Filing Receipt

Filing Date - 2024-01-31 04:05:01 PM

Control Number - 54467

Item Number - 24

PROJECT NO. 54467

CY 2022 ELECTRIC UTILITY SERVICE QUALITY REPORT UNDER 16 TAC §25.81	**§**	**BEFORE THE PUBLIC UTILITY COMMISSION OF TEXAS**

ONCOR ELECTRIC DELIVERY COMPANY'S COMPLIANCE REPORT IN RESPONSE TO THE PROPOSED ORDER IN DOCKET NO. 55804

On November 29, 2023, in Docket No. 55804, *Settlement Agreement and Report to the Commission Regarding Oncor Electric Delivery Company LLC's Violations of 16 TAC § 25.52, Related to Reliability and Continuity of Service for 2020 and 2021*, Oncor Electric Delivery Company LLC ("Oncor") and the Commission Staff filed a Settlement Agreement and Report to the Commission, which filing included a proposed Order for the Commission to adopt. Ordering Paragraph No. 5 of the proposed Order provides that "By January 31, 2024, Oncor must file in Project No. 54467, a report detailing the results of its analysis of forced outages related weather events and any steps Oncor intends to take to address weather-related events as a primary cause of forced outages on its worst performing feeders." The proposed Order has not yet been considered by the Commission by the deadline for filing the proposed compliance report. Rather than propose a change to the filing deadline contained in the proposed Order in Docket No. 55804, Oncor hereby files this its Compliance Report consistent with the proposed Order in Docket No. 55804.

WEATHER-RELATED FORCED OUTAGE REPORT

Background

When Oncor creates the annual service quality report and addendum, it completes a root cause analysis of every worst performing feeder to fully understand the causes and circumstances for each feeder's performance. Historically, Oncor has addressed all feeder performance through our various capital maintenance programs. The GT300[1] program reviews feeder performance on a monthly basis and targets worst performing feeders for rapid interventions with vegetation management, pole inspections, protection upgrades and patrols to identify problems. The pole maintenance program systematically inspects, treats or replaces wood poles and crossarms on the Oncor system. The cable maintenance program systematically tests, repairs or replaces aged

[1] Feeders that have a SAIDI or SAIFI value that is greater than 300% more than the system average are in violation of the Public Utility Commission's applicable rule, and are thus referred to by Oncor as "GT300 feeders" or "worst performing feeders."

primary cable on the Oncor system. The distribution automation program deploys IntelliRupters, reclosers, and TripSavers across the Oncor system. This allows reclosing operations to clear temporary faults and for automatic feeder reconfiguration if applicable. Oncor also performs annual vegetation management and monitors tree related outages for targeted maintenance opportunities.

Oncor's approach to improve reliability relies on data analytics and root cause analysis of outages. On a monthly basis, Oncor's engineering teams analyze the current year and historical outages on all worst performing feeders, feeders projected to become worst performing feeders, and feeders with poor reliability trends. Each feeder has their outage locations and causes reviewed for trends and opportunities for targeted improvement. The feeders design and protection schemes are also reviewed to ensure they are optimized for reliability. When opportunities for improvement are determined, Oncor utilizes the current capital maintenance programs as previously noted. The success of this approach is demonstrated through the year-on-year reduction in both system SAIDI and, although year-to-year variances may occur, multi-year violation feeders.

Approaches Going Forward

Oncor is investigating new technologies and standard construction philosophies that could further enhance our ability to maintain our system and to withstand external forces. Oncor is exploring options for a remote sensing program through the use of LiDAR, satellite, and drones to gather critical information needed to optimize our current programs. With this data we could more efficiently trim trees, identify maintenance needs on worst performing feeders, and identify overloaded poles. Oncor is reviewing different methodologies to harden against wind, lightning, floods and fires. These new construction philosophies, once finalized, could be applied to areas of higher risk and may improve system performance.

Methodology:

For this analysis outages were considered weather-related on days where system SAIDI deviated significantly from the 5-year average, but not significantly enough to be a major storm exclusion. Events were also considered weather-related if the outage record had the weather field documented as adverse or if the cause code was lightning. Finally for significant events that did not meet the previously mentioned requirement, Oncor determined if that event was weather based on historical weather records from the closest weather station.

Summary:

Of the 39 violating feeders from the reporting years 2020 and 2021, 17 were directly caused by weather events and would not have been in violation without those events. Additionally, 34 of the 39 feeders had their performance significantly impacted by weather events. In 2023, only 10 feeders from reporting years 2020 and 2021 are still poor performing feeders.

Feeder-by-Feeder Cause Analysis:

The data below contains the individual feeder reviews to determine the impact of weather on the outages. Each review provides the reliability summary as reported in 2020, the percent breakdown of the violation attributed to adverse weather, historical work completed to improve reliability, and the next steps Oncor is investigating in order to improve reliability performance on feeders still violating the Commission's reliability rule.

