NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Section 800 Reliability Assessment Request: Access to Bulk Power System Elements

November 7, 2023

This reliability assessment is being conducted pursuant to sections 804 and 808.3 of NERC's Rules of Procedure (ROP) to evaluate the risks to reliability that can exist when remote access is permitted to facilities or systems that are used to manage the United States bulk power system (BPS), especially if the remote access originates from outside the United States. The assessment applies to entities registered for one or more of the following functions: Generation Owners (GOs), Generation Operators (GOPs), Transmission Owners (TOs), and Transmission Operators (TOPs).

Data will be gathered via an online tool that is available to Primary Compliance Contacts (PCCs); the deadline for submissions is January 12, 2024.

Introduction

The ERO Enterprise's[1] mission is to assure the effective and efficient reduction of risks to the reliability and security of the grid. That assurance is achieved through the collaborative efforts of organizations that own, operate, and use the BPS. Organizations that meet the criteria for operating and using the BPS are required to register with NERC and are subject to compliance with NERC's mandatory Reliability Standards, as described in the NERC Rules of Procedure[2].

The methods and tools that are used to manage and operate the BPS in a reliable manner are increasingly dependent on automated systems. Computer based systems enhance the efficiency and effectiveness of reliability functions, but misuse of that technology can negatively impact the reliable and secure operation of the BPS.

Operational Risks

Traditionally, access to BPS Elements[3] was granted to authorized personnel who were in physical proximity to those systems. Technological advances have enabled personnel to address routine or urgent situations remotely. Consequently, "authorized remote access" is no longer limited to operators who perform duties that are directly associated with managing the BPS; such access may also be appropriate and necessary for personnel who maintain, configure, or troubleshoot systems that are used to control the BPS.

[1] https://www.nerc.com/AboutNERC/keyplayers/Pages/default.aspx
[2] https://www.nerc.com/AboutNERC/Pages/Rules-of-Procedure.aspx
[3] "Any electrical device with terminals that may be connected to other electrical devices such as a generator, transformer, circuit breaker, bus section, or transmission line. An Element may be comprised of one or more components."
https://www.nerc.com/pa/Stand/Glossary%20of%20Terms/Glossary_of_Terms.pdf

While the misuse of remote access is a recognized risk, there may be additional unforeseen risks to grid reliability if remote access originates in one geographical location and crosses state or international borders to areas with different governments. There are instances where the grid is being controlled from locations outside the United States.[4]

Purpose

This reliability assessment is being conducted to evaluate the extent to which elements that support the reliability of the United States' BPS are managed or controlled from a remote location[5], outside the United States. Entities that are registered for the designated functions[6] are required to answer a series of questions that pertain to users with remote access and authority to provide operational control[7] of BPS transmission and generation Elements[8] that belong to the Registered Entity.

The data that is collected via this effort will be used to determine the extent to which these conditions exist and to evaluate what, if any follow up activity is required. See NERC's ROP, Section 800[9], for more information about reliability assessments.[10]

Data Collection

Data is being collected via a web-based tool at the ERO portal[11]. Registered Entities that perform the functions that are designated below must respond to each question for every external party with remote access to the BPS Elements for which the Registered Entity is responsible.

Registered Entities are asked to provide relevant information about these conditions, wherever they exist:

- An employee or authorized agent of the Registered Entity who has remote access and authority to provide operational control of BPS transmission and generation Elements.
- An external organization (i.e., "third party"), irrespective of location, with remote access to those Elements for operational control
- Third parties with authorized remote access to provide other services (e.g., diagnostics, maintenance, security monitoring).

[4] This data request reflects the ERO Enterprise's initial effort to assess potential cross-border operations of facilities located in the United States. ERO Enterprise is also coordinating with Governmental Authorities in Canada and there may be similar data requests (from the ERO Enterprise and/or Canadian Governmental Authorities) seeking information on cross-border operations of facilities located in Canada.
[5] Access to an organizational information system by a user (or an information system) communicating through an external, non-organization-controlled network (e.g., the Internet) https://csrc.nist.gov/glossary/term/remote_access
[6] This assessment applies to U.S. entities that are registered with NERC to perform one or more of the following functions: Generator Owner (GO), Generator Operator (GOP), Transmission Owner (TO), Transmission Operator (TOP)
[7] Operational control: the ability to operate the system or override commands issued by any operations center or station. https://www.law.cornell.edu/definitions/index.php?width=840&height=800&iframe=true&def_id=0d9f86b0b98f36b60cd4684522661f21&term_occur=1&term_src=Title:15:Subtitle:B:Chapter:IX:Subchapter:D:Part:960:Subpart:B:960.11
[8] https://www.nerc.com/pa/Stand/Glossary%20of%20Terms/Glossary_of_Terms.pdf
[9] https://www.nerc.com/AboutNERC/RulesOfProcedure/NERC%20ROP%20effective%2020220825_no%20appendicies.pdf
[10] https://www.nerc.com/AboutNERC/RulesOfProcedure/NERC%20ROP%20effective%2020220825_no%20appendicies.pdf
[11] https://eroportal.nerc.net/

- Any organization (Registered Entity, Registered Entity affiliate[12], or third party) outside the United States[13] that can monitor and/or control BPS transmission or generation Elements within the U.S.

