport.

In addition to the above listed principles, a guiding principle for Federal infrastructure investment, as stated in Executive Order 12893,[2] is that Federal investments should be cost beneficial.[3]

While the Nation's airports have evolved differently over the past decades, they are an integral part of U.S. lifestyle and commerce. Some airports are large in size and have multiple runways. Others are relatively small and may only need a short, single runway to serve a critical purpose. The role of an airport is not necessarily directly related to its size or its facilities. Airports fulfill very diverse

[2] Executive Order 12893, Principles for Federal Infrastructure Investments, was issued in the Federal Register on January 31, 1994, and has not been revoked. See http://www.archives.gov/federal-register/executive-orders/pdf/12893.pdf.

[3] The FAA implements these principles by using program guidance to ensure the effective use of Federal aid. A national priority system guides the distribution of funds, supplemented when necessary, by specific requirements for additional analysis or justification. Moreover, virtually all development projects must be justified based on existing or reasonably anticipated civil aeronautical activity levels.

roles—from moving people and cargo and serving agricultural needs, to providing community access and air ambulance services, to supporting private transportation using the smallest piston aircraft to the most sophisticated jets, and providing aeronautical access to manufacturers/assemblers and repair stations that support airlines and operators of all sizes in a global aerospace marketplace.

Approximately 590,039 pilots, 203,880 active general aviation aircraft, and 6,871 air carrier aircraft, utilize 19,536 landing areas consisting of 14,400 private-use (closed to the public) and 5,136 public-use (open to the public) facilities. Listed below (Table 1) is the breakout of private- and public-use landing areas in the United States by type of facility.

The FAA, in concert with State aviation agencies and local planning organizations, identifies public-use airports that are important to the system for inclusion in the NPIAS. About 65 percent (3,332) of the 5,136 public-use airports are included in the NPIAS. There are 1,804 existing public-use airports that generally are not included in the NPIAS because they do not meet the minimum entry criteria,[4] are located at inadequate sites, cannot be expanded and improved to provide a safe and efficient airport, or are located within 20 miles of another NPIAS airport.

Table 1: Numbers and Types of Airports in the United States (as of February 2016)

Type of Facility	Total U.S. Facilities	Private-Use Facilities	Public-Use Facilities	Existing NPIAS Facilities
Airport	13,168	8,321	4,847	3,284
Heliport	5,709	5,643	66	10
Seaplane Base	493	279	214	38
Balloonport	13	12	1	
Gliderport	35	30	5	
Ultralight	118	115	3	
Total	**19,536**	**14,400**	**5,136**	**3,332**[5]

All commercial service airports[6] are included, and selected general aviation airports that meet requirements are included in the NPIAS. Ninety-eight percent of the facilities included in the NPIAS are airports. Throughout this report, the term "airport" includes landing areas developed for conventional fixed-wing aircraft, helicopters, and seaplanes.

The NPIAS report identifies for Congress and the public the airports included in the national airport system, the role they serve, and the amounts and types of airport development eligible for Federal funding under the AIP over the next 5 years. An airport must be included in the NPIAS to be eligible to receive a grant under the AIP. Airport development estimates included in the NPIAS may be funded by other funding sources, such as PFCs or other airport revenue or financing.

[4] The NPIAS entry criteria is contained in FAA Order 5090.3C, Field Formulation of the National Plan of Integrated Airport Systems (NPIAS), available online at: http://www.faa.gov/regulations_policies/orders_notices/index.cfm/go/document.information/documentID/12754.

[5] The eight proposed NPIAS airports are not included in this table.

[6] Privately owned airports with scheduled air carrier service are not eligible for designation as a commercial service airport (i.e., Branson Airport in Branson, Missouri).

AIRPORTS IN THE NPIAS

The NPIAS contains 3,340 airports. This includes 3,332 existing and 8 proposed airports that are anticipated to open within the 5-year period covered by this report. The proposed airports are classified in the same categories as existing airports. Almost 98 percent (3,255) of the NPIAS airports are owned by public entities and 77 are privately owned.

Airports are grouped into two major categories: primary and nonprimary as shown in Figure 2 below. Primary airports are defined as public airports receiving scheduled air carrier service with 10,000 or more enplaned passengers per year. There are 382 primary airports based on calendar year (CY) 2014 data. Primary airports are grouped into four categories defined in statute: large, medium, small, and nonhub.

General aviation aircraft mainly use nonprimary airports. Included in the nonprimary category are nonprimary commercial service airports (public airports receiving scheduled passenger service and between 2,500 and 9,999 enplaned passengers per year), general aviation airports, and reliever airports. There are 2,950 nonprimary airports. These airports are further grouped into five categories: national, regional, local, basic, and unclassified. Appendix C of this report contains the airport definitions contained in both statute and policy that are used in this report.

Figure 2: NPIAS Airports by Category and Role

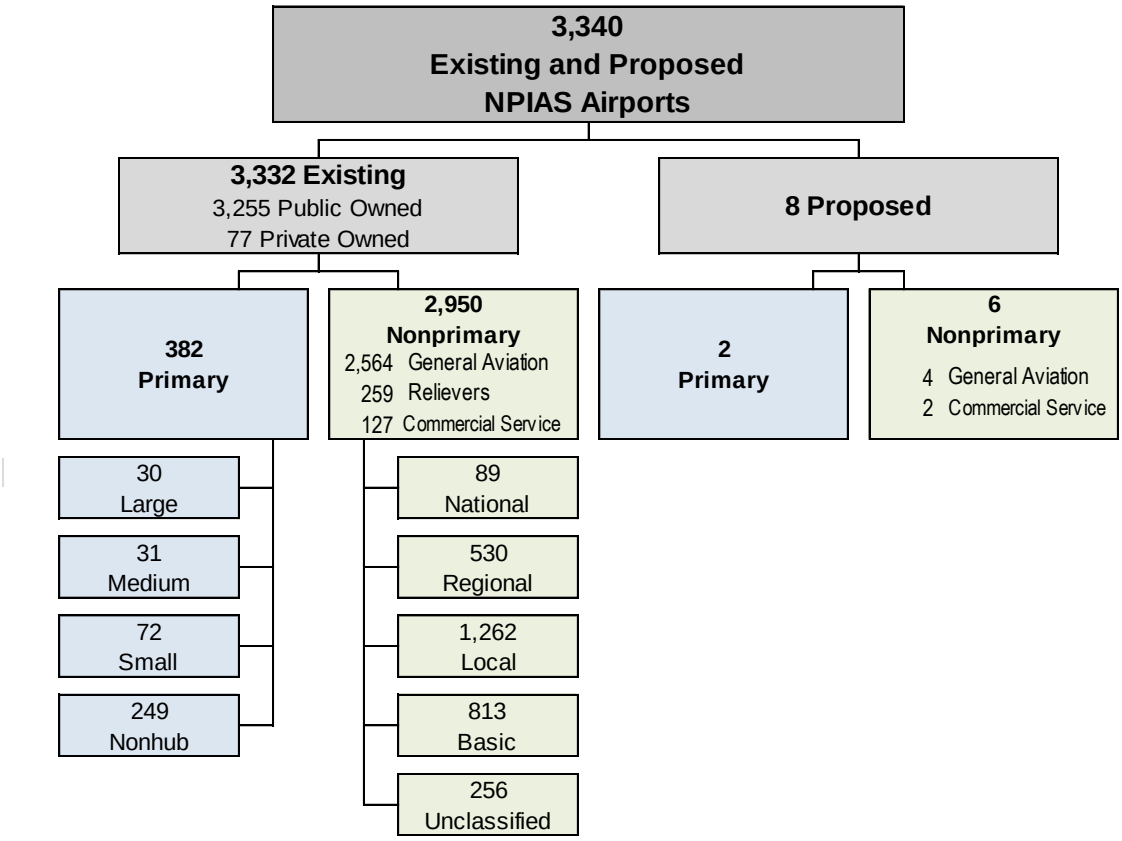


Table 2 reflects the number of existing NPIAS airports by category, as well as the percentage of enplanements, based aircraft, and percentage of total development.

