# **Schedule MSF-1**

# **\*\*Public\*\***

#### Transmission and Interconnection Operations Experience of NEET Southwest and NextEra Energy Companies

### Overview

NextEra Energy, Inc. ("NextEra") companies operate over 11,800 circuit miles of high voltage transmission lines and over 1,000 substations across the United States. The following summary addresses the operations experience of NextEra Energy Transmission Southwest, LLC (NEET Southwest) and other NextEra companies, including nuclear power interconnection, safety expertise and operational compliance, maintenance and spares, and line inspection experience relevant to the Wolf Creek-Blackberry 345 kV Transmission Project ("Project"). This summary also provides a history of NextEra's storm restoration efforts across the country over the past 8 years.

The Project will be integrated into NextEra's organization, including operations, maintenance, and compliance management groups with formal affiliate services agreements among NEET Southwest and NextEra, Lone Star Transmission, LLC ("Lone Star"), NextEra Energy Transmission, LLC ("NEET"), NextEra Energy Resources, LLC ("NEER"), and Florida Power & Light Company ("FPL"). System operations coordination is provided by Lone Star Transmission control center staff, local field operations will be provided by new NEET Southwest locally based team supported by an emergency maintenance response vendor Brink Constructors, Inc. (Brink).

## **Nuclear Power Interconnection Expertise**

NextEra is one of the largest generators of nuclear power in the U.S., and it owns and operates four nuclear sites in Florida, New Hampshire, and Wisconsin, with a total of seven reactor operating units. Each site employs approximately 500 full-time, highly trained employees during regular operations and adds around 1,000 skilled contractors during scheduled refueling outages, which take place every 18-24 months. These sites operate a strong nuclear safety program that includes:

- Robust plant design and construction
- Highly experienced and well-trained personnel
- Stringent plant security
- Comprehensive safety planning
- A commitment to meet or exceed all federal, state, and local regulations

NextEra also owns and operates transmission systems connecting to nuclear generator site switchyards. The NEET Southwest team and its NextEra nuclear affiliates have strong transmission system capabilities associated with the management, controls, and oversight of nuclear switchyards and their lines at 230 kV, 345 kV, and 500 kV.

#### **Field Operations and Safety Record**

NEET Southwest affiliate Lone Star will provide control center and coordination services to the Project. NEET Southwest's dedicated field operations team and its NextEra affiliates will provide in-field supervision, first responder and safety assessments, and vegetation management services to the Project. This team leverages NextEra processes, procedures, safety rules, expertise, and resources.

The Project's emergency support contractor Brink excels in the processes required for transmission and substation facility construction and maintenance, including similar 345 kV transmission lines. It has demonstrated that ability with successful projects completed throughout the United States and Canada and more than 75 years of electric construction experience. Brink will have a crew based local to the Project region to facilitate the Project's electrical needs.

#### **Interconnection and Operational Compliance**

Through its affiliates, NEET Southwest has experience in the Project area integrating and operating projects in accordance with Southwest Power Pool ("SPP") and Evergy protocols, operating orders, duty of care, outage, return to service, and written report processes (see table below) since 2001. NextEra subsidiaries operate and maintain wind projects in Kansas and Missouri (see table below). Of these nine generation facilities, five interconnect with Evergy (the Wolf Creek nuclear generation facility and substation owner) at 345 kV. These projects have 156 miles of line segments with the majority operating at 345 kV. For example, the NEER's Soldier Creek wind generation facility, which commenced commercial operations in 2020, connects to Evergy by a 76-mile 345 kV line similar to the Project.

All NextEra Kansas and Missouri projects are registered as North American Electric Reliability Corporation ("NERC") generator owners and generator operators and coordinate with each facility's responsible NERC transmission owner ("TO"), transmission operator ("TOP"), and Transmission Planner(*e.g.*, Evergy) and the responsible NERC Balancing Authority, Reliability Coordinator ("RC"), and Planning Coordinator, which is SPP. NEET Southwest affiliates are registered in all NERC RC regions. For the Project, NEET Southwest will execute separate Interconnection Agreements with Evergy and AECI and register with the Midwest Reliability Organization ("MRO"), the NERC Regional Entity for the SPP region, as a NERC TO. The Lone Star control center that will operate and monitor the Project is certified as a TOP with the Texas Reliability Entity. NEET Southwest affiliates are registered in all NERC functions in every NERC region.

#### **Project Spares**

NEET Southwest has developed a detailed capital spares approach for the Project. To determine Project spares needs, NEET Southwest performed a series of failure containment studies, reviewed the line configuration data, and evaluated the sag/tension criteria for all sag sections. Study results showed a single event failure mode could impact 11-13 structures (cascade). An acceptable damage level was recommended to be approximately 1.5 miles to prepare for restoration efforts. NEET Southwest transmission line spares strategy includes separating the storage location of its line spares from the Project locations. This reduces the risk of both locations being impacted by

the same severe event.

