UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

North American Electric Reliability Corporation	**)**	**Docket No. RD22-4-000**

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION REQUEST FOR APPROVAL OF PROPOSED REVISIONS TO THE RULES OF PROCEDURE TO ADDRESS UNREGISTERED INVERTER BASED RESOURCES AND REQUEST FOR EXPEDITED REVIEW

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On November 17, 2022, the Federal Energy Regulatory Commission ("FERC" or "Commission") issued an order ("IBR Order") directing the North American Electric Reliability Corporation ("NERC") to file a Work Plan within 90 days to address Registration of Inverter-Based Resources ("IBRs").[1] The Commission stated that the Work Plan should detail how NERC plans to identify and register owners and operators of IBRs that are interconnected to the Bulk-Power System ("BPS"), but are not currently required to register with NERC under the bulk electric system ("BES") Definition (hereafter, "non-BES IBRs").[2] NERC submitted its Work Plan in February 2023, as amended in March 2023. The Commission approved the Work Plan on May 18, 2023.[3] NERC has filed Work Plan updates every 90 days thereafter.

NERC's Work Plan explained its plan to modify NERC rules to address non-BES IBRs through revisions to the Rules of Procedure ("ROP"). In accordance with the Work Plan and Work Plan updates, since the Commission's IBR Order, NERC has worked with the six Regional Entities[4] (together with NERC, the ERO Enterprise) and stakeholders to develop revisions to

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1 *Registration of Inverter-Based Resources,* 181 FERC ¶ 61,124 (2022) [hereinafter *IBR Order*].

2 As reflected in the IBR Order and ERO Enterprise prior filings before the Commission, the BES is a subset of the broader BPS.

3 *Order Approving Registration Work Plan*, 183 FERC ¶ 61,116 (2023) [hereinafter *Work Plan Order*].

4 The Regional Entities are (i) Midwest Reliability Organization ("MRO"); (ii) Northeast Power Coordinating Council, Inc. ("NPCC"); (iii) ReliabilityFirst Corporation ("ReliabilityFirst"); (iv) SERC Reliability

Appendix 2 (Definitions Used in the ROP), Appendix 5A (Organization Registration and Certification Manual), and Appendix 5B (Statement of Compliance Registry Criteria or the "Registry Criteria") of the ROP. Stakeholder collaboration included, for example, early coordination in the first quarter of 2023 with the Organization Registration and Certification Subcommittee ("ORCS") of the Compliance and Certification Committee ("CCC") and with the Solar Energy Industries Association ("SEIA"). Coordination continued throughout the groups such as the CCC, ORCS, SEIA, and NERC's Reliability and Security Technical Committee ("RSTC") throughout 2023 into 2024.

As detailed herein, NERC proposes to update the Generator Owner and Generator Operator ("GO" and "GOP") Registry Criteria to include a new category ("Category 2 GOs" and "Category 2 GOPs") of entities that own or operate non-BES inverter based generating resources that (i) either have or contribute to an aggregate nameplate capacity of greater than or equal to 20 MVA, (ii) connected through a system designed primarily for delivering such capacity to a common point of connection at a voltage greater than or equal to 60 kV. While the core of NERC's proposal is embedded within Appendix 5B of the ROP, it includes conforming changes to Appendices 2 and 5A, as well as edits to reduce the present summary of NERC history. NERC's technical analysis in support of the proposed revisions is attached as **Exhibit A.** This analysis includes: a) *Justification for Registry Criteria of non-BES Inverter-based Resources* ("Whitepaper") at **Exhibit A-1**; and the *Quick Reference Guide: Inverter-Based Resources Activities June 2023* ("Quick Resource Guide") at **Exhibit A-2**. These materials summarize several years of ERO Enterprise assessments regarding the risk to reliability associated with the transforming grid.

Corporation ("SERC"); (v) Texas Reliability Entity, Inc. ("Texas RE"); and (vi) Western Electricity Coordinating Council ("WECC").

Apart from these IBR-related updates to the ROP and clean-up revisions, NERC also proposes revisions to the definitions of: (i) Board of Trustees Compliance Committee ("BOTCC") under Appendix 2 to reflect NERC's creation of the Board-level Regulatory Oversight Committee ("ROC"); and (ii) Reserve Sharing Group in Appendices 2 and 5B for consistency with Reliability Standard Project 2022-01 Reporting ACE Definition and Associated Terms (Project 2022-01) filed with the Commission this March. *See* **Exhibit B Summary of Proposed Revisions**.

Draft revisions were posted for a 45 day public comment period between September 13th – October 30th, 2023 and a final draft was posted on January 22, 2024 along with Consideration of Comments. (See **Exhibits C and D**.) The final posting included clarifying revisions based on feedback and questions. In particular, the revisions clarified procedural mechanics associated with NERC's proposal. The substance of NERC's proposed Registry Criteria and the group of non-BES IBR entrants affected remained the same as what NERC previewed in its August 16, 2023 Work Plan update.[5] Between December 2023 through February 2024, NERC engaged in extensive stakeholder outreach to explain NERC's clarifying revisions, receive feedback, and discuss comparative advantages of different procedural approaches. On February 14 and 15, 2024, the NERC Board of Trustees ("Board") heard discussion of NERC's ROP proposal and stakeholder comment. The Board deferred a vote on the proposal to provide this additional opportunity for stakeholder feedback and allow time for the Board's careful consideration of the issues presented. On February 22, 2024, the NERC Board approved the ROP proposal for filing with the Commission.

[5] *See* August Work Plan Update at 2 (stating, "In particular, the draft ROP revisions would apply to non-BES IBRs that (1) aggregates nameplate capacity to 20 MVA and greater connected at a common point of connection; and (2) connected at a voltage of 60 kV and above.").

NERC respectfully requests that the Commission accept the proposed revisions to Appendices 2, 5A, and 5B to address non-BES IBRs that in aggregate materially impact reliability of the BPS.[6] The ERO Enterprise will continue to work on identifying new entrants by May of 2025 and registering new entrants by May of 2026 in accordance with the IBR Order and Work Plan. NERC requests a 30 day public comment period (concluding approximately April 19, 2024) and 60 day Commission review thereafter (concluding approximately June 19, 2024) to support expeditious execution of the ROP changes and provide greater certainty as NERC works with stakeholders on modifications to Reliability Standards that may apply to new entrants.[7] The requested review period would be in the public interest by supporting efficient and expeditious resolution of an identified risk to reliability. Expedited processing would also be consistent with the fact that NERC's outreach identified broad support for the registration thresholds and consistent with NERC's application of its full ROP development process to prepare these proposed revisions. NERC thanks the Board, Commission, other Governmental Authorities, and stakeholders across North America for their participation throughout this project.

I. EXECUTIVE SUMMARY

Over the past several years, the ERO Enterprise has issued and filed several assessments, whitepapers, Reliability Guidelines, and Standard Authorization Requests ("SARs") recognizing the transforming grid and need to modernize industry practices to successfully integrate IBRs in a manner that supports continued reliability, resilience, and security of the BPS. *See infra*, Section III. These findings reflect that the electric power grid in North America is undergoing a significant

[6] Please note, this proposal does not address IBRs connected to the local distribution system, and does not address distributed energy resources ("DERs") although the ERO Enterprise is examining potential impacts to BPS reliability associated with DERs.

[7] *Reliability Standards to Address Inverter-Based Resources*, Order No. 901, 185 FERC ¶ 61,042 (2023) [hereinafter Order No. 901].

transformation at an unprecedented pace of change. Particularly with regard to this proposal, advances in IBRs are having a major impact.

The *NERC Inverter-Based Resource Strategy* ("IBR Strategy")[8] described in the Quick Reference Guide established NERC's four pillared plan to address these needs. The fourth pillar is to pursue enhancements to the regulatory model under section 215 of the Federal Power Act ("section 215").[9] *See infra*, Section II (for discussion of the model). As described in NERC Staff's 2022 presentation to the RSTC, reflected in the Quick Reference Guide, IBR Strategy, and Whitepaper, a core identified issue has been the fact that 16% of materially impactful IBRs are not subject to registration and therefore compliance with NERC Reliability Standards as they are non-BES IBRs. *See infra* Sections III and V.A.

In November of 2022, the Commission highlighted the urgent need to expand the regulatory model to better welcome IBRs and their potential contributions towards BPS reliability. *See infra*, Section IV. The Commission explained, "despite the potential for IBRs to have a significant aggregate impact on the Bulk-Power System, many of the owners and operators of these individual resources are not required to register with NERC or comply with NERC's mandatory Reliability Standards."[10] The Commission's order further explained:

> In summary, events and disturbances have shown that IBRs, regardless of size and transmission or sub-transmission voltage, have a material impact on Bulk-Power System reliability. Further, while NERC recognizes that action is necessary to address the most common reliability issues posed by IBRs, these issues have not been resolved. Finally, even when NERC does address IBR-specific gaps through its Reliability Standards, until unregistered IBRs are registered, they will not be required to comply with the Reliability Standards.[11]

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8 *Inverter-Based Resource Strategy: Ensuring Reliability of the Bulk Power System with Increased Levels of BPS-Connected IBRs* (June 2022), https://www.nerc.com/comm/Documents/NERC_IBR_Strategy.pdf [hereinafter IBR Strategy].

9 16 U.S.C. § 824o [hereafter section 215].

10 IBR Order, at P 2; *see also* IBR Strategy at 8; and IBR Order at P 3.

11 IBR Order, at P 30.

In response to the Commission's directive and these findings, the ERO Enterprise has developed the proposed expansion of GO/GOP Registry Criteria to address non-BES IBRs. Applying the proposed criteria to these new Category 2 GOs/GOPs will ensure they are eligible for registration and will become subject to applicable Reliability Standards once projects developed in accordance with the Standard Processes Manual under Appendix 3A of the ROP come to fruition. These projects would include a Glossary alignment project as well as those associated with Order No. 901 directives.[12] *See infra*, Section V. NERC reached this proposal after considering alternatives such as revisions to the BES Definition or creation of a separate new function for IBRs. Interactive stakeholder feedback during this process was instrumental. NERC's procedural analysis reflected that revisions to the GO/GOP Registry Criteria as proposed would be the most effective and efficient approach in terms of addressing the reliability gap with minimized burdens for Registration implementation and Reliability Standards development. NERC's proposal is also consistent with the existing framework for the Registry Criteria which is based on function performed. *See infra*, Section V.B.

As the ERO, NERC recognizes the critical importance of ensuring identified entities are integrated smoothly and educated on the scope and role of the ERO Enterprise model. NERC is launching several initiatives to ensure industry and stakeholders are kept informed throughout the implementation of Registration changes. For example, NERC is developing an *IBR Registration Initiative Quick Reference Guide* to post on the new IBR Registration Initiatives webpage. This regularly updated visual dashboard will allow stakeholders to easily locate key project updates and resource documents. In addition, NERC will produce a quarterly progress report publicly posted and linked in the *IBR Registration Initiative Quick Reference Guide* to further facilitate

[12] Order No. 901; NERC, *Request for Approval of the Inverter Based Resources Work Plan and Request for Expedited Review*, Docket No. RD22-4-001 (Feb 15, 2023).

transparency and alignment. These progress reports will be in addition to the quarterly Work Plan updates due with the Commission. NERC will also produce additional resources and training material as needs are identified to help integrate new entrants into the broader ERO Enterprise model. NERC is committed to overseeing an effective, informed transition to maintain grid stability and reliability, ensure a strong security posture from this growing sector and achieve a resilient power system capable of meeting 21st Century energy demands. For these reasons, NERC respectfully requests that the Commission approve these proposed revisions to the ROP. Expanding the Registry Criteria to encompass non-BES IBRs will support their reliable integration into the BPS.

II. INTRODUCTION TO NERC AND THE REGULATORY MODEL

NERC's mission is to assure the effective and efficient reduction of risks to the reliability and security of the grid. When Congress enacted the Energy Policy Act of 2005[13] and section 215, it entrusted the Commission with: (i) approving and enforcing rules to ensure the reliability of the BPS; and (ii) certifying an ERO that would be charged with developing and enforcing mandatory Reliability Standards, subject to Commission approval, and assessing reliability and adequacy of the BPS in North America.[14] As reflected above, NERC accomplishes its mission with the support of the six Regional Entities. These six Regional Entities help the ERO Enterprise support reliability across differing interconnections with specific needs and characteristics.

Congressional and Commission statute and regulation reflect certification of an ERO subject to Commission oversight, consistent with submission of NERC's periodic Performance

[13] Pub. L. 109–58, title XII, §1211(b), Aug. 8, 2005, 119 Stat. 946.

[14] Section 215(a)(2). *See also* Section 215(c) (providing the ERO certification criteria). *See also* Pub. L. 109–58, title XII, §1211(b), Aug. 8, 2005, 119 Stat. 946 (clarifying, "[t]he Electric Reliability Organization… and any regional entity delegated enforcement authority… are not departments, agencies, or instrumentalities of the United States Government.").

Assessment. In 2006, the Commission certified NERC as the ERO pursuant to section 215.[15] Prior to that, Order No. 672 established regulations implementing section 215, including a process for periodic Performance Assessments that would examine how well the ERO is accomplishing its responsibilities.[16] The initial Performance Assessment was due three years after certification, with subsequent ones due on a five-year cycle. Order No. 672 also required that NERC and the Regional Entities submit a detailed annual budget and business plan filing each year for Commission approval, 130 days in advance of the ERO fiscal year.[17] The Commission also reviews and approves the Regional Delegation Agreements ("RDAs") between NERC and the Regional Entities every five years.[18] Through oversight conducted pursuant to the RDAs and NERC ROP, NERC evaluates Regional Entity performance and compliance with the ROP, Commission directives, RDAs, NERC policies or procedures, and guidance and direction issued by the NERC Board.

To address risks to reliability, the ERO Enterprise develops and enforces mandatory Reliability Standards. These Reliability Standards are developed using a results-based approach that focuses on performance, risk management, and entity capabilities. Reliability Standards apply to entities registered under the NERC Compliance Registry ("NCR") in accordance with the rules and criteria under the NERC ROP. However, as recognized in the IBR Order, "despite the potential for IBRs to have a significant aggregate impact on the Bulk-Power System, many of the owners and operators of these individual resources are not required to register with NERC or

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[15] The Commission certified NERC as the electric reliability organization ("ERO") in accordance with Section 215 of the FPA on July 20, 2006. *N. Am. Elec. Reliability Corp.*, 116 FERC ¶ 61,062 (2006), *order on reh'g & compliance*, 117 FERC ¶ 61,126 (2006), a*ff'd sub nom.* Alcoa, Inc. v. FERC, 564 F.3d 1342 (D.C. Cir. 2009).

[16] *Rules Concerning Certification of the Electric Reliability Organization; and Procedures for the Establishment, Approval, and Enforcement of Electric Reliability Standards*, Order No. 672, 114 FERC ¶ 61,104 at PP 183-191 [hereinafter Order No. 672], *order on reh'g*, Order No. 672-A, 114 FERC ¶ 61,328 (2006).

[17] 18 C.F.R. § 39.4.

[18] 18 C.F.R. § 39.8. A delegation agreement shall not be effective until it is approved by the Commission.

comply with NERC's mandatory Reliability Standards."[19] This issue was also recognized in NERC's IBR Strategy discussed in Section III below. Thus, for NERC Reliability Standards to apply to IBRs that in aggregate materially impact reliability of the BPS, including those being modified per Order No. 901, NERC must first modernize its ROP to require registration.

III. ASSESSING THE RELIABILITY GAP ARISING UNDER GRID TRANSFORMATION AND CONCLUDING ACTION IS NECESSARY

For several years, the ERO Enterprise has been assessing the potential impact to reliability of the BPS associated with the transforming resource mix and increasing integration of IBRs. These assessments demonstrate that the increasing integration of IBRs is changing long-held assumptions regarding operation of the grid and creating new challenges that could pose risks to reliability if not managed. As a result, NERC issued its IBR Strategy and explained:

> The speed of this change continues to challenge grid planners, operators, protection engineers, and many other facets of the electricity sector. Implemented correctly, inverter technology can provide significant benefits for the BPS; however, the new technology can introduce significant risks if not integrated properly. Based on recent analysis, these are high impact and high likelihood events that require substantive action by the ERO as called out by the NERC Framework to Address Known and Emerging Reliability and Security Risks (NERC Risk Framework).[20]

ERO Enterprise reliability assessments demonstrate that the North American electric power grid is facing new challenges due to increasing levels of IBRs. The assessments highlight that improper planning and operation of IBRs can pose a significant risk to BPS reliability. ERO Enterprise assessments are summarized in NERC's Quick Reference Guide. It includes a summary of eight disturbance reports dating as early as an analysis of the event known as the Blue Cut Fire Event of 2017 and continuing through the Odessa Event of 2022. The Quick Reference Guide also describes the three Alerts issued so far to provide industry with recommendations to address issues

[19] IBR Order at P 2; *see also* IBR Strategy at 8; and IBR Order at P 3.
[20] *See* IBR Strategy at 1.

associated with IBR performance and impacts on BPS reliability. In addition, the Quick Reference Guide summarizes the five Reliability Guidelines and seven Whitepapers developed under the NERC RSTC or ERO Enterprise to document issues associated with IBRs, including those not subject to registration. Finally, the Quick Reference Guide documents several efforts to revise Reliability Standards to address IBRs, including those which will support activities in response to the Commission's Order No. 901 directives. The Quick Reference Guide discusses several of the various groups across the ERO Enterprise and RSTC involved in analyzing issues associated with IBRs. NERC has also supported Commission activities to modernize its interconnection agreements and procedures.[21]

Each event summarized in the Quick Reference Guide has identified new performance issues, such as momentary cessation, unwarranted inverter or plant tripping issues, and controller interactions and instabilities. The ERO Enterprise non-mandatory risk mitigation measures described above have been inconsistently adopted by industry. This is also the case for non-BES IBRs not subject to Reliability Standards unless the ROP is revised. NERC has observed, for example, that although its *Reliability Guideline: Improvements to Interconnection Requirements for BPS-Connected Inverter-Based Resources* is influential and a pillar for IEEE 2800-2022,[22] applicable entities continue to rely primarily on the Commission's *pro forma* interconnection agreements with only some modifications. As a result of this incomplete adoption of voluntary measures, the IBR Strategy pursues reliability for an evolving BPS under an approach that

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[21] *Comments of the North American Electric Reliability Corporation, Midwest Reliability Organization, Northeast Power Coordinating Council, Inc., ReliabilityFirst Corporation, SERC Reliability Corporation, Texas Reliability Entity, Inc., and Western Electricity Coordinating Council on the Notice of Proposed Rulemaking*, Docket No. RM22-14-000 (Oct. 13, 2022); *see also Improvements to Generator Interconnection Procedures and Agreements*, Notice of Proposed Rulemaking, 179 FERC ¶ 61,194 (2022).

