



MEMO

To Kristin Bastis, Rural Utility Service (RUS)
From Bridgette Valeron, Skeleton Creek Energy Center
Date March 12, 2021
Subject Response to Skeleton Creek EIS Data request, Revision 1

Skeleton Creek Energy Center, LLC (SCEC), a subsidiary of NextEra Energy Resources, LLC, is providing the following responses to the RUS Skeleton Creek EIS Data Request, Revision 1 dated January 15, 2021.

RUS Request: Preliminary project layout showing all temporary and permanent components (solar array, new access roads, transmission line) and associated GIS files.

SCEC Response: On March 5, 2021 SCEC provided a preliminary conceptual site plan (Attachment A) of the proposed project infrastructure. Temporary staging areas have not been identified at this time, but SCEC estimates that approximately 5 temporary staging areas ranging between 1-4 acres each will be located within the project area during construction. These temporary locations will be reclaimed and restored post-construction. Up to two Conex storage units will be located next to the substation to support equipment storage and O&M personnel.

SCEC is currently updating the conceptual site plan and anticipates that the project footprint will expand; however, the project will stay within the proposed boundary. SCEC will provide an updated conceptual Site Plan by mid-April 2021.

RUS Request: Information on all federal, state and local permit applications by SCEC for the Project and the status of these applications.

SCEC Response: Please reference the permit matrix (Attachment B) for a list of potential, applicable permits. No applications have been submitted at this time; however, all applicable permits will be obtained prior to the start of construction.

RUS Request: Information on any anticipated Project-related upgrades to the OG&E Woodring Substation.

SCEC Response: At this time, SCEC anticipates minimal project-related upgrades will be needed to the OG&E Woodring Substation. Upgrades requirements will be analyzed by Southwest Power Pool (SPP). SCEC anticipates that SPP will complete their analysis by early 2022.

RUS Request: Product information/technical specification sheets for solar panels and tracker, if available, including anticipated depth/width of mounting poles.

SCEC Response: Solar panels and trackers have not yet been selected for the project and will be part of late stage design; therefore, no technical specification sheets can be provided at this time.

RUS Request: Information on the number and size of containers for energy storage.

SCEC Response: Estimates for number and size of the containers for energy storage system will be provided with the updated conceptual site plan by mid-April 2021.

RUS Request: Information on any landowners enrolled in the NRCS Conservation Reserve Program.

SCEC Response: SCEC is not aware that of any of our landowners have CRP land at this time.

RUS Request: A copy of the SWPPP, restoration and revegetation plan, invasive species and noxious weed management plan, SPCC Plan and Hazardous Waste Materials Plan. Information on NextEra environmental training and applicant-committed best management practices for construction and O&M is also requested.

SCEC Response: SWPPP, restoration and revegetation, invasive species and noxious weed management, SPCC and hazardous waste materials plans are typically completed prior to construction, during late stage design of the facility. Site specific plans have not yet been prepared for the project, but SCEC has detailed the following best management practices below:

- SWPPP: A Storm Water Pollution Prevention Plan (SWPPP) incorporating best management practices for erosion control will be prepared prior to the start of construction. The project SWPPP would include information regarding existing and proposed drainage, permits and governing documents, potential discharges and sources, protection measures and BMPs, training requirements, storm event planning and preparation, and maintenance and reporting procedures. The SWPPP would outline specific water erosion control measures such as seeding, mulch, blankets, detention basins, certified weed-free straw bales, or silt fences to be implemented to minimize soil erosion and loss of soil productivity.
- Restoration and Revegetation: A Site Restoration and Revegetation Plan would be implemented following construction-related activities. Temporary disturbance areas from construction would be revegetated as practicable (e.g., revegetation/reseeding, regrading, and decompaction). Re-vegetation/re-seeding will be done using approved seed mixes consisting of weed-free grasses and forbs. The seed would be appropriate to the geographic

and elevation characteristics of the area to be seeded. The plan would incorporate fire safety requirements for mowed vegetation maintained below photovoltaic (PV) panels. Maintaining this cover would minimize losses to soil resources and maintain soil health. The Site Restoration and Revegetation Plan would be submitted to RUS and relevant agencies for approval prior to the start of project activities.

- Invasive Species and Noxious Weeds: An Invasive Plant Species and Noxious Weed Management Plan would include a description of the site, a prioritized list of potential invasive and weed species, management goals, restoration success criteria, a weed management schedule, weed removal procedures, and monitoring requirements.
- SPCC: Construction of the project is anticipated to require the handling, storage, and use of oil such as gasoline, diesel, fuel oil, and motor oil. For operation, the anticipated oil-filled equipment includes project transformers. If required, a SPCC Plan will be prepared to meet the applicable requirements of Title 40, Code of Federal Regulations, Part 112 (40 CFR 1120)
- Hazardous Waste/Materials: The majority of waste produced during the construction phase of the project is expected to be nonhazardous and consist primarily of cardboard, wood pallets, copper and aluminum wire cut-offs, scrap steel, common trash, and wooden wire spools. Construction waste would be recycled wherever possible. Non-recyclable construction waste would be disposed of by a licensed contractor at an approved facility. Construction equipment will contain various hazardous materials such as hydraulic oil, diesel fuel, grease, lubricants, solvents, adhesives, paints, and other petroleum-based products typically used for construction vehicles. Compliance with regulations and standard manufacturers' protocols for storage, transportation, and usage of any hazardous construction-related materials will be followed to ensure safety in accordance with Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200) and the relevant state laws.