Table 2: Activity and Development at NPIAS Airports

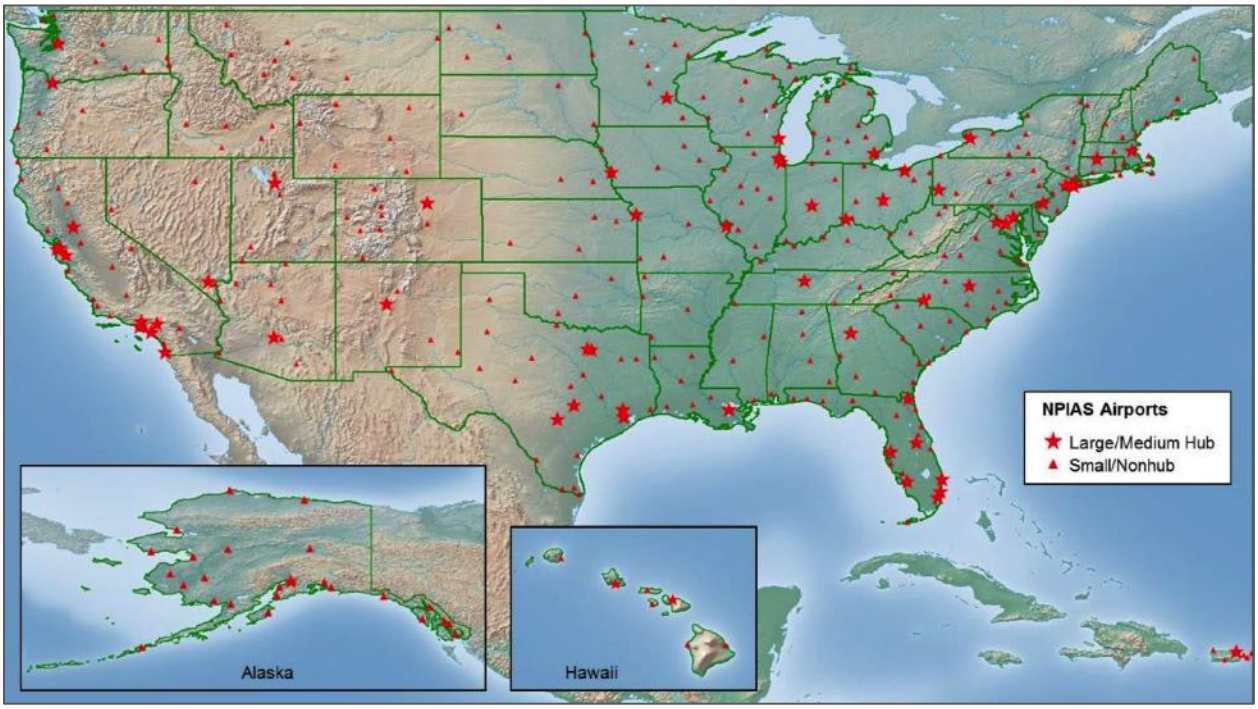
Number of Airports	Airport Category	Percentage of NPIAS Airports	Percentage of 2014 Total Enplanements[1]	Percentage of All Based Aircraft[2]	Percentage of NPIAS Cost[3]
30	Large Hub	1	72	0.7	20.9
31	Medium Hub	1	15	1.7	9.6
72	Small Hub	2	8	4.7	12.8
249	Nonhub	7	4	11.6	16.2
382	**Primary Subtotal**	**11**	**99**	**18.6**	**59.4**
89	National	3		11.5	5.4
531	Regional	16		25.6	12.2
1,261	Local	38		21.2	15.3
813	Basic	24		3.2	6.6
256	Unclassified	8		1.0	0.03
2,950	**Nonprimary Subtotal**	**89**		**62.6**	**39.5**
3,332	**Total NPIAS Airports**	**100**	**99**	**81.2**	**99.0**

[1]The remaining 1 percent of enplanements occurred at non-NPIAS airports.
[2]Based on an active general aviation fleet of 203,880 aircraft in 2015.
[3]These costs are rounded and do not include the cost for new airports (1 percent).

PRIMARY AIRPORTS

The 382 primary airports are grouped into four categories defined in statute: large, medium, small, and nonhub airports. Primary airports receive an annual apportionment with the amount determined by the number of enplaned passengers. CY 2014 enplanements determine FY 2016 service levels and passenger apportionments. Figure 3 below identifies the distribution of the primary airports.

Figure 3: Primary Airports



Large Hubs (30)

Large hubs are those airports that each account for 1 percent or more of total U.S. passenger enplanements.[7] Some of these passengers originate in the local community, and some are connecting passengers transferring from one flight to another. Six large hub airports—San Diego International, LaGuardia, General Edward Lawrence Logan International, Ronald Reagan Washington National, Fort Lauderdale/Hollywood International, and Orlando International—primarily serve passengers that originate in the community or who are traveling specifically to those destinations. Many other large hub airports support higher percentages of passengers who are traveling through the airport to connect to another flight, rather than starting or ending their travel at these airports. Such connecting traffic can account for more than 65 percent of passenger activity at airports such as Charlotte/Douglas International and Hartsfield-Jackson Atlanta International. The 30 large hub airports account for 72 percent of all passenger enplanements.

Large hub airports tend to concentrate on airline and freight operations and have limited general aviation activity. Three large hub airports (Salt Lake City International, Honolulu International, and McCarran International) have an average of 226 based aircraft, but the other 27 large hubs have an average of 28 based aircraft. Thus, locally based general aviation plays a small role at most large hub airports.

The Nation's air traffic delay problems tend to be concentrated at certain large hub airports. Delays occur primarily during inclement weather conditions (i.e., reduced ceiling and visibility) or when runway capacity is reduced below that needed to accommodate traffic levels. Because of the number of connecting flights supported by these airports, delays among these busy large hub airports can quickly ripple throughout the system causing delays at smaller airports nationwide.

Medium Hubs (31)

Medium hubs are defined in statute as airports that each account for between 0.25 percent and 1 percent of total U.S. passenger enplanements. The 31 medium hub airports account for 15 percent of all U.S. enplanements. Medium hub airports usually have sufficient capacity to accommodate air carrier operations and a substantial amount of general aviation activity. Four medium hub airports have an average of almost 300 based aircraft—John Wayne Airport-Orange County, Metropolitan Oakland International, Dallas Love Field, and William P. Hobby—while the other 27 medium hub airports have an average of 80 based aircraft.

Small Hubs (72)

Small hubs are defined in statute as airports that enplane 0.05 percent to 0.25 percent of total U.S. passenger enplanements. There are 72 small hub airports that together account for almost 9 percent of all enplanements. Less than 25 percent of the runway capacity at small hub airports is used by airline operations so these airports can accommodate a great deal of general aviation activity, with an average of 126 based aircraft at each airport. Two small hubs—Fairbanks

[7]The FAA's use of the term hub airport is slightly different than that of airlines, which use it to denote an airport with significant connecting traffic by one or more carriers. The hub categories used by FAA are defined in title 49 U.S.C., section 40102.

International and Long Beach/Daugherty Field—have an average of 468 based aircraft. These airports are typically uncongested and do not have significant air traffic delays.

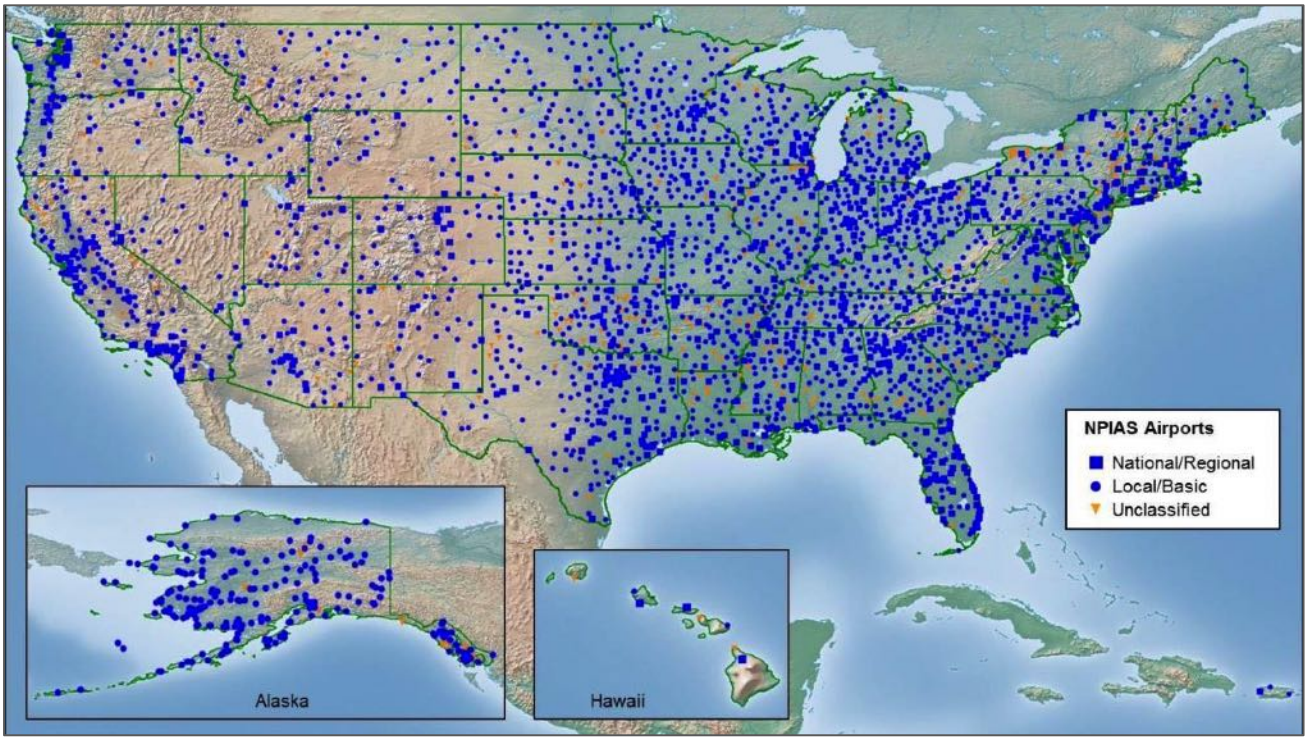
Nonhub Primary (249)

Commercial service airports that enplane less than 0.05 percent of all commercial passenger enplanements but have more than 10,000 annual enplanements are categorized as nonhub primary airports. There are 249 nonhub primary airports that together account for almost 4 percent of all enplanements. These airports are also heavily used by general aviation aircraft with an average of 95 based aircraft.

NONPRIMARY AIRPORTS

Nonprimary airports are mainly used by general aviation aircraft and include 127 nonprimary commercial service, 259 relievers, and 2,564 general aviation airports. Nonprimary airports are divided into categories based on existing activity measures (e.g., the number and types of based aircraft and volume and types of flights). The 2,950 nonprimary airports were further grouped into five categories using existing activity, geographic factors, and public interest functions. These categories, illustrated in Figure 4, are national, regional, local, basic, and unclassified.

Figure 4: Nonprimary Airports



In preparation for the biennial report, FAA reexamined the roles of nonprimary airports in 2015 and coordinated with State aviation agencies and airport sponsors. We will continue to work with industry to identify users of these facilities and their associated role in the State and national airport system. As specialized functions emerge, we will work with industry to incorporate them into the

NPIAS categories. Each airport's category and role is reflected in Appendix A. The next review of airport roles will be in late 2017 in preparation for the NPIAS report due September 2018. Future development of nonprimary airports will continue to be based on eligible and justified needs and priorities consistent with the role of the airport in the national system.

