

May 23, 2022

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Director, Reliability Assessment and Performance Analysis

DRAFT Letter for 21-day notice to FERC from May 24, 2022 to June 15, 2022 and for 45-day public posting and comment to Industry Stakeholders from June 20, 2022 to August 4, 2022.

To: Generator Owners, Generator Operators, and Industry Stakeholders

RE: Request for Public Comment on the Addition of Photovoltaic Generation and Other Changes to the Generating Availability Data Systems (GADS) Section 1600 Data Request

To All Interested Parties:

In accordance with Section 1600 of the North American Electric Reliability Corporation (“NERC”) *Rules of Procedure*,¹ NERC may request data or information (“Data Request”) that is necessary to meet its obligations under section 215 of the Federal Power Act (“FPA”),² as authorized by Section 39.2(d) of the Federal Energy Regulatory Commission’s (“FERC” or “Commission”) regulations.

NERC hereby requests public comment by 8:00 p.m. EST, August 4, 2022, on its proposal to: (1) add Generator Owners that operate photovoltaic plants of 20 MW or greater to the Generating Availability Data System (herein referred to as “GADS-PV”); (2) expand GADS Wind (“GADS-W”) reporting to include connected energy storage and event reporting; and (3) include the collection of relevant design data and enhanced event reporting for GADS conventional generation (“GADS”). Comments must be submitted in an electronic document to gads@nerc.net

All proposed changes are posted on NERC’s website. To facilitate access to the proposed materials, NERC has established a Section 1600 Data Request web page that includes documents identifying the proposed

- Requirements for GADS-PV,
- Changes to GADS-W, and
- Data collection and enhanced reporting for GADS.
- The Section 1600 Data Request page is available at:

¹ NERC’s *Rules of Procedure* are available at: <https://www.nerc.com/AboutNERC/Pages/Rules-of-Procedure.aspx>.

² 16 U.S.C. § 824o. Relevant regulations under section 215 of the FPA are at 18 C.F.R. Part 39.

<https://www.nerc.com/pa/RAPA/PA/Pages/Section1600DataRequests.aspx>

These proposed changes are necessary to ensure that NERC can accurately assess reliability of the North American bulk power system (“BPS”), in light of the changing resource mix. As renewable and inverter-based technologies are increasingly integrated on the BPS, a complete set of generation assets is necessary to evaluate performance and potential issues. It is essential that NERC have plant configuration information (including connected energy storage), event, and performance data, for photovoltaic and wind generation, combined with enhanced design and event data for conventional generation.

The need for GADS-PV data, changes to GADS Wind, collection of relevant design data and enhanced event reporting for conventional generation is required for the following NERC and Regional Entity activities:

- Reporting on and modeling Reliability Assessments studying and modeling Loss-of-load Expectation.
- Analyzing how resource availability and performance of renewable generation impacts Planning Reserve Margin calculations.
- Examining potential refinements to the severity risk index using actual renewable generation performance in order to establish the effect that renewable generation is having on Event-Driven and Condition-Driven risk, detailed event information and generation performance characteristics.
- Monitoring the impact of transmission outages on generators and generator outages on transmission.
- Conduct detailed analysis to evaluate whether certain types of unit configurations or key operating components may be impacted by operating conditions such as extreme weather.
- Providing additional clarity on outages that are caused by extreme events as compared to other types of outages.
- Other analysis of renewable resources as related to reliability.

NERC’s mission is to ensure the reliability of the North American BPS. With that responsibility, NERC and its stakeholders require high quality, accurate data provided in a timely fashion to assess projected BPS reliability and analyze its ongoing performance for individual, regional and interconnection-wide planning. The evolution in resource mix requires that industry gain experience with technology behavior, operating characteristics, and optimal planning approaches in order to properly assess the reliability and improve performance analysis. NERC needs the requested information to adequately assess power system reliability in the short and long-term horizon.

Request for Comments

Accordingly, NERC is posting this proposed Data Request in accordance with the requirements of Section 1602 of the NERC *Rules of Procedure* for public comment. Following this cover letter, a document is included articulating how NERC’s proposal conforms to the requirements under Section 1602.

NERC provided this proposed data request to FERC for information at least twenty-one (21) days prior to this posting, as required by Section 1602 of the NERC *Rules of Procedure*. The 45-day public comment period will run from June 20, 2022 to August 4, 2022.