Calendar Year 2020

A. DHIDE-2821

a. As reported in the 2020 SQR addendum, this feeder's violations were due to SAIDI.

b. The data shows that 55% of the SAIDI for reporting year 2020 is attributable to adverse weather conditions.

c. To improve feeder performance, patrols of the feeder were made in 2019, and distribution automation projects were completed in 2019 and 2020. In addition, new feeder ties to three other feeders were completed in 2023, and pole and feeder maintenance was performed in order to increase the reliability of this feeder.

d. To mitigate outages from weather-related events, this feeder will be targeted for an enhanced feeder mainline inspection and hardening. This will include structural loading assessment to enhance performance during elevated wind conditions and additional remote sensing inspections to better identify components exhibiting pre-failure signatures. Structures identified to be addressed will be upgraded or reinforced to improve strength. Other components identified through remote sensing will be brought up to current standards through either replacement or maintenance.

B. RYLTY-1411

a. As reported in the 2020 Service Quality Report ("SQR") addendum, the feeder violations were due to SAIDI. In 2020, a long duration outage during adverse weather in June caused by a damaged pole and a long duration outage in

September after a day of high winds caused damage to a pole were the primary reasons.

b. The data shows that 97% of the SAIDI for reporting year 2020 is attributable to adverse weather conditions.

c. In 2020, distribution automation projects replaced single operation line fuses with vacuum reclosing fuses, and reactive maintenance projects replaced several damaged poles, crossarms, and conductor after patrols of the feeder. In 2023, a patrol of approximately 8.2 miles of the multi-phase feeder was performed.

d. This feeder is not a worst performing feeder in violation of Substantive Rule 25.52 in 2023.

C. BLKRV-8311

a. As reported in the 2020 SQR addendum, this feeder violation was due to SAIDI.

b. The data shows that 88% of the SAIDI values for the reporting year 2020 was attributable to adverse weather conditions.

c. In 2020, a new substation (Alligator Draw) was established in order to relieve loading on the BLKRV feeders. In addition, patrols of the feeders after storms replaced poles and crossarms as needed in reactive feeder maintenance projects.

d. This feeder is not a worst performing feeder in violation of Substantive Rule 25.52 in 2023.

D. VESTS-3111

a. As reported in the 2020 SQR addendum, this feeder violation was due to SAIDI.

b. The data shows that 69.9% of the SAIDI values for the reporting year 2020 is attributable to adverse weather conditions.

c. In 2019, system improvement projects were completed that rebuilt about four miles of the feeder, and in 2020, another system improvement project rebuilt about two miles of a separate portion of the feeder. In 2023, reactive maintenance after storms replaced six deteriorated wood poles and ten crossarms across the feeder.

d. This feeder is not a worst performing feeder in violation per substantive rule 25.52 in 2023.

E. RSKMN-3057

a. As reported on the 2020 SQR addendum, this feeder violation was due to SAIDI.

b. The data shows that 55% of the SAIDI values for the reporting year is attributable to adverse weather conditions.

c. Reactive tree trimming was performed during the year 2019 and after adverse weather events. Tree trimming was also performed in 2021 on mainline portions of the feeder. Distribution Automation projects were also performed in 2020, 2022, and 2023, as well as projects that allow for more reliable service to areas farther out on the feeder. There is currently a planned system improvement project scheduled to begin late this year to rebuild portions of the feeder in Crockett.

d. To mitigate outages from weather-related events, this feeder will be targeted for an enhanced feeder mainline inspection and hardening. This will include structural loading assessment to enhance performance during elevated wind conditions and additional remote sensing inspections to better identify components exhibiting pre-failure signatures. Structures identified to be addressed will be upgraded or reinforced to improve strength. Other components identified through remote sensing will be brought up to current standards through either replacement or maintenance.

F. CRNES-2711

a. As reported in the SQR Addendum for 2020, this feeder violation was due to SAIDI

b. The data shows that 94% of the SAIDI values for the reporting year 2020 is attributable to adverse weather conditions.

c. In 2020, distribution automation projects replaced single operation line fuses with vacuum reclosing fuses at key locations on the feeder. In 2022, a patrol of the mainline portions of the feeder was performed to identify deteriorated overhead facilities that were in need of replacement.

d. To mitigate outages from weather-related events, this feeder will be targeted for an enhanced feeder mainline inspection and hardening. This will include

structural loading assessment to enhance performance during elevated wind conditions and additional remote sensing inspections to better identify components exhibiting pre-failure signatures. Structures identified to be addressed will be upgraded or reinforced to improve strength. Other components identified through remote sensing will be brought up to current standards through either replacement or maintenance.

