

FERC-725Q (OMB Control No.: 1902-TBD)

Docket Nos. RM13-19 and RM14-3 (NOPR, issued 3/20/2014), RIN: 1902-AE81

Supporting Statement for
FERC-725Q, Generator Relay Loadability
Mandatory Reliability Standards for the Bulk-Power System
For the NOPR in Docket Nos. RM13-19 and RM14-3 (issued 3/20/2014)

NOTE: Normally these reporting and recordkeeping requirements would be included in and submitted under FERC-725G (OMB Control No. 1902-0252). However, only one request per OMB Control Number can be pending OMB review at a time. Because a pending and unrelated rulemaking being submitted for OMB review affects other aspects of FERC-725G, the reporting and record retention requirements for this NOPR in RM13-19 and RM14-3 will be submitted to OMB for review under FERC-725Q, in order to submit them timely.

The Federal Energy Regulatory Commission (Commission or FERC) is submitting a Notice of Proposed Rulemaking (NOPR) that proposes to approve a new Reliability Standard PRC-025-1 governing generator Relay loadability, including its data collection requirements for the FERC-725Q, Transmission Relay Loadability Mandatory Reliability Standards for the Bulk Power System (OMB Control No. 1902-TBD). FERC-725Q is a proposed new data collection (reporting and record retention requirements), as prescribed in 18 Code of Federal Regulations (CFR), Part 40, for which the Commission seeks OMB review. FERC-725Q includes the requirements for the proposed new Reliability Standard, PRC-025-1 (Generator Relay Loadability), submitted by the North American Electric Reliability Corporation (NERC), the Commission-approved Electric Reliability Organization (ERO).¹

Background

On August 8, 2005, The Electricity Modernization Act of 2005 (Title XII of the Energy Policy Act of 2005) (EPAAct 2005), was enacted into law.² EPAAct 2005 added a new section 215 to the Federal Power Act (FPA) and requires a Commission-certified ERO to develop mandatory and enforceable Reliability Standards, which are subject to Commission review and approval. Once approved, the Reliability Standards may be enforced by the ERO, subject to Commission oversight.³

¹ In addition, in the NOPR, the Commission proposes to approve Reliability Standard PRC-023-3 (Transmission Relay Loadability), also submitted by NERC, which revises a currently-effective standard pertaining to transmission relay loadability. As stated by NERC on 12/17/13 in page 4 of its supplementary information “[t]he clarifying revisions included in proposed Reliability Standard PRC-023-3 Requirement R1, Criterion 6 of Reliability Standard PRC-023-2 was removed and the applicability section was revised to exclude “Elements that connect the GSU transformer(s) to the Transmission system that are used exclusively to export energy directly from a Bulk Electric System generating unit or generating plant.” These changes avoid overlap with the Requirements in proposed Reliability Standard PRC-025-1 that apply to these Facilities.”

The burden and cost for the current Reliability Standard PRC-023-2 are contained in FERC-725G. This NOPR does not affect that PRA-related burden and cost in FERC-725G for the PRC-023 standard, so they are not addressed further here.

² The Energy Policy Act of 2005, Pub. L. No 109-58, Title XII, Subtitle A, 119 Stat. 594, 941 (2005), codified at 16 U.S.C. 824o (2012).

³ A reliability standard defines obligations or requirements of utilities and other entities that operate, plan and use the bulk power system in North America. Meeting these requirements helps to ensure the reliable planning and operation of the bulk

Order No. 693, Docket No. RM06-16-000. On March 16, 2007, the Commission issued Order No. 693, a Final Rule that added part 40 to the Commission's regulations. The Final Rule stated that this part applies to all users, owners and operators of the Bulk-Power System within the United States (other than Alaska or Hawaii).⁴ It also requires that each Reliability Standard identify the subset of users, owners and operators to which that particular Reliability Standard applies. Order No. 693 also requires that each Reliability Standard that is approved by the Commission will be maintained on the ERO's Internet website for public inspection.