NERC will present this proposed Data Request, revised as appropriate in response to comments received, to the Board for approval as required by Section 1602 of the NERC *Rules of Procedure*. With NERC Board approval, this data request will become mandatory, as applicable, for all Generator Owners on the NERC registered entities list that operate photovoltaic plants with a total installed capacity of 20 MW or greater, regardless of interconnection type, Generator Owners on the NERC registered entities list that operate wind turbine plants with a total installed capacity of 75 MW or greater, and Generator Owners that operate conventional generating units with a nameplate rating of 20 MW or greater.

NERC Contact Information

The Data Request comments must be provided in electronic format by 8:00 pm Eastern on August 4, 2022. A comment form is available at:
<https://www.nerc.com/pa/RAPA/PA/Pages/Section1600DataRequests.aspx>

Should the submitting entity experience any issues with providing comments, please contact Donna Pratt, via email at Donna.Pratt@nerc.net or by telephone at (404) 446-9789. If the respondent believes that any of the comments to this data request should remain confidential, please contact the Donna Pratt directly for further instructions.

Official correspondence may be mailed to:

NERC – ATTN: RAPA Department C/O Donna Pratt
3353 Peachtree Road, Suite 600, North Tower
Atlanta, GA 30326



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Director, Reliability Assessment and Performance Analysis

Support for Data Request Pursuant to Section 1600 of the NERC Rules of Procedure

I. Authority

Under section 215 of the FPA, Congress entrusted FERC with the duties of approving and enforcing rules to ensure the reliability of the North American BPS, and with the duties of certifying an Electric Reliability Organization (“ERO”) that would be charged with developing and enforcing mandatory Reliability Standards, subject to FERC approval. NERC was certified as the ERO on July 20, 2006 and recertified on January 23, 2020.³ NERC’s authority for posting this data request is derived from section 215 of the Federal Power Act, 18 C.F.R. §39.2(d)⁴ and Section 1600 of the NERC Rules of Procedure (excerpted immediately below).

II. Section 1600 of the NERC Rules of Procedure

Section 1600 of the NERC Rules of Procedure provides:

1601. Scope of a NERC or Regional Entity Request for Data or Information

Within the United States, NERC and Regional Entities may request data or information that is necessary to meet their obligations under Section 215 of the Federal Power Act, as authorized by Section 39.2(d) of the Commission’s regulations, 18 C.F.R. § 39.2(d). In other jurisdictions NERC and Regional Entities may request comparable data or information, using such authority as may exist pursuant to these Rules of Procedure and as may be granted by Applicable Governmental Authorities in those other jurisdictions. The provisions of Section 1600 shall not apply to Requirements contained in any Reliability Standard to provide data or information; the Requirements in the Reliability Standards govern. The provisions of Section 1600 shall also not apply to data or information requested in connection with a compliance or enforcement action under Section 215 of the Federal Power Act, Section 400 of these Rules of Procedure, or any procedures adopted pursuant to those authorities, in which case the Rules of Procedure applicable to the production of data or information for compliance and enforcement actions shall apply.

³ <https://www.ferc.gov/media/news-releases/2020/2020-1/01-23-20-E-20.asp#.XjL-62hKiUk>

⁴ 18 C.F.R. §39.2(d) (stating, “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.”).

1602. Procedure for Authorizing a NERC Request for Data or Information

1. *NERC shall provide a proposed request for data or information or a proposed modification to a previously-authorized request, including the information specified in Section 1602.2.1 or 1602.2.2 as applicable, to the Commission’s Office of Electric Reliability at least twenty-one (21) days prior to initially posting the request or modification for public comment. Submission of the proposed request or modification to the Office of Electric Reliability is for the information of the Commission. NERC is not required to receive any approval from the Commission prior to posting the proposed request or modification for public comment in accordance with Section 1602.2 or issuing the request or modification to Reporting Entities following approval by the Board of Trustees.*
2. *NERC shall post a proposed request for data or information or a proposed modification to a previously authorized request for data or information for a forty-five (45) day public comment period.*
 - 2.1. *A proposed request for data or information shall contain, at a minimum, the following information: (i) a description of the data or information to be requested, how the data or information will be used, and how the availability of the data or information is necessary for NERC to meet its obligations under applicable laws and agreements; (ii) a description of how the data or information will be collected and validated; (iii) a description of the entities (by functional class and jurisdiction) that will be required to provide the data or information (“Reporting Entities”); (iv) the schedule or due date for the data or information; (v) a description of any restrictions on disseminating the data or information (e.g., “Confidential Information,” “Critical Energy Infrastructure Information,” “aggregating” or “identity masking”); and (vi) an estimate of the relative burden imposed on the Reporting Entities to accommodate the data or information request.*
 - 2.2. *A proposed modification to a previously authorized request for data or information shall explain (i) the nature of the modifications; (ii) an estimate of the burden imposed on the Reporting Entities to accommodate the modified data or information request, and (iii) any other items from Section 1602.2.1 that require updating as a result of the modifications.*
3. *After the close of the comment period, NERC shall make such revisions to the proposed request for data or information as are appropriate in light of the comments. NERC shall submit the proposed request for data or information, as revised, along with the comments received, NERC’s evaluation of the comments and recommendations, to the Board of Trustees.*
4. *In acting on the proposed request for data or information, the Board of Trustees may authorize NERC to issue it, modify it, or remand it for further consideration.*