G. MASON-3413

a. As reported on the 2020 SQR addendum, this feeder's violations were due to SAIDI and SAIFI.

b. The data shows that 9% of the SAIDI and 12% of the SAIFI for the reporting year 2020 is attributable to adverse weather conditions.

c. The Mason Substation was replaced in 2021 with the Alcatraz Substation, and is no longer active in Oncor's service territory. The Alcatraz Substation had no worst performing feeders in 2023.

H. MASON-3412

a. As reported on the SQR addendum in 2020, this feeder's violations were due to SAIDI and SAIFI.

b. The data shows that 56.19% of the SAIDI and 81.82% of the SAIFI for the reporting year 2020 is attributable to adverse weather conditions.

c. The Mason Substation was replaced in 2021 with the Alcatraz Substation, and is no longer active in Oncor's service territory. The Alcatraz Substation had no worst performing feeders in 2023.

I. HNTNG-1307

a. As reported on the SQR addendum in 2020, this feeder's violation was due to SAIDI.

b. The data shows that 55% of the SAIDI for the reporting year 2020 is attributable to adverse weather conditions.

c. In 2020, distribution automation projects replaced manual reclosing devices with SCADA enabled vacuum reclosing equipment. A patrol of the feeder was completed in 2020 to find deteriorated overhead equipment along mainline portions of the feeder.

d. This feeder is not a worst performing feeder in violation of Substantive Rule 25.52 in 2023.

J. ELMAR-3232

a. As reported on the SQR addendum in 2020, this feeder's violation was due to SAIDI.

b. The data shows that 78% of the SAIDI for the reporting year 2020 is attributable to adverse weather conditions.

c. A large portion of the feeder was rebuilt in 2020 to facilitate tying into feeders KRNCH9011 and HRSHD5821. In 2021, a distribution automation project upgraded key locations on the feeder with electronic vacuum reclosing equipment with SCADA enhancements.

d. This feeder is not a worst performing feeder in violation of Substantive Rule 25.52 in 2023.

K. LMESA-2813

a. As reported on the SQR addendum in 2020, this feeder's violation was due to SAIDI.

b. The data shows that 71% of the SAIDI for reporting year 2020 is attributable to adverse weather conditions.

c. In 2020, distribution automation projects replaced manual operating fuses with new vacuum reclosing devices with SCADA capabilities. Reactive feeder maintenance projects replaced twenty-one deteriorated wood poles with new stronger poles and crossarms.

d. To mitigate outages from weather-related events, this feeder will be targeted for an enhanced feeder mainline inspection and hardening. This will include structural loading assessment to enhance performance during elevated wind conditions and additional remote sensing inspections to better identify components exhibiting pre-failure signatures. Structures identified to be addressed will be upgraded or reinforced to improve strength. Other components identified through remote sensing will be brought up to current standards through either replacement or maintenance.

L. ELMAR-3212

a. As reported on the 2020 SQR addendum, this feeder's violations were due to SAIDI and SAIFI.
b. The data shows that 74.8% of the SAIDI and 22.9% of the SAIFI for the reporting year 2020 is attributable to adverse weather conditions.
c. A large portion of the feeder was rebuilt in 2020 by installing larger conductor and stronger poles. In addition, reactive maintenance projects in 2019 and 2020 replaced damaged poles and conductor after patrols of the feeder.
d. This feeder is not a worst performing feeder in violation of Substantive Rule 25.52 in 2023.

N. JKWST-4035

a. As reported on the 2020 SQR addendum, this feeder's violation was due to SAIDI.
b. The data shows that 1.6% of the SAIDI for the reporting year 2020 is attributable to adverse weather conditions.
c. Reactive maintenance projects in 2019 and 2020 replaced damaged poles and crossarms after patrols of the feeder after adverse weather events. A planned vegetation management project trimmed the mainline of the feeder and was completed in December of 2020.
d. This feeder is not a worst performing feeder in violation of Substantive Rule 25.52 in 2023.

O. KEYSB-2621

a. As reported on the 2020 SQR addendum, this feeder's violation was due to SAIDI.
b. The data shows that 79.7% of the SAIDI for the reporting year 2020 is attributable to adverse weather conditions.
c. A pole inspection contractor identified fifteen deteriorated poles on the feeder that were replaced on a planned feeder maintenance project.
d. This feeder is not a worst performing feeder in violation of Substantive Rule 25.52 in 2023.

P. RICES-0208

a. As reported on the 2020 SQR addendum, this feeder's violation was due to SAIDI.
b. The data shows that 45.2% of the SAIDI for the reporting year 2020 is attributable to adverse weather conditions.
c. Reactive maintenance projects replaced damaged poles and crossarms after patrols of the feeder throughout the year and after adverse weather events.
d. This feeder is not a worst performing feeder in violation of Substantive Rule 25.52 in 2023.