[22] IEEE 2800-2022, *IEEE Standard for Interconnection and Interoperability of Inverter-Based Resources (IBRs) Interconnecting with Associated Transmission Electric Power Systems*, https://standards.ieee.org/ieee/2800/10453/. IEEE is a leading developer of international standards that underpin many of today's telecommunications, information technology, and power-generation products and services.

includes: (i) risk analysis, (ii) interconnection process improvements, (iii) best practices and education, and (iv) regulatory enhancements to NERC rules and procedures.[23] NERC's IBR Strategy recognized that registration and NERC rules would need to be updated to ensure that Reliability Standards could apply to non-BES IBRs that would materially impact reliability.[24]

At the September 2022 RSTC Meeting, following the plan outlined in the IBR Strategy, NERC Staff presented BPS generation trend analysis that reflected ERO Enterprise findings regarding gaps in Reliability Standard coverage associated with the evolving resource mix. This analysis is built upon the various and widespread assessments and studies summarized in the Quick Reference Guide. NERC Staff's presentation summarized ERO Enterprise findings regarding:

- Continued growth in nonsynchronous resources;
- Different responses to disturbances and dynamic conditions between nonsynchronous and synchronous resources;
- Lack of industry implementation of NERC recommended action to mitigate risks; and
- The ability of several regions to manage continuous penetration in their resource mix of nonsynchronous resources at a level greater than 60% and instantaneous penetration as high as 98%.[25]

ERO Enterprise Staff completed a comprehensive review of: (i) disturbance and event reports; (ii) Reliability Guidelines; (iii) Reliability Standards; (iv) resource adequacy reports; (v) weather dependence of available nameplate capacity; and (vi) whitepapers.[26] In addition, the team evaluated BPS trends data based on Energy Information Administration Form 860s submitted between 2017-2021 for generation greater than 1 MW and connected at 40 kV and above. Such data comprised assets within the NERC bright-line BES Definition and the greater BPS that falls within NERC's full scope of authority under section 215.

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[23] IBR Strategy, *supra* note 8.

[24] The IBR Strategy focused on BES Definition and registration changes. These avenues were analyzed consistent with the discussion in Section VII below. The ROP proposal herein reflects the update of this strategy.

[25] *Assessment of Generation Trends Across the BPS*, Agenda Item 9 (Sept. 14, 2022) at slide 2, https://www.nerc.com/comm/RSTC/AgendaHighlightsandMinutes/RSTC_Meeting_September_14_2022_Presentations.pdf [hereinafter BPS Trend Analysis].

[26] *Id.* at slide 3.

This BPS trend analysis confirmed the increasing gap between Reliability Standards coverage and facilities that could impact reliability. For example, the ERO Enterprise verified that approximately 97% of synchronous BPS assets overlap with the scope of the BES Definition and, therefore, Reliability Standards. However, the number of nonsynchronous resources has grown such that only 84% of these BPS facilities overlap with the scope of the BES Definition and are subject to Reliability Standards. In other words, while only 3% of synchronous BPS assets are not subject to NERC Reliability Standards, 16% of nonsynchronous resources appear not subject to Reliability Standards. *See* fig. 1 below.[27] This 16% is expected to grow, while ERO Enterprise disturbance reports, alerts, guidelines, and other deliverables summarized in the Quick Reference Guide have highlighted that abnormal IBR performance issues pose a significant risk to BPS reliability unless addressed. Each event analyzed has identified new performance issues, such as momentary cessation, unwarranted inverter or plant-level tripping issues, controller interactions and instabilities, and other critical performance risks that must be mitigated. However, the ERO Enterprise's BPS trend analysis demonstrated that although the evidence reflects the material impact that these smaller IBRs facilities have in aggregate on reliability of the BPS, they and their owners/operators will not be subject to Reliability Standards until NERC's registration rules are revised to take them into account.

IV. THE COMMISSION'S DIRECTIVE TO ADDRESS NON-BES IBRS AND ROP REVISION DEVELOPMENT PROCESS

In the November 2022 IBR Order, the Commission stated that it, "find[s] it necessary to ensure that NERC register the owners and operators of those unregistered IBRs that, in the aggregate, have a material impact on Bulk-Power System reliability…."[28] The Commission later

[27] *Id.* at slide 6.
[28] IBR Order at P 31.

added, "we find that unregistered IBRs connected to the Bulk-Power System, regardless of size and transmission or sub-transmission voltage, that in the aggregate have a material impact on Bulk-Power System performance should be registered."[29] The Commission determines:

> Therefore, we direct NERC to develop and file a work plan within 90 days of the date of this order explaining how it will identify and register unregistered IBRs that, in the aggregate, have a material impact on the reliable operation of the Bulk-Power System, but that are not currently required to be registered with NERC under the BES definition. The work plan should explain how NERC will modify its processes to encompass unregistered IBRs (whether by working with stakeholders to change the BES definition, changing its Rules of Procedure related to registration, or some other solution) within 12 months of approval of the work plan. The work plan should also include implementation milestones ensuring that unregistered IBR owners and operators meeting the new registration criteria are identified within 24 months of the approval date of the work plan, and that they are registered and required to comply with applicable Reliability Standards within 36 months of the approval date of the work plan. The work plan will be noticed for public comment.[30]

In the Work Plan Order the Commission later stated, "[w]e approve NERC's work plan to modify its Rules of Procedure and Registry Criteria to identify and register owners and operators of unregistered IBRs connected to the Bulk-Power System."[31]

Throughout 2023, the ERO Enterprise engaged in extensive stakeholder outreach and posted proposed revisions to the NERC Registry Criteria. Consistent with NERC's summary of activities in its Work Plan updates, this development process went through several stages. As a preliminary stage, early in 2023, NERC met with an informal advisory group of industry stakeholders with diverse perspectives to gather initial thoughts regarding potential responses to the IBR Order. Thereafter, NERC solicited stakeholder feedback on its initial Work Plan parameters through discussion with stakeholders during the regular course of business and through an informal comment process with the CCC and its ORCS. NERC also held a conversation with

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29 *Id.* at P 32.
30 *Id.* at P 33.
31 Work Plan Order at P 24.

SEIA on August 3, 2023 and requested feedback. NERC presented earlier draft ROP revisions to the CCC and its ORCS on July 19, 2023 followed by an informal comment period.

NERC's August 2023 Work Plan update explained that based on its analysis and this collaboration, it planned to post draft ROP revisions for public comment on the NERC website. Between September 13, 2023 – October 30, 2023, NERC posted its draft revisions to the ROP for a 45 day public comment period, in accordance with the ROP development process. Additional conversations occurred with stakeholders thereafter, including, for example, the following:

- September 28, 2023, NERC staff presented on the IBR Work Plan to the Western Interconnection Compliance Forum ("WICF") New Standards Implementation Focus Group Meeting.
- October 4, 2023, NERC staff presented to the WICF-NSI IBR Focus Group Meeting.
- October 5 and October 13, 2023, NERC staff met with SEIA to discuss the draft.
- October 10-12, 2023, NERC hosted the North American Generator Forum Annual Compliance Conference at its Atlanta office and presented the IBR Work Plan.
- October 11-12, 2023, NERC staff presented the proposed ROP at the CCC and ORCS.
- October 19, 2023, NERC staff presented an update on the Work Plan and its Canadian impacts to the Canadian Association of Members of Public Utility Tribunals.

Between October 31, 2023 and January 22, 2024, NERC reviewed comments, updated its proposal to clarify matters raised in comments, and discussed its proposal with stakeholders, including at the January 24, 2024 ORCS meeting. Many of the conversations toward the turn of 2023-2024 examined the mechanics discussed in Section V.B. below. On January 22, 2024, NERC posted final draft clean and redline copies of proposed revisions to the ROP as well as Consideration of Comments (all attached as **Exhibits C-E** hereto). At the February 14 and 15, 2024 NERC Board meetings, the Board heard substantive discussion from stakeholders regarding the proposed ROP revisions.[32] On February 22, 2024, after careful consideration, the Board approved NERC's proposed ROP revisions for filing with the Commission.

[32] Policy Input was also submitted for discussion at the Member Representatives Committee meeting that week and is posted on NERC's website at

V. PROPOSED MODIFICATION OF APPENDICES 2, 5A, AND 5B OF THE ROP TO UPDATE GO AND GOP REGISTRY CRITERIA

As discussed above and Section V.B. below, throughout 2023 the ERO Enterprise developed revisions to the ROP in coordination with stakeholders to address the Commission's directive. Based on this development process, NERC proposes to revise Appendix 5B Registry Criteria to update the GO and GOP Registry Criteria to reflect entities that own or operate non-BES IBR resources that: (i) have or contribute to an aggregate nameplate capacity greater than or equal to 20 MVA; (ii) connected through a system designed primarily for delivering such capacity to a common point of connection at a volage greater than or equal to 60 kV.

Registry Criteria for a class of entities based on material impact in aggregate to reliability of the BPS is consistent with established Commission precedent and operation of Registration processes. As stated in the proceeding which led to risk-based registration revisions in 2015, NERC's "Registry Criteria provide that a class of entities, each of which would be individually excluded, may nevertheless be registered based on their aggregate impact on Bulk-Power System reliability.[33] In addition, in that same 2015 proceeding discussing the NERC-Led Registration Review Panel process, the Commission also provided:

> we conclude that the NERC-led panel must consider both individual and aggregate system-wide risks when reviewing a registry matter. We agree with PSEG Companies that consideration of the aggregate risk of a possible entity deregistration, including the possible cumulative effect of multiple deregistrations, is fundamental to ensuring that panel decisions do not lead to increased risk to the reliability of the bulk electric system.[34]

The core of NERC's proposal is copied immediately below from Appendix 5B and is intended to address non-BES IBRs that in aggregate materially impact the reliability of the BPS.

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https://www.nerc.com/gov/bot/Agenda%20highlights%20and%20Mintues%202013/Q1-Input-Letter-Package-February-2024-PUBLIC-POSTING.pdf.

[33] *North American Electric Reliability Corporation*, 150 FERC ¶ 61,213 at P 58 (2015).

[34] *Id.* at P 68.

Generator Operator	GOP	The entity that: 1) operates generating Facility(ies) and performs the functions of supplying energy and Interconnected Operations Services (Category 1 GOP); or 2) operates non-BES inverter based generating resources that either have or contribute to an aggregate nameplate capacity of greater than or equal to 20 MVA, connected through a system designed primarily for delivering such capacity to a common point of connection at a voltage greater than or equal to 60 kV (Category 2 GOP).
Generator Owner	GO	The e~~E~~ntity that: 1) owns and maintains generating Facility(ies) (Category 1 GO); or 2) owns and maintains non-BES inverter based generating resources that either have or contribute to an aggregate nameplate capacity of greater than or equal to 20 MVA, connected through a system designed primarily for delivering such capacity to a common point of connection at a voltage greater than or equal to 60 kV (Category 2 GO).

***Excerpt of Appendix 5B**

As indicated, conforming revisions are also proposed to ensure that Appendices 5A and 5B clearly reflect that owners, operators, or users of the BPS are candidates for Registration and eligible for ROP Registration processes. For example, BPS replaced references to BES at Appendix 5B notes providing a list of non-exclusive factors in a NERC-Led Registration Review Panel process for determination of material impact.

NERC's proposed updates to the ROP to better address IBRs integrated as part of the modern grid are based on: (i) technical analysis on the proposed materiality thresholds examined in coordination with stakeholders regarding which non-BES IBRs are in aggregate material to reliability of the BPS (*see infra*, Section V.A.); and (ii) analysis as to which approach to incorporating those substantive thresholds would be most effective and efficient from a procedural perspective (*see infra,* Section V.B.). Each of these analyses are detailed in this section as justification in support of NERC's proposal as a just and reasonable approach to expeditiously modernize the regulatory model to better support the IBR integration with the BPS in a manner that supports a reliable, modern grid.

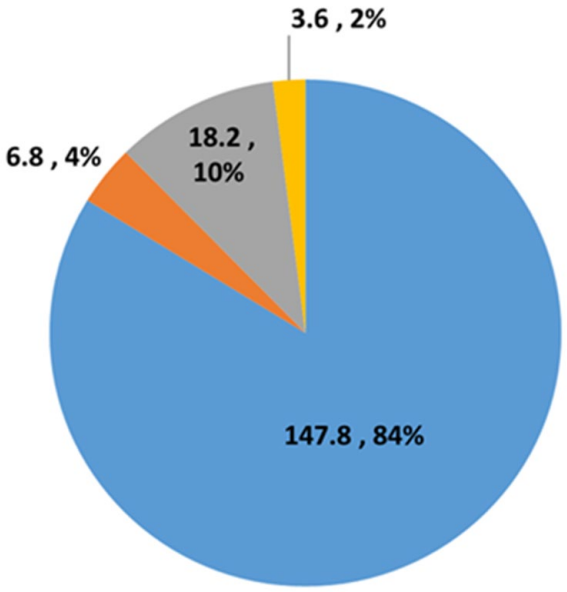
A. TECHNICAL ANALYSIS IN SUPPORT OF PROPOSED REGISTRY CRITERIA

NERC's proposed revisions to the GO/GOP Registry Criteria ROP reflect two materiality thresholds for owners and operators of non-BES IBRs: 1) that nameplate capacity should aggregate to at least 20 MVA; and 2) that such capacity should be connected through a system designed primarily for delivering such capacity to a common point of connection at a volage greater than or equal to 60 kV. Industry has in general been supportive of the need to register owners and operators of IBRs which impact reliability of the BES. Comments throughout the development period on NERC's proposed criteria focused in several instances on seeking greater clarity on the mechanics of the draft and were evaluated as discussed in Section V.B. below. In addition, comments on the substance of the proposal can be described as follows: (i) largely supportive; (ii) instances of two entities that argued for a lower kV threshold; and (iii) comments by representatives of IBR owners and operators regarding a slower development process, recommendation for case-by-case analysis of materiality, or questions on availability of an exception process. *See* **Exhibit D**.

1. Aggregate Nameplate Capacity of Greater Than or Equal To 20 MVA at the Common Point of Connection

As discussed in the initial Work Plan filing and detailed in the Whitepaper which builds on ERO Enterprise analysis summarized in Section III above, NERC established a 20 MVA threshold after confirming that those non-BES IBRs impacting reliability are primarily 20 MVA or above. Similar research also contributed to NERC's earlier 2022 Generator Availability Data ("GADS") Section 1600 data request to address photovoltaic facilities. At the November 16, 2022 Board

meeting, the Board approved revisions to the GADS Section 1600 data request so that GADS would apply to Generator Owners that operate photovoltaic plants of 20 MW or greater.[35]



Gray
- < 75 MVA and ≥ 20 MVA, and
- Interconnected at a voltage > 100 kV
- 18.2 GW, or 10%

Orange
- ≥ 20 MVA, and
- Interconnected at a voltage <100 kV
- 6.8 GW, or 4%

Yellow
- < 20 MVA, and
- Interconnected at any voltage[36]
- 3.6 GW, or 2%

Blue
- >75 MW
- Interconnected at ≥100 kV and above

See **Exhibit A-1**, Whitepaper at Figure 1.

NERC also carefully considered comments regarding slowing down the updates to the ROP or applying more of a case-by-case application of materiality to owners and operators of non-BES IBRs. The technical analysis discussed in Section III above, however, demonstrates the careful and in-depth assessment of reliability impacts of lower-capacity IBRs and the urgency of the situation. The Commission recognized this urgency in Order No. 901 where it stated, "as a general matter, we believe that there is a need to have all of the directed Reliability Standards effective and enforceable well in advance of 2030, at which time IBRs are projected to account for a

[35] A similar threshold was not seen as necessary for wind facilities, as they were primarily built at 75 MW or above. *See* NERC Board of Trustees Meeting, Agenda Item 7c (Nov. 16, 2022), https://www.nerc.com/gov/bot/Agenda%20highlights%20and%20Mintues%202013/Board_Meeting_November_16_2022_Agenda_Package_ATTENDEEv2.pdf.

[36] The yellow slice increases about ½ percent of the aggregate nameplate capacity due to NERC setting the connection voltage to 60 kV and above.

significant share of the electric energy generated in the United States."[37] Slowing down implementation of ROP revisions or applying a case-by-case approach would undermine efficiently and effectively addressing this need. Moreover, clear brightline Registry Criteria supported by careful technical analysis will ensure transparent, consistent, predictable, just, and reasonable application of Reliability Standards to new registered entities. At the same time, NERC recognizes that facts and circumstances can differ and in the final ROP proposal reflected herein, NERC made edits to clarify that new entrants could seek to use the NERC-Led Review Panel process for seeking an exemption from registration.[38]

2. Capacity Connected at 60 KV and Above

Based on stakeholder feedback in this proceeding,[39] informal collaboration, and feedback through the CCC, ORCS, and SEIA, NERC proposes Registry Criteria applicable to owners and operators of non-BES IBRs with 20 MVA aggregate nameplate capacity connected at 60 kV and above. ERO Enterprise analysis determined that a 60 kV threshold was appropriate, because it would ensure that non-BES IBRs which are material to BES reliability are subject to registration while excluding IBRs that are a part of the distribution system ("IBR-DER"). In comments on NERC's Work Plan Filing and during stakeholder consultation, industry representatives stated that NERC should "consider and address how to 'aggregate' separate facilities for purposes of applying

[37] Order No. 901 at P 57.