The Commission approved 83 of 107 proposed Reliability Standards, six of the eight proposed regional differences, and the Glossary of Terms used in Reliability Standards as developed by the North American Electric Reliability Corporation (NERC). NERC was certified by the Commission as the ERO responsible for developing and enforcing mandatory Reliability Standards.

Relay Protection Systems. Protective relays are devices that detect and initiate the removal of faults on an electric system. They are designed to read electrical measurements, such as current, voltage, and frequency, and can be set to recognize certain measurements as indicating a fault. When a protective relay detects a fault on an element of the system under its protection, it sends a signal to an interrupting device, such as a circuit breaker, to disconnect the element from the rest of the system. Impedance relays, which are the most common type of relays used to protect transmission lines, continuously measure voltage and current on the protected transmission line and operate when the measured magnitude and phase angle of the impedance (voltage/current) falls within the settings of the relay.

Pursuant to its authority under section 215(d) of the FPA, on March 18, 2010, the Commission issued a Final Rule approving Reliability Standard PRC-023-1 (Transmission Relay Loadability), a Standard that requires transmission owners, generator owners, and distribution providers to set load-responsive phase protection relays according to specific criteria to ensure that the relays reliably detect and protect the electric network from all fault conditions, but do not operate during non-fault load conditions.⁵ In addition, under section 215(d)(5) of the FPA, the Commission directed NERC to (1) make certain modifications to the Reliability Standard, (2) submit a timeline for the development of a new Reliability Standard to address generator protective relay loadability, and (3) develop a new Reliability Standard addressing the issue of protective relay operation during stable power swings.

power system. Each NERC Reliability Standard details the purpose of the standard, the entities that must comply, and the specific actions that constitute compliance and how the standard will be measured.

⁴ The bulk-power system consists of the power plants, transmission lines and substations, and related equipment and controls, that generate and move electricity in bulk to points from which local electric companies distribute the electricity to customers.

⁵ *Transmission Relay Loadability Reliability Standard*, Order No. 733, 130 FERC ¶ 61,221 (2010), *order on reh'g and clarification*, Order No. 733-A, 134 FERC ¶ 61,127 (2011); *clarified*, Order No. 733-B, 136FERC61,185, (2011). Order No. 733-B issued concurrently with the Notice of Proposed Rulemaking.

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On September 30, 2013, NERC submitted a petition⁶ seeking approval of Reliability Standard PRC-025-1 (Generator Relay Loadability) “to respond to Commission directives in Order No. 733⁷ to address generator protective relay loadability.”

A. **Justification**

1. **CIRCUMSTANCES THAT MAKE THE COLLECTION OF INFORMATION NECESSARY**

With the passage of EPAct 2005 Congress entrusted FERC with the authority to approve and enforce rules to assure reliability of the Nation’s Bulk Power System. Section 1211 of EPAct 2005 created a new section 215 to the Federal Power Act (FPA) (16 U.S.C. 824o), which provides for a system of mandatory and enforceable Reliability Standards. Section 215(d)(1) of the FPA provides that the ERO must file each Reliability Standard or modification to a Reliability Standard that it proposes to be made effective, *i.e.*, mandatory and enforceable, with the Commission. The law mandates that all users, owners, and operators of the Bulk-Power System in the United States will be subject to the Commission-approved Reliability Standards.

Section 215(d)(2) of the FPA provides that the Commission may approve, by rule or order, a proposed Reliability Standard or modification to a proposed Reliability Standard if it meets the statutory standard for approval, giving due weight to the technical expertise of the ERO. Alternatively, the Commission may remand a Reliability Standard pursuant to section 215(d)(4) of the FPA. Further, the Commission may order the ERO to submit to the Commission a proposed Reliability Standard or a modification to a Reliability Standard that addresses a specific matter if the Commission considers such a new or modified Reliability Standard appropriate to “carry out” section 215 of the FPA.⁸ The Commission’s action in this NOPR is based on its authority in accordance with section 215 of the FPA.

