

DEPARTMENT OF STATE
PUBLIC SERVICE COMMISSION
8000 Gas Regulations

8003 Natural Gas Service Reliability and System Planning Standards

EFFECTIVE DATE: October 11, 2020

1.0 Purpose and Scope

- 1.1 Natural gas system safety is the overriding goal for Delaware's natural gas system operators. Reliable natural gas service is an essential service to Delaware citizens and is of great importance to the Delaware Public Service Commission ("Commission"). This regulation sets forth distribution planning requirements, reliability standards, and reporting requirements to assure the continued Reliability and Natural Gas quality of service being delivered to Delaware regulated public utility customers and applies to all Delaware Gas Distribution Companies ("GDCs").
- 1.2 Nothing in this regulation relieves a GDC from compliance with any requirement set forth under any other regulation, statute or order, such as the GDC's operations, maintenance and emergency manuals, federal pipeline safety regulations contained in 49 CFR Part 192 and Delaware Pipeline Safety Compliance Programs.
- 1.3 Compliance with this regulation is a minimum standard. Compliance does not create a presumption of safe, adequate and proper service. Each GDC must exercise its professional judgment based on its systems and service territories. Nothing in this regulation relieves any GDC 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 GDC is responsible for maintaining the Reliability of natural gas service to all its customers in the state of Delaware. Pursuant to this requirement, GDCs may be subject to penalties as provided for in Section 10.0 or allowed under other applicable Delaware law.
- 1.5 GDCs are encouraged to explore the use of proven state of the art technology, to provide cost effective natural gas service Reliability improvements.

2.0 Definitions

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

"Acceptable reliability level" means the minimum acceptable level of natural gas service based on the targets set for Annual Outage Rate (AOR) and Average Outage Duration (AOD), as set forth in these regulations.

"Annual outage rate" or **"AOR"** means the frequency of sustained customer outages during the reporting year. AOR can be expressed as "events per customer per year" and defined as:

$$\text{AOR} = \frac{\text{Total Number of Sustained Customer Outages per Reporting Period}}{\text{Total Number of Customers}}$$

"Average outage duration" or **"AOD"** means the average time in minutes required to restore service to those customers that experienced sustained outages during the reporting period. AOD is defined as follows:

$$\text{AOD} = \frac{\text{Sum of all Sustained Customer Outage Durations per Reporting Period}}{\text{Total Number of Sustained Customer Outages per Reporting Period}}$$

"Benchmark" means the standard service measure of AOR and AOD as set forth in these regulations.

"Capacity" means the rated continuous load-carrying ability, expressed in Volume ("V"), of pipelines, regulators, or other gas equipment.

"Commission" or **"PSC"** means the Delaware Public Service Commission.

"Corrective actions" means the maintenance, repair, or replacement of a GDC's utility system components and structures to allow them to function at an acceptable level of reliability.

"Delivery Facilities" means the GDC's physical natural gas distribution system used to provide gas service to Delaware retail customers, normally inclusive of Distribution and Transmission Facilities. A GDC that typically operates at pressures of 200 psi or below and that are used to deliver natural gas to customers, up through and including the point of physical connection with natural gas facilities owned by the customer.

TITLE 26 PUBLIC UTILITIES

DELAWARE ADMINISTRATIVE CODE

"**DPA**" means the Delaware Division of the Public Advocate.

"**Gas distribution company**" or "**GDC**" means a public utility owning or operating natural gas transmission and/or Distribution Facilities in Delaware.

"**Major reliability event**" means an outage of 1000 customers or more that is caused by a loss of natural gas pipeline supply or a weather event. Major reliability event outages shall be excluded from the GDC's AOR, and AOD calculations for comparison to reliability benchmarks. Outage data for major reliability events shall be collected and reported according to the reporting requirements set forth in this regulation.

"**Natural gas distribution system**" means that portion of a natural gas system that delivers gas energy from tap stations on the transmission system to points of connection at the customers' premises.