[38] The submitting entity would bear the burden of proof. The Determination of Material Impact applies when an entity seeks a NERC-led Registration Review Panel to review its request for examination of registration based on material impact. As stated in Appendix 5A, "[t]he Panel shall also include a review of individual and aggregate system wide risks to, and considerations of, reliability of the BPS, as well as the BES Definition, as applicable." Appendix 5A, Section III(D). Any such request will be reviewed on a case by case basis in accordance with the Panel procedures set forth in Appendix 5A.

[39] *E.g.,* NRECA Comments at 10 ("NERC and stakeholders will be able to address how NERC's proposed registration function criteria for GO-IBRs interconnected at voltages less than 100 kV will be designed."); Indicated Joint Trade Associations Comments at 3 ("But the Work Plan's description of the GO-IBR category is not limited to BPS-connected IBRs… any new GO-IBR registration category can and should be framed in a way that does not inadvertently sweep in large numbers of IBR-DERs.").

the new rule."[40] In response to such feedback, NERC's draft ROP specified that the capacity must aggregate at a common point of connection at greater than or equal to 60 kV.[41] A voltage connection of 60 kV was selected as a just and reasonable approach to address material non-BES IBRs without creating undue burden or inadvertently registering owners and operators of distributed energy resources. On balance, as reflected in the Whitepaper, NERC's analysis indicated that using a lower kV threshold could lead to registration of up to 0.5% additional owners and operators of materially impactful non-BES IBRs. However, that 0.5% could include facilities on the local distribution system as well and would need to be carved out during a more labor intensive implementation of the Registry Criteria update that applied deeper analysis of those potential registrants to distinguish the BPS vs. local distribution nature of those assets.

The following graph demonstrates that the majority of impactful non-BES IBRs which were analyzed by the ERO Enterprise are connected at a voltage of 60 kV and above.[42] As discussed in the Whitepaper, "NERC determined that a connection voltage threshold of 60 kV and above is appropriate because BPS transmission below 60 kV is not generally designed to support aggregate generation of 20 MVA and greater."[43]

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40 NRECA Comments at 10.

41 Ownership would not be a condition of aggregation. Aggregation of capacity at a common point of connection would be consistent by way of analogy with how aggregate nameplate capacity is determined for dispersed power producing resources that fall within Inclusion I4 of the BES Definition.

42 The data in the graphs are based on publicly available Form 860 information reported to the U.S. Energy Information Administration. This data was analyzed to identify historical BPS resource capacity trends from individual generation units as well as aggregate plant data up to and including year 2021.

43 **Exhibit A-1** at 3.

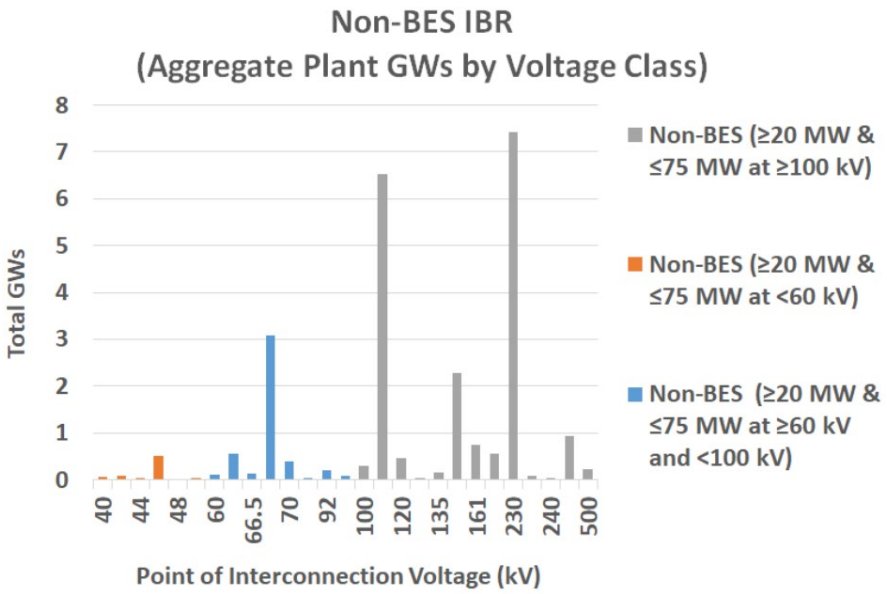


Exhibit A-1, Whitepaper at Figure 2.

Thus, when this 13.5% of additional IBR capacity is added to the 84% that is subject to applicable Reliability Standards at present, NERC's proposed criteria would still result in approximately 97.5% of IBRs becoming subject to NERC Registration and compliance with applicable Reliability Standards.[44] On balance, this appears a reasonable adjustment to avoid inadvertent registration of IBR-DERs while still addressing non-BES IBRs that in aggregate materially impact reliability of the BPS.

B. PROCEDURAL ANALYSIS SUPPORTING PROPOSAL TO MODIFY GO/GOP REGISTRY CRITERIA FOR CATEGORY 2 GO/GOP

NERC's proposal to modify the GO/GOP Registry Criteria to reflect Category 2 GOs/GOPs is based on careful consideration on the procedural mechanics of implementing the ROP revisions. NERC's September 2023 ROP posting reflected revisions to the GO and GOP Registry Criteria at Appendix 5B (with conforming revisions to Appendices 2 and 5A) to reflect a

[44] As noted above, Reliability Standards are being reviewed and modified in accordance with Order No. 901.

new type GO-IBR and GOP-IBR with the detailed thresholds present in a Registry Criteria subsection.[45] Comments indicated that this approach was confusing, leading NERC's final posting in January of 2024 to more clearly embed the proposed materiality thresholds within the GO/GOP Registry Criteria and rename the proposed entrants as Category 2 GOs/GOPs. In deciding upon this structure, NERC considered two alternatives which were proposed by commenters as discussed at the February 2024 Board Meeting. These two proposals were to either modify the BES Definition under the NERC Glossary under a Reliability Standards project; or to create a fully new independent function for owners and operators of the non-BES IBRs. Stakeholder feedback played a crucial role during the evolution of NERC's ROP revision analysis. All three paths were evaluated based on which approach would result in the optimum level of efficiency and effectiveness toward addressing the reliability gap discussed in Section III above and taking into account industry and ERO Enterprise resources.

To determine which alternative would lead to optimal results, NERC applied the following criteria to its decision-making process:

1. Minimize impact to Standards Development;
2. Speed to implement;
3. Minimize burden on Registered Entities; and
4. Minimize burden on ERO Enterprise Registration Staff.

In applying these criteria, NERC concluded that it should not develop revisions to the BES Definition to address unregistered IBRs. There were several reasons for this conclusion. First, since the early 2023 ad-hoc advisory group feedback on potential approaches to address unregistered IBRs through the February 2024 Board Meeting, NERC received divided opinion in industry as to whether BES Definition revisions would be appropriate or timely. Second, NERC

[45] This construct is similar to Underfrequency Loadsheding Distribution Providers ("UFLS-DPs") which are a subset of Distribution Provider.

received feedback that certain contractual obligations and terms and conditions could be impacted as a result of any change. Third, NERC observed that even under a concerted industry/ERO Enterprise wide effort the last changes to the BES Definition project required over two years to complete (not including the subsequent implementation period) and that this would cause difficulty and an undue delay in light of the urgency of the reliability issue assessed. Fourth, whether due to time or ripple effects, NERC identified that a BES Definition revision project could have unintended consequences on Reliability Standards projects (beyond considerations associated with IBRs). Finally, NERC identified that a BES Definition revision project could have unintended consequences on non-GO/GOP Registered Functions (such as Transmission Owners and Operators). These factors led NERC to determine that a BES Definition project would not be beneficial to addressing the reliability issue targeted in this proceeding. Also, the proposed Registry Criteria are designed to apply to owners and operators of non-BES facilities. However, NERC takes this opportunity to note that while it is not pursuing modifications to the BES Definition as part of Registry Criteria revisions, NERC does not intend to foreclose the possibility of stakeholders submitting a SAR associated with the BES Definition under the process applicable under the ROP Standard Process Manual. Rather, NERC has determined that it is not an efficacious approach to address the present registration matters in light of all the moving pieces.[46]

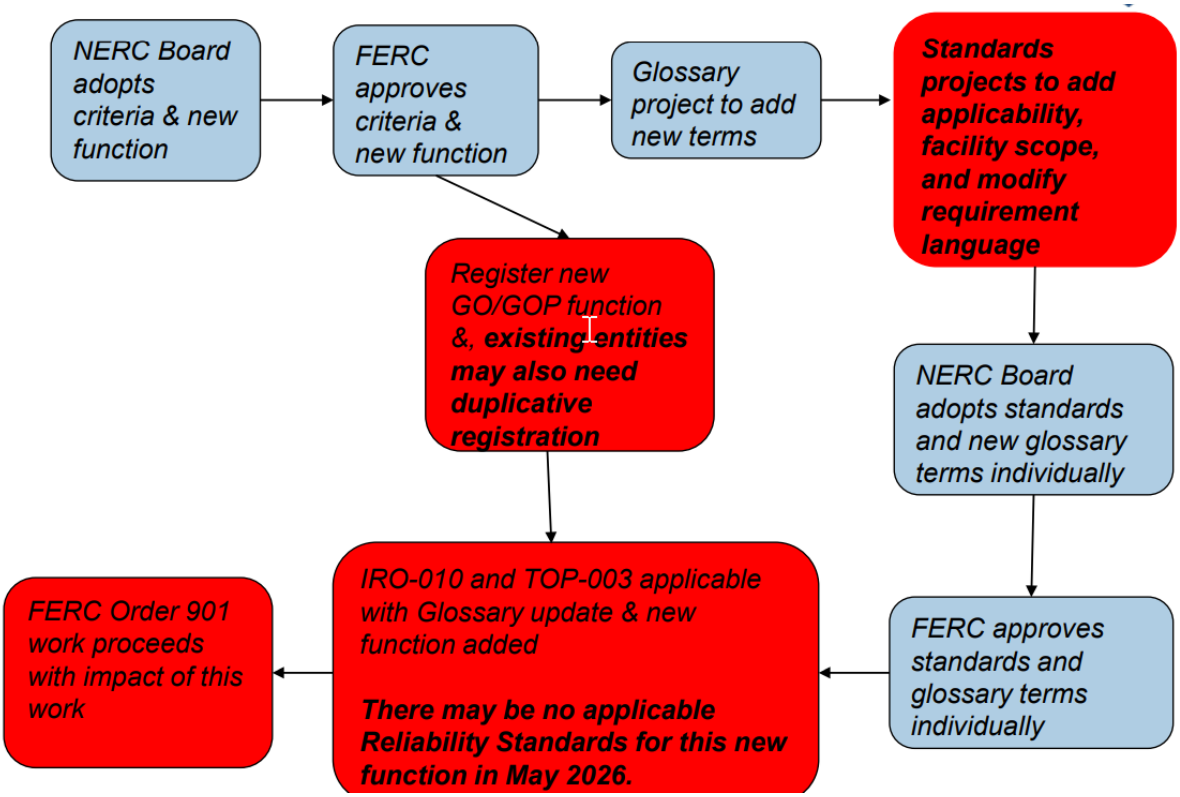
Whether to incorporate the proposed materiality thresholds into the GO/GOP Registry Criteria or to create fully independent, new, GO-IBR/GOP-IBR registered functions was a more difficult question. After careful consideration of the four criteria described above regarding potential impacts to Standards development, time to implement, burden on Registered Entities,

[46] The Commission stated in the Work Plan Order that NERC was not required to update the BES Definition as part of this project. The Work Plan Order stated, "We therefore decline to direct NERC at this time to include a consideration of its BES definition in its timetable or work plan." *See* Work Plan Order at P 43.

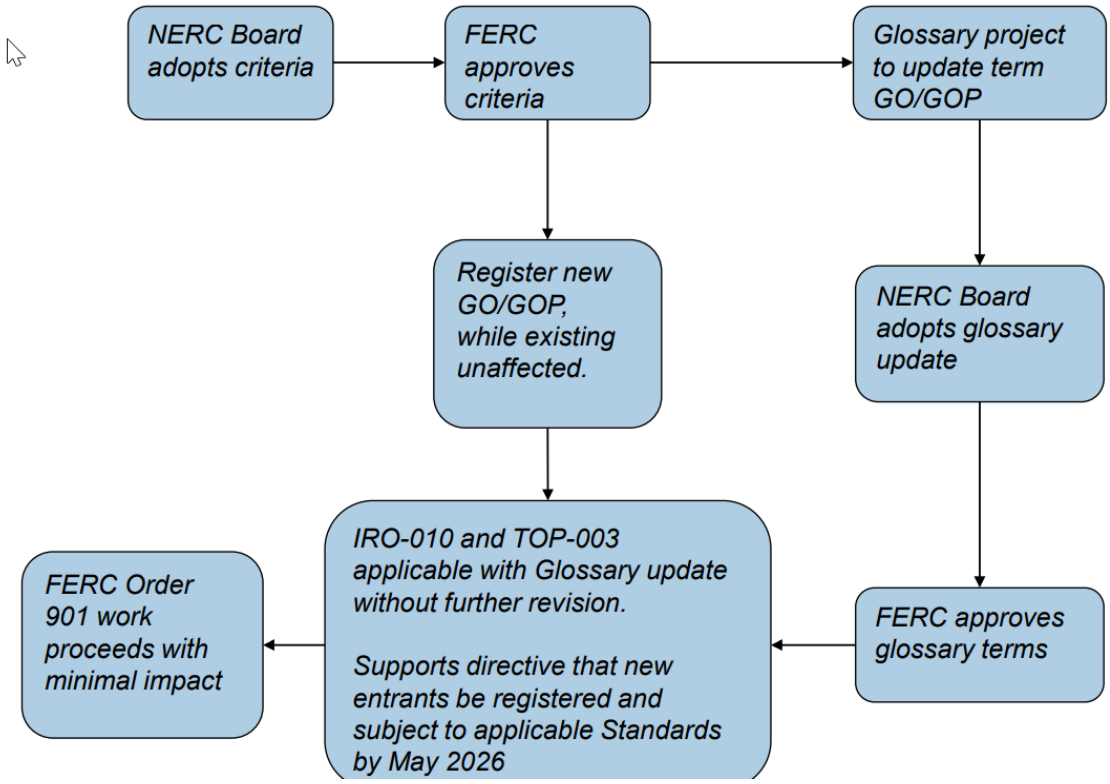
and burden on ERO Enterprise Registration staff, NERC concluded that fully independent, new, GO-IBR/GOP registered functions would undermine NERC and industry's responsibility to modernize the regulatory model and Reliability Standards to serve the modern grid. In particular, NERC identified that this alternative would provide uncertain additional benefit at the expense of additional burdens in Standards Development, registration implementation, and jeopardize NERC's ability to register new entrants and ensure they are subject to applicable Reliability Standards by May of 2026. In particular, under both approaches, NERC would need to implement a Glossary alignment Reliability Standards project, however, using a fully independent, new, registered function would introduce the need for additional revisions to Reliability Standards applicability and requirements. Further, it could result in duplicative registrations for existing Registered Entities. Finally, a fully independent, new, registered function would be contrary to the organization of the Registry Criteria which is based on the function an entity performs (ownership or operation of generation) as opposed to the fuel type.

The following diagrams illustrate the procedural impacts of either approach and the costs associated with fully independent, new, GO-IBR / GOP-IBR registered functions:

Procedural Flowchart Under Fully Independent, New, GO-IBR and GOP-IBR Registered Functions



Procedural Flowchart Under Proposed GO/GOP Registry Criteria Update



Procedural Comparison of the Two Alternatives

Modified GO/GOP Criteria	GO/GOP IBR Function
Existing GO/GOPs unaffected. Registration database will track category(ies) to which individual GO/GOP belongs	Existing GO/GOPs with IBRs will need to register for duplicative function, to the extent that they have facilities that meet GO/GOP IBR criteria
Clearly identifies new registrants as GO/GOP	Will increase documentation burden and depart from existing registration framework
Minimizes standards modifications (only change facility applicability, requirement language unaffected)	All requirements applicable will have to be modified as well as applicable entities and facilities
By reducing number of changes, improves likelihood of a small set of Reliability Standards applicable by May 2026	Impairs likelihood of any applicable Reliability Standards for the new function by May 2026
Glossary term project	Glossary term project
Does not preclude "subset list" approach	Not needed

After consideration of these factors, NERC proposes to modify the GO/GOP Registry Criteria to reflect a new category of owners and operators of non-BES IBRs that in aggregate materially impact reliability of the BPS per the criteria reflected. NERC's careful consideration of these factors led it to conclude that the proposed construct would be the most effective and efficient approach to integrate new entrants into the section 215 regulatory model, support registration, and support modernization of Reliability Standards consistent with the need recognized in Order No. 901. NERC reviewed feedback and discussed these comparative advantages with stakeholders between December 2023 through February 2024. During the week of first quarter Board meetings, on February 14 and 15, 2024, the Board heard discussion of NERC's proposal and stakeholder comment. The Board decided to delay a vote on NERC's proposal until after this discussion to provide this additional opportunity for stakeholder feedback and ensure adequate time for the Board's careful consideration of all issues raised. The Board voted on NERC's proposal on February 22, 2024.

NERC remains committed to a comprehensive communications strategy to implement its ROP proposal. Between December 2023 – February 2024, NERC identified opportunities to improve its existing outreach. NERC's updated communications strategy began being rolled out on February 29, 2024 and is designed to ensure coordination with existing entities and new entrants to support the transition, provide education on the ERO Enterprise, and encourage participation. NERC anticipates holding small group advisory sessions, as well as webinars and developing a "one-stop-shop" online reference for applicable Reliability Standards and Reliability Standards under development. Quarterly Work Plan updates will provide additional information to stakeholders and NERC will provide periodic reports at Board meetings.