On August 14, 2003, a blackout that began in Ohio affected significant portions of the Midwest and Northeast United States, and Ontario, Canada (2003 blackout). This blackout affected an area with an estimated 50 million people and 61,800 megawatts of electric load.⁹ The subsequent investigation and report completed by the U.S.-Canada Power System Outage Task Force (Task Force) concluded that a substantial number of lines disconnected when backup

6 NERC’s petition and proposed standards are available on FERC’s eLibrary system, by doing a docket search on RM13-19. The petition is posted at <http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13364357>; the attachments are found in separate files within eLibrary accession no. 20130930-5277.

NERC filed supplemental information on 12/17/2013; the filing is available at <http://elibrary.ferc.gov/idmws/common/opennat.asp?fileID=13418800>.

7 Transmission Relay Loadability Standard, Order No. 733, 130 FERC ¶ 61,221, at P 104-08 (2010), order on reh’g and clarification, Order No. 733-A, 134 FERC ¶ 61,127, order on reh’g and clarification, Order No. 733-B, 136 FERC ¶ 61,185 (2011).

8 See 16 U.S.C. 824o(d)(5) (2006).

9 U.S.-Canada Power System Outage Task Force, Final Report on the August 14, 2003 Blackout in the United States and Canada: Causes and Recommendations, (April 2004) (Final Blackout Report), available at <http://www.ferc.gov/industries/electric/indus-act/reliability/blackout.asp>.

distance and phase relays operated under non-fault conditions. The Task Force determined that the unnecessary operation of these relays contributed to cascading outages at the start of the blackout and accelerated the geographic spread of the cascade.¹⁰ Seeking to prevent or minimize the scope of future blackouts, both the Task Force and NERC made recommendations to ensure that protective relays do not contribute to future blackouts.

NERC developed Reliability Standard PRC023-1, which was approved by FERC in Order 733 on March 10, 2010. Order 733 also directed NERC to (1) make certain modifications to PRC-023-1, (2) develop a new Reliability Standard to address generator protective relay loadability, and (3) develop a new Reliability Standard addressing the issue of protective relay operation during stable power swings. This NOPR addresses NERC's proposal submitted on September 30, 2013, to address the second part of Order 733.

2. **HOW, BY WHOM, AND FOR WHAT PURPOSE THE INFORMATION IS TO BE USED AND THE CONSEQUENCES OF NOT COLLECTING THE INFORMATION**

The NOPR proposes to approve a new Reliability Standard PRC-025-1 governing generator relay loadability. According to NERC's filing and request for FERC approval:

PRC-025-1 addresses generator Facilities protective relay loadability. The proposed Reliability Standard is designed to prevent generator tripping when conditions do not pose a direct risk to the generator and associated equipment and will reduce the risk of unnecessary generator tripping—events that increase the severity of disturbances. Proposed PRC-025-1 requires Generator Owners, Transmission Owners, and Distribution Providers to apply an appropriate setting for load-responsive relays based on calculations or simulations for conditions established in Attachment 1 of the proposed Reliability Standard.¹¹

Proposed Reliability Standard PRC-025-1 would require applicable entities to maintain records (e.g., in Measure M1 and Compliance section 1.2) subject to review by NERC or the Regional entity¹² to ensure compliance with the Reliability Standard.

Proposed Reliability Standard PRC-025-1 Requirement R1 requires that “[e]ach Generator Owner, Transmission Owner, and Distribution Provider shall apply settings that are in accordance with PRC-025-1 – Attachment 1: Relay Settings, on each load-responsive protective relay while maintaining reliable fault protection. [Violation Risk Factor: High] [Time Horizon: Long-Term Planning]”. Proposed PRC-025-1 has the following requirements for record creation and retention:

¹⁰ *Id.* at 80.

¹¹ NERC Petition at 4.

¹² The review (and retention of any audit records) by NERC or the Regional Entity is included in the overall Reliability program oversight and monitoring burden under FERC-725 (OMB Control No. 1902-0225).

