Critical Energy Infrastructure Information
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June 1, 2010

VIA ELECTRONIC FILING

Ms. Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20426

Re: ***North American Electric Reliability Corporation,***
Docket No. RM06-16-000

Dear Ms. Bose:

The North American Electric Reliability Corporation ("NERC") hereby submits this filing in compliance with Paragraph 629 of the Federal Energy Regulatory Commission's ("FERC") Order No. 693. Order No. 693 requires that NERC provide a quarterly informational filing regarding the timeframe to restore power to the auxiliary power systems of U.S. nuclear power plants following a blackout as determined during simulations and drills of system restoration plans. This filing contains the referenced material pertaining to the first quarter of 2010.

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NERC's filing consists of the following:

- This transmittal letter;
- A table of contents for the entire filing;
- A narrative description summarizing the data collected;
- Official Data Request to Fulfill FERC Order No. 693 Requirements: Restoration of Nuclear Power Plant Off-site Power Sources (**Exhibit A**); and
- Restoration of Nuclear Power Plant Off-site Power Sources Data: 1st Quarter 2010 (**Exhibit B**).

Please contact the undersigned if you have any questions.

Respectfully submitted,

/s/ Holly A. Hawkins
Holly A. Hawkins

Attorney for North American Electric Reliability Corporation

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UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

MANDATORY RELIABILITY STANDARDS FOR THE BULK POWER SYSTEM	**)** **)**	**Docket No. RM06-16-000**

FIRST QUARTER 2010 COMPLIANCE FILING OF THE NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION IN RESPONSE TO PARAGRAPH 629 OF ORDER No. 693

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I. INTRODUCTION

In its March 16, 2007 Order,[1] the Federal Energy Regulatory Commission ("FERC") directed the North American Reliability Corporation ("NERC") to provide a quarterly informational filing regarding the timeframe to restore power to the auxiliary power systems of U.S. nuclear power plants following a blackout as determined during simulations and drills of system restoration plans. This filing includes information for the first quarter of 2010.

NERC also believes that it is now appropriate for the Commission to re-consider the value of continuing this data collection exercise. On January 21, 2010, FERC approved NERC's NUC-001-2 — Nuclear Plant Interface Coordination Reliability Standard, effective on April 1, 2010, which contains provisions for identifying Nuclear Plant Interface Requirements and operating to those requirements. On December 31, 2009, NERC submitted for FERC approval NERC's proposed Reliability Standard EOP-005-2 — System Restoration from Blackstart Resources, which contains greater Transmission Operator specificity pertaining to restoration requirements at nuclear power plants. Adoption of these two standards has significantly increased attention to the issues surrounding the nuclear plant interface with the transmission system and has focused accountability for those issues. NERC believes the ongoing need for the collection of the data that is the subject of this filing has greatly diminished. Ongoing compliance monitoring, both by registered entities and Regional Entities, will take the place of the data collection effort as a means to focus proper attention to these issues. Therefore, NERC requests that FERC terminate NERC's ongoing obligation to collect and file data

[1] *Mandatory Reliability Standards for the Bulk-Power System*, 118 FERC ¶ 61,218, FERC Stats. & Regs. ¶ 31,242 (2007) (Order No. 693), *Order on reh'g, Mandatory Reliability Standards for the Bulk-Power System*, 120 FERC ¶ 61,053 (Order No. 693-A) (2007).

relating the timeframe to restore power to the auxiliary power systems of U.S. nuclear power plants following a blackout as determined during simulations and drills of system restoration plans.

II. NOTICES AND COMMUNICATIONS

Notices and communications with respect to this filing may be addressed to the following:

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*Persons to be included on the FERC's service list are indicated with an asterisk. NERC requests waiver of the FERC's rules and regulations to permit the inclusion of more than two people on the service list.