VI. OTHER REVISIONS TO CONFORM WITH OTHER ACTIVITIES

In addition to these proposed revisions to better address IBRs, NERC takes this opportunity to propose the following additional reform to conform with other activities. First, in Appendix 2, NERC proposes to revise the definition of the BOTCC to reflect that it intends to encompass the Compliance Committee of the NERC Board of Trustees *or its successor*. This will ensure that in areas of the ROP where BOTCC is mentioned it is understood to include the ROC which is now in place as successor to the BOTCC.[47] Second, in Appendix 5A, NERC proposes to add clarifying language that that *de novo* review applies to BOTCC (now ROC) review of Registration appeals consistent with existing practice. Third, NERC proposes to update the definition of Reserve Sharing Group ("RSG") under Appendices 2 and 5B to match that definition being proposed in Project 2022-01 as explained in NERC's filing under Docket No. RD24-6-000. Incorporating these revisions would support administrative efficiency and alignment between the ROP and NERC Glossary. Fourth, NERC has reduced references to history in Appendices 5A and 5B as no longer necessary. NERC has provided additional information regarding its development on its website. These clean up revisions were included in the ROP revision package posted for comment and approved by the Board on February 22, 2024.

VII. REQUEST FOR EXPEDITED REVIEW

NERC respectfully requests that the Commission issue a 30-day public comment period for this proposal (with comments due approximately April 19, 2024) and an expedited Commission review period for 60 days thereafter (approximately June 19, 2024). Expedited treatment would be in the public interest as necessary and appropriate to help facilitate efficient resolution of the

[47] NERC may make further changes throughout the ROP at another time to better reflect the ROC, however, this revision is intended as a placeholder until that time.

gap in Reliability Standards coverage identified as the resource mix transforms to include greater levels of BPS-connected IBRs.[48]

Expedited review and processing of this proposal is also appropriate in light of the broad consensus around the registration thresholds as well as the development process summarized in Section IV above. The ROP revision development process included stakeholder coordination through informal outreach and discussion at NERC standing committees as well as a public comment period and deliberative discussion at the February 2024 NERC Board meeting. As a result, expedited review would be consistent with due process.

VIII. CONCLUSION

For the reasons set forth above, NERC respectfully requests that the Commission approve the proposed revisions to Appendices 2, 5A, and 5B to address unregistered non-BES IBRs that in aggregate materially impact reliable operation of the BPS. In addition, NERC requests expedited public comment and review of its proposal to support efficient and effective resolution of the risks to reliability outlined in the IBR Order and support work on Reliability Standards.

Respectfully submitted,

/s/ Candice Castaneda

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Counsel for the North American Electric Reliability Corporation

Date: March 19, 2024

[48] *See Order Approving Cold Weather Reliability Standards*, 176 FERC ¶ 61,119 (2021) (approving NERC's Cold Weather Reliability Standards on an expedited basis after balancing due process with the public interest in having mandatory requirements in place as soon as reasonably possible as well as regulatory certainty to industry and potentially effected entities).

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Exhibit A

Technical Support for Proposal

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Exhibit A-1

Technical Support for Proposal

Justification for Registry Criteria of non-BES Inverter-based Resources

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Justification for Registry Criteria of non-BES Inverter-based Resources

January 2024

On May 18, 2023, the Federal Energy Regulatory Commission (FERC), issued an order (Order)[1] approving the North American Electric Reliability Corporation (NERC) Work Plan filed on February 15, 2023, and amended on March 13, 2023,[2] to address registration of Inverter-Based Resources (IBRs) that are connected to the Bulk-Power System (BPS) but not within NERC's definition of the Bulk Electric System (BES) (referred to hereafter as non-BES IBRs).[3] This document summarizes and adds additional justification to the white paper included in the March 13, 2023 filing.

According to the Work Plan, NERC plans to modify its process to address non-BES IBRs through changes to its Rules of Procedure (ROP) registration program. In particular, NERC proposes to revise its Registry Criteria under the ROP by including certain owners and operators of non-BES IBRs interconnected to the BPS as these resources have a material impact in aggregate on reliability of the BPS. To address the impact on reliability, the revised Registry Criteria would include owners and operators of non-BES IBRs that either have or contribute to an aggregate nameplate capacity of greater than or equal to 20 MVA connected through a system designed primarily for delivering such capacity to a common point of connection, at a voltage greater than or equal to 60 kV. By way of analogy, aggregation of capacity at a common point of connection would be consistent with how aggregate nameplate capacity is determined for dispersed power producing resources that meet Inclusion I4 of the BES Definition.[4]

As elaborated in the IBR Order, "[u]nregistered IBRs often have small individual generation capacities, are connected to the Bulk-Power System at less than 100 kV transmission or sub-transmission voltages, and in the aggregate do not meet one of the inclusions in the BES definition."[5] As the Commission concludes, "events and disturbances have shown that IBRs, regardless of size and transmission or sub-transmission voltage, have a material impact on Bulk-Power System reliability….until unregistered IBRs are registered,

[1] Order Approving Registration Work Plan, 183 FERC ¶ 61,116 (2023) [hereinafter Order]; and Registration of Inverter-Based Resources, 181 FERC ¶ 61,124 (2022) [hereinafter IBR Order] (directing the Work Plan).
[2] N. Am. Elec. Reliability Corp., Docket No. RD22-4-001 (Feb. 15, 2023) [hereinafter Work Plan Filing].
[3] See, NERC, Glossary of Terms Used in NERC Reliability Standards, (updated Mar. 29, 2022), https://www.nerc.com/pa/Stand/Glossary%20of%20Terms/Glossary_of_Terms.pdf (NERC Glossary). The BES definition is a subset of the BPS. Reliability Standards support an adequate level of reliability of the BES. Revisions to Elec. Reliability Org. Definition of Bulk Elec. Sys. & Rules of Proc., Order No. 773, 141 FERC ¶ 61,236 (2012), order on reh'g, Order No. 773-A, 143 FERC ¶ 61,053 (2013), rev'd sub nom. People of the State of N.Y. v. FERC, 783 F.3d 946 (2d Cir. 2015).
[4] E.g. NERC is continuing to evaluate the BES Definition and Reliability Standards generally, consistent with discussion in Docket No. RM22-12-000. NERC ROP revisions to the Registry Criteria would pertain to which users, owners, and operators of the BPS are candidates for registration; NERC Glossary of Terms – Bulk Electric System I4 (Dispersed power producing resources that aggregate to a total capacity greater than 75 MVA (gross nameplate rating), and that are connected through a system designed primarily for delivering such capacity to a common point of connection at a voltage of 100 kV or above. Thus, the facilities designated as BES are: a) The individual resources, and b) The system designed primarily for delivering capacity from the point where those resources aggregate to greater than 75 MVA to a common point of connection at a voltage of 100 kV or above.)
[5] IBR Order, at P 23. See also, id., at P 32-33.

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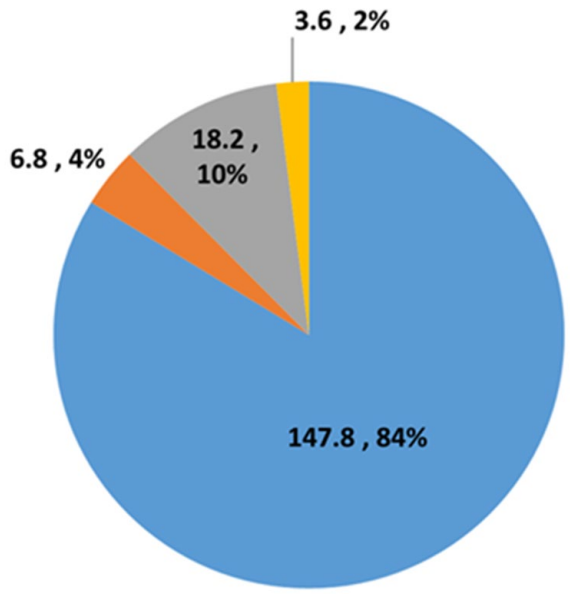
they will not be required to comply with the Reliability Standards."[6] Registering entities that own or operate non-BES IBRs will lead to application of results-based Reliability Standards that address specific matters pertaining to the impacts of IBRs on the reliable operation[7,8] of the BPS.[9] Consistent with expectations in the IBR Order and those in Order No. 901.[10] As a result, the proposal would support revisions under Order No. 901 associated with: (1) data sharing; (2) model validation; (3) planning and operational studies; and (4) performance requirements.

As described in prior NERC filings and summarized in the cover filing, evidence examined by NERC and the six Regional Entities (together the ERO Enterprise) over the 2017 – 2021 five-year period reveals that the total nameplate capacity supplied by conventional resources on the BPS has decreased by 29 GW and the total generation supplied by IBRs has increased by 73 GW. Thus, resulting in a significant shift in generating resources on the BPS from conventional resources to IBRs and that the percentage of IBR capacity (84%) subject to Reliability Standards is significantly lower compared to conventional resources (97%). Further, most of the non-BES BPS-connected IBR nameplate capacity not subject to Reliability Standards is a composition of plants with an aggregate nameplate capacity greater than or equal to 20 MVA and less than or equal to 75 MVA.[11]

Figure 1 illustrates this composition of aggregate non-BES BPS-connected IBR nameplate capacity as of 2021. The blue portion includes the existing IBRs that are applicable to Reliability Standards (i.e., "BES") totaling approximately 147.8 GW, or 84% of the total BPS-connected IBRs. The orange and gray portions of **Figure 1** represent 25 GW or 14% of all 2021 BPS-connected IBRs encompassed by the proposed Registry Criteria revisions that would become subject to Reliability Standards under the proposed revisions to the Registry Criteria. The expansion of Registry Criteria would increase the total capacity of BPS-connected IBRs subject to NERC Reliability Standards to 97.5%, commensurate with owners and operators of conventional resources (97%).

[6] IBR Order, at P 30.
[7] The FPA defines reliable operation as operating the elements of the Bulk-Power System within equipment and electric system thermal, voltage, and stability limits so that instability, uncontrolled separation, or cascading failures of such system will not occur as a result of a sudden disturbance, including a cybersecurity incident, or unanticipated failure of system elements. 16 U.S.C. 824o(a)(4); see also 18 CFR 39.1.
[8] As defined by the Glossary of Terms Used in NERC Reliability Standards, "Operating the elements of the [Bulk-Power System] within equipment and electric system thermal, voltage, and stability limits so that instability, uncontrolled separation, or cascading failures of such system will not occur as a result of a sudden disturbance, including a cybersecurity incident, or unanticipated failure of system elements."
[9] The Bulk-Power System is defined in the FPA as facilities and control systems necessary for operating an interconnected electric energy transmission network (or any portion thereof), and electric energy from generating facilities needed to maintain transmission system reliability. The term does not include facilities used in the local distribution of electric energy. 16 U.S.C. 824o(a)(l); see also 18 CFR 39.1.
[10] Order No. 901, *Reliability Standards to Address Inverter-Based Resources*, 185 FERC ¶ 61,042 (2023) [hereinafter Order No. 901].
[11] To help avoid potential confusion, NERC clarifies that in referring to IBRs, this Work Plan does not include distributed energy resources. Rather it only includes IBRs that are interconnected to the BPS. Nonetheless, NERC is reviewing potential impacts associated with DERs on the BPS.



Gray
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Orange
- ≥ 20 MVA, and
- Interconnected at a voltage <100 kV
- 6.8 GW, or 4%

Yellow
- < 20 MVA, and
- Interconnected at any voltage[12]
- 3.6 GW, or 2%

Blue
- >75 MW
- Interconnected at ≥100 kV and above

Figure 1: Percent shares of BPS-connected IBRs by aggregate nameplate capacity

As reflected in the August Work Plan update, NERC's initial concept did not include a voltage threshold however, NERC added a voltage threshold based on stakeholder feedback, informal collaboration, and feedback received through the NERC Compliance and Certification Committee, NERC Organization Registration and Certification Subcommittee, and the Solar Energy Industries Association.[13] Through evaluation of the data NERC determined that a connection voltage threshold of 60 kV and above is appropriate because BPS transmission below 60 kV is not generally designed to support aggregate generation of 20 MVA and greater.

[12] The yellow slice increases about ½ percent of the aggregate nameplate capacity due to NERC setting the connection voltage to 60 kV and above.

[13] E.g. NRECA Comments at 10 ("NERC and stakeholders will be able to address how NERC's proposed registration function criteria for GO-IBRs interconnected at voltages less than 100 kV will be designed."); Indicated Joint Trade Associations Comments at 3 ("But the Work Plan's description of the GO-IBR category is not limited to BPS-connected IBRs… any new GO-IBR registration category can and should be framed in a way that does not inadvertently sweep in large numbers of IBR-DERs.").

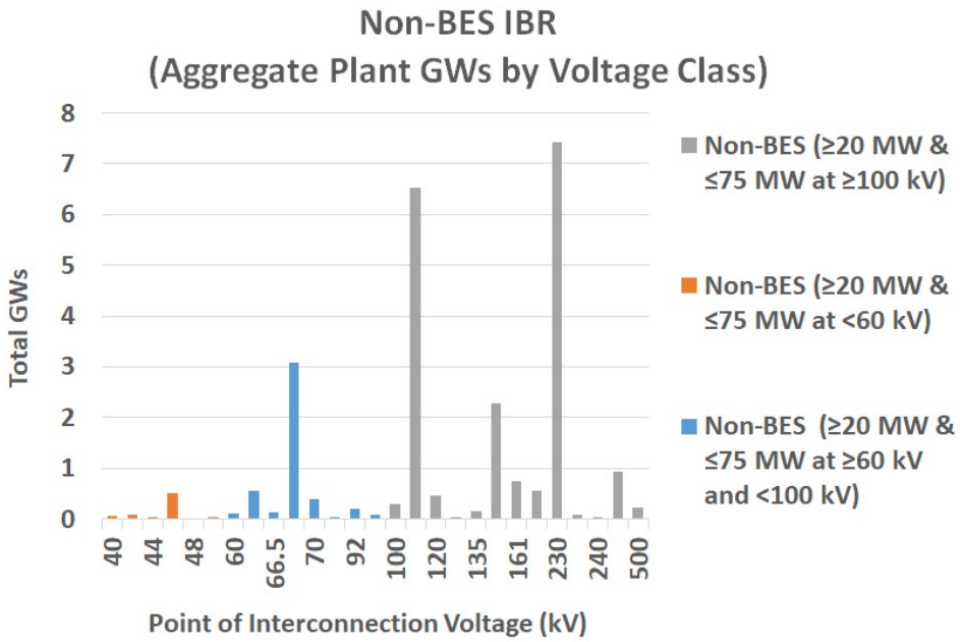

Figure 2: Aggregate Plant GWs by Voltage Class (2021)

Figure 2 demonstrates that the majority of impactful IBRs proposed to become subject to Reliability Standards (i.e., non-BES) are BPS-connected at a voltage of 60 kV and above.[14] This analysis should be read in combination with prior ERO Enterprise assessments related to IBRs. Instituting a voltage threshold greater than or equal to 60 kV slightly reduces the sum of additional BPS-connected IBR nameplate capacity. The small reduction in BPS-connected IBR nameplate capacity equates to 0.9 GW or 0.5 percent of the total BPS-connected IBR GWs (2021) that would not become subject to Reliability Standards under NERC's plan to revise the Registry Criteria. NERC expects the 60 kV threshold to result in 97.5% of BPS-connected IBRs to be subject to NERC registration and compliance with applicable Reliability Standards.[15]

In conclusion, the vast majority of BPS-connected non-BES IBRs, in aggregate, are material to BPS reliability as demonstrated in ERO Enterprise assessments and the 60 kV threshold ensures only owners and operators of BPS-connected non-BES IBRs are subject to registration while excluding IBRs that may be a part of the distribution system ("IBR-DER"). On balance, with stakeholder comments and BPS design capabilities this is reasonable to avoid inadvertent registration of IBR-DER owners and operators.

[14] The data in the graphs are based on publicly available Form 860 information reported to the U.S. Energy Information Administration. This data was analyzed to identify historical BPS resource capacity trends from individual generation units as well as aggregate plant data up to and including year 2021.

[15] Analysis of the Changing Mix of Generating Resources on the BPS at 8 (showing that the original proposal without low voltage threshold would have resulted in 98% IBRs being registered).

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Exhibit A-2

Technical Support for Proposal

Quick Reference Guide: Inverter-Based Resource Activities June 2023

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Quick Reference Guide: Inverter-Based Resource Activities

June 2023

INSIDE THIS QUICK REFERENCE GUIDE

The electric power grid in North America is undergoing a significant transformation in technology, design, control, planning, and operation, and these changes are occurring more rapidly than ever before. Particularly, technological advances in inverter-based resources are having a major impact on generation, transmission, and distribution systems.

In most cases, inverter-based generating resources refer to Type 3 and Type 4 wind power plants and solar photovoltaic (PV) resources. Battery energy storage is also considered an inverter-based resource. Many transmission-connected reactive devices, such as STATCOMs and SVCs, are also inverter-based. Similarly, HVDC circuits also interface with the ac network though converters. Inverter-based resources are being interconnected at the bulk power system (BPS) level as well as at the distribution level; however, this reference guide focuses specifically on BPS-connected inverter-based resource efforts.

This document acts as a quick reference guide for the work that the ERO Enterprise has done regarding inverter-based resource activities over the past seven years to ensure the continued reliability of the North American power grid.

NERC Inverter-Based Resource Strategy

NERC has developed an Inverter-Based Resource Strategy document for addressing inverter-based resource performance issues that illustrates current and future work to mitigate emerging risks in this area. The strategy was developed to ensure industry awareness and alignment regarding ERO activities and activities of the NERC Reliability and Security Technical Committee. It was also developed in response to NERC Member Representatives Committee policy input for needed enhancements in this area. The strategy includes four key focus areas – risk analysis, interconnection process improvements, sharing best practices and industry education, and regulatory enhancements. Each focus area include specific activities and work items that are described in more detail throughout the strategy document.

