

**DEPARTMENT OF STATE
PUBLIC SERVICE COMMISSION**

Statutory Authority: 26 Delaware Code, Sections 209(a)(1) (26 **Del.C.** §§209(a)(1))
26 **DE Admin. Code** 3007

PROPOSED

PUBLIC NOTICE

3007 Electric Service Reliability and Quality Standards

In compliance with the State's Administrative Procedures Act (Title 29, Chapter 101 of the Delaware Code) and under the authority of 26 **Del.C.** §§209(a)(1), the Delaware Public Service Commission (the "Commission" or "PSC") proposes to revise 26 DE Admin. Code. 3007 *Electric Service Reliability and Quality Standards* (the "Regulation") for regulatory enhancement and public benefit.

This Regulation requires electric distribution companies ("EDCs") subject to the Commission's jurisdiction to engage in distribution planning and to submit annual reports prepared with the input of Commission Staff ("Staff") and the Delaware Division of the Public Advocate ("DPA"). EDCs, Staff, and the DPA have engaged in four annual distribution planning cycles. Staff and DPA have consistently maintained that EDCs ignore their input with respect to distribution system improvements, replacements, or repairs that could be done at less cost to ratepayers without sacrificing service reliability. Staff drafted the proposed amendments to this Regulation to address these concerns.

A copy of the proposed amendments to this Regulation is being published in the July 2024 issue of the *Delaware Register of Regulations*. The proposed amendments are also addressed in Commission Order No. 10457 in PSC Docket No. 18-9035, and can be found in the PSC's electronic filing system, Delafile, located at <http://delafile.delaware.gov/> by searching for Docket No. 18-9035. If you wish to obtain written copies of the Order and proposed regulation, please contact the PSC at (302)736-7500. Copies in excess of the first twenty (20) pages are \$0.10 per page. Payment is expected prior to copying (if you wish the copies to be mailed) or at the time the copies are retrieved (if you retrieve them in person).

Pursuant to 29 *Del. C.* § 10118(a), interested parties may offer written comments on the proposed regulations or submit written suggestions, data, briefs or other materials to the Commission by filing such comments electronically in Delafile at <http://delafile.delaware.gov/> and filling out the "Public Comment Form" located under "Public Links." Written comments may also be mailed to: Crystal Beenick, Public Service Commission, Cannon Building, 861 Silver Lake Blvd., Suite 100, Dover, DE 19904, or via email to crystal.beenick@delaware.gov, with the subject line "Docket 18-0935." Written comments will be accepted until August 15, 2024, pursuant to 29 *Del. C.* § 10118(a). **There will be a public hearing on the proposed amendments to the Regulation on July 31, 2024 at 1:00 p.m. at the hearing room located at 861 Silver Lake Blvd., Suite 100, Dover, DE 19904. To be considered at the July 31, 2024, hearing, however, written comments must be submitted on or before July 19, 2024.**

Following review of the public comment, the Commission will determine whether to amend its regulations by adopting the proposed rules or make additional changes because of the public comments received. If adopted by the Commission, the amendments shall take effect ten days after being published as final in the Delaware Register of Regulations.

IN THE MATTER OF THE PETITION
OF THE PUBLIC SERVICE COMMISSION
STAFF AND DELAWARE DIVISION OF THE
PUBLIC ADVOCATE TO ESTABLISH A
REGULATION FOR DISTRIBUTION
SYSTEM INVESTMENT PLANS FOR
DELAWARE ELECTRIC AND NATURAL
GAS UTILITIES (FILED JULY 2, 2018)

PSC REGULATION DOCKET NO. 18-0935

ORDER NO. 10457

AND NOW, this 22nd day of May 2024, the Public Service Commission ("Commission") determines and orders the following:

WHEREAS, under the provisions of 26 *Del. C.* § 209(a)(1) and 29 *Del. C.* § 10114, the Commission is authorized to grant or deny proceedings for the adoption, amendment, or repeal of a regulation upon the motion of an agency member; and

WHEREAS, the Commission previously promulgated regulations requiring electric distribution companies ("EDCs") subject to its jurisdiction to engage in distribution planning and to submit annual reports prepared with the input of Commission Staff ("Staff") and the Delaware Division of the Public Advocate ("DPA") (see 26 *Del. Admin. C.* §§ 3007 et seq.) (the "Regulations"); and

WHEREAS, the EDC, Staff, and the DPA have engaged in four annual distribution planning cycles; and

WHEREAS, Staff and the DPA have filed comments on each of the four plans that the EDC has submitted, which comments have consistently maintained that the EDC ignores their input with respect to distribution system improvements, replacements, or repairs that could be done at less cost to ratepayers without sacrificing service reliability; and

WHEREAS, Commission Staff ("Staff") submits that the current Regulations are not accomplishing the intended goal of reducing the cost of distribution system improvements through collaboration between the EDC, Staff, and the DPA; and

WHEREAS, Staff has drafted amendments to the Regulations, which are attached hereto as Exhibit "A;" and

WHEREAS, the Commission, on its own motion, hereby reopens Docket No. 18-0935 to consider Staff's proposed amendments to the Regulations and to approve their publication in the Delaware Register of Regulations for public comment;

**NOW, THEREFORE, IT IS ORDERED BY THE AFFIRMATIVE VOTE
OF NOT FEWER THAN THREE COMMISSIONERS:**

1. That, for the reasons set forth above, and pursuant to 26 *Del. C.* § 209 and 29 *Del. C.* § 10114, the Commission authorizes the publication of the revisions to the *Electric Service Reliability and Quality Standards* in the *Delaware Register of Regulations* for public comment. A redlined version of the proposed amendments to the Regulations (26 *Del. Admin. C.* §§ 3007 et seq.) is attached to this Order as Exhibit "A."