5. *NERC may make minor changes to an authorized request for data or information without Board approval. However, if a Reporting Entity objects to NERC in writing to such changes within 21 days of issuance of the modified request, such changes shall require Board approval before they are implemented.*
6. *Authorization of a request for data or information shall be final unless, within thirty (30) days of the decision by the Board of Trustees, an affected party appeals the authorization under this Section 1600 to the Applicable Governmental Authority.*

1603. Owners, Operators, and Users to Comply

Owners, operators, and users of the Bulk Power System registered on the NERC Compliance Registry shall comply with authorized requests for data and information. In the event a Reporting Entity within the United States fails to comply with an authorized request for data or information under Section 1600, NERC may request the Commission to exercise its enforcement authority to require the Reporting Entity to comply with the request for data or information and for other appropriate enforcement action by the Commission. NERC will make any request for the Commission to enforce a request for data or information through a non-public submission to the Commission's enforcement staff.

1605. Confidentiality

If the approved data or information request includes a statement under Section 1602.1.1(v) that the requested data or information will be held confidential or treated as Critical Energy Infrastructure Information, then the applicable provisions of Section 1500 will apply without further action by a Submitting Entity. A Submitting Entity may designate any other data or information as Confidential Information pursuant to the provisions of Section 1500, and NERC or the Regional Entity shall treat that data or information in accordance with Section 1500. NERC or a Regional Entity may utilize additional protective procedures for handling particular requests for data or information as may be necessary under the circumstances.

1606. Expedited Procedures for Requesting Time-Sensitive Data or Information

1. *In the event NERC or a Regional Entity must obtain data or information by a date or within a time period that does not permit adherence to the time periods specified in Section 1602, the procedures specified in Section 1606 may be used to obtain the data or information. Without limiting the circumstances in which the procedures in Section 1606 may be used, such circumstances include situations in which it is necessary to obtain the data or information (in order to evaluate a threat to the reliability or security of the Bulk Power System, or to comply with a directive in an order issued by the Commission or by another Applicable Governmental Authority) within a shorter time period than possible under Section 1602. The procedures specified in Section 1606 may only be used if authorized by the NERC Board of Trustees prior to activation of such procedures.*

2. *Prior to posting a proposed request for data or information, or a modification to a previously-authorized request, for public comment under Section 1606, NERC shall provide the proposed request or modification, including the information specified in paragraph 1602.2.1 or 1602.2.2 as applicable, to the Commission's Office of Electric Reliability. The submission to the Commission's Office of Electric Reliability shall also include an explanation of why it is necessary to use the expedited procedures of Section 1606 to obtain the data or information. The submission shall be made to the Commission's Office of Electric Reliability as far in advance, up to twenty-one (21) days, of the posting of the proposed request or modification for public comments as is reasonably possible under the circumstances, but in no event less than two (2) days in advance of the public posting of the proposed request or modification.*
3. *NERC shall post the proposed request for data or information or proposed modification to a previously-authorized request for data or information for a public comment period that is reasonable in duration given the circumstances, but in no event shorter than five (5) days. The proposed request for data or information or proposed modification to a previously-authorized request for data or information shall include the information specified in Section 1602.2.1 or 1602.2.2, as applicable, and shall also include an explanation of why it is necessary to use the expedited procedures of Section 1606 to obtain the data or information.*
4. *The provisions of Sections 1602.3, 1602.4, 1602.5 and 1602.6 shall be applicable to a request for data or information or modification to a previously-authorized request for data or information developed and issued pursuant to Section 1606, except that (a) if NERC makes minor changes to an authorized request for data or information without Board approval, such changes shall require Board approval if a Reporting Entity objects to NERC in writing to such changes within five (5) days of issuance of the modified request; and (b) authorization of the request for data or information shall be final unless an affected party appeals the authorization of the request by the Board of Trustees to the Applicable Governmental Authority within five (5) days following the decision of the Board of Trustees authorizing the request, which decision shall be promptly posted on NERC's website.*

III. NERC's Proposed Data Requests

This data request includes data requested for GADS-PV, modifications to GADS-W, and modifications to conventional GADS reporting. Each section below provides detailed responses to the questions that must accompany this data request for changes to the applicable GADS data.