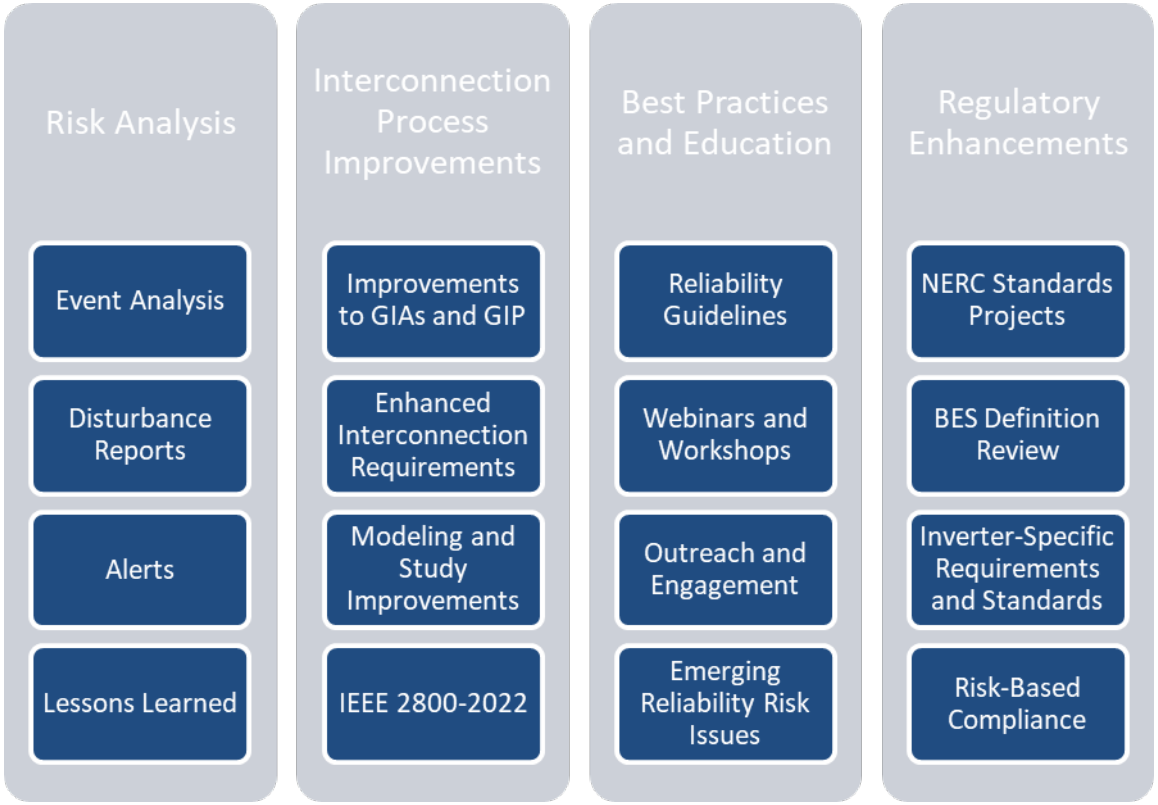

Figure 1: NERC Inverter-Based Resource Strategy

Webinars		
Published	**Title**	**Summary**
June - July 2023	IBR Webinar Series	As the grid continues to transform rapidly, inverter-based resources (IBRs) are at the forefront, playing an ever-more critical role. Over the past eight years, NERC has taken numerous actions to support the reliable integration of these resources and provide education around them. NERC is pleased to release the recordings and slides from its recent 11-part webinar series that provided a complete overview of bulk power system-connected IBRs—from a fundamental understanding of the technology to tackling the more complex and emerging risk issues—as well as an FAQ document covering the general themes of the more than 1000 comments and questions received throughout the series. Additionally, NERC has produced a video featuring remarks from NERC President and CEO Jim Robb and other series highlights. This series was made possible with the input of experts from 20 organizations across the industry. Ensuring reliable integration of IBRs is a top priority for NERC as the Electric Reliability Organization, and understanding these resources is imperative for a reliable, resilient, and secure bulk power system of the future. **Click here for**: **Announcement** | **Webinar Recordings and Slides** | **FAQ** | **Video**

Education and Outreach		
Published	**Title**	**Summary**
June 2023	*An Introductory Guide to Inverter-Based Resources on the Bulk Power System*	Inverter-based resources (IBRs) are playing an ever-more critical role during this period of unprecedented grid transformation. IBRs present unique opportunities moving forward and will shape a resilient and sustainable energy landscape of the future. To understand this complex landscape, NERC has developed, among a multitude of resources, a new guide focusing on IBRs in a high-level, easy-to-understand manner. The guide aims to inform industry, policymakers, and other stakeholders with a foundational understanding of IBRs and inverter technology.
June 2023	*Recommendations for Solar Energy Cybersecurity*	There is rapid and continued growth in grid-connected, large-scale solar inverter-based resources (IBR) and behind-the-meter distributed energy resources (DER). IBR/DER cybersecurity attacks may impact the energy critical infrastructure sector as these changes in the resource mix introduce risk. IBR/DER vendors, owners, operators, aggregators, grid operators, and government organizations must understand cyber threats targeting IBR/DER can create both localized and widespread impacts. This brochure provides valuable cybersecurity recommendations for the IBR / DER ecosystem.

Disturbance Reports			
Published	**Disturbance**	**Title**	**Summary**
June 2022	**2022 Odessa**: 06/04/22	*2022 Odessa Disturbance: June 4, 2022 Joint NERC and Texas RE Staff Report*	This report contains the ERO analysis of the disturbance that occurred in Texas on June 4, 2022. The event involved the loss of multiple BPS solar PV facilities in addition to multiple synchronous generation facilities for a 2,555 MW resource loss. This event was categorized as a Category 3a event per the NERC Event Analysis Process. NERC and Texas RE work closely with ERCOT and the affected facility owners to identify root causes and determine appropriate mitigations to eliminate these types of risks moving forward. **Webinar:** Presentation | Streaming Webinar
August 2022	**Texas Panhandle Wind Event**: 03/22/22	*Panhandle Wind Disturbance Texas Event: March 22, 2022 Joint NERC and Texas RE Staff Report*	This report contains the ERO analysis of a reduction of wind resources across the Texas Panhandle area that occurred during two faults in the morning of March 22, 2022 up to around 200 miles from the initiating fault. While the event did not meet the qualified criteria for a Category 1i event per the ERO Event Analysis Process, NERC and Texas RE worked closely with ERCOT and the affected facility owners to conduct root cause analysis and identify recommendations related to the abnormal wind performance issues observed.
April 2022	**2021 CAISO Disturbances**: Victorville 06/24/21 Tumbleweed 07/04/21 Windhub 07/28/21 Lytle Creek Fire 08/25/21	*Multiple Solar PV Disturbances in CAISO Disturbances between June and August 2021 Joint NERC and WECC Staff Report*	This report contains the ERO analysis of four BPS disturbances with widespread reductions of solar PV output that occurred in the California Independent System Operator (CAISO) footprint between June and August of 2021. Each disturbance was categorized as a Category 1i event per the NERC Event Analysis Process and involved widespread reductions of active power output from solar PV resources in the Southern California area (specifically in areas of high penetrations of solar PV and wind resources). Two of these events also involved tripping of synchronous generating resources, and three involved some degree of distributed energy resource (DER) tripping or reduction. All initiating faults were normally cleared with proper protection system operation. **Webinar:** Presentation | Streaming Webinar

Disturbance Reports			
Published	**Disturbance**	**Title**	**Summary**
September 2021	**2021 Odessa**: 05/09/21 06/26/21	*Odessa Disturbance Texas Events: May 9, 2021 and June 26, 2021 Joint NERC and Texas RE Staff Report*	This report contains the ERO analysis of the BPS disturbance that occurred in Texas on May 9, 2021. While the ERO has analyzed multiple similar events in California, this is the first disturbance involving a widespread reduction of solar PV resource power output observed in the Texas Interconnection. The event involved solar PV facilities across a large geographic area of up to 200 miles away from the location of the initiating event. The Electric Reliability Council of Texas (ERCOT) provided Texas RE and NERC with a brief report as the disturbance was categorized as a Category 1i event. **Webinar:** Presentation | Streaming Webinar
November 2020	**San Fernando:** 07/07/20	*San Fernando Disturbance Southern California Event: July 7, 2020 Joint NERC and WECC Staff Report*	This report contains the ERO analysis of the BPS disturbance that occurred in Southern California on July 7, 2020. This event involved a widespread reduction of active power output from solar PV facilities across a relatively large geographic area, initiating a more detailed ERO review as this event was categorized as a Category 1i event. NERC and WECC worked with the California Independent System Operator (CAISO) to gather additional information and conduct a more detailed analysis.
January 2019	**Angeles Forest and Palmdale Roost:** 04/20/18 05/11/18	*April and May 2018 Fault Induced Solar Photovoltaic Resource Interruption Disturbances Report*	This report contains the ERO analysis of the BPS disturbances that occurred in the Southern California area on April 20, 2018, (Angeles Forest disturbance) and May 11, 2018, (Palmdale Roost disturbance). Both of these events consisted of a loss of solar PV facilities in response to transmission line faults. This report was prepared following data requests sent to Generator Owners subsequent to each event. The events were identified by NERC, WECC, CAISO, and Southern California Edison (SCE), and the report documents the findings and recommendations to industry.

Disturbance Reports			
Published	**Disturbance**	**Title**	**Summary**
February 2018	**Canyon 2 Fire:** 10/09/17	*900 MW Fault Induced Solar Photovoltaic Resource Interruption Disturbance Report*	The purpose of the report is to document the analysis, key findings, and recommendations from the Canyon 2 Fire disturbance. On October 9, 2017, the Canyon 2 Fire caused two transmission system faults near the Serrano substation east of Los Angeles. The first fault was a normally cleared phase-to-phase fault on a 220 kV transmission line that occurred at 12:12:16 Pacific time, and the second fault was a normally cleared phase-to-phase fault on a 500 kV transmission line that occurred at 12:14:30 Pacific time. Both faults resulted in the reduction of solar PV generation across a wide region of the Southern California Edison (SCE) footprint. Approximately 900 MW of solar PV resources were lost as a result of these events, and six solar PV plants accounted for most of the reduction in generation. **Webinar:** Presentation | Streaming Webinar
June 2017	**Blue Cut Fire:** 08/16/16	*1,200 MW Fault Induced Solar Photovoltaic Resource Interruption Disturbance Report*	This report contains the ERO analyses of the Blue Cut Fire, a system disturbance that occurred in the Southern California area on August 16, 2016. The Blue Cut Fire quickly moved toward an important transmission corridor that is comprised of three 500 kV lines owned by SCE and two 287 kV lines owned by Los Angeles Department of Water and Power (LADWP). The SCE transmission system experienced thirteen 500 kV line faults, and the LADWP system experienced two 287 kV faults as a result of the fire. Four of these fault events resulted in the loss of a significant amount of solar PV generation. The most significant event related to the solar PV generation loss occurred at 11:45 a.m. Pacific and resulted in the loss of nearly 1,200 MW. There were no solar PV facilities de-energized as a direct consequence of the fault event; rather, the facilities ceased output as a response to the fault on the system. **Webinar:** Presentation | Streaming Webinar

Alerts		
Distribution	**Title**	**Summary**
March 2022	*Industry Recommendation: Inverter-Based Resource Performance Issues*	NERC analyzed multiple large-scale disturbances on the BPS involving widespread loss of inverter-based resources. In 2021 and 2022, two disturbances in Odessa, Texas, resulted in abnormal performance across several BES solar PV resources. These resources exhibited systemic performance issues that could lead to unexpected losses of BPS-connected generation, with the potential to cause widespread outages. As the penetration of BPS-connected IBRs continues to rapidly increase, it is paramount that any performance deficiencies with existing (and future) generation resources be addressed in an effective and efficient manner. While the alert was distributed to GOs of BES solar PV resources, NERC strongly encouraged owners and operators of all BPS-connected solar PV resources to review and implement the recommendations as well as complete the data collection worksheet.
May 2018	*Industry Recommendation: Loss of Solar Resources during Transmission Disturbances due to Inverter Settings - II*	NERC identified adverse characteristics of inverter-based resource performance during grid faults that could present potential risks to reliability of the BPS. As the penetration of inverter-based resources (particularly solar PV resources) continues to increase in North America, these adverse characteristics need to be widely communicated. This Level 2 Industry Recommendation alerts industry to the performance issues observed with BPS-connected solar PV resources, and provides recommended actions to address fault ride-through and timely restoration of current injection. Although the alert pertains specifically to BES solar PV resources, the same characteristics may exist for all BPS-connected solar PV resources (as well as battery energy storage and wind resources) regardless of installed generating capacity or interconnection voltage. Owners and operators of those facilities are encouraged to consult their inverter manufacturers, review inverter settings, and implement the recommendations. **Webinar:** Presentation | Streaming Webinar
June 2017	*Industry Recommendation: Loss of Solar Resources during Transmission Disturbances due to Inverter Settings*	NERC identified a potential characteristic exhibited by some inverter-based resources, particularly utility-scale solar PV generation that reduce power output during BPS faults and pose potential risks to BPS reliability. With the recent and expected increases of utility-scale solar resources, the causes of this reduction in power output from utility-scale power inverters needs to be widely communicated and addressed by the industry. The industry should identify reliability preserving actions in the areas of power system planning and operations to reduce the system reliability impact in the event of widespread loss of solar resources during faults on the power system.

Reliability Guidelines		
Published	**Title**	**Summary**
March 2022	*Electromagnetic Transient Modeling for BPS-Connected Inverter-Based Resources: Recommended Model Requirements and Verification Practices*	This reliability guideline provides recommendations for the development of EMT model requirements, model quality checks, and verification practices specifically for EMT models used to represent BPS-connected inverter-based resources in reliability studies conducted by TPs and PCs. These recommendations are intended to help ensure that EMT models provided by GOs are representative of the expected behavior of the actual or planned facility to the greatest extent possible so that potential reliability risks are adequately captured in the modeling studies. The primary goal of this guideline is to enable TPs and PCs to obtain high-quality EMT models for BPS-connected inverter-based resources so that they can perform applicable simulations when necessary to proactively identify and better mitigate emerging reliability risks. **Webinar:** Presentation | Streaming Webinar
March 2021	*Performance, Modeling, and Simulations of BPS-Connected Battery Energy Storage Systems and Hybrid Power Plants*	This guideline contains detailed recommendations regarding BESS and hybrid power plant performance, modeling, and studies.
September 2019	*Improvements to Interconnection Requirements for BPS-Connected Inverter-Based Resources*	This guideline serves as a resource for utilities to develop interconnection requirements. Chapter 1 provides a summarization of recommended improvements to interconnection requirements for TOs to consider as they continually develop and enhance interconnection requirements per FAC-001-3 and interconnection study requirements per FAC-002-2.11 Chapter 2 covers the performance aspects while Chapter 3 cover modeling considerations (both key components to the interconnection process). This guideline was retired in June 2023. **Webinar:** Presentation | Streaming Webinar
September 2018	*BPS-Connected Inverter-Based Resource Performance*	This guideline provides recommended steady-state and dynamic performance characteristics for inverter-based resources and also covers a wide range of related aspects from protective functions to monitoring capability. This guideline was retired in June 2023.
December 2017	*Integrating Inverter-Based Resources into Low Short Circuit Strength Systems*	This guideline provides the electric utility industry with background and useful reference information pertaining to the topics of identifying weak grid conditions and potential issues that may arise from weak grids when connecting or operating inverter-based resources. The goal of this guideline is to proactively provide the industry with information to consider as these types of issues emerge for increased penetrations of inverter-based resources.

White Papers		
Published	**Title**	**Summary**
December 2021	*IRPWG Grid Forming Technology*	This white paper compares grid-forming (GFM) and grid-following (GFL) inverter-based resource capability and their major performance characteristics and advantages. Currently, the most commonly used GFM control strategies of droop-based GFM control, virtual synchronous machine control, and virtual oscillator control are briefly summarized. This white paper also provides recommendations for entities across North America to consider studying and deploying GFM technology to support BPS reliability and resilience with increasing inverter-based resource penetration levels.
October 2021	*IRPWG Odessa Follow-Up*	This brief white paper was developed by the NERC Inverter-Based Resource Performance Working Group (IRPWG) as a follow-up to the *Odessa Disturbance Report* published by NERC in October 2021. That report contained a set of key findings and recommendations. The IRPWG discussed each of the key findings and recommendations in detail and is providing a brief technical discussion and technical basis for each recommendation. Where appropriate, follow-up action items are identified.
September 2021	*IRPWG Utilizing the Excess Capability of BPS-Connected Inverter-Based Resources for Frequency Support*	The Federal Energy Regulatory Commission (FERC) issued Order No. 842 in 2018, amending the pro forma Large Generator Interconnection Agreement (LGIA) and Small Generator Interconnection Agreement (SGIA) to require all "newly interconnecting large and small generating facilities, both synchronous and non-synchronous, to install, maintain, and operate equipment capable of providing primary frequency response (PFR) as a condition of interconnection." This work extends on the FERC Order NO. 842 and the March 2020 NERC white paper and recommends leveraging primary frequency response (PFR) and fast frequency response (FFR). PFR and FFR capabilities from inverter-based resources to the extent possible to support BPS frequency as an essential reliability service.
June 2021	*IRPWG San Fernando Follow-Up*	This brief white paper was developed by the NERC IRPWG as a follow-up to the July 2020 San Fernando Disturbance Report published by NERC. That report contained a set of key findings and recommendations. The IRPWG discussed each of the key findings and recommendations in detail, provides a brief technical discussion and basis for each item, and where appropriate recommends follow-up action items.
March 2020	*IRPTF Fast Frequency Response Concepts and Bulk Power System Reliability Needs*	This white paper describes the interrelationships between primary frequency response (PFR) and fast frequency response (FFR). **Webinar:** Presentation | Streaming Webinar

Technical Reports		
Published	**Title**	**Summary**
August 2020	*NERC-WECC Report on WECC Base Case Review for Inverter-Based Resources*	This report documents the review of the WECC 2020 HS3 base with the latest available WECC MDF dynamics models. Data is being updated and provided to WECC constantly, so it is likely that updates to models have been made even in the time duration between analysis and publication of this report. The goal of this report is to further document some of the issues identified during the cursory review of base case quality, highlight how this analysis was performed, and provide key findings and recommendations for industry next steps to address the modeling issues.
May 2020	*BPS-Connected Inverter-Based Resource Modeling and Studies*	The NERC Inverter-Based Resource Performance Task Force (IRPTF) and the industry have been working diligently on modeling and simulation activities to accurately represent inverter-based resources in dynamic stability analyses and explore the impacts of inverter-based resources on BPS reliability. This report outlines the activities of the IRPTF related to inverter-based resource modeling and studies. **Webinar:** Presentation | Streaming Webinar

NERC Reliability Standards Activities

Standards are one piece of the complex, dynamic endeavor of providing a comprehensive approach to reliability. NERC has various other tools to fulfill this mission, including guidelines, training, assessments, and alerts. This multi-pronged approach has resulted in a secure and reliable bulk power system for North America. New Reliability Standards begin with a Standards Authorization Request (SAR), which may be submitted by anyone but must have technical justification. SARs occasionally arise from other projects like informal development projects, periodic reviews, other standard projects, or if a reliability threat that may be mitigated by a standard arises.