Q. LOVNG-2512

a. As reported in the 2020 SQR addendum, this feeder's violation was due to SAIDI.
b. The data shows that 54.7% of the SAIDI for the reporting year 2020 is attributable to adverse weather conditions.
c. In 2020, a system improvement project rebuilt appx. 1.8 miles of the existing feeder by installing larger wire, stronger poles, and new crossarms.
d. This feeder is not a worst performing feeder in violation of Substantive Rule 25.52 in 2023.

R. CRKET-2402

a. As reported in the 2020 SQR addendum, this feeder's violations were due to SAIDI and SAIFI.
b. The data shows that 12% of the SAIDI and 9.6% of the SAIFI for reporting year 2020 is attributable to adverse weather conditions.
c. To improve feeder performance, Oncor has already completed pole treatment and inspections on 400 poles, upgraded three aged reclosers with SCADA-enabled NOVA reclosers, and rebuilt 2,100 feet of existing primary.
d. To mitigate outages from weather-related events, this feeder will be targeted for an enhanced feeder mainline inspection and hardening. This will include structural loading assessment to enhance performance during elevated wind conditions and additional remote sensing inspections to better identify components exhibiting pre-failure signatures. Structures identified to be addressed will be upgraded or reinforced to improve strength. Other

components identified through remote sensing will be brought up to current standards through either replacement or maintenance.

S. CPLND-1101

a. As reported in the 2020 SQR addendum, this feeder's violation was due to SAIDI.

b. The data shows that 71% of the SAIDI for reporting year 2020 is attributable to adverse weather conditions.

c. System improvement projects that covered about 4,500 feet of the feeder replaced certain portions of the feeder with three phase facilities, and a separate project upgraded about 8,700 feet of conductor, overhead poles, and crossarms to facilitate added load. Vegetation management projects were worked in this area in 2021 along with projects to replace eight deteriorated wood poles and crossarms.

d. This feeder is not a worst performing feeder in violation of Substantive Rule 25.52 in 2023.

T. ELKTN-2506

a. As reported in the 2020 SQR addendum, this feeder's violation was due to SAIDI.

b. The data shows that 60% of the SAIDI for reporting year 2020 is attributable to adverse weather conditions.

c. Reactive maintenance projects in 2019 and 2020 replaced damaged poles and crossarms after patrols of the feeders following adverse weather events. System improvement projects rebuilt or installed about 1.6 miles of new and existing feeder to establish ties to ELKTN2506 and TYSTH1201.

d. This feeder is not a worst performing feeder in violation per Substantive Rule 25.52 in 2023.

U. ORANS-1501

a. As reported in the 2020 SQR addendum, this feeder's violation was due to SAIDI.

b. The data shows that 93.6% of the SAIDI for reporting year 2020 is attributable to adverse weather conditions.

c. In 2020, a Distribution Automation project replaced single operation line fuses at a key location on the feeder with vacuum reclosing fuses. Reactive maintenance projects in 2019 and 2020 replaced damaged poles and crossarms after patrols of the feeder. In 2021, system improvement projects are in progress to rebuild approximately 6.6 miles of the existing feeder by installing larger wire, stronger poles and fiberglass crossarms where needed.

d. This feeder is not a worst performing feeder in violation of Substantive Rule 25.52 in 2023.

V. OAKCK-2211

a. As reported in the 2020 SQR addendum, this feeder's violation was due to SAIDI.

b. The data shows that 95.8% of the SAIDI for reporting year 2020 is attributable to adverse weather conditions.

c. In 2023, a planned feeder maintenance project patrolled approximately 11.6 miles of the mainline feeder for broken crossarms, braces, and busted jumpers. This project took place after the May storms that affected the area. Separate patrols of the feeder also found three broken crossarms to be replaced on multiphase portions of the feeder.

d. To mitigate outages from weather-related events, this feeder will be targeted for an enhanced feeder mainline inspection and hardening. This will include structural loading assessment to enhance performance during elevated wind conditions and additional remote sensing inspections to better identify components exhibiting pre-failure signatures. Structures identified to be addressed will be upgraded or reinforced to improve strength. Other components identified through remote sensing will be brought up to current standards through either replacement or maintenance.

W. GYVLM-8611

a. As reported in the 2020 SQR addendum, this feeder's violation was due to SAIDI.

b. The data shows that 61.6% of the SAIDI for reporting year 2020 is attributable to adverse weather conditions.

c. A project in 2020 replaced thirty-five deteriorated wood poles and crossarms, and patrols of the feeder replaced an additional four poles and eight crossarms. A distribution automation project was completed to automate remote portions of the feeder.

d. This feeder is not a worst performing feeder in violation of Substantive Rule 25.52 in 2023.