2. That, as mandated by the *Delaware Register of Regulations* formatting requirements, Commission Staff is authorized to perform any necessary nonsubstantive edits to conform Exhibit "A" to the *Delaware Register of Regulations Style Manual* for July 1, 2024, submission.

3. That, pursuant to 29 *Del. C.* § 10115(a), the Secretary shall transmit a copy of this Order, with the attached exhibits, to the Registrar of Regulations for publication in the July 1, 2024, edition of the *Delaware Register of Regulations*.

4. That, pursuant to 26 *Del. C.* § 102A, the Secretary shall cause the form of public notice attached as Exhibit "B" to be published on the Commission's website located at <https://depsec.delaware.gov/> on or before July 1, 2024. In accordance with 26 *Del. C.* § 10115(c), the Secretary shall mail a copy of this Order, with its exhibits, to the Division of the Public Advocate and to all persons or entities who have made written requests for advance notice of this Commission's rule-making proceedings. The Secretary shall file a certification of the completion of these tasks by July 10, 2024.

5. That pursuant to 26 *Del. C.* § 209(a) and 29 *Del. C.* § 10118(a), the Commission will hold a public hearing on the proposed amendments on Wednesday, July 31, 2024, beginning at 1:00 PM at 861 Silver Lake Blvd., Hearing Room, Dover, Delaware 19904. The Commission will conduct the meeting as set forth in the attached form of public notice. Pursuant to 29 *Del. C.* § 10118(a), interested persons or entities may submit written suggestions, compilations of data, briefs, or other written materials concerning these proposed amendments on or before August 15, 2024. **To be considered at the July 31, 2024, hearing, however, written comments must be submitted on or before July 19, 2024.**

6. That the Commission reserves the jurisdiction and authority to enter such further Orders in this matter as may be deemed necessary or proper.

BY ORDER OF THE COMMISSION:

Dallas Winslow, Chairman
Joann Conaway, Commissioner
Harold B. Gray, Commissioner
Manubhai Karia, Commissioner (absent)
K. F. Drexler, Commissioner

ATTEST: Crystal Beenik, Secretary

3007 Electric Service Reliability and Quality Standards
EFFECTIVE DATE: September 10, 2006

1.0 Purpose and Scope

1.1 Reliable electric service is an essential service to Delaware citizens of great importance to the Delaware Public Service Commission ("Commission"). This regulation, in support of 26 **Del.C.** §1002 and 26 **Del.C.** §1008, sets forth reliability standards, distribution planning requirements, distributed generation considerations, and reporting requirements needed to assure the continued reliability and quality of electric service being delivered to Delaware regulated public utility customers and applies to all Delaware Electric Distribution Companies ("EDCs").

- 1.2 Nothing in this regulation relieves an EDC from compliance with any requirement set forth under any other regulation, statute or order. To the extent there is any inconsistency between this regulation and any other regulation, or order, this regulation shall control.
- 1.3 Compliance with this regulation is a minimum standard. Compliance does not create a presumption of safe, adequate and proper service. Each EDC must exercise its professional judgment based on its systems and service territories. Nothing in this regulation relieves any EDC from the requirement to furnish safe, adequate and proper service and to keep and maintain its property and equipment in such condition as to enable it to do so. (26 Del.C. §209)
- 1.4 Each EDC is responsible for maintaining the reliability of electric service to all its customers in the State of Delaware. Pursuant to this requirement, EDCs may be subject to penalties as described in Section 10.0 or 26 Del.C. §1019.
- 1.5 EDCs are required to explore the use of proven state of the art technology, to provide cost effective electric service reliability improvements.

16 DE Reg. 1000 (03/01/13)

23 DE Reg. 888 (04/01/20)

2.0 Definitions

The following words and terms, as used in these regulations, shall have the following meanings, unless the context clearly indicates otherwise:

~~“Availability” means the measure of time a generating unit, transmission line, or other facility is capable of providing service, whether or not it actually is in service.~~

~~“Beginning restoration” includes the essential or required analysis of an interruption, the dispatching of an individual or crew to an affected area, and their arrival at the work site to begin the restoration process (normally inclusive of dispatch and response times).~~

~~“Benchmark” means the standard service measure of SAIFI, CAIDI and Forced Outage Rate CAIDI, and forced outage rate as set forth in these regulations.~~

“Benefit/cost analysis” means a systematic process for identifying, quantifying and comparing expected benefits and costs of a project contained in the Infrastructure, Safety and Reliability Plan and Long Range Distribution Plan.

“Capacity” means the rated continuous load-carrying ability, expressed in megawatts (“MW”) or megavolt-amperes (“MVA”) of generation, transmission, or other electrical equipment.

“Commission” means the Delaware Public Service Commission.