"**Natural gas quality**" means the characteristics of natural gas received by the customer. Characteristics of gas service that detract from its quality include liquids and particulates from the processing of natural gas upstream and compression of gas in transmission systems supplying gas to the GDC, either prolonged or transient. Natural gas quality problems shall include, but are not limited to, disturbances such as high or low pressure, moisture control, compressor oil carryover, and sulfur.

"**Natural gas service**" means the supply, transmission, and distribution of natural gas energy as provided by a GDC.

"**Outage**" means the loss of natural gas service to one or more customers. It is the result of a planned maintenance activity or one or more unplanned component failures, depending on system configuration or other events. Types of outages include planned and unplanned.

"**Outage, duration**" means the period (measured in minutes) from the initiation or report of a loss of natural gas service to a customer until such service has been restored to that customer.

"**Outage management system**" or "**OMS**" means a software system that provides database information to effectively manage service interruptions and minimize customer outage times.

"**Outage, planned**" means a loss of natural gas service that results when one or more components are deliberately taken out of service at a selected time, usually for the purposes of preventive maintenance, repair or construction. Where attempts have been made to notify customers in advance, planned outages shall not be included in reliability calculations.

"**Outage, sustained**" means a loss of natural gas service to one or more customers that is longer than 30 minutes in duration.

"**Outage, unplanned**" means a loss of natural gas service that results when one or more components are out of service at a selected time, usually as a result of a weather event, low pressure condition, water infiltration or some other unexpected operational event or outside force.

"**Pipeline**" means all parts of those physical facilities through which gas moves in transportation, including pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies.

"**Related projects**" means 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 natural gas system that results in gas being delivered to customers within accepted standards. Reliability may be measured by the frequency and duration of adverse effects on natural gas distribution service.

"**Restored**" means that gas service is available at the customer's premise and all GDC equipment, up to and including the meter, is gassed up. For inaccessible meters and customers that are not ready for service, the outage will be considered corrected when the GDC has attempted to restore gas to the customer.

"**Staff**" means the Staff of the Delaware Public Service Commission.

"**Sum of all sustained customer outage durations**" means the summation of the restoration time (in minutes) for each customer outage during the reporting period.

"**Total number of customers served**" means the number of customers provided with gas service by the distribution facility for which a reliability measure is being calculated on the last day of the time period for which the reliability measure is being calculated.

"**Total number of sustained customer outages**" means the sum of the number of customer outages for each outage event during the reporting period. Customers who experienced multiple outages during the reporting period are counted for each outage event the customer experienced during the reporting period.

"Transmission facilities" means natural gas facilities located in Delaware and owned by a GDC that operate at pressures above 200psi and that are used to transmit and deliver natural gas to customers up through and including the point of physical connection with gas facilities owned by the customer.

3.0 Gas Service Reliability and System Planning

- 3.1 Each GDC shall install, design, construct, operate, and maintain its Delivery Facilities in conformity with the requirements set forth in the GDC's operations, maintenance and emergency manuals, federal pipeline safety regulations contained in 49 Code of Federal Regulations ("CFR") Part 192, and Delaware Pipeline Safety Compliance Programs or their successor organizations.
- 3.2 Each GDC shall develop and maintain a System Planning and Modeling Program as described in Section 5.0 to ensure the safety, Reliability, and quality of Natural Gas Service of its Natural Gas Distribution System.