Batteries associated with the battery storage system would be lithium-ion-based, or similar, which include industry standard design features to significantly reduce the potential of a spill or leak. Battery storage systems would be designed to provide secondary containment. SCEC would be required to inspect battery storage systems for damage prior to installation and during routine maintenance and operations. Damaged systems would be handled in accordance with manufacturers specifications. Damaged or spent batteries would be removed from the site and disposed of or recycled in accordance with federal and state laws. All releases of potentially hazardous materials would be handled in accordance with the Hazardous Materials Management Plan, Emergency Response Plan, or other applicable plan for operations and maintenance of the facility.

- NextEra Environmental Training and Best Practices: In addition to the plans listed above, the following plans would also be part of best management practices for the project: fugitive dust management plan, traffic management plan, emergency response plan, fire management

plan, project grading plan, lighting plan, cultural resources avoidance and minimization measures, unanticipated discoveries plan and wildlife training. Construction and operations staff will be trained on all relevant plans.

RUS Request: Additional information on any water storage onsite during construction and O&M and confirmation whether the Project will require any drainage associated with module cleaning of other Project-related actions. Details on water storage should include the source of any water needed for the Project (surface, groundwater, public supply, etc.) as well as estimated volumes of water needed and the purpose.

SCEC Response: Water for construction is typically sourced by the project construction contractor. Water will either be trucked, leased from an existing onsite well, or the construction contractor will drill a new well. Construction water needs will include soil conditioning and dust suppression. Approximately 270 - 540 acre-feet of water will be required over an 18-month construction period. As a practice, SCEC does not anticipate using water for panel cleaning during operations.

RUS Request: Equipment numbers and types during construction and O&M, as well as information on the number of hours that equipment will operate and typical work hours.

SCEC Response: Please see table in Attachment C for preliminary estimates.

RUS Request: Estimated distance and number of daily vehicle trips to/from the Project Area during construction and O&M

SCEC Response: Construction workers will include laborers, electricians, supervisory personnel, support personnel, and construction management personnel. It is expected that some workers will be from out of state staying in local facilities, and some local labor commuting from residences in the surrounding area. Labor needs during the construction period are anticipated to average 200 to 300 workers, with a maximum of up to 400 workers during certain phases. During operations, a local team ranging between 1-10 people will monitor and service the site as needed.

RUS Request: Project footprint where grading is anticipated based on topography:

SCEC Response: Where feasible, Project design will maintain the existing landscape (e.g., slope, drainage) to minimize mass grading to the extent practicable. Existing slopes will be retained where possible and smoothed to gradual grades as opposed to leveling within the project boundary. All areas where infrastructure is indicated will require some level of grading and will be determined based on final design. Please reference the preliminary Conceptual Site Plan (Attachment A).

RUS Request: Information on the location of major equipment installation. Will any equipment be fabricated, or will it be done off-site?

SCEC Response: Portions of the tracker racking could be assembled either in the area of permanent installation or within up to 5 laydown yards within the project area, with assemblies then transported

to the final location. Once the racking is installed on piles, the modules will be installed upon the assembly in the permanent location. There is typically little to no onsite fabrication.