“Contingency” means the unexpected failure or outage of a system component, such as a generator, transmission line, circuit breaker, switch, or other electrical element. A contingency may also include multiple components, which are related by situations leading to simultaneous component outages.

“Corrective action” means the maintenance, repair, or replacement of an EDC’s utility system components and structures to allow them to function at an acceptable level of reliability.

~~“Corrective maintenance” means the unplanned maintenance work required to restore delivery facilities to a normal operating condition that allows them to function at an acceptable level of reliability.~~

“Customer Average Interruption Duration Index (“CAIDI”)” ~~average interruption duration index~~ or “CAIDI” represents the average time in minutes required to restore service to those customers that experienced sustained interruptions during the reporting period. CAIDI is defined as follows:

$$\text{CAIDI} = \frac{\text{Sum of all Sustained Customer Interruption Durations per Reporting Period}}{\text{Total Number of Sustained Customer Interruptions per Reporting Period}}$$

“Delivery Facilities facilities” means the EDC’s physical plant used to provide electric energy to Delaware retail customers, normally inclusive of distribution and transmission facilities, ~~which are electric facilities located in Delaware and owned by a public utility that operates at voltages above 34,500 volts and that are used to transmit and deliver electricity to customers (including any customers taking electric service under interruptible rate schedules as of December 31, 1998) up through and including the point of physical connection with electric facilities owned by the customer.~~

~~“Dispatch time” is the elapsed time between receipt of a customer call and the dispatch of a service resource to address the customer’s issue as tracked by the OMS.~~

“Distribution facilities” means electric facilities located in Delaware that are owned by a public utility that operates at voltages of 34,500 volts or below and that are used to deliver electricity to customers, up through and including the point of physical connection with electric facilities owned by the customer.

“Distribution feeder” or **“feeder”** means a ~~three-phase~~ 3-phase set of conductors emanating from a substation circuit breaker serving customers in a defined local distribution area. This includes ~~three-phase, two-phase~~ 3-phase, 2-phase, and single-phase branches that are normally isolated at all endpoints.

“Electric Distribution Company” or **“EDC”** means a public utility owning ~~and/or~~ or operating transmission ~~and/or~~ or distribution facilities in this state.

~~“Electric distribution system”~~ means that portion of an electric system, that delivers electric energy from transformation points on the transmission system to points of connection at the customers’ premises.

“Electric service” means the supply, transmission, and distribution of electric energy as provided by an electric distribution company.

“IEEE” means the Institute of Electrical and Electronics Engineers.

“Infrastructure, safety, and reliability plan” or **“ISR”** is a rolling 3-year plan that identifies projected capital spending necessary to maintain the reliability and quality of its distribution services, and becomes effective upon the Commission’s acknowledgment.

~~“Interrupting device”~~ means a device, capable of being reclosed, whose purpose includes interrupting fault currents, isolating faulted components, disconnecting loads and restoring service. These devices can be manual, automatic, or motor operated. Examples include ~~transmission and distribution breakers, line reclosers, motor operated switches, fuses or other devices.~~

“Interruption” means the loss of electric service to ~~one~~ 1 or more customers. It is the result of ~~one~~ 1 or more component outages, depending on system configuration or other events. See “outage” and “major event.” The types of interruption include momentary event, sustained and scheduled.

“Interruption, Interruption duration” means the period (measured in minutes) from the initiation of an interruption of electric service to a customer until such service has been restored to that customer. An interruption may require step restoration tracking to provide reliable index calculations.

~~“Interruption, momentary event”~~ means an interruption of electric service to one or more customers, of which the duration is less than or equal to 5 minutes. This definition includes all reclosing operations, which occur within five minutes of the first interruption. For example, if a recloser or breaker operates two, three, or four times and then holds within five minutes, the event shall be considered one momentary event interruption.

~~“Interruption, scheduled”~~ means an interruption of electric service that results when one or more components are deliberately taken out of service at a selected time, usually for the purposes of preventative maintenance, repair or construction. Scheduled interruptions, where attempts have been made to notify customers in advance, shall not be included in the SAIFI, CAIDI, or Forced Outage Rate calculations.

“Interruption, sustained” means an interruption of electric service to one or more customers that is not classified as a momentary event interruption and which is longer than five minutes in duration.

“Long range distribution plan” or **“LRDP”** means a plan submitted by an EDC to identify existing and potential future distribution system performance issues, and recommended solutions, effective upon the Commission’s acknowledgment. This plan is intended to serve as the strategic direction for an EDC’s anticipated major initiatives.

“Major Event event” means an event consistent with the ~~I.E.E.E.~~ IEEE 1366, *Guide For Electric Power Distribution Reliability Indices* standard as approved and as may change over time. For purposes of this regulation, changes shall be considered to be in effect beginning January 1 of the first calendar year after the changed standard is adopted by the ~~I.E.E.E.~~ IEEE. Major event interruptions shall be excluded from the EDC’s SAIFI, CAIDI, ~~CAIDI,~~ and ~~Forced Outage Rate~~ forced outage rate calculations for comparison to reliability benchmarks. Interruption data for major events shall be collected, and reported according to the reporting requirements set forth in this regulation.