National (89)

National airports are located in metropolitan areas near major business centers and support flying throughout the Nation and the world. These airports provide pilots with attractive alternatives to the busy primary airports. In fact, FAA has designated 65 of these facilities as relievers for primary airports. National airports have very high levels of activity with many jets and multiengine propeller aircraft. Four national airports—Fort Lauderdale Executive, Phoenix Deer Valley, Centennial Airport in Denver, and Gillespie Field in San Diego—have more than 700 aircraft based at their airport. Two airports—Oakland County International in Pontiac, Michigan, and Morristown Municipal in Morristown, New Jersey—have limited air carrier service. National airports average about 250 total based aircraft, including 30 jets.

Regional (530)

Regional airports are also in metropolitan areas and serve relatively large populations. These airports support regional economies with interstate and some long-distance flying and have high levels of activity, including some jets and multiengine propeller aircraft. About 50 of these airports have limited air carrier service, and FAA has designated 151 regional airports as relievers for primary airports. Six regional airports—Mesa Field in Phoenix, Arizona; Whiteman Airport in Los Angeles, California; Livermore Municipal Regional in Livermore, California; Montgomery Field in San Diego, California; Zamperini Field in Torrance, California; and Arlington Municipal in Arlington, Washington—have more than 400 based aircraft. Regional airports average about 100 total based aircraft, including 3 jets.

Local (1,261)

Local airports are a critical component of our general aviation system, providing communities with access to local and regional markets. Typically, local airports are located near larger population centers but not necessarily in metropolitan areas. They also accommodate flight training and emergency services. These airports account for 38 percent of all NPIAS airports and have moderate levels of activity with some multiengine propeller aircraft. About 76 of these airports have limited air carrier service. Four local airports have more than 200 based aircraft— Nampa Municipal in Idaho; Birchwood Airport in Alaska; Corona Municipal in California; and Grants Pass in Oregon. Local airports average about 34 based propeller-driven aircraft and no jets.

Basic (813)

Basic airports fulfill the principal role of a community airport providing a means for private general aviation flying, linking the community with the national airport system, and making other unique contributions. In some instances, the airport is the only way to access the community and provides emergency response access such as emergency medical or fire fighting and mail delivery. These airports have moderate levels of activity with an average of 10 propeller-driven aircraft and no jets.

Unclassified (256)

These airports tend to have limited activity. Of the 199 public-owned unclassified airports, 122 have between 0 and 3 based aircraft and 78 have between 4 and 8 based aircraft. Thirty-five privately owned general aviation airports that have never received an AIP development grant are also unclassified. In addition, 22 privately owned reliever airports currently do not meet criteria for AIP funding.

NEW AIRPORTS (8)

The NPIAS identifies eight proposed airports, two primary and six nonprimary, that are anticipated to be developed over the 5-year period covered by this report in Appendix A. One of the proposed new primary airports is to help meet the future demand for aviation in the Chicago area and is still in the planning stage with a Master Plan and Tier II Environmental Impact Statement (EIS) under development. The other new primary airport is to replace an existing airport in Williston, North Dakota, that is site constrained. The new airports are shown separately in Appendix A and are included in the list of airports by State in Appendix A. New airports are identified by a location identifier beginning with a plus symbol (i.e., +07W). Appendix A does not identify new airports (planning sites) expected to be under development beyond 2021.[8] Inclusion of a planning site in the NPIAS does not represent actual approval of the proposed airport (from planning, environmental or financial perspective), nor does it mean that the FAA has drawn a final conclusion about the need for (or technical or financial feasibility of) the proposed airport. Since the last report, six new airports opened (in 2014 and 2015), including five replacement airports (Tununak, Alaska; Colt, Arkansas; Conway, Arkansas; Bowman, North Dakota; and Thermopolis, Wyoming; and one new airport (Hardin, Montana)).

CONVERSION OF MILITARY AIRFIELDS AND USE OF MILITARY/CIVIL AIRFIELDS

The Defense Base Realignment and Closure (BRAC) Commission has made many military airfields available for conversion to civil aviation use since 1989. About 32 surplus military airfields have been converted to civil use by local communities. Local communities have converted about 32 surplus military airfields to civil use (Roosevelt Roads Naval Air Station in Puerto Rico and Brunswick Naval Air Station in Maine). Most of these military airfields have long runways and associated facilities that can accommodate large civil aircraft. Fifteen of the surplus military airfields have become commercial service airports and four have significant cargo service (Sacramento Mather in California; Rickenbacker International in Ohio; Stewart International in New York; and Guam International in Guam). The remaining surplus airfields are in areas where additional general aviation airports are needed.

[8] The FAA approved a planning site in April 2014 for a proposed replacement airport for Newtok, Alaska. At the time this Report was being prepared, the actual project was not anticipated to be completed within the FY 2017-2021 timeframe. However, as the Report goes to press, the FAA has recently been made aware that the State of Alaska and other agencies are actively reconsidering the timing of this project, which may need to be accelerated.

Even before the establishment of the BRAC, military officials have cooperated with local communities across the country to provide civilian access to military airport facilities. These local arrangements add capacity to the national airport system and maximize public investment dollars by eliminating the duplication of airport facilities in a community for military and civilian activities. There are approximately 21 military installations that also allow civilian aircraft activity. Many of the facilities are included in the NPIAS.

The U.S. Department of Defense (DOD) has found it advantageous to operate from civilian airfields. Similar to civilian uses on military airfields, military activity at civilian airfields reduces public investments in airport infrastructure by taking advantage of existing civilian airfield capabilities for military purposes. As specified in the National Guard Bureau Air National Guard Pamphlet 32-1001, Airport Joint Use Agreements for Military Use of Civilian Airfields, at airports where military units conduct a significant level of activity, DOD entered into an agreement with the local community to pay for costs related to the military use of the airfield. As of 2015, the military has agreements in place with approximately 90 civilian airports.

AIRPORT PRIVATIZATION

Public-use airports in the United States owned and operated by a public agency or a government entity such as a county, city, or State government are eligible to participate in the Airport Privatization Pilot Program. Congress established the pilot program (title 49 U.S.C., section 47134) in 1996 to determine if, once certain economic and legal impediments were removed, privatization could produce alternative sources of capital for airport development and provide benefits. The FAA's Modernization and Reform Act of 2012, expanded the pilot program from 5 to 10 airports, but left the requirement that the pilot program can include no more than one large hub airport and at least one general aviation airport unchanged. Public-owned general aviation airports can be leased or sold; public-owned air carrier airports can only be leased. In February 2013, under the pilot program, FAA approved a 40-year lease of Luis Muñoz Marin International Airport in San Juan, Puerto Rico, from the Puerto Rico Ports Authority (the public sponsor) to Aerostar (a private operator). Currently, Hendry County's Airglades Airport in Clewiston, Florida, has an application under active FAA consideration. Eight pilot program slots (including one for a large hub airport) are available.

Appendix A: All Existing NPIAS Airports (2017-2021)

State	City	Airport	Locid	Ownership	Hub	Role	Category		Current Aircraft		2017-2021
							Current	Year 5	Enplaned	Based	Dev Estimate
NY	East Moriches	Spadaro	1N2	PR		Unclassified	R	R	0	16	$0
NY	Ellenville	Joseph Y Resnick	N89	PU		Local	GA	GA	0	28	$2,876,147
NY	Elmira/Corning	Elmira/Corning Regional	ELM	PU	N		P	P	159,136	48	$24,285,380
NY	Endicott	Tri-Cities	CZG	PU		Local	GA	GA	0	42	$2,050,556
NY	Farmingdale	Republic	FRG	PU	N		P	P	12,559	507	$33,205,656
NY	Fishers Island	Elizabeth Field	0B8	PU		Basic	GA	GA	60	2	$1,468,000
NY	Freehold	Freehold	1I5	PR		Unclassified	GA	GA	0	0	$0
NY	Fulton	Oswego County	FZY	PU		Regional	GA	GA	2	72	$7,491,386
NY	Gasport	Royalton	9G5	PR		Unclassified	GA	GA	0	39	$0
NY	Glens Falls	Floyd Bennett Memorial	GFL	PU		Regional	GA	GA	19	52	$20,811,141
NY	Hamilton	Hamilton Municipal	VGC	PU		Local	GA	GA	26	35	$4,923,334
NY	Hornell	Hornell Municipal	HTF	PU		Basic	GA	GA	0	9	$1,011,800
NY	Hudson	Columbia County	1B1	PU		Regional	GA	GA	6	26	$6,064,165
NY	Ithaca	Ithaca Tompkins Regional	ITH	PU	N		P	P	89,501	60	$6,103,800
NY	Jamestown	Chautauqua County/Jamestown	JHW	PU		Regional	CS	CS	3,222	29	$8,657,748
NY	Johnstown	Fulton County	NY0	PU		Local	GA	GA	0	33	$9,646,825
NY	Kingston	Kingston-Ulster	20N	PR		Unclassified	R	R	4	34	$0
NY	Lake Placid	Lake Placid	LKP	PU		Local	GA	GA	4	20	$3,136,357
NY	Lancaster	Buffalo-Lancaster Regional	BQR	PR		Unclassified	R	R	0	65	$0
NY	Le Roy	Le Roy	5G0	PR		Unclassified	R	R	0	27	$0
NY	Lockport	North Buffalo Suburban	0G0	PR		Unclassified	GA	GA	0	0	$0
NY	Malone	Malone-Dufort	MAL	PU		Basic	GA	GA	0	13	$2,003,193
NY	Massena	Massena International-Richards Field	MSS	PU		Regional	CS	CS	4,553	9	$7,541,654
NY	Middletown	Randall	06N	PR		Unclassified	R	R	0	15	$0

Research and Innovative Technology Administration

Aylward, Anne D.; Brecht-Clark, Jan M.; Farley, Audrey L.; Hu, Patricia S.; Ishihara, David S.; Johns, Robert C.; Lang, Steven R.; Partridge, Ellen L.; Schmitt, Rolf R.; Womack, Kevin C.