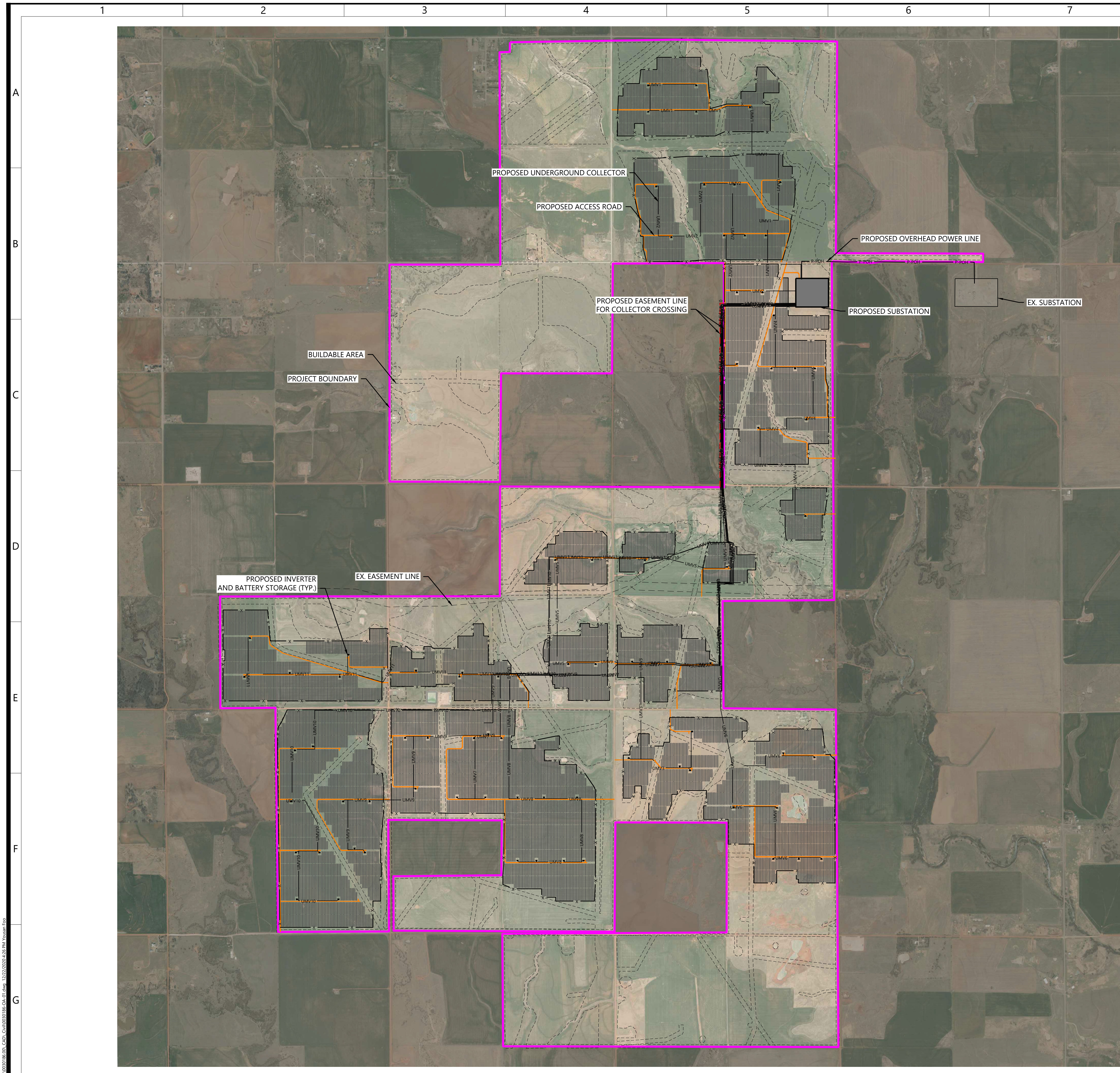
RUS Additional Study Needs:

- Solar Glare analysis: See Attachment D
- Habitat Studies or presence/absence studies for endangered species, if conducted: Habitat assessment and raptor nest studies are ongoing and will be completed by mid-April 2021.
- Air or noise modeling studies, if conducted: No air or noise modeling studies are planned at this time.
- Other studies: Will be provided as requested.

Attachments:

Attachment A. Preliminary Conceptual Site Plan
Attachment B. Permit Matrix
Attachment C. Equipment Numbers
Attachment D. Glare Analysis

Attachment A. Preliminary Conceptual Site Plan



LEGEND:

- PROJECT BOUNDARY
- UNLEASED LAND
- EASEMENT LINES
- PROPOSED SOLAR ARRAY
- PROPOSED 16' SITE ACCESS ROAD
- PROPOSED ELECTRICAL EQUIPMENT
- PROPOSED O&M/SUBSTATION/BESS BUILDABLE AREA
- PROPOSED UNDERGROUND COLLECTOR
- PROPOSED OVERHEAD COLLECTION

NOTES:
 1. DIMENSION OF SUBSTATION IS PRELIMINARY AND IS SUBJECT TO CHANGE.

PV SYSTEM DESCRIPTION	
ARRAY CAPACITY	349.78 MW DC
	270.66 MW AC
	250 MW AC (AT POI)
LATITUDE	36.331183°
LONGITUDE	-97.802758°
DC/AC RATIO, AT POI	1.40
DC/AC RATIO, AT INVERTERS	1.30
MODULE RATING	425W
MODULE QUANTITY	822,987
TOTAL STRINGS	30,481 STRINGS OF 27 MODULES
3-STRING TRACKER	9,601
2-STRING TRACKER	839
INVERTER	POWER ELECTRONICS PE3350M
INVERTER RATING	3.47 MVA
INVERTER QUANTITY	78
GCR	32%
FENCE LENGTH	156,858 LF
FENCE AREA	1,851 ACRES
ROAD LENGTH	81,140 LF
TILT ANGLE	ZERO DEGREES (FLAT)
ROW SPACING (POLE TO POLE, FT)	22.21'

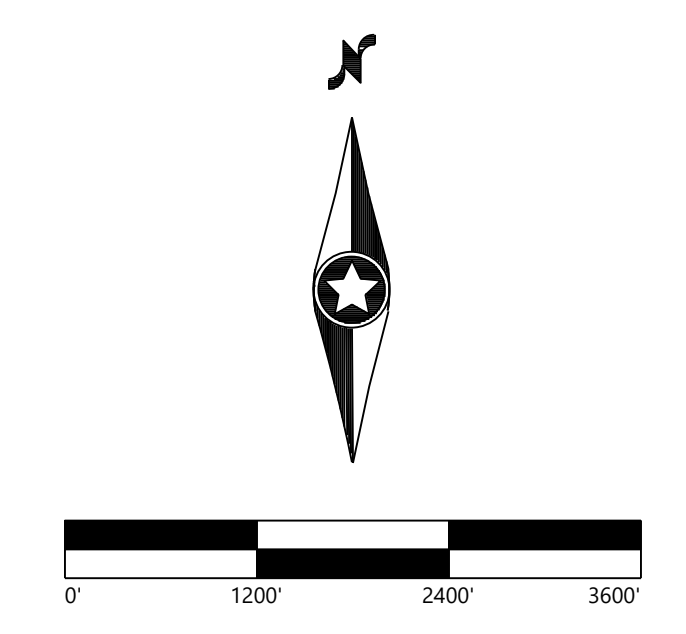
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 Westwood Professional Services, Inc.