“Momentary event interruption” means an interruption of electric service to 1 or more customers, of which the duration is less than or equal to 5 minutes. This definition includes all reclosing operations, which occur within 5 minutes of the first interruption. For example, if a recloser or breaker operates 2, 3, or 4 times and then holds within 5 minutes, the event shall be considered 1 momentary event interruption.

“Outage” means the state of a component when it is not available to perform its intended function due to some event directly associated with that component. An outage may or may not cause an interruption of electric service to customers, depending on system configuration.

“Outage management system (~~OMS~~)” or **“OMS”** means a software operating system that provides database information to effectively manage service interruptions and minimize customer outage times.

“PJM Interconnection, L.L.C. (~~PJM~~)” or **“PJM”** means the independent system operator that is responsible for mid-Atlantic region wholesale energy markets and the interstate transmission of energy, or it’s successor organization.

“Power quality” means the characteristics of electric power received by the customer, with the exception of sustained interruptions and momentary event interruptions. Characteristics of electric power that detract from its quality include waveform irregularities and voltage variations – either prolonged or transient. Power quality problems shall include, ~~but are not limited to,~~ disturbances such as high or low voltage, voltage spikes or transients, flicker and voltage sags, surges and short-time overvoltages, as well as harmonics and noise.

“Preliminary infrastructure, safety, and reliability plan” or “preliminary ISR” is the initial draft of an ISR that the EDC submits to Staff and DPA for review.

“Preliminary long range distribution plan” or “preliminary LRDP” is the initial draft of an LRDP that the EDC submits to Staff and DPA for review.

~~**“Preventive maintenance”** means the planned maintenance, usually performed to preclude forced or unplanned outages, and which allows delivery facilities to continue functioning at an acceptable level of reliability.~~

“Proposed infrastructure, safety, and reliability plan” or “proposed ISR” is the final draft of an ISR that the EDC submits to the Commission for acknowledgment.

“Proposed long range distribution plan” or “proposed LRDP” is the final draft of an LRDP that the EDC submits to the Commission for acknowledgment.

“Related projects” are individual projects whose completion is required, contingent, or dependent on each other for overall completion of the specified scope of work.

“Reliability” means the degree of performance of the elements of the bulk electric system that results in electricity being delivered to customers within accepted standards and in the amount desired. Reliability may be measured by the frequency, duration, and magnitude of adverse effects on the electric supply. Electric system reliability can be addressed by considering two basic and functional aspects of the electric system – Adequacy and Security. (See ERC definition - *NERC’s Reliability Assessment 2001-2010*, dated October 16, 2001.)

Adequacy - The ability of the electric system to supply the aggregate electrical demand and energy requirements of customers at all times, taking into account scheduled and reasonably expected unscheduled outages of system elements.

Security - The ability of the electric system to withstand sudden disturbances such as electric short circuits or unanticipated loss of system elements. (See NERC definition - *NERC’s Reliability Assessment 2001–2010*, dated October 16, 2001.)

As applied to distribution facilities, reliability is further described as the degree to which safe, proper and adequate electric service is supplied to customers without interruption.

“Reliability Performance Report” or “RPR” is an annual report submitted by EDCs that provides an overall assessment of the state of system reliability in the EDC’s service territory.

~~**“Repair time”** is the elapsed time from the arrival of the service resource at the identified problem site to the correction of the customer’s original concern as tracked by the OMS.~~

~~**“Response time”** is the elapsed time from dispatch of service resource to the arrival of the service resource at the identified problem site as tracked by the OMS.~~

“Scheduled interruption” means an interruption of electric service that results when 1 or more components are deliberately taken out of service at a selected time, usually for the purposes of preventative maintenance, repair or construction. Scheduled interruptions, where attempts have been made to notify customers in advance, shall not be included in the SAIFI, CAIDI, or forced outage rate calculations.

“Step restoration” means the restoration of service to blocks of customers in an area until the entire area or circuit is restored.

~~**“Sum of all Sustained Customer Interruption Durations”**~~ **sustained customer interruption durations** means the summation of the restoration time (in minutes) for each event times the number of interrupted customers for each step restoration of each interruption event during the reporting period.

~~**“Supervisory Control And Data Acquisition (“SCADA”)”** is an electronic communication and control system that provides electrical system operating information and mechanisms to remotely control energy flows and equipment.~~

“Sustained interruption” means an interruption of electric service to 1 or more customers that is not classified as a momentary event interruption and which is longer than 5 minutes in duration.

~~**“System Average Interruption Duration Index (“SAIDI”)”**~~ **sustained customer interruption durations** or **“SAIDI”** represents the average duration of sustained interruptions per customer. SAIDI is defined as:

$$\text{SAIDI} = \frac{\text{Sum of all Sustained Customer Interruption Durations per Reporting Period}}{\text{Total Number of Customers Served per Reporting Period}}$$

$$\text{SAIDI} = \frac{\text{Sum of all sustained customer interruption durations per reporting period}}{\text{Total number of customers served per reporting period}}$$

“System Average Interruption Frequency Index (‘SAIFI’)” average interruption frequency index” or **“SAIFI”** represents the average frequency of sustained interruptions per customer during the reporting period. SAIFI is defined as:

$$\text{SAIFI} = \frac{\text{Total Number of Sustained Customer Interruptions per Reporting Period}}{\text{Total Number of Customers Served per Reporting Period}}$$

$$\text{SAIFI} = \frac{\text{Total number of sustained customer interruptions per reporting period}}{\text{Total number of customers served per reporting period}}$$

“Total Number of Customers Served number of customers served” means the number of customers provided with electric service by the distribution facility for which a reliability index is being calculated on the last day of the time period for which the reliability index is being calculated. This number should exclude all street lighting (dusk-to-dawn lighting, municipal street lighting, traffic lights) and sales to other electric utilities.