Saint Lawrence Seaway Development Corporation

Middlebrook, Craig H.; Pisani, Salvatore L.

[FR Doc. 2013–24813 Filed 10–22–13; 8:45 am]

BILLING CODE 4910–9X–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Interim Policy, FAA Review of Solar Energy System Projects on Federally Obligated Airports

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of interim policy; opportunity to comment.

SUMMARY: This notice establishes interim FAA policy for proposals by sponsors of federally obligated airports to construct solar energy systems on airport property. FAA is adopting an interim policy because it is in the public interest to enhance safety by clarifying and adding standards for measuring ocular impact of proposed solar energy systems which are effective upon publication. FAA will consider comments and make appropriate modifications before issuing a final policy. The policy applies to any proposed on-airport solar energy system that has not received from the FAA either an unconditional airport layout plan approval or a ''no objection'' finding on a Notice of Proposed Construction or Alteration Form 7460–1.

DATES: The effective date of this interim policy is October 23, 2013.

Comments must be received by November 22, 2013.

ADDRESSES: You can get an electronic copy of the interim policy and the comment form on the FAA Airports Web site at *http://www.faa.gov/airports/environmental/*.

You can submit comments using the Comments Matrix, using any of the following methods:

Electronic Submittal to the FAA: Go to *http://www.faa.gov/airports/environmental/* and follow the instructions for sending your comments electronically.

Mail: FAA Office of Airports, Office of Airport Planning and Programming, Routing Symbol APP–400, 800 Independence Avenue SW., Room 615, Washington, DC 20591. Please send two copies.

Fax: 1–202–267–5302.

Hand Delivery: To FAA Office of Airports, Office of Airport Planning and Programming, Routing Symbol APP–400, 800 Independence Avenue SW., Room 615, Washington, DC 20591; between 9 a.m. and 4 p.m., Monday through Friday, except Federal holidays. Please provide two copies.

For more information on the notice and comment process, see the **SUPPLEMENTARY INFORMATION** section of this document.

Privacy: We will post all comments we receive, without change, to *http://www.faa.gov/airports/environmental/*, including any personal information you provide.

Comments Received: To read comments received, go to *http://www.faa.gov/airports/environmental/* at any time.

FOR FURTHER INFORMATION CONTACT: Ralph Thompson, Manager, Airport Planning and Environmental Division, APP–400, Federal Aviation Administration, 800 Independence Ave. SW., Washington, DC 20591, telephone (202) 267–3263; facsimile (202) 267–5257; email: *ralph.thompson@faa.gov*.

SUPPLEMENTARY INFORMATION: The FAA invites interested persons to join in this notice and comment process by filing written comments, data, or views. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data.

Availability of Documents

You can get an electronic copy of this interim policy by visiting the FAA's Airports Web page at *http://www.faa.gov/airports/environmental/*.

Authority for the Policy

This notice is published under the authority described in Subtitle VII, part B, chapter 471, section 47122 of title 49 United States Code.

Background

There is growing interest in installing solar photovoltaic (PV) and solar hot water (SHW) systems on airports. While solar PV or SHW systems (henceforth referred to as solar energy systems) are designed to absorb solar energy to maximize electrical energy production or the heating of water, in certain situations the glass surfaces of the solar energy systems can reflect sunlight and produce glint (a momentary flash of bright light) and glare (a continuous source of bright light). In conjunction with the United States Department of Energy (DOE), the FAA has determined that glint and glare from solar energy systems could result in an ocular impact to pilots and/or air traffic control (ATC) facilities and compromise the safety of the air transportation system. While the FAA supports solar energy systems on airports, the FAA seeks to ensure safety by eliminating the potential for ocular impact to pilots and/or air traffic control facilities due to glare from such projects.

The FAA established a cross-organizational working group in 2012, to establish a standard for measuring glint and glare, and clear thresholds for when glint and glare would impact aviation safety. The standards that this working group developed are set forth in this notice.

A sponsor of a federally-obligated airport must request FAA review and approval to depict certain proposed solar installations (e.g., ground-based installations and collocated installations that increase the footprint of the collocated building or structure) on its airport layout plan (ALP), before construction begins.[1] A sponsor of a federally-obligated airport must notify the FAA of its intent to construct any solar installation [2] by filing FAA Form 7460–1, ''Notice of Proposed Construction or Alteration'' under 14 CFR Part 77 for a Non-Rulemaking case (NRA) [3] [4]. This includes the intent to permit airport tenants, including Federal agencies, to build such

[1] FAA Technical Guidance for Evaluating Selected Solar Technologies on Airports, Section 2.3.5, states that ''solar installations of any size, located on an airport, that are not collocated on an existing structure (i.e., roof of an existing building) and require a new footprint, need to be shown on the Airport Layout Plan (ALP). Collocated solar installations need to be shown on the ALP only if these installations substantially change the footprint of the collocated building or structure. *Available at: http://www.faa.gov/airports/environmental/policy_guidance/media/airport_solar_guide_print.pdf.* Title 49 of the United States Code (USC), sec. 47107(a), requires, in part, a current ALP approved by the FAA prior to the approval of an airport development project. See Grant Assurance No. 29, AC No. 150/5070–6B, and FAA Order No. 5100.38.

[2] Any solar installation means any ground-based solar energy installation and those solar energy installations collocated with a building or structure (i.e., rooftop installations).

[3] FAA Technical Guidance for Evaluating Selected Solar Technologies on Airports Section 3.1 reads in part ''All solar projects at airports must submit to FAA a Notice of Proposed Construction Form 7460 . . .''. This section further states ''Even if the project will be roof mounted . . . the sponsor must still submit a case'' [i.e., file a Form 7460–1].

[4] The requirements of this policy are not mandatory for a proposed solar installation that is not on an airport and for which a form 7460–1 is filed under part 77 and is studied under the Obstruction Evaluation Program. However, the FAA urges proponents of off-airport solar-installations to voluntarily implement the provisions in this policy.

installations. The sponsor's obligation to obtain FAA review and approval to depict certain proposed solar energy installation projects at an airport is found in 49 U.S.C. 47107(a)(16) and Sponsor Grant Assurance 29, ''Airport Layout Plan.'' Under these latter provisions, the sponsor may not make or permit any changes or alterations in the airport or any of its facilities which are not in conformity with the ALP as approved by the FAA and which might, in the opinion of the FAA, adversely affect the safety, utility or efficiency of the airport.

Airport sponsors and project proponents must comply with the policies and procedures in this notice to demonstrate to the FAA that a proposed solar energy system will not result in an ocular impact that compromises the safety of the air transportation system. This process enables the FAA to approve amendment of the ALP to depict certain solar energy projects or issue a ''no objection'' finding to a filed 7460–1 form. The FAA expects to continue to update these policies and procedures as part of an iterative process as new information and technologies become available.

Solar energy systems located on an airport that is not federally-obligated or located outside the property of a federally-obligated airport are not subject to this policy. Proponents of solar energy systems located off-airport property or on non-federally-obligated airports are strongly encouraged to consider the requirements of this policy when siting such systems.

This interim policy clarifies and adds standards for measurement of glint or glare presented in the 2010 Technical Guidance document. Later this year the FAA plans to publish an update to the ''Technical Guidance for Evaluating Selected Solar Technologies on Airports,'' (hereinafter referred to as ''Technical Guidance'') dated November 2010. This update to the technical guidance will include the standards for measuring glint and glare outlined in this notice. It will also provide enhanced criteria to ensure the proper siting of a solar energy installation to eliminate the potential for harmful glare to pilots or air traffic control facilities.

In advance of the planned update, as part of this Notice, we are clarifying one aspect of the Technical Guidance relating to airport sponsor and FAA responsibilities for evaluating the potential for solar energy systems installed on airports to either block, reflect, or disrupt radar signals, NAVAIDS, and other equipment required for safe aviation operations. Section 3.1 of the Technical Guidance, entitled ''Airspace Review,'' correctly states that this role is exclusively the responsibility of FAA Technical Operations (Tech Ops). However subsection 3.1.3, ''System Interference,'' states: ''[s]tudies conducted during project siting should identify the location of radar transmission and receiving facilities and other NAVAIDS, and determine locations that would not be suitable for structures based on their potential to either block, reflect, or disrupt radar signals.''

Reading the two sections together, what is meant is that the airport sponsor, in siting a proposed solar energy system, is responsible for limiting the potential for inference with communication, navigation, and surveillance (CNS) facilities. The sponsor should do so by ensuring that solar energy systems remain clear of the critical areas surrounding CNS facilities. FAA Advisory Circular (AC) 5300–13, ''Airport Design,'' Chapter 6, defines the critical areas for common CNS facilities located on an airport. Sponsors may need to coordinate with FAA Technical Operations concerning CNS facilities not in AC 5300–13. As stated in Section 3.1, the FAA is responsible for evaluating if there are any impacts to CNS facilities. The FAA will conduct this review after the Form 7460–1 is filed for the construction of a new solar energy system installation on an airport. In summary, airport sponsors do not need to conduct studies on their own to determine impacts to CNS facilities when siting a solar energy system on airport. Section 3.1.3 will be revised accordingly in the next version of the Technical Guidance.

Interim Policy Statement

The following sets forth the standards for measuring ocular impact, the required analysis tool, and the obligations of the Airport Sponsor when a solar energy system is proposed for development on a federally-obligated airport.

The FAA is adopting an interim policy because it is in the public interest to enhance safety by clarifying and adding standards for measuring ocular impact of proposed solar energy systems. FAA will consider comments and make appropriate modifications before issuing a final policy in a future **Federal Register** Notice. The policy applies to any proposed solar energy system that has not received unconditional airport layout plan approval (ALP) or a ''no objection'' from the FAA on a filed 7460–1, Notice of Proposed Construction or Alteration.