4.0 Reliability and Quality Performance Benchmarks

- 4.1 The measurement of Reliability and quality performance shall be based on annual AOR and AOD calculations. The AOR and AOD calculations shall be derived using criteria outlined in the definitions of AOR and AOD. The AOR and AOD calculations shall include all Delaware customer Outages excluding Major Reliability Events.
- 4.2 Each GDC shall take measures to maintain its overall gas service Reliability and quality performance within the Benchmark standards that will be determined after GDCs have tracked and reported three years of AOR and AOD metrics data.
 - 4.2.1 The three-year average AOR shall not exceed [placeholder for AOR target] outages. (To be determined after three years of data are available.)
 - 4.2.2 The three-year average AOD shall not exceed [placeholder for AOD target] minutes. (To be determined after three years of data are available.)
- 4.3 Each GDC will be required to track AOR and AOD metrics beginning on 1/1/2021. After the GDCs submit the Reliability Performance Reports as required in Section 8.0, the Commission shall establish AOR and AOD Benchmarks for each GDC. The Benchmarks will be reviewed annually and may be reset based on each GDC's historical performance, reliability investments and comparisons to other GDCs, if available.
- 4.4 When performance does not meet the Acceptable Reliability Level, additional monitoring and enforcement actions that may be taken including the following: additional remedial review; requiring additional GDC 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.

5.0 Natural Gas Distribution System Planning and Modeling Program

- 5.1 Each GDC shall have a robust system planning and modeling program based on natural gas industry best practices designed to review, on an annual basis or more often as needed, issues with the Natural Gas Distribution System affecting safety and Reliability to proactively plan for system improvements to be incorporated in the various plans (annual GDC capital plans and Infrastructure, Safety and Reliability Plans). Best practices that should be incorporated into system planning and modeling programs include:

| Best Practice | Time Frame |
|--|------------------------|
| | Annual (minimum) |
| Typical system planning activities. | Review existing issues |

**TITLE 26 PUBLIC UTILITIES
DELAWARE ADMINISTRATIVE CODE**

| | |
|---|---|
| | Calibrate system using actual peak day pressures |
| | Model base system to identify problem areas |
| | Model improvements for effect on system |
| | Model various scenarios as needed |
| | Identify improvements needed to system |
| | Capital planning (5 year minimum, 10-20 year preferred) |
| Planning model calibration/adjustments to actual system conditions. | 5% or less |
| Operations staff involved in system planning and modeling activities? | Yes |
| Planning integrated to capital planning program for system improvements. | Within same planning year |
| Technology used in planning and modeling, how data is managed. | Synergi, GasWorks or similar simulation programs |
| Describe modeling scenarios used. | Design Day (most recent "worse case") |
| | 1 in 10 year, 1 in 30-year, multi-day event scenario |

5.2 Each GDC shall develop and maintain a comprehensive prioritization program for analyzing the Reliability performance of its Natural Gas Distribution System during the course of each year, which shall include methods to measure and improve worst performing areas of the gas distribution system. Areas of prioritization may include replacement of aging infrastructure (cast iron, bare steel, aldyla plastic) and should tie into system planning and modeling program efforts. Natural Gas Distribution System areas are to be determined by the GDC.

6.0 Infrastructure, Safety, and Reliability Plan

6.1 Each GDC shall submit annually a proposed rolling 5-year Infrastructure, Safety, and Reliability Plan ("ISR") identifying proposed capital spending necessary to maintain the Reliability and quality of its Natural Gas Distribution Services. The proposed ISR shall be submitted no later than April 30, 2021 or 90 days following the effective date of this regulation, whichever is later, and no later than April 30th every year thereafter. The initial report shall address 2021, and subsequent reports will address the current year in which it is submitted and four subsequent years. The proposed ISR shall be structured under the following major spending categories:

6.1.1 Mandatory

- 6.1.1.1 New business - Customer requirements
- 6.1.1.2 Facility relocations
- 6.1.1.3 Required Statutory and Regulatory Requirements