PREPARED FOR:

 700 Universe Blvd,
 Juno Beach, FL 33408

REVISIONS:

#	DATE	COMMENT



Skeleton Creek Energy Center
 Garfield County, OK

Overall Site Plan
 * Preliminary and subject to change based on final engineering

NOT FOR CONSTRUCTION

DATE: 12/21/2020
 SHEET: C.200

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Attachment B. Permit Matrix

Attachment B. Skeleton Creek Energy Center (SCEC) Project Permit Matrix – Anticipated Permits

Legal Authority	Permit/Action	Description [Statutory Reference]	Timeline	Detail
Federal				
U.S. Army Corps of Engineers, Tulsa District (USACE)	Clean Water Act (CWA) Section 404 permit	Regulates the discharge of dredged or fill material into waters of the United States (WOTUS). Permit type determined by quantity of affected WOTUS, including wetlands, size of project, and type of project. [Section 404 of the Clean Water Act (33 U.S.C. 1344) (subject to §401 state certification [(33 U.S.C. 1341))]	1 to 2 months to obtain NWP	Requirement to be determined based on final project design. The 2021 NWPs include a revised NWP 51 for land-based renewable energy generation facilities that authorizes up to 0.5 acre of permanent impacts. Activities impacting over 0.10 acre that seek coverage under NWP 51 would have to submit a Pre-Construction Notification (PCN). Under the new NWP 57 (for electric utility lines) and NWP 14 (for roads), projects impacting over 0.10 acre are required to submit a PCN. If a Section 404 permit is required, OK Department of Environmental Quality (DEQ) must also review and provide Section 401 certification.
State Historic Preservation Office (SHPO)	National Historic Preservation Act (NHPA) Section 106	Section 106 of the NHPA requires that every federal agency consider the undertaking's effects on historic properties, defined as any property listed on or eligible for listing on the National Register of Historic Places (NRHP). If the project site is determined to be regulated under a federal nexus, it is subject to review under Section 106 of the NHPA. [National Historic Preservation Act 54 U.S.C. 306108]	1 month for cultural resources survey plus 1 month for consultation	Consultation will be completed as part of Environmental Impact Statement (EIS) underway with the Rural Utilities Service (RUS). Consultation is initiated through notification to State Historic Preservation Officer (SHPO). Potential interested parties, including other agencies, Native American tribes, and other stakeholders are identified. The project's area of potential effect is determined through analysis of the proposed activities associated with the project. Surveys and studies are conducted as necessary to identify cultural resources that may be affected by the project and to determine project effects. Measures are taken to avoid, minimize, and/or mitigate project effects. The federal regulations outlining the Section 106 process (36 CFR 800) also include mechanisms for dispute resolution.
U.S. Fish and Wildlife Service (USFWS)	Endangered Species Act of 1973 (ESA)	The ESA provides for the protection of threatened or endangered species. The USFWS is required to be consulted under Section 7 of the ESA if a federal nexus, such as USDA funding, is triggered. [Endangered Species Act of 1973 (16 U.S.C. 1531)]	Concurrent with RUS EIS development	ESA Section 7 consultation will be completed as relevant, as part of Environmental Impact Statement (EIS) underway with the Rural Utilities Service (RUS).
U.S. Environmental Protection Agency (EPA)	Spill Prevention, Control, and Countermeasures (SPCC) Plan	Describes measures to prevent oil discharges and to prepare personnel to respond in a safe, effective, and timely manner to mitigate the impacts of a discharge from project facilities or infrastructure. [Section 311(j)(1)(C) of the Clean Water Act as amended by the Oil Pollution Act of 1990]	1-3 months	To be determined based on final project design. Applies to owners or operators of non-transportation facilities with aboveground oil storage capacity of a single container in excess of 660 gallons, or an aggregate storage greater than 1,320 gallons. If fuel will be stored onsite (i.e. backup generator fuel), SCEC will need to determine if the volume will exceed these thresholds. The SPCC must be certified by a registered professional engineer.
State				
Oklahoma Department of Environmental Quality (DDEQ)	OPDES Construction General Permit OKR10	An OKR10 permit is required for any construction activity disturbing one acre or more, or less than one acre if that activity is part of a "larger common plan of development or sale" that is greater than one acre. [Title 27A O.S. §2-6-205 of the Oklahoma Statutes]	30 – 45 days	SCEC will obtain an Oklahoma Pollution Discharge Elimination System (ODPES) permit prior to construction start. The OPDES stormwater program, authorized by the NPDES stormwater permitting program, requires construction site owners/operators to obtain coverage under the OPDES Construction General Permit OKR10 to discharge stormwater from their construction sites and implement appropriate pollution prevention controls/techniques to minimize pollutants and reduce stormwater runoff. As part of the application, the owner and/or operator must develop and implement a Stormwater Pollution Prevention Plan (SWP3) to minimize pollutants and reduce stormwater runoff and submit a Notice of Intent (NOI) to DEQ.