“Total Number of Sustained Customer Interruptions number of sustained customer interruptions” means the sum of the number of interrupted customers for each interruption event during the reporting period. Customers who experienced multiple interruptions during the reporting period are counted for each interruption event the customer experienced during the reporting period.

“Transmission facilities” means ~~electric facilities located in Delaware and owned by a public utility that operates at voltages above 34,500 volts and that are used to transmit and deliver electricity to customers (including any customers taking electric service under interruptible rate schedules as of December 31, 1998) up through and including the point of physical connection with electric facilities owned by the customer.~~

23 DE Reg. 888 (04/01/20)

3.0 Electric Service Reliability and Quality

- 3.1 Each EDC shall install, ~~operate~~ operate, and maintain its delivery facilities in conformity with the requirements of the National Electrical Safety Code (“NESC”) and the operating policies and standards of ~~NERC North American Electric Reliability Corporation (“NERC”)~~ and PJM, or their successor organizations.
- 3.2 Each EDC shall ensure that distribution, system generation interconnection requirements are consistent with the ~~I.E.E.E.~~ IEEE 1547 series, “Standard for Interconnecting Distributed Resources with Electric Power Systems”, as current approved and may be revised.

23 DE Reg. 888 (04/01/20)

4.0 Reliability and Quality Performance Benchmarks

- 4.1 The measurement of reliability and quality performance shall be based on annual SAIDI and SAIFI calculations. The SAIDI and SAIFI calculations shall be derived using the most current IEEE 1366 Beta methodology. The SAIDI and SAIFI calculations shall include all Delaware customer outages, excluding scheduled interruptions, and major events, and the SAIDI and SAIFI calculations shall be reported along with their CAIDI component, subdivided by their distribution, substation, and transmission components.
- 4.2 Each EDC shall take measures to maintain its overall electric service reliability and quality performance measures within the benchmark standard as follows:
 - 4.2.1 The ~~three-year~~ 3-year average SAIFI shall not exceed 1.0 interruption.
 - 4.2.2 The ~~three-year~~ 3-year average SAIDI shall not exceed 100 minutes.
- 4.3 Every ~~three~~ 3 years, the SAIDI and SAIFI benchmarks will be reset by the same percentage that the respective ~~three-year~~ 3-year IEEE threshold between first and second quartile has changed.
- 4.4 Each ~~EDS~~ EDC shall develop and maintain a comprehensive ~~Priority Feeder~~ priority feeder program for analyzing the reliability performance of its circuits during the course of each year which includes methods to measure and improve ~~works~~ worst performing circuits.
- 4.5 When performance does not meet the acceptable reliability level, additional monitoring and enforcement actions may be taken including the following: additional remedial review, requiring additional EDC reporting, conducting an informal investigation, initiating a formal complaint, requiring a formal improvement plan with enforceable commitments, requiring an implementation schedule, and assessing penalties and fines as defined in Section 10.0.

23 DE Reg. 888 (04/01/20)

5.0 Reliability and Quality Performance Objectives

- 5.1 Each EDC shall have an inspection and maintenance program designed to maintain delivery facilities performance at an acceptable level. The program shall be based on industry codes, national electric industry

practices, manufacturer's recommendations, sound engineering judgement, NESC Rule 214 guidance, and past experience.

- 5.2 As a maintenance minimum, each EDC shall inspect all right-of-way vegetation at least once every ~~four (4)~~ 4 years and trim or maintain as necessary, according priority to circuits that have had significant numbers of vegetation-related outages, while not unduly delaying the trimming of other circuits that inspections indicate currently need trimming. Vegetation management practices should be applied at least once every ~~four (4)~~ 4 years except where growth or other assessments deem it unnecessary.
- 5.3 Each EDC shall maintain records of inspection and maintenance activities. Compliance with this requirement may be established by showing of substantial compliance without regard for a single particular facility maintenance record. These records shall be made available to the Delaware Public Service Commission Staff ("Staff") and the Division of the Public Advocate ("DPA") upon request of either party with 30 days' notice.

23 DE Reg. 888 (04/01/20)

6.0 Distribution Planning and Studies Report

6.1 Long Range Distribution Plan

6.1.1 ~~As the entity responsible for the planning of its system, each EDC shall submit a Long Range Distribution Plan ("LRDP") to identify existing and potential future distribution system performance issues, and recommended solutions; LRDP for a minimum of ten (10) 10 years to be refreshed every five (5) 5 years. This plan is intended to serve as the strategic direction for an EDC's anticipated major initiatives. The LRDP shall be submitted, subject to subsection 6.3, by June December 15th every fifth year. The first LRDP shall be submitted by June 15, 2022, for the effective period of 2023-2032.~~

6.1.2 The LRDP shall include:

6.1.2.1 An updated analysis populated with current and projected loads for the term of the LRDP, trending tables, set of limiting factors, and other criteria used to establish a project need.