III. SUMMARY OF RESTORATION OF NUCLEAR POWER PLANT OFF-SITE POWER SOURCES DATA

Background

In response to comments offered by the U.S. Nuclear Regulatory Commission during the Notice of Proposed Rulemaking process, FERC expressed, in Order No. 693, its concern regarding the role and priority that nuclear power plants should have in bulk power system restoration plans. FERC addressed the concern and issued its determination in the discussion of the EOP-005-1 — System Restoration Plans

Reliability Standard. Specifically, in Paragraph 629 of Order No. 693, FERC directed NERC as follows:

> In addition [FERC] directs the ERO to gather data, pursuant to §39.5(f) of [FERC's] regulations, from simulations and drills of system restoration on the time it takes to restore power to the auxiliary power systems of nuclear power plants under its data gathering authority and report that information to [FERC] on a quarterly basis.

EOP-005-1, Requirement R11 and sub-requirement R11.4 identify the expected priority for restoring off-site power to nuclear stations. These requirements state:

> **R11.** Following a disturbance in which one or more areas of the Bulk Electric System become isolated or blacked out, the affected Transmission Operators and Balancing Authorities shall begin immediately to return the Bulk Electric System to normal.
>
> **R11.4.** The affected Transmission Operators shall give high priority to restoration of off-site power to nuclear stations.

Importantly, while the requirement provides the instruction to give high priority to off-site power restoration, it does not specify target timeframes.

NERC, in its role as the Electric Reliability Organization ("ERO") and in accordance with 18 C.F.R. § 39.2(d), is required to provide information as necessary to FERC in order to implement section 215 of the Federal Power Act. As such, users, owners and operators of the bulk power system are required to provide the ERO information in support of this same objective.

To collect the data necessary to respond to the FERC directive for nuclear power plant off-site power source data, NERC utilized a data request process that was, at that time, drafted as a proposed rule of procedure. This procedure required NERC to post a proposed ERO data request for industry comment, followed by NERC Board of Trustees

approval, before issuing a formal data request.[2] NERC posted the "nuclear data request" for a 30-day industry comment period that began on June 26, 2007. NERC reviewed the comments received and presented a final version of the data request that was adopted by the NERC Board of Trustees at its August 2, 2007 meeting.

The ERO data request for nuclear power plant off-site power source restoration data, as approved by the NERC Board of Trustees, is found in **Exhibit A**. Following Board of Trustees approval, NERC began to collect nuclear data from U.S. Transmission Operators during the fourth quarter 2007 and will continue to collect the data quarterly until otherwise directed by FERC. This filing represents data captured for the first quarter of 2010.

The specific data requested of the Transmission Operators is as follows:

- Reporting entity;
- Name of exercise, drill or simulation;
- Date of exercise, drill or simulation;
- Name of nuclear plant;
- Unit designation (each unit must be included separately);
- Identifier of off-site power source;
- Time duration when off-site power sources are lost to the restoration of first off-site power source. (For this request, the loss of off-site power sources is the simulated physical interruption of power in support of EOP-005-1 requirements); and
- Discussion of scenario assumptions or constraints impacting the restoration of the initial off-site power source to the nuclear power plant.

In addition, the following clarifying language was included in the data request to guide the Transmission Operators when supplying the requested data.

[2] FERC has since approved Section 1600 of the Rules of Procedure, known as the Data Rule, which establishes the process for issuing ERO data requests.

> Simulations, drills, or exercises that are implemented for individualized operator training requirements are not included in this request. Simulations, drills, and exercises conducted to support the requirements of EOP-005-1 are included in this request. This request is not intended to require additional simulations or studies to those conducted to satisfy EOP-005-1 requirements.

Exhibit B presents the raw data collected through this period of observation. As noted above, for the public version of this report, **Exhibit B** has been redacted to remove the actual raw data collected through the period of observation, in accordance with the data survey, and in recognition that the information requested constitutes confidential critical energy infrastructure information. Specifically, **Exhibit B** contains information that, if released, could identify system weaknesses and pose a risk of attack on existing infrastructure. NERC respectfully requests that the critical energy infrastructure information be protected consistent with national energy security objectives and in accordance with the cited regulation.