#### Line Inspection and Maintenance

NEET Southwest, with support from its affiliates, has a wealth of experience in transmission operations and maintenance – including a substantial amount of experience for Extra High Voltage (EHV) transmission and substation projects. NextEra companies operate over 11,800 circuit miles of high voltage transmission lines and over 1,000 substations across the U.S. The restoration performance of the Lone Star 345 kV transmission system following recovery from severe weather events (tornadoes) has been 99.99%+.

The table below details NEET Southwest's affiliates' experience with lines in Kansas and Missouri for facilities up to 345 kV. It provides the reliability performance for each line that connects NEER renewable generation projects relating to maintenance and operations for similar projects over the last five years. Experience for projects shown in the region is broken down by:

- 1. Project name
- 2. State: Kansas or Missouri
- 3. Project line voltage (kV)
- 4. Length of line in miles
- 5. Year first line energized
- 6. Reliability performance from line maintenance is provided as an availability percentage
- 7. Project NERC registrations
- 8. NERC responsible Reliability Entity
- 9. System ISO / RTO
- 10. Interconnecting entity

#### NextEra Subsidiary 345 kV Lines in Kansas and Missouri

(1) Project Name	(2) State	(3) kV	(4) Line Length miles	(5) Year	(6) Performance Availability % / year	(7) NERC GO/ GOP	(8) NERC RE	(9) ISO /RTO	(10) Connects to
Soldier Creek	KS, USA	345	76	2020	99.99+	Yes	MRO	SPP	Evergy
Pratt Wind	KS, USA	345	15	2018	99.99+	Yes	MRO	SPP	Westar Energy

(1) Project Name	(2) State	(3) kV	(4) Line Length miles	(5) Year	(6) Performance Availability % / year	(7) NERC GO/ GOP	(8) NERC RE	(9) ISO /RTO	(10) Connects to
Kingman	KS, USA	345	2	2016	99.99+	Yes	MRO	SPP	Westar Energy
Ninnescah	KS, USA	345	61	2016	99.99+	Yes	MRO	SPP	Westar Energy
Osborn	MO, USA	345	2	2016	99.99+	Yes	MRO	SPP	KCP&L
Cedar Bluff	KS, USA	230	38	2015	99.99+	Yes	MRO	SPP	Midwest Energy
Ensign	KS, USA	115	13	2012	99.90	Yes	MRO	SPP	Sunflower Electric
Cimarron	KS, USA	345	-	2012	-	Yes	MRO	SPP	Sunflower Electric
Gray County	KS, USA	115	-	2001	-	Yes	MRO	SPP	Sunflower Electric

#### Severe Weather Event Restoration Experience

NextEra subsidiaries operate transmission facilities across the United States in severe weather environments, including tornadoes in Kansas and Texas, and own several thousand miles of transmission lines in Florida, which has the most hurricanes with significant land impacts in the country. As a company, NextEra has amassed a vast skill set from operating and maintaining these assets, including component end-of-life estimating and logistical response to the impact from severe weather events, such as tropical storms, hurricanes, tornados, and fires. NextEra continuously works to improve its response plans to catastrophic events by bolstering guidelines and regularly training staff. NextEra undertakes a full week of mock storm drill exercises once each year. The following is a list of major storm response efforts:

#### 2020

• The 2020 hurricane season was the most active season on record, impacting FPL's Florida service areas on three separate occasions. The NextEra restoration and logistics teams once again demonstrated their willingness and selflessness to leave family and friends behind for an extended period to support their fellow Americans during their time of need – often with little notice. The Edison Electric Institute (EEI) recognized NextEra's efforts during this historic hurricane season by awarding it the EEI Emergency Assistance and Recovery

Awards.

- NextEra received the EEI Emergency Assistance Award for the mutual assistance provided following Hurricanes Isaias, Laura, Sally and Delta. NextEra crews traveled to New Jersey, Louisiana, Texas, the Florida Panhandle, and again to Louisiana respectively.
- In total, NextEra crews were called upon to provide mutual assistance five times during the 2020 unprecedented hurricane season, including Hurricane Zeta, while continuing to provide safe and reliable service to its own customers during and after hurricanes Isaias and Eta.
- NextEra also received the EEI Emergency Recovery Award for efforts in restoring power to approximately 285,000 customers following Hurricane Sally in late September 2020. Sally was expected to make landfall in Louisiana, but this Category 2 hurricane made a sudden, overnight turn to the east with the eye wall striking the Pensacola area with 105 mph winds.
- NextEra also received the EEI Emergency Assistance Award for 2020 Mutual Assistance. The company sent storm restoration teams to assist other utilities on several occasions in 2020, including Alabama in April following severe storms and two trips to Louisiana following Hurricanes Laura and Delta, and then sent a team to New Jersey when that same hurricane hit the Northeast.