Attachment B. Skeleton Creek Energy Center (SCEC) Project Permit Matrix – Anticipated Permits

Legal Authority	Permit/Action	Description [Statutory Reference]	Timeline	Detail
Local				
Garfield County	Floodplain Development Permit	A permit would be required if modifications to the floodplain, or the placement of structures in the floodplain, could result in impact to the function of the floodplain. [Garfield County Zoning Regulations, 1963]	1-2 months	To be determined based on final project design. To avoid having to obtain a permit, plan project outside of the estimated drainages and floodplains. If infrastructure cannot be planned to avoid estimated floodplains, Garfield County requires a floodplain permit.
Garfield County	Construction permit for utility crossings over county road right-of-way (ROWs)	Counties typically require a construction permit if utilities are constructed over county-maintained road ROWs. [Garfield County Zoning Regulations, 1963]	1-2 months	County officials typically require that development in county ROWs must be reviewed and approved through a ROW permit and a road repair and maintenance agreement to compensate for potential impacts to county roads. A Road Use Agreement will be prepared with the county and will include utility crossing permits and road right-of-way agreements.
Enid Metropolitan Area Planning Commission (MAPC)	Special Use Permit(s)	The northwestern most section of gen-tie would be included in this jurisdiction and would likely require Special Use and/or Roadway permits. [Enid City Code, Title 10, Planning and Development]	1-2 months	The Enid MAPC is responsible for reviewing and recommending, to the Mayor and Board of Commissioners, various development proposals which include changes in zoning designation, subdivision plats, and site development plans. Officials typically require that development in this jurisdiction must be reviewed and approved through a Special Use Permit. It is anticipated that SCEC will require a MAPC permit.

Attachment C. Equipment Numbers

Table 1. Preliminary Equipment Estimates for Skeleton Creek Energy Center.

Activity	Duration	Equipment	# Workers/Trips
Construction Schedule	18 months total	Typical equipment that may be used for the Project includes, but is not limited to: Graders, Excavators, Bulldozers, Backhoes, Cutting machines, End loaders, Delivery trucks , Trenching Machines, Pile Drivers, Flatbed trucks , Cranes , Rollers , Electrical test equipment , Off-road buggies, Forklifts and carry decks, Water supply trucks, Water spray trucks , Concrete mixers, Compaction machines, Survey equipment, Light trucks	Average 300 craft per/mo
Construction Vehicle Trips	18 months total	Daily Vehicles to bring Craft to site (Light Truck)	Average 220 vehicle/day
Equipment Delivery Trucks	18 months total	Daily Delivery Vehicles	Average 25 vehicle/day
Site Preparation and Clearing/Grading	3 months	Graders, Excavators, Bulldozers, Backhoes, Cutting machines, Flatbed trucks , Cranes , Rollers , Off-road buggies, Forklifts, Water supply trucks, Concrete mixers, Compaction machines, Survey equipment, Light trucks, Timbering equipment,	
Road Construction	3 months	Graders, Excavators, Bulldozers, Backhoes, Cutting machines, Flatbed trucks , Cranes , Rollers , Off-road buggies, Forklifts, Water supply trucks, Concrete mixers, Compaction machines, Survey equipment, Light trucks, timbering equipment	
System Installation	16 months	Cutting machines, End loaders, Delivery trucks , Trenching Machines, Pile Drivers, Flatbed trucks , Cranes , Rollers , Electrical test equipment , Off-road buggies, Forklifts and carry decks, Water supply trucks, Water spray trucks , Concrete mixers, Compaction machines, Light trucks	
Construction gen-tie	3 months	Graders, Excavators, Bulldozers, Backhoes, Cutting machines, End loaders, Delivery trucks , Flatbed trucks , Cranes , Electrical equipment , Off-road buggies, Forklifts and carry decks, Concrete mixers, Compaction machines, Survey equipment, Light trucks	
Assemble / install energy storage system	4 months	Cutting machines, End loaders, Delivery trucks , Trenching Machines, Pile Drivers, Flatbed trucks , Cranes , Rollers , Electrical test equipment , Off-road buggies, Forklifts and carry decks, Water supply trucks, Water spray trucks , Concrete mixers, Compaction machines, Light trucks	
Construction on-site substation	6 months	Graders, Excavators, Bulldozers, Backhoes, Cutting machines, End loaders, Delivery trucks , Trenching Machines, Flatbed trucks , Cranes , Rollers , Electrical test equipment , Off-road buggies, Forklifts and carry decks, Water supply trucks, Water spray trucks , Concrete mixers, Compaction machines, Survey equipment, Light trucks	
Commissioning/testing	2 months	Electrical test equipment, Light trucks	
These are average assumptions per project size and scope - pending a Traffic Study being conducted			

Attachment D. Glare Analysis

Skeleton Creek Solar Project

NextEra Energy

Garfield County, Oklahoma

Glint & Glare Analysis

December 11, 2020



Capitol Airspace Group

capitolairspace.com

(703) 256 - 2485



Summary

NextEra Energy is proposing to construct solar arrays near the town of Enid in Garfield County, Oklahoma (**Figure 1**). On behalf of NextEra Energy, Capitol Airspace performed a Glint and Glare Analysis utilizing the Solar Glare Hazard Analysis Tool (SGHAT) to identify the potential for glare impacts. Specifically, this analysis considered the potential for glare impacts on aircraft approaching Vance Air Force Base (END) Runway 17R/35L, 17C/35C, and 17L/35R as well as Enid-Woodring Regional Airport (WDG) Runway 13/31 and 17/35. Since Vance Air Force Base (END) and Enid-Woodring Regional Airport (WDG) each have an Air Traffic Control Tower (ATCT), this analysis considered the potential for impact on ATCT personnel.