Standard for Measuring Ocular Impact

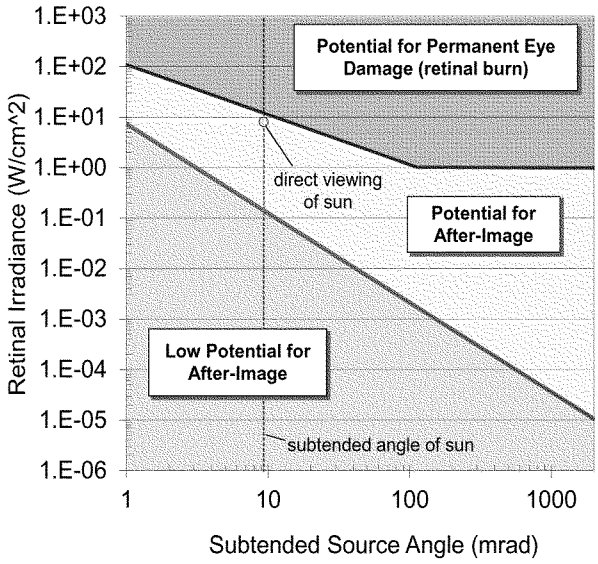
FAA adopts the *Solar Glare Hazard Analysis Plot* shown in Figure 1 below as the standard for measuring the ocular impact of any proposed solar energy system on a federally-obligated airport. To obtain FAA approval to revise an airport layout plan to depict a solar installation and/or a ''no objection'' to a Notice of Proposed Construction Form 7460–1, the airport sponsor will be required to demonstrate that the proposed solar energy system meets the following standards:

1. No potential for glint or glare in the existing or planned Airport Traffic Control Tower (ATCT) cab, and

2. No potential for glare or ''low potential for after-image'' (shown in green in Figure 1) along the final approach path for any existing landing threshold or future landing thresholds (including any planned interim phases of the landing thresholds) as shown on the current FAA-approved Airport Layout Plan (ALP). The final approach path is defined as two (2) miles from fifty (50) feet above the landing threshold using a standard three (3) degree glidepath.

Ocular impact must be analyzed over the entire calendar year in one (1) minute intervals from when the sun rises above the horizon until the sun sets below the horizon.

Figure 1



Solar Glare Ocular Hazard Plot: The potential ocular hazard from solar glare is a function of retinal irradiance and the subtended angle (size/distance) of the glare source. It should be noted that the ratio of spectrally weighted solar illuminance to solar irradiance at the earth's surface yields a conversion factor of ~100 lumens/W. Plot adapted from Ho et al., 2011.

Chart References: Ho, C.K., C.M. Ghanbari, and R.B. Diver, 2011, Methodology to Assess Potential Glint and Glare Hazards from Concentrating Solar Power Plants: Analytical Models and Experimental Validation, J. Solar Energy Engineering, August 2011, Vol. 133, 031021-1 – 031021-9.

Tool To Assess Ocular Impact

In cooperation with the DOE, the FAA is making available free-of-charge the *Solar Glare Hazard Analysis Tool* (SGHAT). The SGHAT was designed to determine whether a proposed solar energy project would result in the potential for ocular impact as depicted on the *Solar Glare Hazard Analysis Plot* shown above.

The SGHAT employs an interactive Google map where the user can quickly locate a site, draw an outline of the proposed solar energy system, and specify observer locations (Airport Traffic Control Tower cab) and final approach paths. Latitude, longitude, and elevation are automatically recorded through the Google interface, providing necessary information for sun position and vector calculations. Additional information regarding the orientation and tilt of the solar energy panels, reflectance, environment, and ocular factors are entered by the user.

If glare is found, the tool calculates the retinal irradiance and subtended source angle (size/distance) of the glare source to predict potential ocular hazards ranging from temporary after-image to retinal burn. The results are presented in a simple, easy-to-interpret plot that specifies when glare will occur throughout the year, with color codes indicating the potential ocular hazard. The tool can also predict relative energy production while evaluating alternative designs, layouts, and locations to identify configurations that maximize energy production while mitigating the impacts of glare.

Users must first register for the use of the tool at this web address: *www.sandia.gov/glare.*

Required Use of the SGHAT

As of the date of publication of this interim policy, the FAA requires the use of the SGHAT to demonstrate compliance with the standards for measuring ocular impact stated above for any proposed solar energy system located on a federally-obligated airport. The SGHAT is a validated tool specifically designed to measure glare according to the *Solar Glare Hazard Analysis Plot.* All sponsors of federally-obligated airports who propose to install or to permit others to install solar energy systems on the airport must attach the SGHAT report, outlining solar panel glare and ocular impact, for each point of measurement to the Notice of Proposed Construction Form 7460–1. The FAA will consider the use of alternative tools or methods on a case-by-case basis. However, the FAA must approve the use of an alternative tool or method prior to an airport sponsor seeking approval for any proposed on-airport solar energy system. The alternative tool or method must evaluate ocular impact in accordance with the *Solar Glare Hazard Analysis Plot.*

Please contact the Office of Airport Planning and Programming, Airport Planning and Environmental Division, APP–400, for more information on the validation process for alternative tools or methods.

Airport sponsor obligations have been discussed above under Background. We caution airport sponsors that under preexisting airport grant compliance policy, failure to seek FAA review of a solar installation prior to construction could trigger possible compliance action under 14 CFR Part 16, ''Rules of Practice for Federally-Assisted Airport Enforcement Proceedings.'' Moreover, if a solar installation creates glare that interferes with aviation safety, the FAA could require the airport to pay for the elimination of solar glare by removing or relocating the solar facility.

Issued in Washington, DC, on September 27, 2013.

Benito De Leon,

Director, Office of Airport Planning and Programming.

[FR Doc. 2013–24729 Filed 10–22–13; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Third Meeting: RTCA Tactical Operations Committee (TOC)

AGENCY: Federal Aviation Administration (FAA), U.S. Department of Transportation (DOT)

ACTION: Third Meeting Notice of RTCA Tactical Operations Committee.

SUMMARY: The FAA is issuing this notice to advise the public of the third meeting of the RTCA Tactical Operations Committee.

DATES: The meeting will be held November 7, 2013 from 9 a.m.–3 p.m.

ADDRESSES: The meeting will be held at RTCA Headquarters, 1150 18th Street NW., Suite 910, Washington, DC 20036.

FOR FURTHER INFORMATION CONTACT: The RTCA Secretariat, 1150 18th Street NW., Suite 910, Washington, DC 20036, or by telephone at (202) 833–9339, fax at (202) 833–9434, or Web site *http://www.rtca.org.* Andy Cebula, NAC Secretary can also be contacted at *acebula@rtca.org* or 202–330–0652.

SUPPLEMENTARY INFORMATION: Pursuant to section 10(a)(2) of the Federal Advisory Committee Act (Pub. L. No. 92–463, 5 U.S.C., App.), notice is hereby given for a meeting of the Tactical Operations Committee (TOC). The agenda will include the following:

November 19, 2013

- Opening of Meeting/Introduction of TOC Members
- Official Statement of Designated Federal Official
- Approval of July 23, 2013 Meeting Summary
- FAA Report
- Notice to Airmen (NOTAM) Activity Prioritization
- Regional Task Groups (RTGs)
- Reports on current activities underway by Regional Task Groups: Eastern, Central, Western
- VHF Omni-directional Range (VOR) Minimum Operating Network
- New Tasking: Obstacle Clearance
- Anticipated Issues for TOC consideration and action at the next meeting
- Other Business
- Adjourn

Attendance is open to the interested public but limited to space availability. With the approval of the chairman, members of the public may present oral statements at the meeting. Persons wishing to present statements or obtain information should contact the person listed in the **FOR FURTHER INFORMATION CONTACT** section. Members of the public may present a written statement to the committee at any time.

Issued in Washington, DC, on October 18, 2013.

Edith V. Parish,

Senior Advisor, Mission Support Services, Air Traffic Organization, Federal Aviation Administration.

[FR Doc. 2013–24968 Filed 10–22–13; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Public Notice for Waiver of Aeronautical Land-Use Assurance

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of intent of waiver with respect to land; French Lick Airport; French Lick, Indiana.

SUMMARY: The FAA is considering a proposal to change a portion of airport land from aeronautical use to non-aeronautical use and to authorize the sale of airport property located at French Lick Airport, French Lick, Indiana. The aforementioned land is not needed for aeronautical use. The proposal consists of 18.606 acres located in the southern section of airport property which is not being used by the airport presently. The land is to be sold to Commissioners of Orange County for the construction of County Road CR 300 South/Airport Road to facilitate access to the airport.

DATES: Comments must be received on or before November 22, 2013.

ADDRESSES: Documents are available for review by appointment at the FAA Airports District Office, Azra Hussain, Program Manager, 2300 E. Devon Avenue, Des Plaines, Illinois 60018 Telephone: (847) 294–8252/Fax: (847) 294–7046 and Zachary D. Brown, French Lick Municipal Airport, 9764 West County Road 375 South, French Lick, Indiana, 47933.

Written comments on the Sponsor's request must be delivered or mailed to: Azra Hussain, Program Manager, Federal Aviation Administration, Airports District Office, 2300 E. Devon Avenue, Des Plaines, Illinois (847) 294–7046.

FOR FURTHER INFORMATION CONTACT: Azra Hussain, Program Manager, Federal Aviation Administration, Airports District Office, 2300 E. Devon Avenue, Des Plaines, Illinois 60018. Telephone Number: (847) 294–8252/FAX Number: (847) 294–7046.

SUPPLEMENTARY INFORMATION: In accordance with section 47107(h) of Title 49, United States Code, this notice is required to be published in the **Federal Register** 30 days before modifying the land-use assurance that requires the property to be used for an aeronautical purpose.