In accordance with Section 1602, the italicized language below is information that must accompany this Data Request. Section 1602.2.1.A applies to this new data request for GADS-PV. Section 1602.2.2.A applies to modifications of existing data requests related to the changes requested for GADS-W and GADS.

a. Data Requested for GADS-PV

- i. *A description of the data or information to be requested, how the data or information will be used, and how the availability of the data or information is necessary for NERC to meet its obligations under applicable laws and agreements.*

The response is provided in subparts a, b, and c below.

- a. *A description of the data or information to be requested.*

Details of the types of data and specific fields of data are available from a Section 1600 Data Request web page on the NERC website. The Data Reporting Instructions document posted identifies the proposed reporting requirements for GADS-PV.

The Section 1600 Data Request page is available at:

<https://www.nerc.com/pa/RAPA/PA/Pages/Section1600DataRequests.aspx>

The GADS-PV documents may be found in the section on the page labeled **“Reference Materials for Section 1600 Data Requests Available for Public Comment”**.

- b. *How the data or information will be used.*

The data provided for GADS-PV will be used for the following:

- Reporting on and modeling Reliability Assessments.
- Studying and modeling Loss-of-load Expectation.
- Analyzing how resource availability and performance of renewable generation may impact Planning Reserve Margin calculations.
- Examining potential refinements to the severity risk index using actual renewable generation performance in order to establish the effect that renewable generation is having on Event-Driven and Condition-Driven risk, detailed event information, and generation performance characteristics.
- Monitoring the impact of transmission outages on generators and generator outages on transmission.
- Other analysis of renewable resources as related to reliability.

- c. *How the availability of the data or information is necessary for NERC to meet its obligations under applicable laws and agreements.*

NERC’s mission is to ensure the reliability of the North American BPS. With that responsibility, NERC and its stakeholders require high quality, accurate data provided in a timely fashion to assess projected BPS reliability and analyze its ongoing performance for individual, regional and interconnection-wide planning. The increasing capabilities of renewable generating plants requires that industry gain experience with technology behavior, operating characteristics, and optimal planning approaches in order to properly assess the reliability and improve performance analysis. It is essential that NERC have plant, event, and performance

data for photovoltaic and wind generation to combine with conventional generation to obtain a more complete evaluation of the performance of generation's contribution to BPS reliability.

- ii. *A description of how the data or information will be collected and validated.*

The proposed GADS Solar Data Reporting Instructions, available at <https://www.nerc.com/pa/RAPA/PA/Pages/Section1600DataRequests.aspx> provides details on the types of data collected, the specific fields and data formats for each type of data, reporting instructions and examples. Data will be collected in an electronic file format through a data reporting system to be developed.

- iii. *A description of the entities (by functional class and jurisdiction) that will be required to provide the data or information ("reporting entities").*

Generator Owners on the NERC registered entities list that operate photovoltaic plants with a total installed capacity of 20 MW or greater that began commercial operation on January 1, 2010 or later, regardless of interconnection type.

- iv. *The schedule or due date for the data or information.*

The proposed reporting schedule includes the following phased-in approach:

- a. July 1, 2023- December 31, 2023: Voluntary reporting, subject to availability of a data collection system
 - b. 2024: Mandatory reporting for photovoltaic plants with a total installed capacity of 50 MW or greater, regardless of interconnection type
 - c. 2025: Mandatory reporting for photovoltaic plants with a total installed capacity of 20 MW or greater, regardless of interconnection type
- v. *A description of any restrictions on disseminating the data or information (e.g., "confidential," "critical energy infrastructure information," "aggregating" or "identity masking").*

In accordance with Section 1500 of NERC's Rules of Procedures, all detailed data reported will be treated as confidential and will only be presented publicly in aggregated and summarized form.