The results of the analysis indicate that there are no predicted glare occurrences for Vance Air Force Base (END) approaches, Enid-Woodring Regional Airport (WDG) approaches, or ATCT personnel as a result of proposed single-axis tracking solar arrays. These results conform to, and are in accordance with, the Federal Aviation Administration’s interim policy for *Solar Energy System Projects on Federal Obligated Airports*.

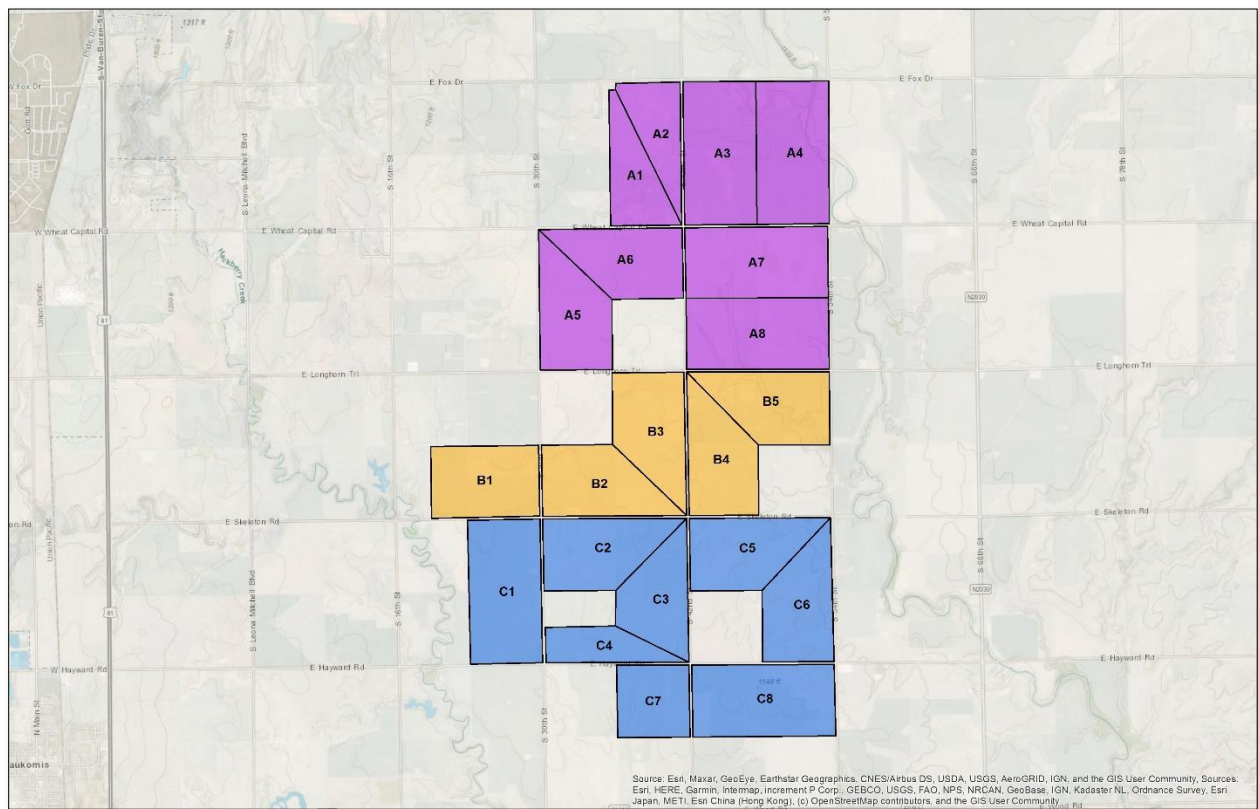


Figure 1: Location and identification of Skeleton Creek Solar Project solar parcels



Methodology

In cooperation with the Department of Energy (DOE), the Federal Aviation Administration (FAA) developed and validated the Sandia National Laboratories Solar Glare Hazard Analysis Tool (SGHAT), now licensed through ForgeSolar. The FAA requires the use of the SGHAT to enhance safety by providing standards for measuring the ocular impact of proposed solar energy systems on pilots and air traffic controllers. ForgeSolar has enhanced the SGHAT for glare hazard analysis beyond the aviation environment. These enhancements include a route module for analyzing roadways as well as an observation point module for analyzing residences.

The SGHAT analyzes potential for glare over the entire calendar year in one-minute intervals from when the sun rises above the horizon until the sun sets below the horizon. The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. The SGHAT does not account for physical obstructions between reflectors and receptors. When glare is found, SGHAT classifies the ocular impact into three categories:

- Green:** Low potential for temporary after-image
- Yellow:** Potential for temporary after-image
- Red:** Potential for permanent eye damage

The FAA interim policy for *Solar Energy System Projects on Federally Obligated Airports* requires the absence of red or yellow predicted glare occurrences in the cockpit. This analysis utilized the FAA approved default SGHAT setting which simulates the pilot’s view from the cockpit. No glare occurrences of any category are allowed for ATCT personnel.