- FERC NOPR on NERC Reliability Standards Enhancements for Inverter-Based Resources (2022): FERC issued a NOPR in November 2022 proposing to direct NERC to develop new or modify existing NERC Reliability Standards to address reliability gaps related to inverter-based resources. Topics focused on data sharing, modeling and model validation, planning and operational studies, and performance requirements. The ERO Enterprise submitted joint comments on the NOPR in February 2023, highlighting aligning with existing NERC Standards projects as well as the work done to-date to highlight potential risk issues.
- IRPTF Review of NERC Reliability Standards (2020): The industry was experiencing unprecedented growth in inverters-based resources, possibly creating circumstances where existing standards may not be sufficiently addressing reliability risks. As a result, the NERC Planning Committee (PC) and Operating Committee (OC) assigned the NERC IRPTF a task of evaluating the NERC Standards and their requirements. This white paper details the key findings and recommendations for future action.
- IRPTF PRC-024-2 Gaps Whitepaper (2019): The IRPTF scope document includes a deliverable on "recommendations on inverter-based resource performance and any modifications to NERC Reliability Standards related to the control and dynamic performance of these resources during abnormal grid conditions." The white paper presented here details the findings of the IRPTF as a result of investigations related to this deliverable. Specifically, the white paper details potential gaps and needed clarifications in PRC-024-2: Generator Frequency and Voltage Protective Relay Settings. There is some overlap between the findings of this white paper and the Integration of Variable Generation Task Force (IVGTF) Summary and Recommendations of 12 Tasks, which was published in 2015.
- NERC Standards Projects related to Inverter-based Resources:
  - Project 2018-04 – Modifications to PRC-024-2
  - Project 2020-02 – Modifications to PRC-024 (Generator Ride-Through)
  - Project 2020-05 – Modifications to FAC-001 and FAC-002
  - Project 2020-06 – Verifications of Models and Data for Generators
  - Project 2021-01 – Modifications to MOD-025 and PRC-019

- Project 2021-02 – Modifications to VAR-002
- Project 2021-04 – Modifications to PRC-002
- Project 2022-02 – Modifications to TPL-001-5.1 and MOD-032-1
- Project 2020-02 – Modifications to PRC-024 Generator Ride-Through
- Project 2022-04 – EMT Modeling
- Project 2023-01 – EOP-004 IBR Event Reporting
- Project 2023-02 – Performance of IBRs

Other Activities

- IEEE/NERC Impact of Inverter-Based Generation on Bulk Power System Dynamics and Short-Circuit Performance (2018): This report covers the various aspects of low fault current conditions and how to accommodate a changing resource mix.
- Inverter Manufacturer and Relay Manufacturer Coordination Meeting (2019): NERC facilitated an in-depth technical discussion between inverter manufacturers, protective relay manufacturers, and industry experts related to current injection of BPS-connected inverters during fault conditions and potential impacts and solutions for BPS protection schemes. This document contains the key takeaways, recommendations, and next steps that were an outcome of this discussion.
- IEEE 2800-2022: Uniform technical minimum requirements for the interconnection, capability, and lifetime performance of inverter-based resources interconnecting with transmission and sub-transmission systems are established in this standard. Included in this standard are performance requirements for reliable integration of inverter-based resources into the bulk power system, including, but not limited to, voltage and frequency ride-through, active power control, reactive power control, dynamic active power support under abnormal frequency conditions, dynamic voltage support under abnormal voltage conditions, power quality, negative sequence current injection, and system protection. This standard also applies to isolated inverter-based resources that are interconnected to an ac transmission system via dedicated voltage source converter high-voltage direct current (VSC-HVDC) transmission facilities; in these cases, the standard applies to the combination of the isolated inverter-based resources and the VSC-HVDC facility, and not to an isolated inverter-based resource on its own.
- ESIG-NERC-NAGF-EPRI Joint Workshop on Generator Interconnection (2022): NERC joint sponsored a virtual workshop focused on the important relationships between interconnection process reforms and new capability and performance standards for inverter-based

resources. The goal of the workshop was to provide education on both topics and how they interact for potentially expediting the interconnection process while also supporting a more economic, sustainable, and reliable future power system. The workshop focused on the technical aspects of the interconnection process – modeling, studies, technical minimum requirements, etc. – and was intended for a broad engineering, policy, and decision maker audience.

- NERC Board of Trustees/Member Representatives Committee Meeting Technical Session – Inverter-Based Resource Panel (2023): NERC held a technical session at its February 2023 MRC/BOT meetings with a panel dedicated to the challenges faced by BPS-connected inverter-based resources. The panel covered a wide range of challenges facing industry with respect to the rapidly changing resource mix and potential BPS reliability risks posed by this change. In particularly, the rapid integration of inverter-based resources was noted as the most significant driver of grid transformation, and a reliability risk that must be taken seriously moving forward.
- Registration Activities Related to Inverter-Based Resources (2022): In November 2022, FERC issued an order directing NERC to submit a work plan detailing how it plans to identify and register owners and operators of inverter-based resources connected to the BPS yet do not meet the BES definition. The registration focuses on "unregistered" inverter-based resources that have an aggregate, material impact on reliable operation of the BPS. NERC submitted its work plan to FERC and has initiated work regarding modifications to the NERC registration process and Rules of Procedure.

NERC Stakeholder Groups

- Inverter-Based Resource Subcommittee (IRPS): The NERC IRPS was formed to explore the performance characteristics of BPS-connected inverter-based resources and provide technical support to any analyses of BPS disturbances involving BPS-connected inverter-based resources. The group also focuses on developing technical documents to support BPS planning and operations under increasing penetrations of BPS-connected inverter-based resources. The technical materials are intended to help transmission and generation entities understand the performance aspects, modeling, and system studies of BPS-connected inverter-based resources. The IRPS reports to the NERC Reliability and Security Technical Committee (RSTC).
- Electromagnetic Transient Task Force (EMTTF): The NERC EMTTF was formed to support and accelerate industry adoption of electromagnetic transient (EMT) modeling and simulations during the interconnection and planning studies for BPS-connected inverter-based resources. The task force will provide guidance and reference materials to Transmission Planners and Planning Coordinators embarking on EMT modeling and simulations to more adequately assess BPS impacts and reliability risks of interconnecting inverter-based resources. The EMTTF reports to the IRPS under the NERC RSTC.

Upcoming Events		
Dates	**Event**	**Summary**
July 27, 2023 **August 3, 2023** **September 14, 2023**	*EMT Boot Camps*	NERC disturbance reports have been highlighting the growing need for EMT modeling to adequately assess potential IBRs performance issues and their impact on BPS reliability. In our shared mission to improve interconnection of IBR and their reliability, and thus executing on NERC IBR Strategy, U.S. Department of Energy Interconnection Innovation e-Xchange (i2X) and NERC bring you the EMT Boot Camps to provide hands-on training on using EMT simulation tools and models to perform individual IBR plant performance assessment and system impact assessment as part of enhanced interconnection studies, both manually and through automation for a streamlined work flow. **Pre-session** Date: July 27, 2023 | 1:00 – 3:00 p.m. Eastern **Boot Camp 1: Individual IBR Plant Performance Assessment** Date: August 3, 2023 | 1:00 – 5:00 p.m. Eastern **Boot Camp 2: System Impact Assessment** Date: September 14, 2023 | 1:00 – 5:00 p.m. Eastern

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Exhibit B

Summary of Proposed Revisions

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Proposed Revisions to Appendices 2, 5A, and 5B of the NERC Rules of Procedure to Register Material Bulk Power System connected, non-Bulk Electric System, Inverter-Based Resources

Organization Registration Program

Introduction

On November 17, 2022, the Federal Energy Regulatory Commission (FERC) directed NERC to submit a work plan describing how it plans to identify and register owners and operators of inverter-based resources (IBR) that are connected to and have a material impact in the aggregate on the Bulk-Power System (BPS), but are not currently required to register with NERC under the bulk electric system (BES) definition. On February 15, 2023, as amended in March 2023, NERC filed a Work Plan outlining concepts and milestones to achieve that directive.

On May 18, 2023, FERC accepted the Work Plan. NERC has filed Work Plan updates every 90 days thereafter. NERC posted its proposed revisions to Appendices 2, 5A, and 5B of the NERC Rules of Procedure (ROP) for a 45 day public comment period between September 13th – October 30th, 2023. The substance of NERC's proposal is consistent with these Work Plan filings and the September 13th posting, although NERC has improved the organizational structure and made other clarifying edits in response to comments submitted. NERC appreciates the feedback and stakeholder participation throughout this ROP development process.

NERC proposes the following revisions to the ROP to accurately reflect and address non-BES, BPS connected IBRs (unregistered IBRs) that have a material impact in aggregate on BPS reliability.[1]

- **Appendix 2 – Definitions Used in the ROP:** i) Revising the definitions of "Generator Owner" and "Generator Operator" to mirror the revisions proposed in Appendix 5B; and ii) revising the Reserve Sharing Group (RSG) definition for consistency with Reliability Standard Project 2022-01 Reporting ACE Definition and Associated Terms (Project 2022-01).
- **Appendix 5A – Organization Registration and Certification Manual:** Making changes that conform with those in Appendix 5B and reducing legislative history.
- **Appendix 5B – Statement of Compliance Registry Criteria:** i) Revising the Registry Criteria for "Generator Owner" and "Generator Operator" to add the new category of owners and operators of

[1] This proposal does not include distributed energy resources. Rather it only includes IBRs that are interconnected to the BPS. Nonetheless, NERC is reviewing potential impacts associated with DERs on the BPS.

unregistered BPS connected, non-BES, IBRs; ii) clarifying the scope of registration in Section I of the Registry Criteria; iii) reducing legislative history; and iv) revising the RSG definition for consistency with Reliability Standard Project 2022-01.

Overview of Revisions

Appendix 2 – Definitions Used in the ROP

Revision #1:

NERC proposes to revise the definitions of GO and GOP to reflect a new category of entities that own and maintain or operate BPS connected, non-BES, IBR in a manner that mirrors the proposal in Appendix 5B.

Business Case: The proposed changes would conform and be consistent with the proposed expanded definitions of GO and GOP in the Registry Criteria.

Revision #2:

NERC proposes to revise the RSG definition to be consistent with the revised definition being proposed in Project 2022-01.

Business case: The proposed revision would conform and be consistent with the revised RSG definition being proposed in Project 2022-01. Incorporating these revisions would support administrative efficiency.

Revision #3:

NERC proposes to reflect that references to the "Board of Trustees Compliance Committee," "BOTCC" or "Compliance Committee" means the Compliance Committee of the NERC Board of Trustees or its successor.

Business case: This administrative update supports NERC's recent updates to its governance model establishing the Regulatory Oversight Committee (ROC) as the successor to the BOTCC.

Appendix 5A – Organization Registration and Certification Manual:

Revision #1:

Changing "Facilities" to "facilities" in order to reflect NERC's scope of authority to register entities that own, operate, or use BPS assets consistent with the revisions in Appendix 5B.

Business Case: The ROP should reflect that owners, operators, and users of the BPS are candidates for registration. This change will be consistent with the fact that unregistered IBRs are connected to the BPS.

Revision #2:

Clarifying language that *de novo* review applies to BOTCC (now ROC) review of Registration appeals.

Business Case: Clarify that per existing practice *de novo* review is applied to Registration appeals.

Appendix 5B – Statement of Compliance Registry Criteria

Revision #1:

NERC proposes to revise GO and GOP Registry Criteria to include a new category. These functions would address registration of the entity that i) owns and maintains or ii) operates non-BES inverter-based generating resources that have an aggregate nameplate capacity of greater than or equal to 20 MVA delivering such capacity to a common point of connection at a voltage greater than or equal to 60 kV.

Business Case: As described in Docket No. RD22-4, through several assessments, event reports, and studies, NERC has determined that organizations which own or operate unregistered IBRs that i) aggregate to nameplate capacity equal or greater than 20 MVA; at ii) a common point of connection at a voltage greater than or equal to 60 kV, are material to the Reliable Operation of the interconnected BPS.[2] In response to comments on NERC's September 13th posting, NERC revised its proposal to reflect updates to the GO and GOP Registry Criteria directly rather than creation of associated GO-IBR and GOP-IBR functions.

Revision #2:

NERC proposes to revise the Registry Criteria to remove duplicative information, clarify Section I of the Criteria to make clear that owners, operators, or users of the BPS are candidates for Registration, and in response to comments update notes on materiality review to ensure clarity that the NERC-Led Review Panel process would be available to category 2 GOs and GOPs.

Business Case: The ROP should reflect that users, owners, and operators of the BPS are candidates for registration. The ROP should also reflect that Category 2 GOs and GOPs would be eligible for the same NERC-Led Review Panel process available to other GOs and GOPs. These changes will be consistent with the fact that unregistered IBRs are connected to the BPS.

Revision #3:

Remove portions of the legislative history from the Background portion of Appendix 5B.

Business case: Remove legacy information that is not necessary for understanding the Registry Criteria.

Revision #4:

NERC proposes to revise the RSG function definition to be consistent with the revised definition being proposed in Project 2022-01.

Business case: The proposed revision will conform and be consistent with the revised RSG definition being proposed in Project 2022-01 and including such updates with this project would support administrative efficiency.

[2] ERO Enterprise BPS Resource Trends Task Force, *Analysis of the Changing Mix of Generating Resources on the BPS* (Feb. 2023), available as Attach. 2 of NERC's work plan filing. *N. Am. Elec. Reliability Corp.*, (Feb. 15, 2023) Docket No. RD22-4-000, https://www.nerc.com/FilingsOrders/us/NERC%20Filings%20to%20FERC%20DL/IBR%20Registration%20Work%20Plan_final.pdf.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Exhibit C

Clean Version of Proposed Appendices to the ROP

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Exhibit C-1

Clean Version of Proposed Appendices to the ROP

Appendix 2 Clean

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

DEFINITIONS USED IN THE RULES OF PROCEDURE

APPENDIX 2 TO THE RULES OF PROCEDURE

Effective:, 202X

General

For purposes of the NERC Rules of Procedure, including all Appendices, the terms defined in this Appendix shall have the meanings set forth herein. For convenience of reference to the user, definitions of terms that are used in a particular Appendix may be repeated in that Appendix.

Where used in the Rules of Procedure, a defined term will be capitalized. Where a term defined in this Appendix appears in the Rules of Procedure but is not capitalized, the term is there being used in its ordinary and commonly understood meaning and not as defined in this Appendix (if different). Other terms that are not defined terms, such as the names of entities, organizations, committees, or programs; position titles; titles of documents or forms; section headings; geographic locations; and other terms commonly presented as proper nouns, may also be capitalized in the Rules of Procedure without being defined in this Appendix.

Definitions of terms in this Appendix that are marked with asterisks (**) are taken from the NERC *Glossary of Terms Used in Reliability Standards*. Definitions of terms in this Appendix that are marked with "pluses" (++) are taken from Section 215 of the Federal Power Act or the Commission's regulations at 18 C.F.R. Part 39 or Part 388.

Other terms used in the Rules of Procedure but not defined in this Appendix that have commonly understood and used technical meanings in the electric power industry, including applicable codes and standards, shall be construed in accordance with such commonly understood and used technical meanings.

Specific Definitions

"Acceptance of the Exception Request" or "Acceptance" means the determination that an eligible Exception Request (i.e., a Request permitted by section 4.1 of Appendix 5C) contains all the Required Information so that it can undergo substantive review.

"Adjacent Balancing Authority" means a Balancing Authority whose Balancing Authority Area is interconnected with another Balancing Authority Area either directly or via a multi-party agreement or transmission tariff.**

"Adjusted Penalty Amount" means the proposed Penalty for a violation of a Reliability Standard as determined based on application of the adjustment factors identified in Section 4.3 of the *Sanction Guidelines* to the Base Penalty Amount.

"Advisories" or "Level 1 (Advisories)" is a notification issued by NERC in accordance with Section 810.3.1 of the Rules of Procedure.

"Alleged Violation" means a potential noncompliance for which the Compliance Enforcement Authority has determined, based on an assessment of the facts and circumstances surrounding the potential noncompliance, that evidence exists to indicate a Registered Entity has violated a Reliability Standard and such violation will be resolved outside of the Compliance Exception or FFT processes.

"Annual Report" means the annual report to be filed by NERC with FERC and other Applicable Governmental Authorities in accordance with Section 13.0 of Appendix 4D.