As used in this request, "Elements" are considered to include the following:

- Generation Facilities
  - Generator (and associated controls)
  - Generator substation equipment
  - Plant-level controllers
- Transmission Facilities
  - Transformer
  - Circuit breaker
  - Bus section
  - Transmission line/cable
  - Flexible AC Transmission System (FACTS) - Controllers & Devices
  - Shunt reactive support devices (e.g., STATCOM)
  - Switches (and switching stations)
  - Other substation equipment

[12] i.e., members of the same corporate family
[13] For purposes of this assessment, information about remote access from locations in Canada should be included.

Questionnaire Description

This section is for information purposes only; responses are to be provided via a questionnaire in the ERO Portal[14] that is available to PCCs at the designated Registered Entities.

Delegation of BPS Operational Control

1. Do any external organizations[15] **currently** have remote access to BPS Elements on the U.S. grid that are owned by the entity that is assigned the NCR Number listed above?

   ☐Yes ☐No

   If the answer is "yes," please respond to these questions regarding **each external organization with remote access to BPS Elements and each Element that can be reached remotely**:

   a. What is the name of the external organization that **has** remote access to BPS Elements within the U.S. grid?

      [narrative response(s)]

      i. Is that external organization a NERC Registered Entity? If "yes," enter its NCR Number.

         ☐Yes NCR: [_____] ☐No

   b. Why does that organization have access to BPS Element(s)? Select all that apply.

      [drop down responses]

      Operational control of one or more Elements

      Monitoring (e.g., performance, status, security)

      Maintenance (e.g., repairs, updates, warranty service)

   c. What type(s) of Element(s) that support the U.S. grid does that organization have access to? Select all that apply.

      [drop down responses]

      Generation Facilities

      - **Generator (and associated controls)**
      - **Generator substation equipment**
      - **Plant-level controllers**

      Transmission Facilities

      - **Transformer**
      - **Circuit breaker**
      - **Bus section**

[14] https://eroportal.nerc.net/

[15] Examples for purposes of this assessment include but are not limited to manufacturers, vendors, service providers, affiliates, etc.

Transmission line/cable

Flexible AC Transmission System (FACTS) - Controllers & Devices

Shunt reactive support devices (e.g., STATCOM)

Switches (and switching stations)

Other substation equipment

d. Where are the BPS Elements within the U.S. that the external organization **is currently able to** remotely access? Select all that apply.

[drop down – 50 states and Washington D.C.]

e. Where is the external organization located when/while it has access to BPS Elements on the U.S. grid? Select all that apply.

[drop down - Within U.S. – 50 states and Washington D.C.]

[drop down: Outside U.S. [195 countries]

2. Does your organization have an international presence (e.g., affiliates/subsidiaries in another country; corporate headquarters outside the U.S.)?

☐Yes ☐No

If the answer is "yes," please list all countries outside the U.S. where your organization has a presence. Select all that apply.

[drop down: Outside U.S. [195 countries]]

3. Are there plans or proposals for external organizations that are located outside the U.S. to have remote access to BPS Elements within the U.S. grid **at a future date**?

☐Yes ☐No

If the answer is "yes," please respond to these questions regarding **each external organization proposed to have remote access to BPS Elements and each Element that could be reached remotely.**

a. What is the name of the external organization that **could have** remote access to BPS Elements within the U.S. grid in the future?

b. Why would that organization need access? Select all that apply.

[drop down responses]

Operational control of Elements

Monitoring (e.g., performance, status, security)

Maintenance (e.g., repairs, updates, warranty service)

c. What type(s) of Element(s) that support the U.S. grid would that organization be expected to have access to? Select all that apply.

[drop down responses]

Generation Facilities

Generator (and associated controls)

Generator substation equipment

Plant-level controllers

Transmission Facilities

Transformer

Circuit breaker

Bus section

Transmission line/cable

Flexible AC Transmission System (FACTS) - Controllers & Devices

Shunt reactive support devices (e.g., STATCOM)

Switches (and switching stations)

Other substation equipment

d. Where are the BPS Elements on the U.S. grid that the external organization **may be authorized** to remotely access in the **future**? Select all that apply.

[drop down – 50 states and Washington D.C.]

e. Where will the external organization that may be authorized to remotely access BPS Elements on the U.S. grid be located (if known)? Select all that apply.

[drop down: Outside U.S. [195 countries]

f. What is the status of this project?

[drop down responses]

Proposed: no decision made; no date assigned

Planned: approved, date to be determined

Scheduled

[drop down response]

Within 12 months

12-24 months

More than 24 months