#### 2019 - 2018

- FPL's service territory in Florida was spared any severe weather impacts during the 2018-19 season, but its crews were active in supporting hurricane impacts throughout the Southeast and elsewhere. NextEra was called upon to assist other energy companies after natural disasters due to the preparation the company's crews go through in advance of storm season and their response to past storms, including Hurricane Irma. NextEra participates in mutual assistance programs with other energy companies from across the nation, through which participating utilities send crews to assist other utilities during major storms. In 2018-2019, NextEra crews assisted in restoring power to:
  - Residents of Puerto Rico, still reeling from the effects of 2017's Hurricane Maria
  - The Carolinas after Hurricane Florence
  - Parts of Florida's Panhandle and southern Georgia after Hurricane Michael
  - Northern California in the aftermath of the Camp Fire
- In 2018, EEI presented FPL with an EEI Emergency Response Award, and Tom Kuhn, president of EEI, stated, "during last year's storm 2017 season, the hard work of FPL's crews to quickly and safely restore service to customers served as a terrific example of the company's strong commitment to customer service."
- In June 2018, EEI presented FPL with the association's special "2018 Emergency Assistance Award for Puerto Rico Power Restoration" for its contributions to the

unprecedented emergency power restoration mission in Puerto Rico following Hurricane Maria in 2017.

# 2017

- In response to Hurricane Irma, an extremely powerful Category 5 hurricane in 2017, NextEra assembled an army of restoration workers, and approximately 28,000 personnel were activated. The response included more than 9,000 FPL and embedded contractors, as well as approximately 19,000 external resources from more than 190 other utilities and external companies from 30 states plus Canada provided assistance and 29 staging/operations sites. Despite the fact that Irma was a much stronger storm than Hurricane Wilma in 2005 and impacted more FPL customers across the entire service area, the restoration was much faster because of the investments made to strengthen the system and make it smarter.
- In 2017-2018, more than 400 men and women worked for nearly 200 days, restoring power to approximately 30,000 homes in the aftermath of Hurricane Maria. NextEra's support of the restoration effort began even before the company completed its own restoration of Hurricane Irma. The NextEra Energy storm logistics team coordinated the delivery of power poles and other electric equipment to the island by barge from Florida and managed the restoration logistics program on the Island. FPL was instrumental in helping set up the Incident Management Team to coordinate the restoration effort. By May 2018, 99 percent of electric customers had been restored.
- Also, in early 2017, NextEra response teams mobilized to support storm restoration efforts in the Northeast.

# 2016

- During Hurricane Matthew in October 2016, NextEra restored 99 percent of FPL customers affected by the end of two full days of restoration following the hurricane's exit from its service area. No transmission poles and hardened main power line poles failed due to high winds.
- During Hurricane Hermine in September 2016, NextEra worked safely and quickly to restore service to 100 percent of its customers impacted by the storm within 24 hours of Hermine's passing, and impacted customers experienced an average outage duration of less than three hours.

# 2015

In 2015, NextEra responded to several line circuit outages caused by ice, fire, and wind. Prepared response plans enabled power to be restored as safely and as quickly as possible. During the first half of 2015, approximately 60 structures were replaced in addition to several circuit miles of conductor, all with zero injuries. In each case, the NextEra restoration teams focused on ensuring

safety of the crews and the public and were able to complete the restoration in an expedited manner, frequently within a matter of days. The reasons for the successful restorations include NextEra's safety culture, a focus on plan execution, collaboration with other business units, and the ability to quickly assemble and utilize the necessary resources. Most materials – from poles to conductor wire – were prepositioned at storage facilities within a close distance to damaged sites. Specific material kits were ready for delivery at a moment's notice. Support was also provided from FPL's Field Operations and Engineering, Integrated Supply Chain, Power Generation Division's site team, and suppliers and contractors who are well-versed in the NextEra safety culture, restoration focus, and quality standards.

The events included:

- January An unprecedented ice storm in Texas resulted in several structures damaged at four wind farms.
- March A landowner brush fire burned out of control, destroying a 30-square-mile area along with 26 of NEER's structures connecting a NEER wind farm in Oklahoma to the electric grid.
- May Two tornadoes touched down within one week, the first near the Blue Summit Wind Energy Center in Texas and the second at the Ensign Wind Energy Center in Kansas resulting in 28 structure failures and the loss of a transformer. Lightning, heavy rains, and knee-deep mud created significant challenges for employees and contractors responding to the damage created by the tornadoes.
- May A tornado damaged the Lone Star 345 kV line near Cisco, TX in Eastland County. Lone Star Transmission Operations dispatched a first responder who discovered poles were down and immediately began mobilizing an emergency response. Six poles and insulators on multiple structures required replacement. Lone Star worked quickly to assess damage, engage contractors, utilize inventory from Lone Star's spare equipment storage facility, and engage vendors to procure items not already in inventory.

# 2012

In 2012, NextEra deployed nearly 1,000 employees, consisting of FPL linemen and FPL contracted linemen, vegetation contractors, and NextEra logistics teams, along with bucket trucks, tankers, fuel pumper trucks, and other equipment, to assist 11 utilities in Virginia, New York, Connecticut, and New Jersey to restore power and rebuild their electric systems following Superstorm Sandy.