"Applicable Governmental Authority" means the FERC within the United States and the appropriate governmental authority with subject matter jurisdiction over reliability in Canada and Mexico.

"Applicable Requirement" means a Requirement or a Requirement Part of a CIP Standard that (i) expressly provides that compliance with the terms of the Requirement or Requirement Part is required where technically feasible or (ii) is subject to Appendix 4D by FERC directive.

"Approval of the Exception Request" or "Approval" means the determination by NERC that an Exception Request meets the criteria to receive the requested Exception.

"Balancing Authority" means the responsible entity that integrates resource plans ahead of time, maintains load-interchange-generation balance within a Balancing Authority Area, and supports Interconnection frequency in real time.**

"Balancing Authority Area" means the collection of generation, transmission, and loads within the metered boundaries of the Balancing Authority. The Balancing Authority maintains load-resource balance within this area.**

"Base Penalty Amount" means the proposed Penalty for a violation of a Reliability Standard as initially determined pursuant to Sections 4.1 and 4.2 of the NERC *Sanction Guidelines*, before application of any adjustment factors.

"BES Cyber Asset" means a Cyber Asset that if rendered unavailable, degraded, or misused would, within 15 minutes of its required operation, misoperation, or non-operation, adversely impact one or more Facilities, systems, or equipment, which, if destroyed, degraded, or otherwise rendered unavailable when needed, would affect the reliable operation of the Bulk Electric System. Redundancy of affected Facilities, systems, and equipment shall not be considered when determining adverse impact. Each BES Cyber Asset is included in one or more BES Cyber Systems.**

"BES Cyber System" means one or more BES Cyber Assets logically grouped by a responsible entity to perform one or more reliability tasks for a functional entity.**

"BES Definition" means the NERC definition of the Bulk Electric System as set forth in the NERC *Glossary of Terms Used in Reliability Standards.*

"Blackstart Resource" means a generating unit(s) and its associated set of equipment which has the ability to be started without support from the System or is designed to remain energized without connection to the remainder of the System, with the ability to energize a bus, meeting the

Transmission Operator's restoration plan needs for Real and Reactive Power capability, frequency and voltage control, and that has been included in the Transmission Operator's restoration plan.**

"Board" or "Board of Trustees" means the Board of Trustees of NERC.

"Board of Trustees Compliance Committee," "BOTCC" or "Compliance Committee" means the Compliance Committee of the NERC Board of Trustees, or its successor.

"Bulk Electric System" or "BES" means unless modified by the lists shown below, all Transmission Elements operated at 100 kV or higher and Real Power and Reactive Power resources connected at 100 kV or higher. This does not include facilities used in the local distribution of electric energy.

Inclusions:

- **I1** - Transformers with the primary terminal and at least one secondary terminal operated at 100 kV or higher unless excluded by application of Exclusion E1 or E3.

- **I2** - Generating resource(s) including the generator terminals through the high-side of the step-up transformer(s) connected at a voltage of 100 kV or above with:
    a) Gross individual nameplate rating greater than 20 MVA. Or,
    b) Gross plant/facility aggregate nameplate rating greater than 75 MVA.

- **I3** - Blackstart Resources identified in the Transmission Operator's restoration plan.

- **I4** - Dispersed power producing resources that aggregate to a total capacity greater than 75 MVA (gross nameplate rating), and that are connected through a system designed primarily for delivering such capacity to a common point of connection at a voltage of 100 kV or above. Thus, the facilities designated as BES are:
    a) The individual resources, and
    b) The system designed primarily for delivering capacity from the point where those resources aggregate to greater than 75 MVA to a common point of connection at a voltage of 100 kV or above.

- **I5** - Static or dynamic devices (excluding generators) dedicated to supplying or absorbing Reactive Power that are connected at 100 kV or higher, or through a dedicated transformer with a high-side voltage of 100 kV or higher, or through a transformer that is designated in Inclusion I1 unless excluded by application of Exclusion E4.

Exclusions:

- **E1** - Radial systems: A group of contiguous transmission Elements that emanates from a single point of connection of 100 kV or higher and:

    a) Only serves Load. Or,

b) Only includes generation resources, not identified in Inclusions I2, I3, or I4, with an aggregate capacity less than or equal to 75 MVA (gross nameplate rating). Or,

c) Where the radial system serves Load and includes generation resources, not identified in Inclusions I2, I3 or I4, with an aggregate capacity of non-retail generation less than or equal to 75 MVA (gross nameplate rating).

Note 1 – A normally open switching device between radial systems, as depicted on prints or one-line diagrams for example, does not affect this exclusion.

Note 2 – The presence of a contiguous loop, operated at a voltage level of 50 kV or less, between configurations being considered as radial systems, does not affect this exclusion.

- **E2** - A generating unit or multiple generating units on the customer's side of the retail meter that serve all or part of the retail Load with electric energy if: (i) the net capacity provided to the BES does not exceed 75 MVA, and (ii) standby, back-up, and maintenance power services are provided to the generating unit or multiple generating units or to the retail Load by a Balancing Authority, or provided pursuant to a binding obligation with a Generator Owner or Generator Operator, or under terms approved by the applicable regulatory authority.

- **E3** - Local networks (LN): A group of contiguous transmission Elements operated at less than 300 kV that distribute power to Load rather than transfer bulk power across the interconnected system. LN's emanate from multiple points of connection at 100 kV or higher to improve the level of service to retail customers and not to accommodate bulk power transfer across the interconnected system. The LN is characterized by all of the following:

  a) Limits on connected generation: The LN and its underlying Elements do not include generation resources identified in Inclusions I2, I3, or I4 and do not have an aggregate capacity of non-retail generation greater than 75 MVA (gross nameplate rating);

  b) Real Power flows only into the LN and the LN does not transfer energy originating outside the LN for delivery through the LN; and

  c) Not part of a Flowgate or transfer path: The LN does not contain any part of a permanent Flowgate in the Eastern Interconnection, a major transfer path within the Western Interconnection, or a comparable monitored Facility in the ERCOT or Quebec Interconnections, and is not a monitored Facility included in an Interconnection Reliability Operating Limit (IROL).

- **E4** - Reactive Power devices installed for the sole benefit of a retail customer(s).

Note - Elements may be included or excluded on a case-by-case basis through the Rules of Procedure exception process.**

"Bulk Power System" means, depending on the context:
(i) (A) facilities and control systems necessary for operating an interconnected electric energy transmission network (or any portion thereof); and
(B) electric energy from generation facilities needed to maintain transmission system reliability. The term does not include facilities used in the local distribution of electric energy [++]. (Note that the terms "Bulk-Power System" or "Bulk Power System" shall have the same meaning.)
(ii) Solely for purposes of Appendix 4E, Bulk Electric System.

"Canadian" means one of the following: (a) a company or association incorporated or organized under the laws of Canada, or its designated representative(s) irrespective of nationality; (b) an agency of a federal, provincial, or local government in Canada, or its designated representative(s) irrespective of nationality; or (c) a self-representing individual who is a Canadian citizen residing in Canada.

"Canadian Entity" means a Registered Entity (or, solely for purposes of Appendix 4D, a Responsible Entity) that is organized under Canadian federal or provincial law.

"Cascading" means the uncontrolled successive loss of System Elements triggered by an incident at any location. Cascading results in widespread electric service interruption that cannot be restrained from sequentially spreading beyond an area predetermined by studies.**

"CCC" means the NERC Compliance and Certification Committee.

"Certification" means, depending on the context, (i) the process undertaken by NERC and a Regional Entity to verify that an entity is capable of responsibilities for tasks associated with a particular function such as a Balancing Authority, Transmission Operator and/or Reliability Coordinator; such Certification activities are further described in Section 500 and Appendix 5A of the NERC Rules of Procedure; or (ii) for purposes of Section 600 of the Rules of Procedure, an official recognition that indicates the recipient has passed a NERC exam or completed a specified number of Continuing Education Hours.

"Certification Staff" means individuals employed or contracted by NERC who have the authority to make initial determinations of Certification of entities performing reliability functions.

"Certification Team" means a team assembled by a Regional Entity that will be responsible for performing the activities included in the Certification process for an entity pursuant to Appendix 5A.

"CIP Senior Manager" means a single senior management official with overall authority and responsibility for leading and managing implementation of and continuing adherence to the requirements within the NERC CIP Standards.**

"Classified National Security Information" means Required Information that has been determined to be protected from unauthorized disclosure pursuant to Executive Order No. 12958, as amended,

and/or the regulations of the NRC at 10 C.F.R. §95.35; or pursuant to any comparable provision of Canadian federal or provincial law.

"Clerk" means an individual assigned by the Compliance Enforcement Authority or NERC to perform administrative tasks relating to the conduct of hearings as described in Attachment 2, Hearing Procedures, to Appendix 4C.

"Commission" means the Federal Energy Regulatory Commission or FERC.

"Complaint" means an allegation that a Registered Entity violated a Reliability Standard.

"Compliance and Certification Manager" means individual/individuals within the Regional Entity that is/are responsible for monitoring compliance of entities with applicable NERC Reliability Standards.

"Compliance Audit" means a systematic, objective review and examination of records and activities to determine whether a Registered Entity meets the Requirements of applicable Reliability Standards.

"Compliance Audit Participants" means Registered Entities scheduled to be audited and the audit team members.

"Compliance Enforcement Authority" means NERC or the Regional Entity in their respective roles of monitoring and enforcing compliance with the NERC Reliability Standards.

"Compliance Enforcement Authority's Area of Responsibility" means the Compliance Enforcement Authority's Region. If a Regional Entity is the Compliance Enforcement Authority, the Compliance Enforcement Authority's Area of Responsibility is shown in Exhibit A to the delegation agreement between the Regional Entity and NERC.

"Compliance Exception" means a noncompliance that is addressed in Appendix 4C and is not pursued through an enforcement action under Section 5.0 of Appendix 4C to these Rules of Procedure by a Compliance Enforcement Authority.

"Compliance Investigation" means a comprehensive investigation, which may include an on-site visit with interviews of the appropriate personnel, to determine if a violation of a Reliability Standard has occurred.

"Compliance Monitoring and Enforcement Program" or "CMEP" means, depending on the context (1) the NERC *Compliance Monitoring and Enforcement Program* (Appendix 4C to the NERC Rules of Procedure) or the Commission-approved program of a Regional Entity, as applicable, or (2) the program, department or organization within NERC or a Regional Entity that is responsible for performing compliance monitoring and enforcement activities with respect to Registered Entities' compliance with Reliability Standards.

"Compliant Date" means the date by which a Responsible Entity is required to be in compliance with an Applicable Requirement of a CIP Standard.

"Confidential Business and Market Information" means any information that pertains to the interests of any entity, that was developed or acquired by that entity, and that is proprietary or competitively sensitive.

"Confidential Information" means (i) Confidential Business and Market Information; (ii) Critical Electric Infrastructure Information; (iii) Critical Energy Infrastructure Information; (iv) personnel information that identifies or could be used to identify a specific individual, or reveals personnel, financial, medical, or other personal information; (v) work papers, including any records produced for or created in the course of an evaluation or audit; (vi) investigative files, including any records produced for or created in the course of an investigation; or (vii) Cyber Security Incident Information; provided, that public information developed or acquired by an entity shall be excluded from this definition; or (vii) for purposes of Appendix 4D, any other information that is designated as Confidential Information in Section 11.0 of Appendix 4D.

"Confirmed Violation" means an Alleged Violation for which (1) the Registered Entity has accepted or not contested the Notice of Alleged Violation and Penalty or Sanction or other notification of the Alleged Violation, or (2) there has been the issuance of a final order from NERC or a Hearing Body finding a violation, Penalty or sanction, or (3) the period for requesting a hearing or an appeal has expired, or (4) the Registered Entity has executed a settlement agreement pursuant to Section 5.6.

"Consolidated Hearing Process" means the process pursuant to Section 403.15B used to conduct hearings and issue decisions concerning disputed compliance matters in accordance with Attachment 2, Hearing Procedures, of Appendix 4C.

"Continuing Education Hour" or "CE Hour" means based on sixty clock minutes, and includes at least fifty minutes of participation in a group or self-study learning activity that meets the criteria of the NERC Continuing Education Program.

"Continuing Education Program Provider" or "Provider" means the individual or organization offering a learning activity to participants and maintaining documentation required by Section 600 of the Rules of Procedure.

"Coordinated Functional Registration" means where two or more entities (parties) agree in writing upon a division of compliance responsibility among the parties for one or more Reliability Standard(s) applicable to a particular function, and/or for one or more Requirement(s)/sub-Requirement(s) within particular Reliability Standard(s).

"Covered Asset" means any BES Cyber Asset, BES Cyber System, Protected Cyber Asset, Electronic Access Control or Monitoring System, or Physical Access Control System that is subject to an Applicable Requirement.

"Credential" means a NERC designation that indicates the level of qualification achieved (i.e., reliability operator; balancing, interchange, and transmission operator; balancing and interchange operator; and transmission operator).

"Critical Electric Infrastructure" means a system or asset of the bulk power system, whether physical or virtual, the incapacity or destruction of which would negatively affect national security, economic security, public health or safety, or any combination of such matters.

"Critical Electric Infrastructure Information" means information related to proposed or existing Critical Electric Infrastructure. Such term includes information that qualifies as Critical Energy Infrastructure Information as defined herein.

"Critical Energy Infrastructure Information" means specific engineering, vulnerability, or detailed design information about proposed or existing Critical Infrastructure that (i) relates details about the production, generation, transportation, transmission, or distribution of energy; (ii) could be useful to a person in planning an attack on Critical Infrastructure; and (iii) does not simply give the location of the Critical Infrastructure.++

"Critical Infrastructure" means existing and proposed systems and assets, whether physical or virtual, the incapacity or destruction of which would negatively affect security, economic security, public health or safety, or any combination of those matters.++

"Critical Infrastructure Protection Standard" or "CIP Standard" means any of NERC Reliability Standards included in the Critical Infrastructure Protection group of Reliability Standards that is adopted by the NERC Board of Trustees according to the NERC *Bylaws* and *Rules of Procedure* and approved by Applicable Governmental Authorities.

"Cross-Border Regional Entity" means a Regional Entity that encompasses a part of the United States and a part of Canada or Mexico.++

"Cyber Assets" means programmable electronic devices, including hardware, software, and data in those devices.**

"Cyber Security Incident" means any malicious or suspicious event that disrupts, or was an attempt to disrupt, the operation of those programmable electronic devices and communications networks including hardware, software and data that are essential to the Reliable Operation of the Bulk Power System.++

"Cyber Security Incident Information" means any information related to, describing, or which could be used to plan or cause a Cyber Security Incident.

"Days", as used in Appendix 5A with respect to the Registration and Certification processes, means calendar days.

"Deactivation," as used in Appendix 5A with respect to the Registration processes, refers to removal of an entity from the NCR for a specific functional category. As a result of deactivation,

the entity is no longer subject to any prospective compliance obligations with respect to Reliability Standards applicable to that functional category.

"Delegate" means a person to whom the CIP Senior Manager of a Responsible Entity has delegated authority pursuant to Requirement R4 of CIP Standard CIP-003 (or any successor provision).

"Director of Compliance" means the Director of Compliance of NERC or of the Compliance Enforcement Authority, as applicable, or other individual designated by the Compliance Enforcement Authority who is responsible for the management and supervision of Compliance Staff, or his or her designee.

"Director of Enforcement" means the Director of Enforcement of NERC or of the Compliance Enforcement Authority, as applicable, or other individual designated by the Compliance Enforcement Authority who is responsible for the management and supervision of Enforcement Staff, or his or her designee.

"Disapproval of the Exception Request" or "Disapproval" means the determination by NERC that an Exception Request does not meet the criteria to receive the requested Exception.

"Distribution Factor" means the portion of an Interchange Transaction, typically expressed in per unit that flows across a transmission facility (Flowgate).**

"Distribution Provider" means the entity that provides and operates the "wires" between the transmission system and the end-use customer. For those end-use customers who are served at transmission voltages, the Transmission Owner also serves as the Distribution Provider. Thus, the Distribution Provider is not defined by a specific voltage, but rather as performing the distribution function at any voltage.**

"Document" means, in addition to the commonly understood meaning of the term as information written or printed on paper, any electronically stored information, including writings, drawings, graphs, charts, photographs, sound recordings, images and other data or data compilations stored in any medium from which information can be obtained, and shall be translated by the producing party into reasonably usable form.

"Electric Reliability Organization" or "ERO" means the organization that is certified by the Commission under Section 39.3 of its regulations, the purpose of which is to establish and enforce Reliability Standards for the Bulk Power System in the United States, subject to Commission review. The organization may also have received recognition by Applicable Governmental Authorities in Canada and Mexico to establish and enforce Reliability Standards for the Bulk Power Systems of the respective countries.

"Electronic Access Control or Monitoring Systems" means Cyber Assets that perform electronic access control or electronic access monitoring of the Electronic Security Perimeter(s) or BES Cyber Systems. This includes Intermediate Systems.**

"Electronic Access Point" means a Cyber Asset interface on an Electronic Security Perimeter that allows routable communication between Cyber Assets outside an Electronic Security Perimeter and Cyber Assets inside an Electronic Security Perimeter.**

"Electronic Security Perimeter" means the logical border surrounding a network to which BES Cyber Systems are connected using a routable protocol.**

"Element" means 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.**

"Eligible Reviewer" means a person who has the required security clearances or other qualifications, or who otherwise meets the applicable criteria, to have access to Confidential Information, Classified National Security Information, NRC Safeguards Information or Protected FOIA Information, as applicable to the particular information to be reviewed.

"End Date" means the last date of the period to be covered in a Compliance Audit.

"Essential Actions" or "Level 3 (Essential Actions)" is a notification issued by NERC in accordance with Section 810.3.3 of the Rules of Procedure.