X. MSTNG-2621

a. As reported in the 2020 SQR addendum, this feeder's violation was due to SAIFI.

b. The data shows that 62% of the SAIFI for reporting year 2020 is attributable to adverse weather conditions.

c. There has been work performed on this feeder to provide additional back stand to the Mustang substation feeders.

d. This feeder is not a worst performing feeder in violation of Substantive Rule 25.52 in 2023.

Y. CNANG-1806

a. As reported in the 2020 SQR addendum, this feeder's violation was due to SAIFI.

b. The data shows that 25% of the SAIFI for reporting year 2020 is attributable to adverse weather conditions.

c. With the majority of issues due to vegetation management, a trim of trees and vines was completed in 2021.

d. This feeder is not a worst performing feeder in violation of Substantive Rule 25.52 in 2023.

Z. NSMFD-4201

a. As reported in the 2020 SQR addendum, this feeder's violation was due to SAIFI.

b. The Data shows that 46.3% of the SAIFI for reporting year 2020 is attributable to adverse weather conditions.

c. Portions of the transmission feeding this feeder have been rebuilt to improve the reliability to the town of New Summerfield. In addition, reactive

maintenances projects were performed after storms to replace broken poles and crossarms.

d. This feeder is not a worst performing feeder in violation of Substantive Rule 25.52 in 2023.

Calendar Year 2021

AA. CHRNO-1201

a. As reported in the 2021 SQR addendum, this feeder's violations were due to SAIDI and SAIFI.

b. The data shows that 78% of the SAIDI and 53% of the SAIFI for reporting year 2021 is attributable to adverse weather conditions

c. In 2021, reactive maintenance projects initiated after patrols of the feeder replaced eight (8) deteriorated poles and two damaged reclosers. Additional reactive maintenance projects initiated after adverse weather events replaced ten (10) damaged poles and a span of damaged wire. Reactive vegetation management projects were initiated throughout the year mainly as a result of several adverse weather events causing trees and limbs to fall onto the overhead wire. In addition, planned vegetation management projects were completed that trimmed 12.4 miles of the right-of-way and identified and removed two-hundred and seventy-eight (278) hazard trees adjacent to the right-of-way of the feeder. These hazard trees are a result of a pine tree beetle infestation in the pine forests of east Texas that bore into the pine trees and in a short time cause the trees to die. Then the trees dry up and over time start sheading dead limbs and eventually the main trunk will break and fall to the ground. This planned vegetation program attempts to mitigate these hazard trees before they can fall into our lines and cause an outage event. Also, in 2021 a planned substation improvement project upgraded the communications and SCADA equipment at the substation to improve remote monitoring and control. In 2022, planned vegetation management projects performed work on 75.4 miles of the feeder, and existing right-of-way projects, and reactive vegetation management projects cleared trees and debris from existing right-of-way on key portions of

the feeder. In 2023, reactive feeder maintenance projects replaced nine (9) deteriorated wood poles, three cross arms, and all other materials as required.

d. To mitigate outages from weather-related events, this feeder will be targeted for an enhanced feeder mainline inspection and hardening. This will include structural loading assessment to enhance performance during elevated wind conditions and additional remote sensing inspections to better identify components exhibiting pre-failure signatures. Structures identified to be addressed will be upgraded or reinforced to improve strength. Other components identified through remote sensing will be brought up to current standards through either replacement or maintenance.

BB. MASON-3431

a. As reported in the 2021 SQR addendum, this feeder's violations were due to SAIDI and SAIFI.

b. The data shows that 57% of the SAIDI and 62% of the SAIFI for reporting year 2021 is attributable to adverse weather conditions.

c. The Mason Substation was replaced in 2021 with the Alcatraz Substation, and is no longer active in Oncor's service territory. The Alcatraz Substation had no worst performing feeders in 2023.

CC. EMMAS-4022

a. As reported in the 2021 SQR addendum, this feeder's violation was due to SAIDI.

b. The data shows that 95% of the SAIDI for reporting year 2021 is attributable to adverse weather conditions.

c. In 2020, a reactive maintenance project replaced a damaged pole identified during a patrol of the feeder after adverse weather. In 2020, a planned distribution system improvement project at the substation upgraded some of the communication equipment to improve remote monitoring. In 2021, a reactive maintenance project replaced two damaged poles identified during a patrol of the feeder. A planned distribution automation project replaced single operation line fuses at a key location on the feeder with reclosing fuses.

d. This feeder is not a worst performing feeder in violation of Substantive Rule 25.52 in 2023.