Data

Solar array specifications ([Table 1](#)) as well as location and height information were provided by NextEra Energy. Runway end coordinates, elevations, threshold crossing heights (TCH), and visual glidepath angles (VGPA) were obtained from the FAA National Flight Data Center (NFDC) National Airspace System Resource (NASR) dataset. When the NASR dataset did not contain TCH or VGPA data for a runway end, the FAA approved defaults settings (TCH: 50, VGPA: 3.00 degrees) were used.

Table 1: Skeleton Creek Solar Project solar array specifications

Parameter	Value
Axis tracking	Single-axis rotation
Tracking axis orientation	180°
Tracking axis tilt	0°
Max tracking angle	60°
Resting angle	5°
Panel material	Smooth glass without anti-reflection coating
Reflectivity	Varies with sun
Slope error	Correlates with material



Results

Vance Air Force Base (END)

Runway 17R/35L

The SGHAT results do not predict glare occurrences along the Runway 17R or Runway 35L approach paths (dashed red line, [Figure 2](#)).

Runway 17C/35C

The SGHAT results do not predict glare occurrences along the Runway 17C or Runway 35C approach paths (dashed purple line, [Figure 2](#)).

Runway 17L/35R

The SGHAT results do not predict glare occurrences along the Runway 17L or Runway 35R approach paths (dashed green line, [Figure 2](#)).

ATCT

The SGHAT results do not predict glare occurrences for ATCT personnel (orange point, [Figure 2](#)).

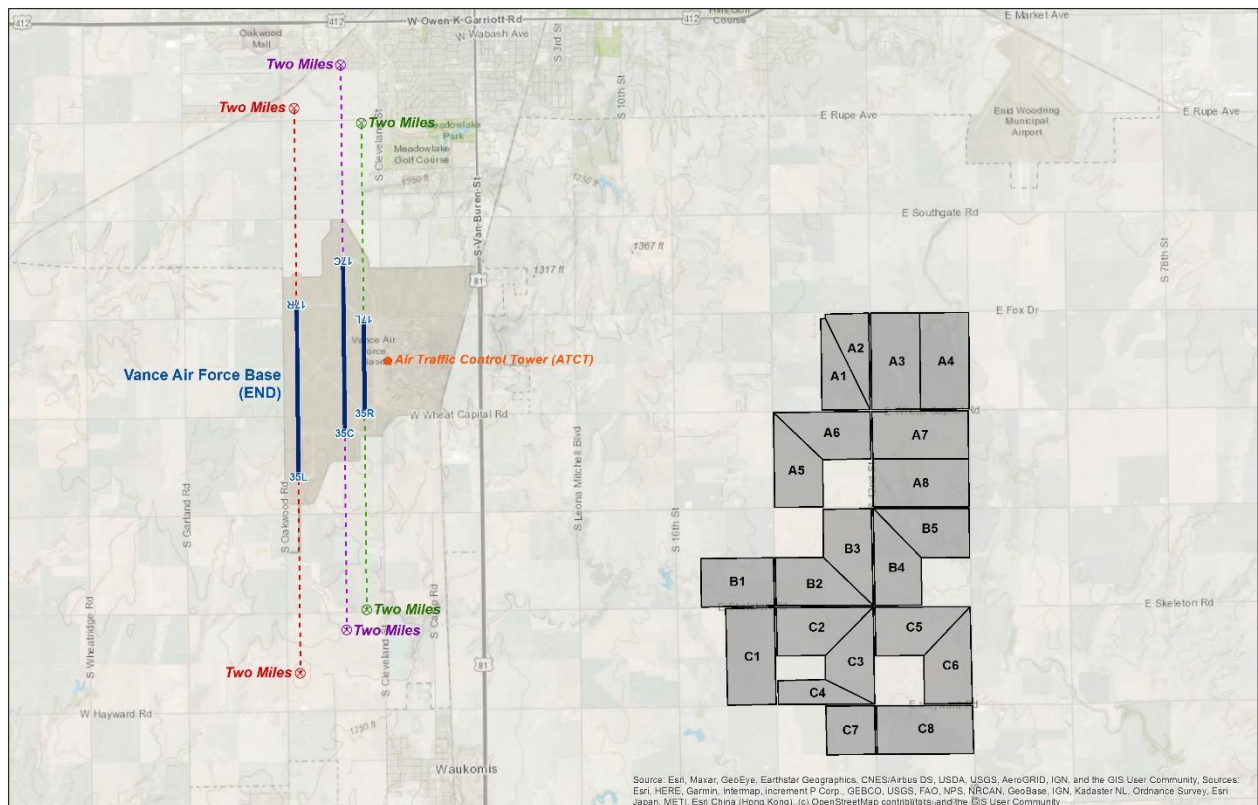


Figure 2: Vance Air Force Base (END) approach paths (dashed lines) and ATCT (orange point)



Enid-Woodring Regional Airport (WDG)

Runway 13/31

The SGHAT results do not predict glare occurrences along the Runway 13 (both physical runway end and displaced threshold) or Runway 31 approach paths (dashed green line, **Figure 3**).