- vi. *An estimate of the relative burden imposed on the reporting entities to accommodate the data or information request.*

The burden for reporting will include preparation of required monthly data to be uploaded to NERC on a quarterly basis. An initial period for setting up the data in the requested format will likely be necessary. This is consistent with current GADS data reported to NERC since 2012 and GADS Wind reporting since 2018.

b. Data Requested for GADS-W

i. *Explain the nature of the modifications.*

To align with the proposed reporting requirements requested for photovoltaic generation, wind turbine plants will be required to report on connected energy storage equipment at each plant, provide detailed reporting for events resulting in a loss of 20 MW or more at the plant level, provide required EIA codes and other configuration data for each subgroup/plant, as applicable.

The proposed changes are provided in the red-line version of the GADS Wind Data Reporting Instructions at: <https://www.nerc.com/pa/RAPA/PA/Pages/Section1600DataRequests.aspx>

The redlined GADS-W documents may be found in the section on the page labeled “**Reference Materials for Section 1600 Data Requests Available for Public Comment**”.

ii. *Provide an estimate of the burden imposed on the reporting entities to accommodate the modified data or information request.*

GADS User Group members who report wind data have indicated that the incremental reporting requirements will have minimal impact to the current reporting activities. The GADS User Group and industry stakeholders developed the incremental reporting requirement for event reporting for GADS-W and GADS-PV to limit the volume of event reporting to only events that reach a specific threshold determined as impactful to the Bulk Electric System. Additional effort may be required by registered entities to modify automated systems that prepare the additional data for reporting.

iii. *Explain any other items from paragraph 1.1 that require updating as a result of the modifications.*

The changes proposed for GADS-W will become effective beginning January 1, 2024.

c. Data Requested for GADS Conventional

i. *Explain the nature of the modifications.*

The proposed changes extend GADS reporting to include limited unit design data that will be used for expanded analysis of the performance of generation by unit type. The proposed worksheet templates available at: <https://www.nerc.com/pa/RAPA/PA/Pages/Section1600DataRequests.aspx> include the fields of design data that will be collected for all units, plus fields specific to each unit type.

An additional event cause field, called Contributing Operating Conditions, will complement event reporting to capture detail related to circumstances that caused an outage. Currently outage cause codes typically reflect the equipment that caused the outage. This information is necessary to improve NERC’s ability to conduct detailed analysis to evaluate whether certain types of unit configurations or key operating components may be impacted by operating conditions such as extreme weather.

The proposed changes are provided in the red-line version of the GADS Data Reporting

Instructions available at:

<https://www.nerc.com/pa/RAPA/PA/Pages/Section1600DataRequests.aspx>

The proposed and or redlined GADS documents may be found in the section on the page labeled “**Reference Materials for Section 1600 Data Requests Available for Public Comment**”.

- ii. *Provide an estimate of the burden imposed on the reporting entities to accommodate the modified data or information request.*

GADS reporting requires a subset of operational information collected by Generator Owners, therefore the expected impact of requesting this data field is minimal.

Design data will be collected at the time that a new unit is added and will be reviewed on an annual basis as part of the unit review. For units already reporting to GADS, an initial reporting period will be required to collect the design data. Following the initial reporting period, design data will become part of the existing annual review cycle of units. GADS User Group members who report into GADS have indicated that the one-time reporting and subsequent periodic review or updates associated with the requested unit design data do not present an ongoing burden.

The additional event cause field will be included with each event record.

- iii. *Explain any other items from paragraph 1.1 that require updating as a result of the modifications.*

The changes proposed for unit design data will become effective beginning January 1, 2024.

IV. Comment Questions

While each commenter is not restricted in the format of their comments, your answers to the following questions would be appreciated:

1. *If you are a generator owner on the NERC Compliance registry, do you currently collect this type of data for operation of your generating plants?*
 - a. *GAD-PV*
 - b. *GADS-W*
 - c. *GADS Conventional*
2. *Is the data requested reasonable and obtainable? If “no,” please explain.*
 - a. *GAD-PV*
 - b. *GADS-W*
 - c. *GADS Conventional*
3. *Is the implementation schedule for the request reasonable? If “no,” please explain.*
 - a. *GAD-PV*
 - b. *GADS-W*
 - c. *GADS Conventional*

4. *Please provide any other comments you may have about this data request.*

Comments are due by 8:00 p.m. EST on _____ and must be submitted in an electronic document to gads@nerc.net A comment form is available at: <https://www.nerc.com/pa/RAPA/PA/Pages/Section1600DataRequests.aspx> If you have any questions, please contact Donna Pratt at (404) 446-9789 or by e-mail at Donna.Pratt@nerc.net

Sincerely,

John Moura
Director, Reliability Assessments and Performance Analysis