DD. HNTNG-1301

a. As reported in the 2021 SQR addendum, this feeder's violation was due to SAIDI.

b. The data shows that 76% of the SAIDI for reporting year 2021 is attributable to adverse weather conditions.

c. In 2021, reactive maintenance projects initiated after patrols of the feeder after adverse weather events replaced seven (7) damaged poles, a span of damaged wire, and a damaged recloser. The older oil-filled recloser that was damaged during a storm was upgraded to a new vacuum recloser equipped with SCADA for remote monitoring and control and three single operation line fuses were replaced with reclosing vacuum fuses. After a careful investigation of some of the recurring outage events on the feeder, a one-mile section of the feeder where numerous wires down caused outage events had occurred over several years was identified. A plan was proposed to rebuild the existing one-mile section by installing taller and stronger poles with new fiberglass crossarms where needed and all new larger wire. Multiple phases to implement this plan are planned. Phase I was a planned distribution feeder maintenance project that replaced about 1,400 feet of small wire with larger wire, replaced seventeen (17) existing deteriorated poles with taller and stronger poles, and replaced twenty-one (21) existing deteriorated wood crossarms with new fiberglass crossarms. In 2022, a planned feeder maintenance project replaced 9,800 feet (1.86 miles) of overhead mainline wire were replaced with larger wire. Twenty-four (24) newer and stronger wood poles along with eight (8) new concrete poles were installed with fiberglass crossarms in order to provide better back stand capabilities to HNTNG - 1307 and to allow for better access to the feeder from the road. A reactive feeder maintenance job was completed to replace one damaged wood pole found during a patrol of the feeder. Planned vegetation management projects trimmed and maintained approximately 18.9 miles of the feeder, while reactive vegetation management was performed on key parts of

the feeder after storm damage. In 2023 the feeder had eight (8) wood poles reactively replaced for damages. This also included several spans reconductored after lines went down or were damaged. A planned system improvement project replaced nineteen (19) manually operating overhead fuses with vacuum reclosing devices along key points of the feeder.

d. To mitigate outages from weather-related events, this feeder will be targeted for an enhanced feeder mainline inspection and hardening. This will include structural loading assessment to enhance performance during elevated wind conditions and additional remote sensing inspections to better identify components exhibiting pre-failure signatures. Structures identified to be addressed will be upgraded or reinforced to improve strength. Other components identified through remote sensing will be brought up to current standards through either replacement or maintenance.

EE. INAIR-1442

a. As reported in the 2021 SQR addendum, this feeder's violation was due to SAIDI.

b. The data shows that 1% of the SAIDI for reporting year 2021 is attributable to adverse weather conditions.

c. In 2021, a reactive maintenance project replaced the two (2) poles, crossarms, and overhead conductor damaged by the large public vehicle event.

d. This feeder is not a worst performing feeder in violation of Substantive Rule 25.52 in 2023.

FF. NCSTH-1503

a. As reported in the 2021 SQR addendum, this feeder's violations were due to SAIDI and SAIFI.

b. The data shows that 86% of the SAIDI AND 66% of the SAIFI for reporting year 2021 is attributable to adverse weather conditions.

c. In 2020, multiple reactive maintenance projects initiated after patrols of the feeder (some after adverse weather events) replaced five (5) damaged poles and several damaged crossarms. A planned distribution system improvement project replaced an oil-filled recloser with a vacuum reclosing fuse equipped

with SCADA for remote monitoring and control. A planned substation improvement project upgraded deteriorated equipment at the substation. Another planned substation system improvement project upgraded communications equipment to improve remote monitoring and control. In 2021, two reactive maintenance projects were initiated after adverse weather events, and replaced twenty-five (25) damaged poles with taller and stronger poles with fiberglass crossarms. Two planned distribution feeder maintenance projects replaced three (3) deteriorated poles and installed one (1) new pole and a new vacuum recloser equipped with SCADA for remote monitoring and control. A planned distribution automation project replaced three single operation line fuses with new vacuum reclosing fuses at key locations on the feeder. In 2022, a distribution automation project installed six (6) TripSavers to upgrade fuses to reclosing devices.

d. This feeder is not a worst performing feeder in violation of Substantive Rule 25.52 in 2023.

GG. KMASB-1721

a. As reported in the 2021 SQR addendum, this feeder's violation was due to SAIDI.

b. The data shows that 64% of the SAIDI for reporting year 2021 is attributable to adverse weather conditions.

c. In 2021, multiple reactive maintenance projects initiated after patrols of the feeder during the year replaced thirteen (13) deteriorated poles, four (4) deteriorated, and two (2) spans of wire. Three of these poles were replaced after an adverse weather event. Two planned substation system improvement projects replaced deteriorated equipment in the substation. In 2021, multiple reactive maintenance projects replaced ten (10) deteriorated poles initiated after patrols of the feeder during the year. Two of these poles were replaced after an adverse weather event. Two planned substation system improvement projects upgraded equipment to improve remote communications at the substation. Another planned substation improvement project installed wildlife mitigation equipment at the substation to mitigate snakes crawling onto the substation

equipment and causing long duration outages. In 2022, a reliability project was complete to address reliability issues on the feeder.

d. This feeder is not a worst performing feeder in violation of Substantive Rule 25.52 in 2023.