Runway 17/35

The SGHAT results do not predict glare occurrences along the Runway 17 (both physical runway end and displaced threshold) or Runway 35 approach paths (dashed purple line, **Figure 3**).

ATCT

The SGHAT results do not predict glare occurrences for ATCT personnel (orange point, **Figure 3**).

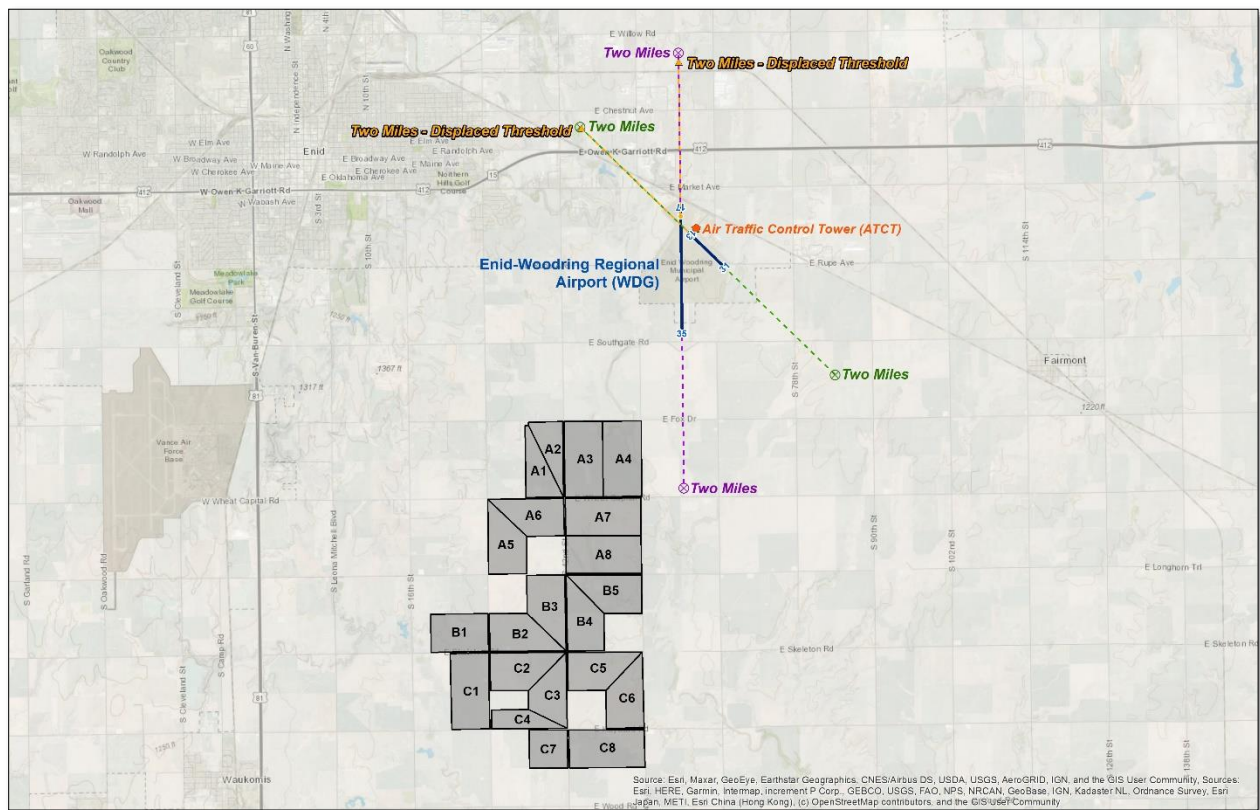


Figure 3: Enid-Woodring Regional Airport (WDG) approach paths (dashed lines) and ATCT (orange point)



Conclusion

The SGHAT does not predict any glare occurrences for Vance Air Force Base (END) approaches, Enid-Woodring Regional Airport (WDG) approaches, or ATCT personnel as a result of single-axis tracking arrays (**Table 2**). These findings are compliant with the FAA interim policy for *Solar Energy System Projects on Federally Obligated Airports*. As noted in the assumptions, the glint and glare analysis does not consider vegetation, fencing, or other natural obstructions. This glint and glare analysis takes the most conservative approach in assessing the possibility of glare occurrences.

Table 2: Annual glare occurrence summary

Receptor	Green Glare (Hours:Minutes)	Yellow Glare (Hours:Minutes)	Red Glare (Hours:Minutes)
END – Runway 17R	0:00	0:00	0:00
END – Runway 35L	0:00	0:00	0:00
END – Runway 17C	0:00	0:00	0:00
END – Runway 35C	0:00	0:00	0:00
END – Runway 17L	0:00	0:00	0:00
END – Runway 35R	0:00	0:00	0:00
END – ATCT	0:00	0:00	0:00
WDG – Runway 13	0:00	0:00	0:00
WDG – Runway 13 (displaced)	0:00	0:00	0:00
WDG – Runway 31	0:00	0:00	0:00
WDG – Runway 17	0:00	0:00	0:00
WDG – Runway 17 (displaced)	0:00	0:00	0:00
WDG – Runway 35	0:00	0:00	0:00
WDG – ATCT	0:00	0:00	0:00

If you have any questions regarding the findings in this analysis, please contact **Rick Coles** or **Jason Auger** at (703) 256-2485.