- M1. For each load-responsive protective relay, each Generator Owner, Transmission Owner, and Distribution Provider shall have evidence (e.g., summaries of calculations, spreadsheets, simulation reports, or setting sheets) that settings were applied in accordance with PRC-025-1 – Attachment 1: Relay Settings.

...

C.1.2 Evidence Retention

- The Generator Owner, Transmission Owner, and Distribution Provider shall retain evidence of Requirement R1 and Measure M1 for the most recent three calendar years.
- If a Generator Owner, Transmission Owner, or Distribution Provider is found non-compliant, it shall keep information related to the noncompliance until mitigation is complete and approved or for the time specified above, whichever is longer.

Without this proposed Reliability Standard (and its corresponding reporting and record retention requirements), the Bulk-Electric System would be at a greater risk of uncontrolled outages due to unnecessary generator tripping.

3. **DESCRIBE ANY CONSIDERATION OF THE USE OF IMPROVED TECHNOLOGY TO REDUCE BURDEN AND TECHNICAL OR LEGAL OBSTACLES TO REDUCING BURDEN.**

The Reliability Standard does not require any information to be submitted directly to the Commission. However, the Commission does support the use of improved technology in complying with the reporting and record keeping requirements of the Standard.

The medium for reporting and recordkeeping requirements is not specified in proposed PRC-025-1, so it is at the discretion of the entities.

4. **DESCRIBE EFFORTS TO IDENTIFY DUPLICATION AND SHOW SPECIFICALLY WHY ANY SIMILAR INFORMATION ALREADY AVAILABLE CANNOT BE USED OR MODIFIED FOR USE FOR THE PURPOSE(S) DESCRIBED IN INSTRUCTION NO. 2**

Filing requirements are periodically reviewed as OMB review dates arise or as the Commission may deem necessary in carrying out its responsibilities under the FPA in order to eliminate duplication and ensure that filing burden is minimized. There are no similar sources of information available that can be used or modified for these reporting purposes.

5. METHODS USED TO MINIMIZE BURDEN IN COLLECTION OF INFORMATION INVOLVING SMALL ENTITIES

In Order No. 693, the Commission adopted policies to minimize the burden on small entities, including approving the ERO compliance registry process to identify those entities responsible for complying with mandatory and enforceable Reliability Standards. The ERO registers only those distribution providers or load serving entities that have a peak load of greater than 25 MW and are directly connected to the bulk electric system or are designated as a responsible entity as part of a required under-frequency load shedding program or a required under-voltage load shedding program. Similarly, for generators, the ERO registers only individual units of greater than 20 MVA that are directly connected to the bulk electric system, generating plants with an aggregate rating of greater than 75 MVA , any blackstart unit material to a restoration plan, or any generator that is material to the reliability of the Bulk-Power System. Further, the ERO will not register an entity that meets the above criteria if it has transferred responsibility for compliance with mandatory Reliability Standards to a joint action agency or other organization.¹³

6. CONSEQUENCE TO FEDERAL PROGRAM IF COLLECTION WERE CONDUCTED LESS FREQUENTLY

Protective relays are critical to ensuring the reliability of the Bulk-Electric System. The proposed information collection requirements are designed to monitor and ensure compliance with the proposed Reliability Standard. While less strict compliance requirements could be contemplated, the proposed requirements have been debated, vetted, and approved by industry prior to coming to FERC for approval and are designed to meet the purposes of the Reliability Standard. If anything less than these requirements were implemented, it would increase the risk of outages on the grid and diminish the ability of FERC to meet its mandated reliability mission.

7. EXPLAIN ANY SPECIAL CIRCUMSTANCES RELATING TO THE INFORMATION COLLECTION

There are no special circumstances related to this information collection.