- 6.1.1.4 Reliability - emergency failures/system improvements
- 6.1.1.5 Infrastructure Replacement Programs
- 6.1.2 Non-Mandatory
 - 6.1.2.1 Supply/Capacity/Load/System Pressure
 - 6.1.2.2 Asset Condition
 - 6.1.2.3 Other Reliability (LNG, regulator station upgrades)
- 6.2 Mandatory spending shall include investments required to comply with customer requests, facility relocations, statutory and regulatory requirements, to repair failed equipment and for infrastructure replacement programs. 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").
- 6.3 Non-Mandatory spending shall include projects, programs, or other investments necessary to maintain or improve Natural Gas Distribution Services that are not included in the mandatory spending category. Projects or groups of Related Projects shall be supported with project authorization documents, including detailed cost estimates. Infrastructure replacement 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.
- 6.4 To support each proposed annual budget, the proposed ISR shall describe:
 - 6.4.1 How the GDC developed the spending plan and levels;
 - 6.4.2 The justification, scope, system planning and modeling outputs; and
 - 6.4.3 Estimated cost for each planned project of \$1,000,000 or more.
- 6.5 The proposed ISR shall include the GDC's estimated cost of plant in service and cost of removal for each year of the five-year term.

7.0 Review and Acknowledgement

- 7.1 Each ISR ("Plan") shall be submitted to the Staff and the DPA. Within the first 90 days following submission of each Plan, the GDC, Staff, and the DPA shall cooperate in good faith and schedule, if necessary, at least two sessions to meet and confer on the proposed Plan and discuss any proposed modifications.
- 7.2 No later than 120 days following the GDC's submission of each Plan to Staff and the DPA, the GDC shall file the proposed Plan with the Commission.
- 7.3 Staff and the DPA may submit comments on the Plan to the Commission by filing those comments within ten days of the GDC's filing of its proposed Plan.
- 7.4 The GDC has the right to file reply comments to Staff and the DPA comments to the Commission within ten days of their filings to the proposed Plan.
- 7.5 The Commission shall acknowledge that the Plan and any associated comments have been filed and that the Plan is 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 GDC's distribution services.
- 7.6 Any party may challenge the GDC's attempt to recover the amounts spent when the GDC seeks to include those amounts in rates.
- 7.7 The GDC's obligation to maintain the Reliability and quality of its Natural Gas Distribution System may necessitate executing on the Plan prior to the PSC's acknowledgement. In executing the ISR Plan, the circumstances encountered during the year may require reasonable deviations from the filed ISR Plan.

8.0 Annual Reports

- 8.1 Reliability Performance
 - 8.1.1 By April 30 of each year, each GDC shall file with the Commission an annual Reliability Performance Report ("RPR") providing an overall assessment of the state of system Reliability in the GDC's service territory for the previous calendar year activities. The RPR shall include an assessment of the results/effectiveness of Reliability objectives, planned actions, projects, and programs implemented to achieve the Acceptable Reliability Level. The RPR shall include the GDC's actual year-end performance measure results.
 - 8.1.2 The RPR shall include the GDC's Delivery facilities' year-end performance measures as follows:

TITLE 26 PUBLIC UTILITIES
DELAWARE ADMINISTRATIVE CODE

- 8.1.2.1 AOR and AOD measures:
 - 8.1.2.1.1 AOR and AOD measured by Planned and Unplanned Outages for the current year and three-year average reflecting Delaware performance, classified by distribution systems as identified in subsection 4.4. and in total, as compared to the Benchmarks established in subsection 4.2.
 - 8.1.2.1.2 AOR and AOD measured by Planned, Unplanned Outages and in total for the current and previous five (5) years compared to Benchmarks.
 - 8.1.3 The RPR shall identify distribution systems that are identified by the GDC as having the poorest Reliability according to the criteria established in subsection 4.4.
 - 8.1.3.1 Current and previous five (5) year summary level Outage data shall include:
 - 8.1.3.1.1 Number of Outages by Outage type (Planned and Unplanned).
 - 8.1.3.1.2 Number of Outages by Outage cause.
 - 8.1.3.1.3 Total number of customers at year end.
 - 8.1.3.1.4 Total number of customers that experienced an Outage.
 - 8.1.3.1.5 Total customer minutes of Outage time by Outage type.
 - 8.1.3.1.6 Total customer minutes of Outage time by Outage cause.
 - 8.1.3.2 The GDC shall indicate any planned Corrective Actions to improve system performance and target dates for completion or explain why no action is required.
 - 8.1.4 The RPR shall include a summary of each Major Reliability Event for which data was excluded, and an assessment of the measurable impact on reported performance measures.
 - 8.1.5 In the event that an GDC'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 GDC; 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.
- 8.2 Infrastructure, Safety, and Reliability Plan Annual Report
- 8.2.1 By April 30th of each year, starting April 30, 2021, each GDC shall submit an ISR annual report simultaneous with ISR plan submission discussed in Section 6.0 for the previous year, which shall include:
 - 8.2.1.1 Overall progress.
 - 8.2.1.2 Budget to actual variance for each spending category, and discussion of the drivers of the variance. An explanation of the variance for any program or project exceeding \$1,000,000 that was completed in the reporting year and exceeds +/- 10% of the proposed budget.
 - 8.2.1.3 Comparison of actual versus planned project implementation and discussion of deviations, including delays and accelerated work; and an 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.
 - 8.2.1.4 Comparison of infrastructure replacement program activities to the ISR, and discussion of deviations and drivers.
- 9.0 Major Reliability Event Report
- 9.1 Each GDC shall notify the Commission of Major Reliability Events as soon as practical, but not more than 36 hours after the onset of a Major Reliability Event. Initial notification is required when more than 1000 of a GDC's customers experience a Sustained Outage during a 24-hour period.
 - 9.2 Each GDC is expected to restore service to customers as quickly and safely as permitted by Major Reliability Event conditions. The GDC's restoration effort may be subject to review. The Commission may require subsequent Corrective Actions and impose penalties as permitted by Section 10.0 or other applicable Delaware law.
 - 9.3 Within 15 business days after the end of a Major Reliability Event, the GDC shall submit a written report to the Commission, which shall include the following:
 - 9.3.1 The date and time when the GDC's Major Reliability Event control center opened and closed;
 - 9.3.2 The total number of customers out-of-service over the course of the Major Reliability Event in six-hour increments;

- 9.3.3 The date and time when 75%, 95% and 100% of customers affected by a Major Reliability Event were Restored;
- 9.3.4 The total number of service orders completed, by order type;
- 9.3.5 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 responses to the requests for assistance; and
- 9.3.6 A timeline profile in six-hour increments of the number of company crews, mutual aid crews, and non-company contractor crews working on restoration activities during the duration of the Major Reliability Event.

10.0 Penalties and Other Remedies

- 10.1 Any GDCs subject to Commission regulation who violate any of the requirements of this regulation is subject to penalties and other remedial actions in accordance with this section and other applicable Delaware law.
- 10.2 No penalty shall be assessed except after a public hearing at which the GDC, 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.
- 10.3 A GDC shall be considered in violation of the AOR or AOD performance Benchmark standard when its actual results exceed the Benchmark standards as defined in subsection 4.2. However, no GDC shall be penalized before the Commission has established Benchmark standards in accordance with the procedure described in subsection 4.2.
- 10.4 Penalty assessments are payable as provided by Delaware statute.
- 10.5 Nothing in this section relieves any GDC from penalties that may be assessed due to non-compliance with any requirement set forth under any other federal, state or local regulation, statute, ordinance or order.

11.0 Reporting Specifications and Implementation

- 11.1 Each GDC 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 PSC Secretary, 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"), GDCs may request information required to be provided by this regulation to be classified as confidential, proprietary or privileged material. The GDC must attest that such information is not subject to inspection by the public or other parties without execution of an appropriate proprietary agreement. Each GDC requesting such treatment of information is also obligated to file one (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.

24 DE Reg. 405 (10/01/20)