HH. FLGRV-4721

a. As reported in the 2021 SQR addendum, this feeder's violation was due to SAIDI.

b. The data shows that 72% of the SAIDI for reporting year 2021 is attributable to adverse weather conditions.

c. In 2019, a planned system improvement project established the new FLGRV substation with two new feeder breakers to take load off of the existing legacy Sharyland substations BROWN, LUTHR, and VMOOR. The load transferred to new feeders FLGRV-4711 and FLGRV-4721 was from some of the feeders on these former legacy Sharyland substations. In 2021, a reactive maintenance project replaced a damaged pole and two crossarms identified during a patrol of the feeder after adverse weather. A planned distribution system improvement project converted a 32,000 feet section of the feeder to a more reliable 25kV primary voltage and replaced twelve older poles and installed fifteen (15) new taller and stronger poles and seventy-five (75) new fiberglass crossarms. A reactive maintenance project was worked on December 12, 2021 to replace five poles and other facilities damaged by fire after a nearby gas pipeline explosion.

d. This feeder is not a worst performing feeder in violation of Substantive Rule 25.52 in 2023.

II. CSHNG-1201

a. As reported in the 2021 SQR addendum, this feeder's violation was due to SAIDI.

b. The data shows that 47% of the SAIDI for reporting year 2021 is attributable to adverse weather conditions.

c. In 2021, reactive maintenance projects replaced one deteriorated pole and a damaged recloser with a vacuum reclosing fuse and a damaged oil-filled

recloser with a new vacuum recloser equipped with SCADA for remote monitoring and control. A planned distribution automation project replaced five (5) single operation line fuses with vacuum reclosing fuses, and relocated one existing vacuum recloser to key locations on the feeder to improve outage sectionalizing. A planned distribution system improvement project reconductored about 2,300 feet (0.4 miles) of the existing feeder with larger wire, and replaced sixteen (16) older poles with taller and stronger poles with new fiberglass crossarms. Planned and reactive vegetation management projects were performed on the feeder at key locations after patrols of the feeder. In 2022, a distribution automation project replaced four (4) single operation line fuses with new smart switches, and replaced six (6) broken or deteriorated wood poles with new poles at key areas of the feeder. A feeder maintenance project replaced 2,300 feet (0.44 miles) of the feeder with new overhead wire along with fuses and new solid blade disconnects to handle increased summer loading along the multiphase portion of the feeder. A reactive feeder maintenance project replaced a deteriorated wood pole with a new pole and fiberglass crossarm after patrols of the feeder. Planned vegetation management projects were performed as needed on the feeder after patrols. In 2023, a planned distribution automation project replaced two (2) standard overhead manually operating fuses with vacuum reclosing devices. Feeder maintenance projects after patrols of the feeders replaced a non-operating reclosing device, as well as eight (8) wood poles and other materials as required. A substation system improvement project replaced devices at the transformer to monitor issues at the feeder exit to improve reliability. Planned vegetation management projects patrolled key portions of the feeder, and removed or trimmed four hundred twenty-four (424) trees.

d. To mitigate outages from weather-related events, this feeder will be targeted for an enhanced feeder mainline inspection and hardening. This will include structural loading assessment to enhance performance during elevated wind conditions and additional remote sensing inspections to better identify components exhibiting pre-failure signatures. Structures identified to be

addressed will be upgraded or reinforced to improve strength. Other components identified through remote sensing will be brought up to current standards through either replacement or maintenance.

JJ. LMESA-2833

a. As reported in the 2021 SQR addendum, this feeder's violation was due to SAIDI.

b. The data shows that 92% of the SAIDI for reporting year 2021 is attributable to adverse weather conditions.

c. In 2020, a reactive maintenance project replaced two damaged poles identified during a feeder patrol after adverse weather. In 2021, reactive maintenance projects replaced thirteen (13) damaged crossarms identified during feeder patrols after adverse weather. A planned distribution feeder maintenance project replaced three single-operation line fuses with a set of reclosing vacuum fuses and replaced two line-fuse positions with different size fuses to improve fuse coordination and feeder reliability.

d. This feeder is not a worst performing feeder in violation of Substantive Rule 25.52 in 2023.

KK. CSHNG-1202

a. As reported in the 2021 SQR addendum, this feeder's violation wase due to SAIDI.

b. The data shows that 96% of the SAIDI for reporting year 2021 is attributable to adverse weather conditions.

c. In 2020, a patrol after an adverse weather event initiated a reactive maintenance project to replace two (2) damaged poles and several damaged crossarms. A planned distribution feeder maintenance project replaced three (3) deteriorated poles and fourteen (14) deteriorated crossarms. A planned vegetation management project was completed to maintain undergrowth on 28.4 miles of the feeder right-of-way. In 2021, a planned distribution automation project replaced a single operation line fuse with a reclosing vacuum fuse along with a new pole and fiberglass crossarm. In 2022, a planned distribution automation project replaced a single operation line fuse with a reclosing vacuum fuse along

with a new wood pole. Planned vegetation management projects inspected and trimmed key parts of the feeder.

d. This feeder is not a worst performing feeder in violation of Substantive Rule 25.52 in 2023.