8. DESCRIBE EFFORTS TO CONSULT OUTSIDE THE AGENCY: SUMMARIZE PUBLIC COMMENTS AND THE AGENCY'S RESPONSE TO THESE COMMENTS

The ERO process to establish Reliability Standards is a collaborative process with the ERO, Regional Entities, and other stakeholders collaborating to develop and review draft standards,

¹³ To be included in the compliance registry, the ERO determines whether a specific small entity has a material impact on the Bulk-Power System. If these small entities should have such an impact then their compliance is justifiable as necessary for Bulk-Power System reliability.

provide comments (several rounds), and vote, with the final proposed standard submitted to the FERC for review and approval.¹⁴

In addition, each Commission rulemaking (both at the NOPR and Final Rule stage) is published in the Federal Register, thereby affording all public utilities and licensees, state commissions, Federal agencies, and other interested parties an opportunity to submit data, views, comments or suggestions concerning the proposed collection of data. This NOPR is being published in the Federal Register.

9. EXPLAIN ANY PAYMENT OR GIFTS TO RESPONDENTS

No payments or gifts have been made to respondents.

10. DESCRIBE ANY ASSURANCE OF CONFIDENTIALITY PROVIDED TO RESPONDENTS

The Commission generally does not consider the data to be confidential.

11. PROVIDE ADDITIONAL JUSTIFICATION FOR ANY QUESTIONS OF A SENSITIVE NATURE THAT ARE CONSIDERED PRIVATE.

There are no questions of a sensitive nature that are considered private.

12. ESTIMATED BURDEN OF COLLECTION OF INFORMATION

The Commission proposes to approve Reliability Standard PRC-025-1 and to approve revisions to PRC-023-2.¹⁵ Proposed Reliability Standard PRC-025-1 will impose new requirements to set certain generator protective relays in accordance with prescribed criteria, and will apply to transmission owners, distribution providers, and generator owners with applicable relays. Affected entities will have to ensure that their relays are set in accordance with these criteria and maintain records or other evidence demonstrating their compliance with the standard's requirements.

Proposed Reliability Standard PRC-025-1 does not require responsible entities to file information with the Commission. However, the Reliability Standard requires applicable entities to develop and maintain certain information, subject to audit by NERC or a Regional Entity. In particular, transmission owners, generator owners and distribution providers must "have evidence" to show that each of its load-responsive protective relays is set according to one of the options in Attachment 1 to Reliability Standard PRC-025-1.

¹⁴ Details of the current ERO standard processes are available on the NERC website at http://www.nerc.com/comm/SC/Documents/Appendix_3A_StandardsProcessesManual.pdf.

¹⁵ The revisions to PRC-023-2 will result in a change in how relay settings are calculated for certain kinds of relays, but will not result in changes to reporting or recordkeeping requirements which are already covered under FERC-725G.

Our estimate below regarding the number of respondents is based on the NERC compliance registry as of January 31, 2014. According to the NERC compliance registry, NERC has registered 539 distribution providers, 903 generator owners and 344 transmission owners. However, under NERC’s compliance registration program, entities may be registered for multiple functions, so these numbers incorporate some double counting. The number of unique entities responding is approximately 1,019¹⁶ entities registered as a transmission owner, a distribution provider, or a generator owner that is also a transmission owner and/or a distribution owner. The Commission estimates the annual reporting burden and cost as follows:

FERC-725Q,¹⁷ as proposed in NOPR in RM13-19 and RM14-3						
	Number and Type of Respondents¹⁸ (1)	Annual Number of Responses per Respondent (2)	Total Number of Responses	Avg. Burden & Cost Per Response¹⁹ (3)	Total Annual Burden Hours & Total Annual Cost (1)x(2)x(3)	Cost per Respondent Error: Reference source not found
(One-time) Review & documentation of relay settings to ensure compliance	1,019 GO/DP/TO	1	1,019	20 hrs. & \$1,192	20,380 hours & \$1,215,056	\$1,192

¹⁶ This estimate assumes all of the unique entities apply load-responsive protective relays.