The data presented in **Exhibit B** to this filing contains critical energy infrastructure information. Specifically, the information set forth in **Exhibit B** to the instant filing includes critical energy infrastructure information as defined by FERC Rules of Practice and Procedure (18 C.F.R. Part 388), FERC Orders, and NERC Rules of Procedure. The information pertains to proprietary or business design information, including design information related to vulnerabilities of critical energy infrastructure information that is not publicly available. Accordingly, the information set forth in **Exhibit B** has been redacted from the public filing. In accordance with the FERC Rules of Practice and Procedure, 18 C.F.R. § 388.112, a non-public version of the information redacted from the public filing is being provided under separate cover. NERC requests

that the confidential, non-public information be provided special treatment in accordance with the above regulation.

Summary of Data

There are a total of 104 nuclear units in the U.S. Of these, 47 were included in exercises, drills, or simulations in support of EOP-005-1 in the first quarter of 2010. Overall, Transmission Operators conducted a total of 24 individual exercises, drills, or simulations during this period that included the restoration of off-site power sources to the 47 units, with many events impacting more than one nuclear unit. For example, an entity conducted one system restoration exercise on February 10, 2010 that involved the restoration of off-site power sources to a total of three nuclear units. In the summary chart that follows below, each off-site power source restoration event is reported separately for purposes of data analysis. In total, 93 off-site power source restoration events are included in the raw data presented in **Exhibit B** of this filing.

Of the 93 events, there were 76[3] potential *initial* off-site source restorations (some units have multiple off-site sources). NERC categorized the restoration of first off-site sources in two-hour windows. Over ninety seven (97) percent (74 of 76) of the initial off-site power source restorations occurred within the first four hours following the simulated blackout event, with about sixty five (65) percent (50 of 76) occurring in two hours or less. Approximately two (2) percent (2 of 76) sources were simulated to be restored in the four to six hour window.

The remaining 14 events included in the data involved the restoration of a *subsequent* off-site source beyond the first source restored. Of these 14 events, 10

[3] Not all units provided data for off-site sources beyond the first source restored. The data included represents only the units that provided the data and does not include the entire spectrum of off-site sources beyond the initial source for the rest of the units.

subsequent sources were simulated to be restored in less than six hours. Four sources either did not achieve the restoration or did not report a time of restoration.

Total Number Off-site Power Source Restoration Events Included in EOP-005-1 Exercises, Drills or Simulations	93
Potential first off-site source restorations	76
Exercises, Drills, or Simulations in which the first off-site source was restored in 2 hours or less following the loss of power	50
Exercises, Drills, or Simulations in which the first off-site source was restored 2-4 hours following the loss of power	24
Exercises, Drills, or Simulations in which the first off-site source was restored 4-6 hours following the loss of power	2
Exercises, Drills or Simulations in which the first off-site source was restored 6-8 hours following the loss of power	0
Exercises, Drills, or Simulations in which the first off-site source was restored 8-10 hours following the loss of power	0
Exercises, Drills or Simulations in which the first off-site source was restored more than 10 hours following the loss of power	0
Exercises, Drills, or Simulations that did not achieve the restoration of the first off-site power source to a nuclear power plant or that did not report a time for source restoration	0

IV. REQUEST TO TERMINATE DATA COLLECTION EXERCISE

NERC has collected data in support of the FERC request for ten quarters. Since the issuance of FERC Order No. 693 in March 2007, NERC has submitted and received FERC approval for NUC-001-2 — Nuclear Plant Interface Coordination that requires a Nuclear Plant Generator Operator to coordinate operations and planning with Transmission Entities providing services relating to nuclear plant operating and off-site power delivery requirements. The Nuclear Plant Generator Operators and Transmission

Entities must execute and implement interface agreements setting forth expectations and procedures for coordinating operations to meet the nuclear plant licensing requirements and system operating limits affecting nuclear plant operations. NUC-001-2 became effective April 1, 2010. Requirement R9.3.5 of this standard specifically requires the Nuclear Plant Generator Operator and the Transmission Entities to include "provisions for considering, within the restoration process, the requirements and urgency of a nuclear plant that has lost all off-site and on-site AC power."