6.1.2.2 A system evaluation of equipment and circuit loading compared to thermal limits, breaker operating capability, asset condition, and safety and environmental issues. Contingency (N-1) response capability will be analyzed at the substation level, and as appropriate, at the feeder level.

6.1.2.3 The specific programs ~~and/or~~ or projects included in the LRDP will be longer-term initiatives that require multiple years from concept through implementation. The LRDP will include recommendations that provide a comprehensive solution to address projected system performance concerns. All proposed projects within the LRDP shall be supported by:

6.1.2.3.1 A detailed description of the system condition, recommended solutions, and anticipated timing of solution implementation;

6.1.2.3.2 A detailed comparison of recommended solutions to alternatives, including implementation of utility or third-party owned non-wires alternatives (NWA) as appropriate, in a manner that clearly identifies the reliable, and environmentally responsible ~~investment; and investment.~~ NWA analysis should provide for the analysis of each kW demand reduction and energy savings, including distribution system capital expenditure reduction, transmission savings and generation savings all that would flow through to the rate payer;

6.1.2.3.3 Current cost estimates, which may be at a budgetary ~~level; level; and~~

6.1.2.3.4 A benefit/cost analysis.

6.1.2.4 System capacity and voltage driven projects identified within the first ~~five (5) 5~~ years of the LRDP shall include a system engineering model covering the affected and adjoining areas that may be impacted by the proposed project.

6.1.2.5 Non-wires alternatives in whole, or in part, shall be considered as solutions to capacity ~~and/or~~ or major asset condition related system performance issues. A project whose estimated cost exceeds \$1,000,000 over the term of the LRDP shall be evaluated for a NWA. This evaluation should provide for the analysis of each kW demand reduction and energy savings, including distribution system capital expenditure reduction, transmission savings and generation savings all that would flow through to the rate payer.

6.2 Infrastructure, Safety and Reliability Plan

6.2.1 ~~The EDC shall submit a proposed rolling 3 year Infrastructure, Safety, and Reliability Plan ("ISR") identifying proposed capital spending necessary to maintain the reliability and quality of its distribution services. Subject to subsection 6.3, the proposed ISR shall be submitted EDC shall submit a preliminary ISR no later than March 31, 2020 or 90 days following the effective date of this regulation, whichever is later, and no later than March 31st every year thereafter. The initial report shall address 2020-2022, and~~

subsequent reports June 30 each year, beginning with 2025. The preliminary ISR will address the year in which it is submitted and two subsequent years. The proposed ISR the current year on an informational basis and the next 3 years immediately succeeding the year the report is submitted. The preliminary ISR shall be structured under the following major spending categories:

6.2.1.1 Mandatory

6.2.1.1.1 New business - Customer Requirements

6.2.1.1.2 Facility relocations

6.2.1.1.3 Required Statutory and Regulatory Requirements

6.2.1.1.4 Reliability – emergency failures

6.2.1.2 Non-Mandatory

6.2.1.2.1 System Capacity/Load

6.2.1.2.2 Asset Condition

6.2.1.2.3 Other Reliability

6.2.1.3 Vegetation Management

6.2.1.4 Inspection and Maintenance (“I&M”) program

6.2.2 Mandatory spending shall include investments required to comply with customer requests, facility relocations, statutory and regulatory requirements, and to fix failed equipment. The proposed budgets may be for a combination of discrete projects and projects that are funded but whose specific scope has not yet been defined (“blanket projects”).

6.2.3 ~~Non-Mandatory~~ Non-mandatory spending shall include those projects, programs, or other investments, including NWAs, necessary to maintain or improve distribution services and not included in the ~~Mandatory~~ mandatory spending category. Projects or groups of related projects shall be supported with project authorization documents including detailed cost estimates. I&M and reliability-based programs shall be supported by guidelines or program documents. The proposed budgets may be for a combination of discrete projects and blanket projects.

6.2.4 To support each proposed annual budget, the ~~proposed~~ preliminary ISR shall describe: how the EDC developed the spending plan and levels; a benefit/cost analysis for all projects referenced in the preliminary ISR, reference of applicable proposed projects to the LRDP, the justification, scope, and estimated cost, for each planned project of \$1,000,000 or more; planned I&M activities and expected improvements; other planned reliability or maintenance programs; and planned vegetation management targets and activities and a total rate impact analysis assuming all projects are completed as planned. The rate impact analysis shall include a revenue requirement, rate impact and average retail bill estimated increase.

6.2.5 The ~~proposed~~ preliminary ISR shall include the EDC’s estimated cost of plant in service and cost of removal for each year of the ~~three-year~~ 3-year term.

6.2.6 For major projects or groups of related projects in the ~~System Capacity/Load or Asset Condition~~ system capacity/load or asset condition categories that exceed \$1,000,000 over the term of the preliminary ISR and were not included in the LRDP, the preliminary ISR will include the information required in subsections 6.1.2.3 and 6.1.2.4.

6.2.7 Projects in the preliminary ISR shall be ranked in order of importance to meet load growth and reliability.

6.2.8 Project deferral options which would bring the rate increases down and result in a plan at or below \$115,000,000 per year.