LL. MKNSW-2601

a. As reported in the 2021 SQR addendum, this feeder's violation was due to SAIFI.

b. The data shows that 64% of the SAIFI for reporting year 2021 is attributable to adverse weather conditions.

c. In 2021 after patrols of the feeder, reactive maintenance projects replaced three (3) deteriorated or damaged poles. Five planned distribution system improvement projects rebuilt about 22,570 feet (4.3 miles) of the feeder with small wire and older poles by installing one hundred seventy-four (174) new, taller, and stronger poles with fiberglass crossarms and larger wire. To improve sectionalizing on the feeder, these projects also installed one (1) new air brake switch, and two (2) vacuum reclosers equipped with SCADA for remote monitoring and control. A planned substation improvement project installed telecommunication equipment to establish control and communications with the smart switches on Southwest McKinney. Planned vegetation management projects trimmed approximately 32.3 miles of the feeder, and reactive vegetation management projects trimmed locations that had been affected by storms. In 2022, four planned distribution system improvement projects rebuilt approximately 14,000 feet (2.65 miles) of the existing feeder by replacing small wire and older poles with taller and stronger poles with fiberglass crossarms and larger wire. Planned underground feeder maintenance jobs replaced approximately 9,800 feet (1.86 miles) of underground primary conductor to improve reliability. Planned vegetation management projects trimmed approximately 53.9 miles of the feeder, and reactive vegetation management projects trimmed locations of the feeder where storms had affected the area. In 2023, planned feeder maintenance projects replaced approximately 500 feet (0.1 miles) of key underground portions of the feeder. Distribution automation

projects on this feeder replaced ten manual operation fuses with remote operating vacuum reclosing devices with SCADA capabilities. Planned distribution system improvement projects on this feeder replaced approximately 15,000 feet (3.0 miles) of the feeder with new and larger capacity overhead conductor, sixty-five (65) wood poles with crossarms, and installed fifty-four (54) wood poles and six (6) concrete poles to better serve this feeder.

d. To mitigate outages from weather-related events, this feeder will be targeted for an enhanced feeder mainline inspection and hardening. This will include structural loading assessment to enhance performance during elevated wind conditions and additional remote sensing inspections to better identify components exhibiting pre-failure signatures. Structures identified to be addressed will be upgraded or reinforced to improve strength. Other components identified through remote sensing will be brought up to current standards through either replacement or maintenance.

MM. DALLW-0001

a. As reported in the 2021 SQR addendum, this feeder's violation was due to SAIFI.

b. The data shows that 30% of the SAIFI for reporting year 2021 is attributable to adverse weather conditions.

c. In 2020, reactive maintenance projects replaced two (2) deteriorated poles identified after patrolling the feeder. A planned distribution automation project installed AFS's on this feeder and two adjacent feeders to implement automated outage restoration. A planned vegetation maintenance project trimmed the mainline section (4.8 miles) of the feeder. In 2021, a planned substation system improvement project installed telecommunication equipment to establish control and communications with the AFS's on the three feeders (DALLW-0001, DALLW-0003, and DALLW-0006). Multiple planned distribution feeder maintenance projects patrolled the feeder, inspected and treated about fifty-seven (57) poles, restored two (2) poles by installing steel trusses, and replaced two (2) deteriorated wood crossarms with stronger fiberglass crossarms.

d. This feeder is not a worst performing feeder in violation of Substantive Rule 25.52 in 2023.

NN. TYLGE-1311

a. As reported in the 2021 SQR addendum, this feeder's violation wase due to SAIFI.

b. The data shows that 35% of the SAIFI for reporting year 2021 is attributable to adverse weather conditions.

c. In 2020, multiple reactive maintenance projects after patrols of the feeder replaced six (6) deteriorated poles and several deteriorated crossarms. A planned distribution automation project replaced a single operation line fuse with a vacuum reclosing fuse at a key location on the feeder. Multiple reactive vegetation management projects were worked during the year, including after adverse weather events. In 2021, two reactive maintenance projects initiated after adverse weather events replaced six (6) damaged poles. Another reactive maintenance project replaced a damaged vacuum recloser and upgraded the SCADA control unit. A planned distribution system improvement project to improve sectionalizing on the feeder installed two new air break switches, one new vacuum recloser, and relocated another vacuum recloser to a different location. Multiple reactive vegetation management projects were worked, including after adverse weather events.

d. This feeder is not a worst performing feeder in violation of Substantive Rule 25.52 in 2023.