In a similar manner, NERC filed EOP-005-2 — System Restoration from Blackstart Resources for FERC approval on December 31, 2009. In it, the Transmission Operator shall have a Reliability Coordinator-approved restoration plan that includes "[a] description of how all Agreements or mutually agreed upon procedures or protocols for off-site power requirements of nuclear power plants, including priority of restoration, will be fulfilled during System restoration."

On the basis that these more explicit requirements are now either in place or awaiting FERC approval, NERC submits that the express purpose of conducting the data request that is the subject of this filing has been superseded. Considering this point and the significant level of effort for Transmission Operators to collect and forward the information to the Regional Entity, the Regional Entity's effort to accumulate and assemble the data, and NERC's efforts to combine the information into the filings that have been submitted, NERC believes it is appropriate to redirect these resources to other reliability activities with greater impact on reliability and thereby requests that FERC terminate NERC's obligation to collect and file such data.

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V. CONCLUSION

NERC respectfully requests that FERC accept this informational filing for the first quarter of 2010 in accordance with FERC's directive that NERC provide information regarding the time it takes to restore off-site power sources to nuclear power plants following a blackout as determined by drills and simulations. Further, NERC requests that FERC terminate the ongoing obligation to collect and file such data on the basis that new standards approved by FERC or pending FERC approval contain more explicit instructions regarding expectations of the Transmission Operators for restoring off-site power sources to nuclear power plants following a blackout.

Respectfully submitted,

/s/ Holly Hawkins

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CERTIFICATE OF SERVICE

I hereby certify that I have served a copy of the foregoing document upon all parties listed on the official service list compiled by the Secretary in this proceeding.

Dated at Washington, D.C. this 1st day of June, 2010.

/s/ Holly A. Hawkins
Holly A. Hawkins

Attorney for North American Electric Reliability Corporation

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Exhibit A

Official Data Request to Fulfill FERC Order No. 693 Requirements: Restoration of Nuclear Power Plant Off-site Power Sources

Critical Energy Infrastructure Information Has Been Redacted From This Public Version

Gerry Adamski
Vice President and
Director of Standards

August 24, 2007

TRANSMISSION OPERATOR CONTACT
TITLE
COMPANY
ADDRESS
CITY, STATE ZIP CODE (TNR, 12pt)

Dear XXXXX:

Official Data Request to Fulfill FERC Order No. 693 Requirements
Restoration of Nuclear Power Plant Off-site Power Sources

Pursuant to the authority granted by FERC Order 672 and as implemented in Title 18, Section 39.2 of the Code of Federal Regulations, NERC as the appointed electric reliability organization issues this official data request as described in **Attachment 1**.

The legal basis in the United States for this authority is explained in FERC's Order 672, paragraph 114:

> 114. The Commission agrees with commenters that, to fulfill its obligations under this Final Rule, the ERO or a Regional Entity will need access to certain data from users, owners and operators of the Bulk-Power System. Further, the Commission will need access to such information as is necessary to fulfill its oversight and enforcement roles under the statute. Section 39.2 of the regulations will include the following requirement:
>
> > (d) Each user, owner or operator of the Bulk-Power System within the United States (other than Alaska and Hawaii) shall provide the Commission, the Electric Reliability Organization and the applicable Regional Entity such information as is necessary to implement section 215 of the Federal Power Act as determined by the Commission and set out in the Rules of the Electric Reliability Organization and each applicable Regional Entity. The Electric Reliability Organization and each Regional Entity shall provide the Commission such information as is necessary to implement section 215 of the Federal Power Act.

Within the United States, failure to comply with an official data request would constitute a violation of FERC regulations. Enforcement action is available to FERC to deal with

violations of its regulations. This is authority FERC could exercise, not authority available to NERC. NERC's Compliance Monitoring and Enforcement Program, including the ability to impose penalties and sanctions, is limited to violations of reliability standards.

Please note the following additional pieces of information relative to this data request:

- An Excel spreadsheet (attached) to serve as a template for providing the requested information.
- Regional entities are requested to submit the requested information to sarcomm@nerc.net.

Thank you for your support of this effort. Please contact me should you have any questions.