¹⁷ Normally these reporting and recordkeeping requirements would be included under FERC-725G (OMB Control No. 1902-0252). However, only one request per OMB Control Number can be pending OMB review at a time. Because a pending and unrelated rulemaking also affects other aspects of FERC-725G, the reporting and record retention requirements for this NOPR in RM13-19 and RM14-3 will be submitted to OMB for review under FERC-725Q.

¹⁸ GO = Generator Owner, DP = Distribution Provider, TO = Transmission Owner, each of whom applies load-responsive protective relays at the terminals of the Elements listed (in the Standard) 3.2, Facilities.

¹⁹ The estimated hourly costs (salary plus benefits) are based on Bureau of Labor and Statistics (BLS) information (at http://bls.gov/oes/current/naics3_221000.htm#17-0000) for an electrical engineer (\$59.62/hour for review and documentation), and for a file clerk (\$28.95/hour for record retention).

(On-going) Record Retention (of compliance records for R1 and M1, for 3 years or until mitigation complete)	1,019 GO/DP/TO	1	1,019	2 hrs. & \$57.90	2,038 hours & \$59,000	\$57.90
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Averaging the one-time burden and cost over Years 1-3 for the purposes of this PRA-related supporting statement gives an average cost and burden per year for Years 1-3 (for the total of 1,019 entities) of:

- burden of 8,831.33 hours $[(20,380/3)+2,038]$
- cost of \$464,018.67 $[(\$1,215,056/3)+ \$59,000]$.

After Year 3, the one-time implementation burden and cost (occurring in Year 1 but being averaged over Years 1-3 here) would be removed from reginfo.gov and ROCIS, leaving total annual burden and cost of 2,038 hours and \$59,000 for the 1,019 entities.

13. ESTIMATE OF THE TOTAL ANNUAL COST BURDEN TO RESPONDENTS

All of the PRA-related industry costs are addressed in #12 above. There are no capital or start-up costs related to PRA activities.

14. ESTIMATED ANNUALIZED COST TO FEDERAL GOVERNMENT

Reliability Standard PRC-025-1 does not require any information to be filed with the Commission. Therefore, the only costs to the Federal Government are those associated with PRA-related costs (e.g., researching and preparing estimates, requesting and maintaining clearance from OMB). The cost for this activity on an annual basis is estimated at \$5,092.

15. REASONS FOR CHANGES IN BURDEN INCLUDING THE NEED FOR ANY INCREASE

NERC states in its petition that the proposed standard “is designed to prevent generator tripping when conditions do not pose a direct risk to the generator and associated equipment and will reduce the risk of unnecessary generator tripping – events that increase the severity of the disturbance.” NERC further states that the proposed standard is intended to address the second part of the Commission’s Order No. 733 directives, requiring development of a standard governing generator protective relay loadability.

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The FERC-725Q is a new recordkeeping or reporting burden associated with the proposed standard. The summary table of changes to burden hours, with current approved inventory, as listed in ROCIS and reginfo.gov follows:

FERC-725Q	Total Request	Previously Approved	Change due to Adjustment in Estimate	Change Due to Agency Discretion
Annual Number of Responses ²⁰	2,038	0	0	2,038
Annual Time Burden (Hr.) ²¹	8,831.33	0	0	8,831.33
Annual Cost Burden (\$)	\$0	\$0	\$0	\$0

16. TIME SCHEDULE FOR THE PUBLICATION OF DATA

There is no data published in response to the subject Reliability Standard.

17. DISPLAY OF THE EXPIRATION DATE

It is not appropriate to display the expiration date for OMB approval of the information collected. The information will not be collected on a standard, preprinted form which would avail itself to that display.

18. EXCEPTIONS TO THE CERTIFICATION STATEMENT

The Commission does not use the data collected under the Reliability Standard for statistical purposes, as is described in the certification submitted with this collection to OMB for review.

²⁰ Each of the 1,019 respondents has one-time burden, and each has ongoing burden.

²¹ Averaging the one-time burden and cost over Years 1-3 for the purposes of this PRA-related supporting statement (for the total of 1,019 entities)