6.3 Review and Acknowledgement

6.3.1 Each preliminary LRDP or ISR (“Plan”) preliminary ISR shall be submitted to the Staff and the DPA. Within the first ~~90~~ 180 days following submission of each ~~Plan~~ preliminary LRDP or preliminary ISR, the EDC, Staff, and the DPA shall cooperate in good faith and schedule, if necessary, at least ~~two~~ 2 sessions to meet and confer on the ~~proposed Plan~~ preliminary LRDP or preliminary ISR and discuss any proposed modifications.

6.3.2 No later than ~~420~~ 270 days following the EDC’s submission of ~~each Plan~~ the preliminary LRDP or preliminary ISR to Staff and the DPA, the EDC shall file the proposed ~~Plan~~ ISR with the Commission. Likewise, no later than 270 days following the EDC’s submission of the preliminary LRDP to Staff and the DPA, the EDC shall file the proposed LRDP with the Commission. Both the proposed ISR and proposed LRDP shall notate any amendments made to the preliminary ISR or LRDP submitted to Staff and the DPA pursuant to subsection 6.3.1.

6.3.3 Staff and the DPA may submit comments to the ~~Plan~~ proposed LRDP or proposed ISR by filing those comments to the Commission within ~~ten~~ 15 calendar days of the EDC’s filing of its ~~proposed Plan~~

proposed LRDP or proposed ISR.

- 6.3.4 The EDC ~~has the right to file~~ may submit reply comments to Staff and the DPA comments within ~~ten~~ 15 calendar days of their filings to the proposed Plan ~~any comments filed pursuant to subsection 6.3.3.~~
- 6.3.5 The Commission shall acknowledge that the ~~Plan~~ proposed LRDP or proposed ISR and any associated comments ~~has been~~ were filed and ~~is~~ are consistent with the requirements of this regulation. Commission acknowledgement shall not constitute Commission pre-approval of any proposed capital spending necessary to maintain the reliability and quality of the EDC's distribution services.
- 6.3.6 Any party may challenge the EDC's attempt to recover the amounts spent.
- 6.3.7 The EDC's obligation to maintain reliability and quality of its distribution system may necessitate executing on the plan prior to the ~~PSC's acknowledgement~~ Commission acknowledgment. In executing the ~~ISR Plan LRDP or ISR,~~ the circumstances encountered during the year may require reasonable deviations from the ~~filed ISR Plan~~ proposed LRDP or proposed ISR.

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7.0 Annual Reports

7.1 Reliability Performance

- 7.1.1 By April 30 of each year, each EDC shall file with the Commission an ~~annual Reliability Performance Report ("RPR") providing an overall assessment of the state of system reliability in the EDC's service territory. The RPR,~~ which shall include an assessment of the results/effectiveness of reliability objectives, planned actions, projects, and programs implemented to achieve an acceptable reliability level. The RPR shall include the EDC's actual year-end performance measure results.
- 7.1.2 The RPR shall include the EDC's delivery facilities' year-end performance measures as follows:
 - 7.1.2.1 SAIDI, SAIFI, and CAIDI measures:
 - 7.1.2.1.1 SAIDI, SAIFI, and CAIDI measures for the current year and ~~three-year~~ 3-year average reflecting Delaware performance, classified by distribution and substation components and in total, as compared to the benchmarks established in subsection 4.2;
 - 7.1.2.1.2 SAIDI, SAIFI, and CAIDI measures for the current and previous ~~five (5)~~ 5 years compared to IEEE regional results, indicating the quartile achieved; and
 - 7.1.2.1.3 CAIDI measures for the current year and ~~three-year~~ 3-year average for each circuit providing service to Delaware customers, regardless of state of origin.
- 7.1.3 The RPR shall identify distribution circuits that are identified by the EDC as having the poorest reliability according to the criteria in the EDC's Priority Feeder Program.
 - 7.1.3.1 Current and previous ~~five (5)~~ 5 year summary level OMS data to include:
 - 7.1.3.1.1 Number of outages by outage type;
 - 7.1.3.1.2 Number of outages by outage cause;
 - 7.1.3.1.3 Total number of customers at year end;
 - 7.1.3.1.4 Total number of customers that experienced an outage; and
 - 7.1.3.1.5 Total customer minutes of outage time.
 - 7.1.3.2 The EDC shall indicate any planned corrective actions to improve circuit performance and target dates for completion or explain why no action is required.
- 7.1.4 The RPR shall include a summary of each major event for which data was excluded, and an assessment of the measurable impact on reported performance measures.
- 7.1.5 In the event that an EDC's reliability performance measure does not meet the performance measures established in subsection 4.2, the RPR shall include a description of system issues impacting reliability and all corrective actions that are planned by the EDC; the estimated cost of corrective actions; and the target dates by which the corrective actions shall be completed. If no corrective actions are planned, an explanation shall be provided.

7.2 Infrastructure, Safety, and Reliability Plan Annual Report

- 7.2.1 By ~~March 31st~~ April 30th of each year, starting ~~March 31, 2024~~ April 30, 2025, each EDC shall submit an ISR annual report for the previous year to include:
 - 7.2.1.1 Overall progress.
 - 7.2.1.2 Budget to actual variance for each spending category (both plant in service/COR and spending plan) with discussion of drivers.
 - 7.2.1.3 Comparison of actual versus planned project implementation with discussion of deviations including delays and accelerated work; and, explanation for inclusion of any program, project, or

group of related projects with a total cost estimate exceeding \$1,000,000 that were not previously included in an ISR.