The subject land consists of two parcels. Parcel 1 (approx. 16.667 acres) was acquired through the Federal Aid to Airport Program dated July 28, 1963 and Parcel 2 (approx. 1.939 acres) was acquired by the sponsor as part of a larger parcel (approx. 9.97 acres) for the nominal sum of One Dollar and zero cents ($1.00) on April 19, 2010. The Commissioners of Orange County intend to purchase the property for a nominal sum of One Dollar and zero cents ($1.00) for the construction of County Road CR 300 South/Airport Road. Construction of the road will facilitate access to the airport. The aforementioned land is not needed for aeronautical use, as shown on the Airport Layout Plan. There are no impacts to the airport by allowing the airport to dispose of the property.

This notice announces that the FAA is considering the release of the subject airport property at French Lick Airport, French Lick, Indiana, subject to easements and covenants running with the land. Approval does not constitute a commitment by the FAA to financially assist in the disposal of the subject airport property nor a determination that all measures covered by the program are eligible for grant-in-aid funding from the FAA. The disposition of proceeds from the sale of the airport property will be in accordance with FAA's Policy and Procedures Concerning the Use of Airport Revenue, published in the **Federal Register** on February 16, 1999 (64 FR 7696).

Issued in Des Plaines, Illinois on September 30, 2013.

James Keefer,

Manager, Chicago Airports District Office, FAA, Great Lakes Region.

[FR Doc. 2013–24738 Filed 10–22–13; 8:45 am]

BILLING CODE 4910–13–P

FORGESOLAR GLARE ANALYSIS

Project: **Malone Airport**
Proposed PV sites near Malone Airport, New York

Site configuration: **Malone-Dufort Airport**
Analysis conducted by Calvin Martin (19clay@gmail.com) at 00:25 on 15 Apr, 2018.

U.S. FAA 2013 Policy Adherence

The following table summarizes the policy adherence of the glare analysis based on the 2013 U.S. Federal Aviation Administration Interim Policy 78 FR 63276. This policy requires the following criteria be met for solar energy systems on airport property:

- No "yellow" glare (potential for after-image) for any flight path from threshold to 2 miles
- No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.
- Default analysis and observer characteristics (see list below)

ForgeSolar does not represent or speak officially for the FAA and cannot approve or deny projects. Results are informational only.

COMPONENT	STATUS	DESCRIPTION
Analysis parameters	PASS	Analysis time interval and eye characteristics used are acceptable
Flight path(s)	FAIL	Flight path receptor(s) receive yellow glare
ATCT(s)	N/A	No ATCT receptors designated

Default glare analysis and observer eye characteristics are as follows:

- Analysis time interval: 1 minute
- Ocular transmission coefficient: 0.5
- Pupil diameter: 0.002 meters
- Eye focal length: 0.017 meters
- Sun subtended angle: 9.3 milliradians

FAA Policy 78 FR 63276 can be read at https://www.federalregister.gov/d/2013-24729

SITE CONFIGURATION

Analysis Parameters

DNI: peaks at 1,000.0 W/m^2
Time interval: 1 min
Ocular transmission coefficient: 0.5
Pupil diameter: 0.002 m
Eye focal length: 0.017 m
Sun subtended angle: 9.3 mrad
Site Config ID: 17268.2315

PV Array(s)

Name: PV array 1
Axis tracking: Fixed (no rotation)
Tilt: 45.0°
Orientation: 13.0°
Rated power: -
Panel material: Smooth glass without AR coating
Reflectivity: Vary with sun
Slope error: correlate with material

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	44.839439	-74.309807	895.93	0.00	895.93
2	44.835543	-74.317360	908.59	0.00	908.59
3	44.828604	-74.316502	947.43	0.00	947.43
4	44.823491	-74.313240	954.31	0.00	954.31
5	44.821421	-74.307404	961.82	0.00	961.82
6	44.821664	-74.300365	958.85	0.00	958.85
7	44.832135	-74.301739	940.71	0.00	940.71
8	44.834326	-74.302425	928.28	0.00	928.28
9	44.835909	-74.305687	904.21	0.00	904.21
10	44.837856	-74.307747	902.37	0.00	902.37

Name: PV array 2
Axis tracking: Fixed (no rotation)
Tilt: 45.0°
Orientation: 13.0°
Rated power: -
Panel material: Smooth glass without AR coating
Reflectivity: Vary with sun
Slope error: correlate with material

Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	44.833109	-74.298820	920.63	0.00	920.63
2	44.829822	-74.298477	931.52	0.00	931.52
3	44.823612	-74.297619	938.83	0.00	938.83
4	44.821543	-74.296074	946.27	0.00	946.27
5	44.821056	-74.290924	921.42	0.00	921.42
6	44.821786	-74.287148	897.68	0.00	897.68
7	44.825317	-74.285603	867.48	0.00	867.48
8	44.830065	-74.285603	848.32	0.00	848.32
9	44.832378	-74.288177	858.48	0.00	858.48
10	44.833596	-74.291782	864.83	0.00	864.83
11	44.833596	-74.297447	901.49	0.00	901.49

Flight Path Receptor(s)

Name: FP 1
Description:
Threshold height: 50 ft
Direction: °
Glide slope: 3.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 120.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	44.851731	-74.326630	777.98	50.00	827.98
Two-mile	44.830912	-74.298297	929.08	452.36	1381.44

Name: FP 2
Description:
Threshold height: 50 ft
Direction: °
Glide slope: 3.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 120.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	44.851853	-74.328175	775.57	50.00	825.57
Two-mile	44.826900	-74.307550	951.75	427.28	1379.03

Name: FP 3
Description:
Threshold height: 50 ft
Direction: °
Glide slope: 3.0°
Pilot view restricted? Yes
Vertical view: 30.0°
Azimuthal view: 120.0°

Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	44.852461	-74.325085	776.11	50.00	826.11
Two-mile	44.833977	-74.293687	819.26	560.31	1379.57

GLARE ANALYSIS RESULTS

Summary of Glare

PV Array Name	Tilt (°)	Orient (°)	"Green" Glare min	"Yellow" Glare min	Energy kWh
PV array 1	45.0	13.0	0	14,871	-
PV array 2	45.0	13.0	0	0	-

Total annual glare received by each receptor

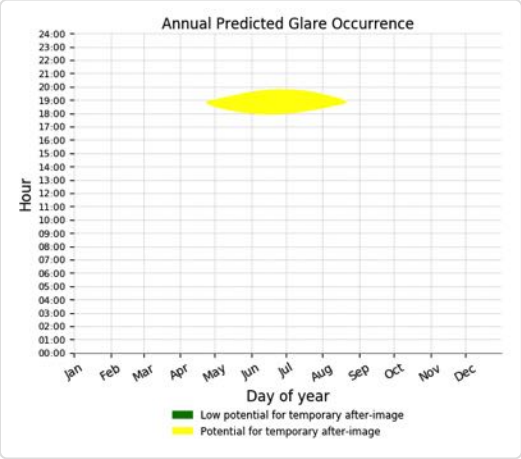
Receptor	Annual Green Glare (min)	Annual Yellow Glare (min)
FP 1	0	7102
FP 2	0	3662
FP 3	0	4107

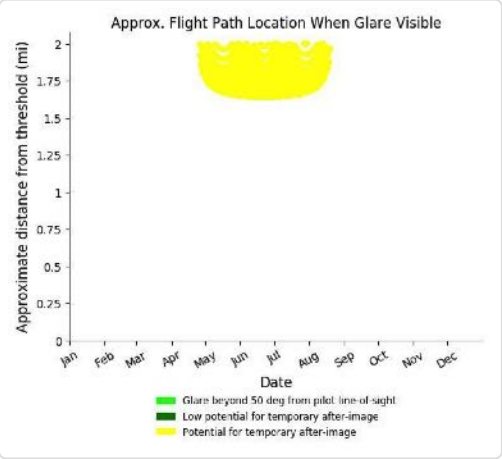
Results for: PV array 1

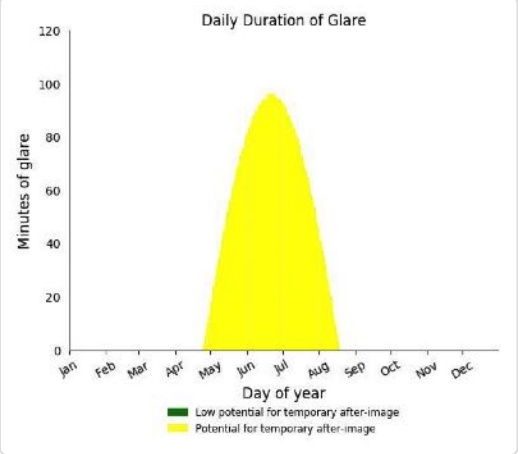
Receptor	Green Glare (min)	Yellow Glare (min)
FP 1	0	7102
FP 2	0	3662
FP 3	0	4107