Sincerely,

Enclosure

cc: James D. Castle, Chairman, Operating Reliability Subcommittee
Regional Entity Management Group

Exhibit A
Restoration of Nuclear Power Plant Offsite Power Source Data Request

Background
In paragraph 629 of Order No. 693, FERC directs NERC to provide an informational filing regarding the timeframe to restore auxiliary power to nuclear power plants following a blackout as determined during simulations and drills of system restoration plans:

> 629. "In addition the Commission directs the ERO to gather data, pursuant to § 39.5(f) of the Commission's regulations, from simulations and drills of system restoration on the time it takes to restore power to the auxiliary power systems of nuclear power plants under its data gathering authority and report that information to the Commission on a quarterly basis."

Description of Data Requested
This request is an ongoing request that begins in the fourth quarter of 2007. If an exercise, drill, or simulation includes the restoration of one or more offsite power sources to a nuclear power plant, the following information is to be prepared and provided *for each offsite power source* in a format developed and provided by NERC:

- Reporting entity
- Name of exercise, drill, or simulation
- Date of exercise, drill, or simulation
- Name of nuclear plant
- Unit designation (each unit must be included separately)
- Identifier of offsite power source
- Time duration when offsite power sources are lost to the restoration of first offsite power source. (For this request, the loss of offsite power sources is the simulated physical interruption of power in support of EOP-005-1 requirements.)
- Discussion of scenario assumptions or constraints impacting the restoration of the initial offsite power source to the nuclear power plant

Simulations, drills, or exercises that are implemented for individualized operator training requirements are not included in this request. Simulations, drills, and exercises conducted to support the requirements of EOP-005-1 are included in this request. This request is not intended to require additional simulations or studies to those conducted to satisfy EOP-005-1 requirements.

The individual data submissions should be submitted to the regional entity who will compile the data in a consolidated format. The regional entity will then forward the complied data to NERC's director of standards on a quarterly basis.

To comply with FERC directives, NERC will make a quarterly filing with FERC that includes the compiled data.

How the Data Will Be Used
The data will be provided to FERC per its directive in Order 693. FERC agrees with issues raised by the Nuclear Regulatory Commission (NRC) concerning the role and priority nuclear power plants should have in system restorations, and directs the collection of this data to aid in its review of this issue.

How the Data Will Be Collected and Validated
The regional entities are requested to coordinate the collection and composite presentation of the requested data from its member participants. Transmission operators responsive to this request are expected to validate the data to be correct prior to submittal.

Reporting Entities
Each transmission operator in the United States who has a nuclear power plant tied to a transmission line that it controls and who is participating in an exercise, drill, or simulation in support of the EOP-005-1 standard will report. Transmission operators that do not have a nuclear power plant tied to a transmission line it controls are exempt from this request.

Transmission operators outside the United States subject to EOP-005-1 are voluntarily encouraged to submit this information as well. NERC will seek permission from these non-U.S. entities for inclusion of its data in the information filed with FERC.

Due Date for the Information
If a transmission operator subject to this data request conducts a drill, simulation, or exercise that includes restoration of the initial offsite power source to a nuclear power plant, the transmission operator is to submit the requested information to its regional entity by the fifteenth of the month; following the end of the previous three-month quarter. The regional entity is to provide a quarterly report of all such submissions by April 30, July 31, October 31, and January 31 for the three-month period that concludes on these dates. This data request begins in the fourth quarter of 2007.

If no drill, exercise, or simulation meeting the criteria described above is conducted during a quarter, no submission by the transmission operator and regional entity is required. This data request does not direct transmission operators to conduct quarterly exercises, drills, or simulations to satisfy this data request. It does require the data to be reported if such a simulation, drill, or exercise is conducted.

Restrictions on Disseminating Data (Confidential/CEII)
NERC will provide this data to FERC per its Order No. 693 directives. This information will be treated as critical energy infrastructure information when submitted to FERC.

Estimate on Burden Imposed to Collect Data
There will be ongoing costs for the staff of responsible entities to respond and for regional entities to collect, compile, and report to NERC the requested data.

Exhibit B

Restoration of Nuclear Power Plant Off-site Source Data: 1st Quarter 2010

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