- 7.2.1.4 Comparison of I&M and vegetation management program activities to plan, with discussion of deviations and drivers.
- 7.2.1.5 Comparison of any other projects or programs.
- 7.2.1.6 An explanation of the variance for any program ~~and/or~~ or project exceeding \$1,000,000 that was completed in the reporting year and exceeds +/- 10% of the proposed budget.

23 DE Reg. 888 (04/01/20)

8.0 Major Event Report

- 8.1 Each EDC shall notify the Commission of major events as soon as practical, but not more than 36 hours after the onset of a major event. Initial notification is required when more than 10% of an EDC's customers experience a sustained outage during a 24- hour period, calculated according to ~~I.E.E.E.~~ IEEE 1366 standards.
- 8.2 Each EDC is expected to restore service to customers as quickly and safely as permitted by major event conditions. The EDC's restoration effort may be subject to review, subsequent corrective actions and penalties as permitted by 26 **Del.C.** §1019.
- 8.3 The EDC shall, within 15 business days after the end of a major event, submit a written report to the Commission, which shall include the following:
 - 8.3.1 The date and time when the EDC's major event control center opened and closed;
 - 8.3.2 The total number of customers' out-of-service over the course of the major event in ~~six-hour~~ 6-hour increments;
 - 8.3.3 The date and time when 75%, ~~95%~~ 95%, and 100% of customers affected by a major event were restored;
 - 8.3.4 The total number of trouble assignments repaired, by facility classification (poles, miles of wire, transformers);
 - 8.3.5 The time at which the mutual aid and non-company contractor crews were requested, arrived for duty and were released, and the mutual aid and non-contractor ~~response(s)~~ responses to the ~~request(s)~~ response for assistance; and
 - 8.3.6 A timeline profile in ~~six-hour~~ 6-hour increments of the number of company line crews, mutual aid crews, and non-company contractor line and tree crews working on restoration activities during the duration of the major event, summarized by total number of line, bucket, trouble, and tree types.

23 DE Reg. 888 (04/01/20)

9.0 Guidelines, Standards and Programs

- 9.1 The EDC shall file with the Commission the most current version of the following guidelines, standards, and programs:
 - 9.1.1 Distribution System Planning Criteria;
 - 9.1.2 Inspection and Maintenance Program;
 - 9.1.3 Vegetation Management Program;
 - 9.1.4 Standard for Interconnecting Distributed Resources with Electric Power Systems;
 - 9.1.5 Power Quality Program and Policies;
 - 9.1.6 Priority Feeder Program; and
 - 9.1.7 Storm Response Plan.

13 DE Reg. 1100 (02/01/10)

23 DE Reg. 888 (04/01/20)

10.0 Penalties and Other Remedies

- 10.1 EDCs operating in Delaware and subject to Commission regulation who violate any of the requirements of this regulation are subject to penalties and other remedial actions in accordance with 26 **Del.C.** §§205(a), 217, and 1019. No penalty shall be assessed except after a public hearing at which the EDC, Staff, the DPA, or any other affected person may present evidence. The Commission shall be responsible for assessing any penalty under this section, consistent with Delaware law.
- 10.2 An EDC shall be considered in violation of the SAIDI or SAIFI performance benchmark standard when its actual results exceed the benchmark ~~standard(s)~~ standard as defined in subsection 4.2.
- 10.3 Penalty assessments are payable as provided by Delaware statute.

10.4 Nothing in this section relieves any EDC from compliance or penalties that may be assessed due to non-compliance with any requirement set forth under any other regulation, statute or order.

23 DE Reg. 888 (04/01/20)

11.0 Reporting Specifications and Implementation

11.1 Each EDC must maintain sufficient records to permit a review and confirmation of material contained in all required planning documents and reports. Reports shall be submitted electronically via Delafile to the Secretary, Delaware Public Service Commission, with certification of authenticity by an officer of the corporation.

11.2 Subject to and without waiving the requirements of 29 **Del.C.** Ch. 100 (the "Freedom of Information Act" or "FOIA"), EDCs may request information required under this regulation to be classified as confidential, proprietary ~~and/or~~ or privileged material. The requesting party must attest that such information is not subject to inspection by the public or other parties without execution of an appropriate proprietary agreement. Each party requesting such treatment of information is also obligated to file ~~one (1)~~ 1 additional electronic and paper copy of the information, excluding the confidential or proprietary information. The Commission, in accordance with the FOIA and 26 **DE Admin. Code** 1001, will treat such information as "confidential, not for public release" upon receipt of a properly filed request. The Commission, designated Presiding Officer, or Hearing Examiner shall resolve any dispute over the confidential treatment of information in accordance with the FOIA and 26 **DE Admin. Code** 1001.

10 DE Reg. 576 (09/01/06)

13 DE Reg. 1100 (02/01/10)

16 DE Reg. 1000 (03/01/13)

23 DE Reg. 888 (04/01/20)

28 DE Reg. 34 (07/01/24) (Prop.)