Flight Path: FP 1

7102 minutes of yellow glare
0 minutes of green glare



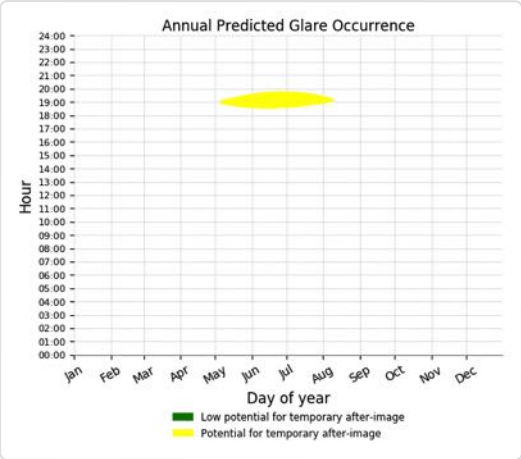


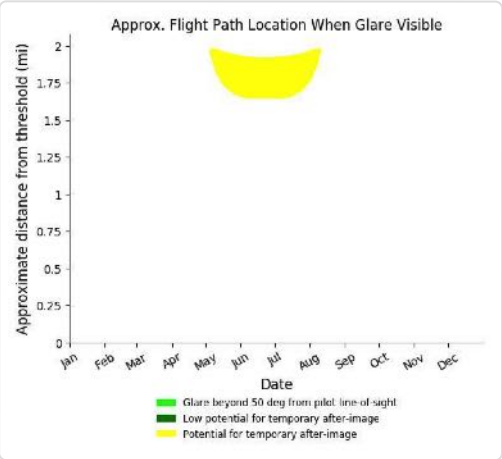


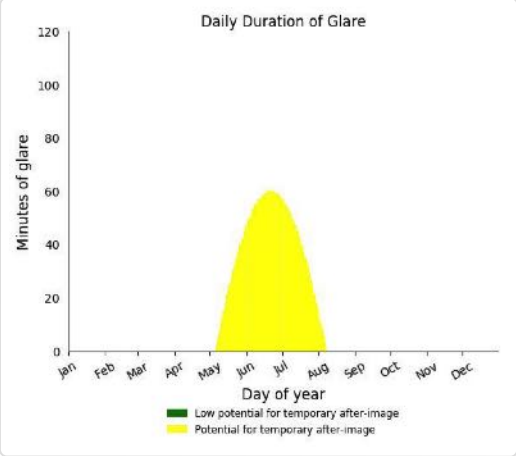
Flight Path: FP 2

3662 minutes of yellow glare

0 minutes of green glare



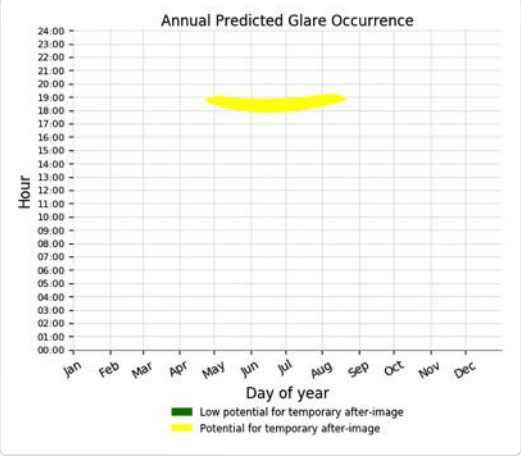


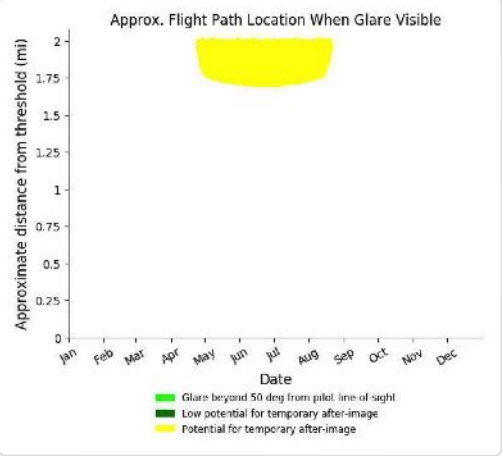


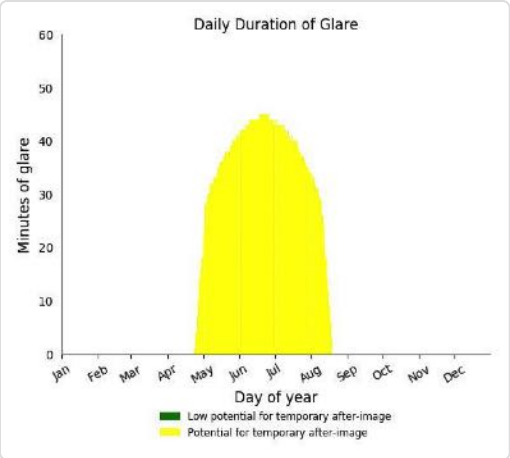
Flight Path: FP 3

4107 minutes of yellow glare

0 minutes of green glare







Results for: PV array 2

Receptor	Green Glare (min)	Yellow Glare (min)
FP 1	0	0
FP 2	0	0
FP 3	0	0

Flight Path: FP 1

0 minutes of yellow glare
0 minutes of green glare

Flight Path: FP 2

0 minutes of yellow glare
0 minutes of green glare

Flight Path: FP 3

0 minutes of yellow glare
0 minutes of green glare

Assumptions

"Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
"Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.
Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values may differ.
Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.

GlareGauge Glare Analysis Results

Site Configuration: Malone-Dufort Airport

Project site configuration details and results.

Created **April 14, 2018 8:23 p.m.**
Updated **April 14, 2018 8:26 p.m.**
DNI **varies** and peaks at **1,000.0 W/m^2**
Analyze every **1** minute(s)
0.5 ocular transmission coefficient
0.002 m pupil diameter
0.017 m eye focal length
9.3 mrad sun subtended angle
Site Configuration ID: 17268.2315

Summary of Results

Glare with potential for temporary after-image predicted

PV name	Tilt	Orientation	"Green" Glare	"Yellow" Glare	Energy Produced
	deg	deg	min	min	kWh
PV array 1	45.0	13.0	0	14,871	-
PV array 2	45.0	13.0	0	0	-

Component Data

PV Array(s)

Name: PV array 1
Axis tracking: Fixed (no rotation)
Tilt: 45.0 deg
Orientation: 13.0 deg
Rated power: -
Panel material: Smooth glass without AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 6.55 mrad

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	44.839439	-74.309807	895.93	0.00	895.93
2	44.835543	-74.317360	908.59	0.00	908.59
3	44.828604	-74.316502	947.43	0.00	947.43
4	44.823491	-74.313240	954.31	0.00	954.31
5	44.821421	-74.307404	961.82	0.00	961.82
6	44.821664	-74.300365	958.85	0.00	958.85
7	44.832135	-74.301739	940.71	0.00	940.71
8	44.834326	-74.302425	928.28	0.00	928.28
9	44.835909	-74.305687	904.21	0.00	904.21
10	44.837856	-74.307747	902.37	0.00	902.37

Name: PV array 2
Axis tracking: Fixed (no rotation)
Tilt: 45.0 deg
Orientation: 13.0 deg
Rated power: -
Panel material: Smooth glass without AR coating
Vary reflectivity with sun position? Yes
Correlate slope error with surface type? Yes
Slope error: 6.55 mrad

Vertex	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
1	44.833109	-74.298820	920.63	0.00	920.63
2	44.829822	-74.298477	931.52	0.00	931.52
3	44.823612	-74.297619	938.83	0.00	938.83
4	44.821543	-74.296074	946.27	0.00	946.27
5	44.821056	-74.290924	921.42	0.00	921.42
6	44.821786	-74.287148	897.68	0.00	897.68
7	44.825317	-74.285603	867.48	0.00	867.48
8	44.830065	-74.285603	848.32	0.00	848.32
9	44.832378	-74.288177	858.48	0.00	858.48
10	44.833596	-74.291782	864.83	0.00	864.83
11	44.833596	-74.297447	901.49	0.00	901.49

Flight Path Receptor(s)

Name: FP 1
Description:
Threshold height: 50 ft
Direction: 316.1 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 120.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
Threshold	44.851731	-74.326630	777.98	50.00	827.98
2-mile point	44.830912	-74.298297	929.08	452.36	1381.44

Name: FP 2
Description:
Threshold height: 50 ft
Direction: 329.7 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 120.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
Threshold	44.851853	-74.328175	775.57	50.00	825.57
2-mile point	44.826900	-74.307550	951.75	427.28	1379.03

Name: FP 3
Description:
Threshold height: 50 ft
Direction: 309.7 deg
Glide slope: 3.0 deg
Pilot view restricted? Yes
Vertical view restriction: 30.0 deg
Azimuthal view restriction: 120.0 deg

Point	Latitude	Longitude	Ground elevation	Height above ground	Total elevation
	deg	deg	ft	ft	ft
Threshold	44.852461	-74.325085	776.11	50.00	826.11
2-mile point	44.833977	-74.293687	819.26	560.31	1379.57

PV Array Results

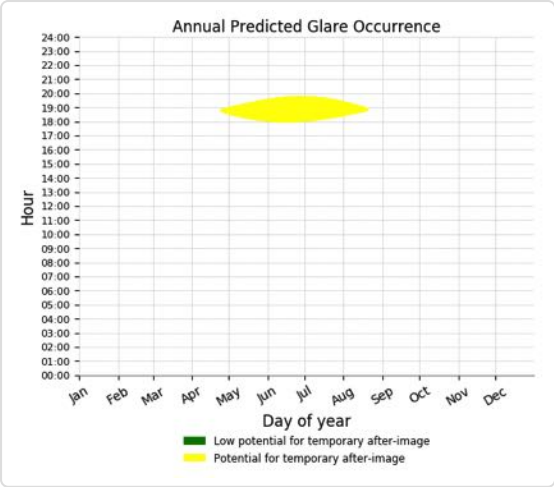
PV array 1 potential temporary after-image

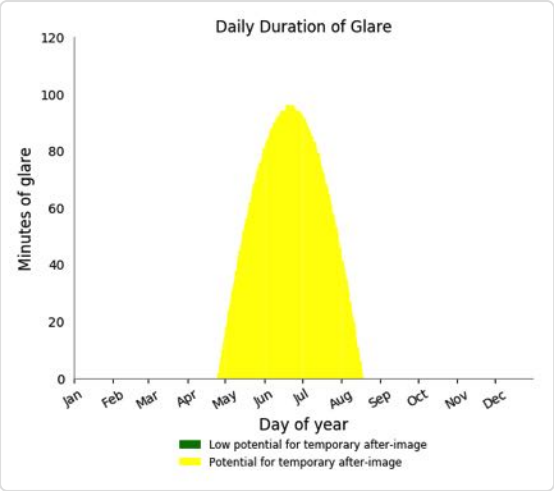
Component	Green glare (min)	Yellow glare (min)
FP: FP 1	0	7102
FP: FP 2	0	3662
FP: FP 3	0	4107

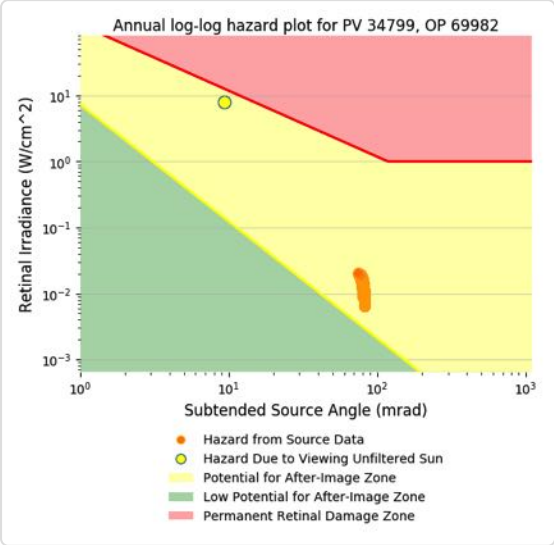
PV array 1 - Flight Path Receptor (FP 1)

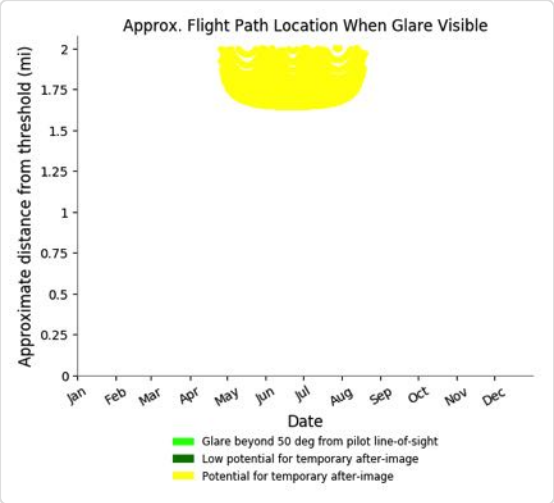
PV array is expected to produce the following glare for observers on this flight path:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 7,102 minutes of "yellow" glare with potential to cause temporary after-image.





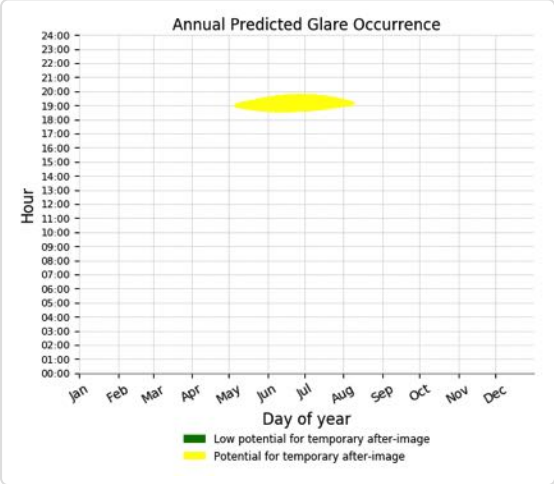


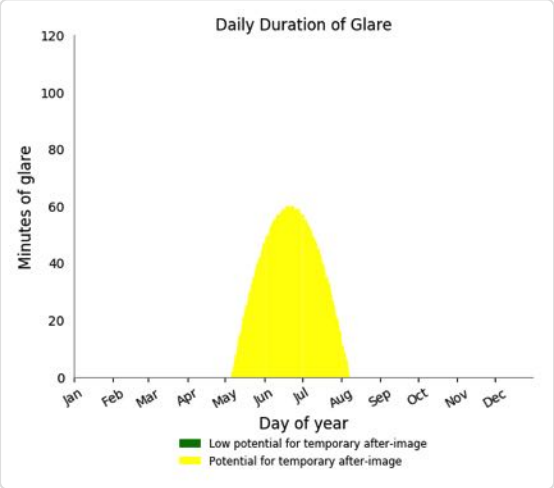


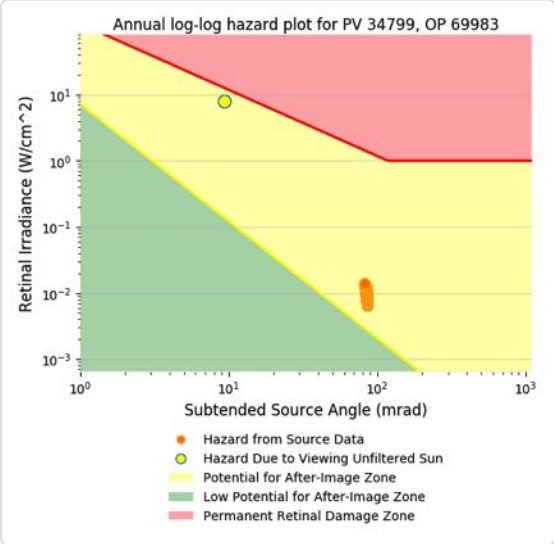
PV array 1 - Flight Path Receptor (FP 2)

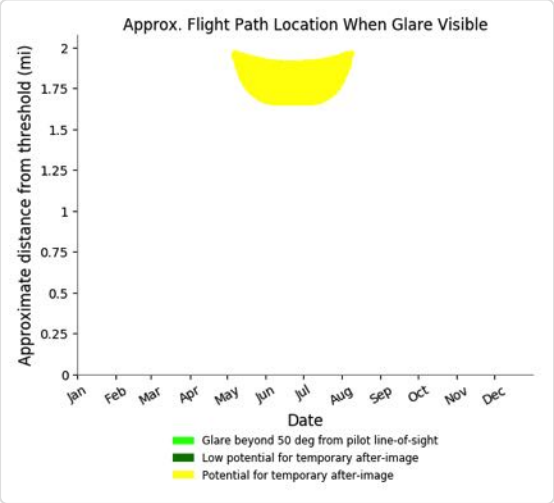
PV array is expected to produce the following glare for observers on this flight path:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 3,662 minutes of "yellow" glare with potential to cause temporary after-image.





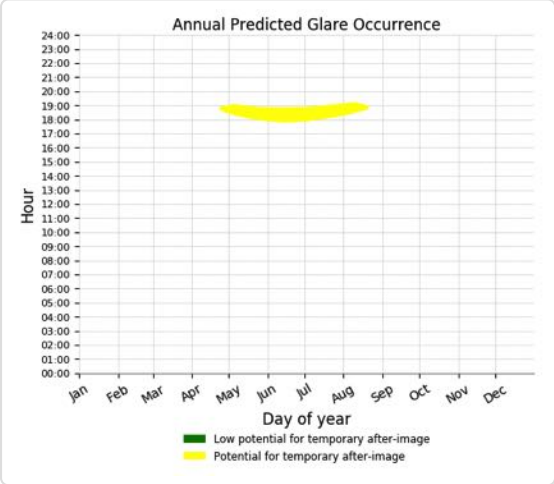


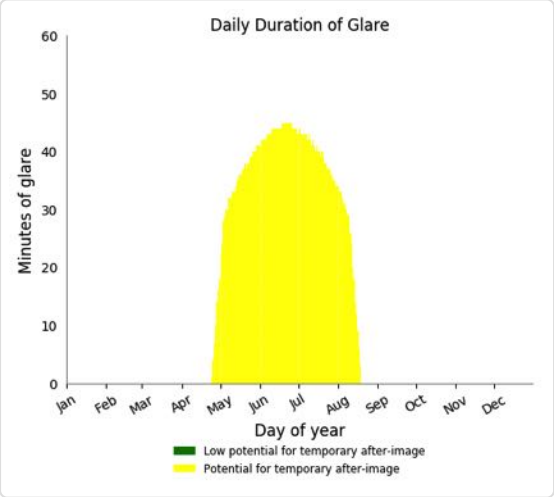


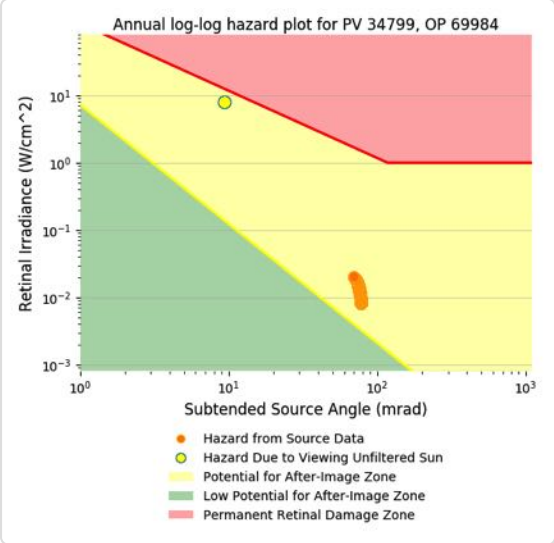
PV array 1 - Flight Path Receptor (FP 3)

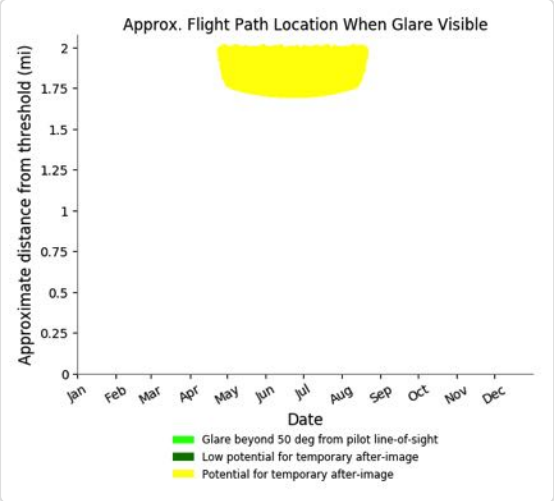
PV array is expected to produce the following glare for observers on this flight path:

- 0 minutes of "green" glare with low potential to cause temporary after-image.
- 4,107 minutes of "yellow" glare with potential to cause temporary after-image.









PV array 2

Component	Green glare (min)	Yellow glare (min)
FP: FP 1	0	0
FP: FP 2	0	0
FP: FP 3	0	0

Assumptions

- Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.
- Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.
- The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actua values may differ.
- Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.