"Evidentiary Hearing" means a hearing at which one or more Participants submits evidence for the record. A Testimonial Hearing is an Evidentiary Hearing, but an Evidentiary Hearing does not necessarily include the presentation of testimony by witnesses in person.

"Exception" means either an Inclusion Exception or an Exclusion Exception.

"Exception Procedure" means the procedure set forth in Appendix 5C.

"Exception Request" means a request made by a Submitting Entity in accordance with Appendix 5C for an Exception.

"Exception Request Form" means the form adopted by each Regional Entity, in accordance with a template provided by NERC, for use by Submitting Entities in submitting Exception Requests; provided, that the Exception Request Form must include Section III.B as adopted by NERC.

"Exclusion Exception" means a determination that an Element that falls within the BES Definition should be excluded from the BES.

"Facility" means a set of electrical equipment that operates as a single Bulk Electric System Element (e.g., a line, a generator, a shunt compensator, transformer, etc.)**

"FERC" means the United States Federal Energy Regulatory Commission.

"Final Penalty Amount" means the final, proposed Penalty for violation of a Reliability Standard, determined in accordance with the *Sanction Guidelines*.

"Find, Fix, Track and Report" or "FFT" means a streamlined process, addressed in Appendix 4C, to resolve minimal or moderate risk, remediated noncompliance that are not assessed a financial penalty.

"Flowgate" means 1.) A portion of the Transmission system through which the Interchange Distribution Calculator calculates the power flow from Interchange Transactions. 2.) A mathematical construct, comprised of one or more monitored transmission Facilities and optionally one or more contingency Facilities, used to analyze the impact of power flows upon the Bulk Electric System.**

"FOIA" means the U.S. Freedom of Information Act, 5 U.S.C. §552.

"Footprint" means the geographical or electric area served by an entity.

"Frequency Response Sharing Group" means a group whose members consist of two or more Balancing Authorities that collectively maintain, allocate, and supply operating resources required to jointly meet the sum of the Frequency Response Obligations of its members.**

"Functional Entity" means an entity responsible for a function that is required to ensure the Reliable Operation of the electric grid as identified in the NERC Reliability Standards.

"Generator Operator" means the entity that: 1) operates generating Facility(ies) and performs the functions of supplying energy and Interconnected Operations Services (Category 1 GOP); or 2) operates non-BES inverter based generating resources that either have or contribute to an aggregate nameplate capacity of greater than or equal to 20 MVA, connected through a system designed primarily for delivering such capacity to a common point of connection at a voltage greater than or equal to 60 kV (Category 2 GOP).

"Generator Owner" means an entity that: 1) owns and maintains generating Facility(ies) (Category 1 GO); or 2) owns and maintains non-BES inverter based generating resources that either have or contribute to an aggregate nameplate capacity of greater than or equal to 20 MVA, connected through a system designed primarily for delivering such capacity to a common point of connection at a voltage greater than or equal to 60 kV(Category 2 GO).

"Hearing Body" means the body designated by the Compliance Enforcement Authority to conduct hearings and issue decisions concerning disputed compliance matters in accordance with Attachment 2, Hearing Procedures, of Appendix 4C.

"Hearing Officer" means, depending on the context, (i) an individual employed or contracted by the Compliance Enforcement Authority or NERC to preside over hearings conducted pursuant to Attachment 2, Hearing Procedures, of Appendix 4C; the Hearing Officer shall not be a member of the Hearing Body, or (ii) solely for hearings conducted pursuant to Appendix 4E, (A) a CCC member or (B) an individual employed or contracted by NERC, as designated and approved by the CCC to preside over hearings conducted pursuant to the Hearing Procedures in Appendix E; the Hearing Officer shall not be a member of the Hearing Panel.

"Hearing Panel" means the five person hearing body established as set forth in the CCC Charter on a case by case basis and that is responsible for adjudicating a matter as set forth in Appendix 4E.

"Hearing Procedures" means, depending on the context, (i) Attachment 2 to the NERC or a Regional Entity CMEP, as applicable, or (ii) the hearing procedures of the NERC Compliance and Certification Committee in Appendix 4E.

"Inclusion Exception" means a determination that an Element that falls outside the BES Definition should be included in the BES.

"Inherent Risk Assessment" or "IRA" means a review by the Compliance Enforcement Authority of potential risks posed by an individual Registered Entity to the reliability of the Bulk Power System. An IRA considers factors such as, but is not limited to, assets, system, geography, interconnectivity, prior compliance history and factors unique to the Registered Entity. The results of an entity-specific IRA may result in the scope of compliance monitoring for a particular Registered Entity to include more, fewer, or different Reliability Standards than those contained in the annual ERO CMEP Implementation Plan.

"Interactive Remote Access" means user-initiated access by a person employing a remote access client or other remote access technology using a routable protocol. Remote access originates from a Cyber Asset that is not an Intermediate System and not located within any of the Responsible Entity's Electronic Security Perimeter(s) or at a defined Electronic Access Point. Remote access may be initiated from: 1) Cyber Assets used or owned by the Responsible Entity, 2) Cyber Assets used or owned by employees, and 3) Cyber Assets used or owned by vendors, contractors, or consultants. Interactive remote access does not include system-to-system process communications.**

"Interchange" means energy transfers that cross Balancing Authority boundaries.**

"Interchange Authority" means the responsible entity that authorizes the implementation of valid and balanced Interchange Schedules between Balancing Authority Areas, and ensures communication of Interchange information for reliability assessment purposes.**

"Interchange Distribution Calculator" means the mechanism used by Reliability Coordinators in the Eastern Interconnection to calculate the distribution of Interchange Transactions over specific Flowgates. It includes a database of all Interchange Transactions and a matrix of the Distribution Factors for the Eastern Interconnection.**

"Interchange Schedule" means an agreed-upon Interchange Transaction size (megawatts), start and end time, beginning and ending ramp times and rate, and type required for delivery and receipt of power and energy between the Source and Sink Balancing Authorities involved in the transaction.**

"Interchange Transaction" means an agreement to transfer energy from a seller to a buyer that crosses one or more Balancing Authority Area boundaries.**

"Interconnected Operations Service" means a service (exclusive of basic energy and Transmission Services) that is required to support the Reliable Operation of interconnected Bulk Electric Systems.**

"Interconnection" means a geographic area in which the operation of Bulk Power System components is synchronized such that the failure of one or more of such components may adversely affect the ability of the operators of other components within the system to maintain Reliable Operation of the Facilities within their control.++ When capitalized, any one of the four major electric system networks in North America: Eastern, Western, ERCOT and Quebec.**

"Interconnection Reliability Operating Limit" means a System Operating Limit that, if violated, could lead to instability, uncontrolled separation, or Cascading outages that adversely impact the reliability of the Bulk Electric System.**

"Intermediate System" means a Cyber Asset or collection of Cyber Assets performing access control to restrict Interactive Remote Access to only authorized users. The Intermediate System must not be located inside the Electronic Security Perimeter.**

"Internal Control Evaluation" or "ICE" means a review by the Compliance Enforcement Authority of a Registered Entity's internal controls. The ICE may further refine the compliance oversight plan, including the scope of an audit, the type and application of compliance monitoring tools, the depth and breadth of a particular area of review.

"Interpretation" means an addendum to a Reliability Standard, developed in accordance with the NERC *Standard Processes Manual* and approved by the Applicable Governmental Authority(ies), that provides additional clarity about one or more Requirements in the Reliability Standard.

"ISO/RTO" means an independent transmission system operator or regional transmission organization approved by the FERC or the Public Utility Commission of Texas.

"Joint Registration Organization" means two or more entities (the parties) agree in writing upon a division of compliance responsibility where an entity registers in the Compliance Registry for one or more function type(s) for itself and on behalf of one or more other parties to such agreement for function type(s) for which such parties would otherwise be required to register.

"Lead Entity" means (1) within the meaning of Appendices 5A and 5B, the entity identified in a Joint Registration Organization or Coordinated Functional Registration agreement as the primary Point of Contact that administers that agreement with NERC and the applicable Regional Entity(ies), and (2) within the meaning of Appendix 5C, the entity that submits the Exception Request information that is common to a group of Submitting Entities that are submitting Exception Requests jointly.

"Lead Mediator" means a member of a mediation team formed pursuant to Appendix 4E who is selected by the members to coordinate the mediation process and serve as the mediation team's primary contact with the Parties.

"Load" means an end-use device or customer that receives power from the electric system.**

"Load-Serving Entity" means an entity that secures energy and Transmission Service (and related Interconnected Operations Services) to serve the electrical demand and energy requirements of its end-use customers.**

"Mapping" means the process of determining whether a Regional Entity's Footprint is being served by Registered Entities.

"Material Change" means a change in facts that modifies Required Information in connection with an approved TFE. Examples of a Material Change could include, but are not limited to an increase in device count (but not a decrease), change in compensating measures, change in statement of basis for approval for the TFE, a change in the TFE Expiration Date, or a Responsible Entity achieving Strict Compliance with the Applicable Requirement.

"Material Change Report" means a report submitted by the Responsible Entity to the Regional Entity in the event there is a Material Change to the facts underlying an approved TFE pursuant to Section 4.0 of Appendix 4D.

"Mediation Settlement Agreement" means a written agreement entered into by the Parties to a mediation pursuant to Appendix 4E that resolves the dispute.

"Member" means a member of NERC pursuant to Article II of its Bylaws.

"Member Representatives Committee" or "MRC" means the body established pursuant to Article VIII of the NERC Bylaws.

"Mexican Entity" means a Registered Entity that is organized under Mexican law.

"Mitigating Activities" means actions taken by a Registered Entity to correct and prevent recurrence of a noncompliance, whether or not the actions are embodied in a Mitigation Plan.

"Mitigation Plan" means an action plan developed by the Registered Entity to (1) correct a noncompliance with a Reliability Standard and (2) prevent re-occurrence of the violation.

"NERC-Approved Learning Activity" means training that maintains or improves professional competence and has been approved by NERC for use in its Continuing Education Program.

"NERC Compliance Monitoring and Enforcement Program Implementation Plan," "NERC Implementation Plan" or "ERO Compliance Monitoring and Enforcement Program (CMEP) Implementation Plan" means the annual ERO CMEP Implementation Plan that identifies the risk elements to prioritize risks to the Bulk Power System. These risk elements and related NERC

Reliability Standards and Requirements become inputs for Regional Entities in their compliance oversight for individual Registered Entities. The ERO CMEP Implementation Plan may be updated more often than annually as needed.

"NERC Compliance Registry," "Compliance Registry" or "NCR" means a list, maintained by NERC pursuant to Section 500 of the NERC Rules of Procedure and Appendix 5B, the NERC *Statement of Compliance Registry Criteria*, of the owners, operators and users of the Bulk Power System, and the entities registered as their designees, that perform one or more functions in support of reliability of the Bulk Power System and are required to comply with one or more Requirements of Reliability Standards.

"NERC Identification Number" or "NERC ID" means a number given to NERC Registered Entities that will be used to identify the entity for certain NERC activities. Corporate entities may have multiple NERC IDs to show different corporate involvement in NERC activities.

"NERC Organization Certification" or "Organization Certification" means the process undertaken by NERC and a Regional Entity to verify that a new entity is capable of responsibilities for tasks associated with a particular function such as a Balancing Authority, Transmission Operator, and/or Reliability Coordinator; such certification activities are further described in Section 500 and Appendix 5A of the NERC Rules of Procedure.

"Net Energy for Load" or "NEL" means net generation of an electric system plus energy received from others less energy delivered to others through interchange. It includes system losses but excludes energy required for the storage of energy at energy storage facilities.

"Notice of Alleged Violation and Proposed Penalty or Sanction" means a notice issued by the Compliance Enforcement Authority to a Registered Entity pursuant to Section 5.3 of Appendix 4C.

"Notice of Completion of Enforcement Action" means a notice issued by the Compliance Enforcement Authority to a Registered Entity, pursuant to Section 5.10 of Appendix 4C, stating than an enforcement action is closed.

"Notice of Confirmed Violation" means a notice issued by the Compliance Enforcement Authority to a Registered Entity confirming the violation of one or more Reliability Standards.

"Notice of Penalty" means a notice prepared by NERC and filed with FERC, following approval by NERC of a Notice or other notification of Confirmed Violation or a settlement agreement, stating the Penalty or sanction imposed or agreed to for the Confirmed Violation or as part of the settlement.

"Notice of Preliminary Screen" means a notice issued by the Compliance Enforcement Authority to a Registered Entity that (1) states a potential noncompliance has been identified, (2) provides a brief description of the potential noncompliance, including the Reliability Standard Requirement(s) and the date(s) involved, and (3) instructs the Registered Entity to retain and preserve all data and records relating to the potential noncompliance.

"NRC" means the United States Nuclear Regulatory Commission.

"NRC Safeguards Information" means Required Information that is subject to restrictions on disclosure pursuant to 42 U.S.C. §2167 and the regulations of the NRC at 10 C.F.R. §73.21-73.23; or pursuant to comparable provisions of Canadian federal or provincial law.

"Open Access Transmission Tariff" means an electronic transmission tariff accepted by the U.S. Federal Energy Regulatory Commission requiring the Transmission Service Provider to furnish to all shippers with non-discriminating service comparable to that provided by Transmission Owners to themselves.**

"Owner" means the owner(s) of an Element or Elements that is or may be determined to be part of the BES as a result of either the application of the BES Definition or an Exception, or another entity, such as an operator, authorized to act on behalf of the owner of the Element or Elements in the context of an Exception Request.

"Participant" means a Respondent and any other Person who is allowed or required by the Hearing Body or by FERC to participate as an intervenor in a proceeding conducted pursuant to the Hearing Procedures, and as used in the Hearing Procedures shall include, depending on the context, the members of the Compliance Staff that participate in a proceeding or the members of the Certification Staff that participate in a proceeding pursuant to Appendix 4E.

"Party" or "Parties" means a Person or the Persons participating in a mediation pursuant to Appendix 4E.

"Penalty" means and includes all penalties and sanctions, including but not limited to a monetary or non-monetary penalty; a limitation on an activity, function, operation or other appropriate sanction; or the addition of the Registered Entity or Respondent to a reliability watch list composed of major violators. Penalties must be within the range set forth in the NERC *Sanction Guidelines* approved by FERC pursuant to 18 C.F.R. Section 39.7(g)(2), and shall bear a reasonable relation to the seriousness of a Registered Entity's or Respondent's violation and take into consideration any timely efforts made by the Registered Entity or Respondent to remedy the violation.

"Periodic Data Submittals" means modeling, studies, analyses, documents, procedures, methodologies, operating data, process information or other information to demonstrate compliance with Reliability Standards and provided by Registered Entities to the Compliance Enforcement Authority on a time frame required by a Reliability Standard or an ad hoc basis.

"Person" means any individual, partnership, corporation, limited liability company, governmental body, association, joint stock company, public trust, organized group of persons, whether incorporated or not, or any other legal entity.

"Planning Authority" means the responsible entity that coordinates and integrates transmission Facilities and service plans, resource plans, and Protection Systems.**

"Physical Access Control Systems" means Cyber Assets that control, alert, or log access to the Physical Security Perimeter(s), exclusive of locally mounted hardware or devices at the Physical Security Perimeter such as motion sensors, electronic lock control mechanisms, and badge readers.**

"Physical Security Perimeter" means the physical border surrounding locations in which BES Cyber Assets, BES Cyber Systems, or Electronic Access Control or Monitoring Systems reside, and for which access is controlled.**

"Point of Delivery" means a location that a Transmission Service Provider specifies on its transmission system where an Interchange Transaction leaves or a Load-Serving Entity receives its energy.**

"Point of Receipt" means a location that the Transmission Service Provider specifies on its transmission system where an Interchange Transaction enters or a generator delivers its output.**

"Potential Noncompliance" means the identification, by the Compliance Enforcement Authority, of a possible failure by a Registered Entity to comply with a Reliability Standard that is applicable to the Registered Entity.

"Preliminary Screen" means an initial evaluation of evidence indicating potential noncompliance with a Reliability Standard has occurred or is occurring, conducted by the Compliance Enforcement Authority, and consisting of an evaluation of whether (1) the entity allegedly involved in the potential noncompliance is registered, (2) the Reliability Standard Requirement to which the evidence of potential noncompliance relates is applicable to a reliability function for which the entity is registered, and (3) if known, the potential noncompliance is not a duplicate of one that is currently being processed.

"Probation" means a step in the disciplinary process pursuant to Section 605 of the Rules of Procedure during which the certificate is still valid. During the probationary period, a subsequent offense of misconduct, as determined through the same process as described above, may be cause for more serious consequences.

"Protected Cyber Asset" means one or more Cyber Assets connected using a routable protocol within or on an Electronic Security Perimeter that is not part of the highest impact BES Cyber System within the same Electronic Security Perimeter. The impact rating of Protected Cyber Assets is equal to the highest rated BES Cyber System in the same Electronic Security Perimeter.**

"Protected FOIA Information" means Required Information, held by a governmental entity, that is subject to an exemption from disclosure under FOIA (5 U.S.C. §552(e)), under any similar state or local statutory provision, or under any comparable provision of Canadian federal or provincial law, which would be lost were the Required Information to be placed into the public domain.

"Protection System" means protective relays which respond to electrical quantities, communications systems necessary for correct operation of protective functions, voltage and current sensing devices providing inputs to protective relays, station dc supply associated with

protective functions (including station batteries, battery chargers, and non-battery-based dc supply), and control circuitry associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.**

"Purchasing-Selling Entity" means the entity that purchases, or sells, and takes title to, energy, capacity, and Interconnected Operations Services. Purchasing-Selling Entities may be affiliated or unaffiliated merchants and may or may not own generating facilities.**

"Reactivation" refers to re-registration pursuant to the NERC Rules of Procedure Section 500 and Appendices 5A and 5B of an entity to the NCR for a specific functional category or the revocation of, or additions to, a sub-set list of Reliability Standards (which specifies Reliability Standards and may specify Requirements/sub-Requirements) that has been granted to an entity. Reactivation may be initiated by NERC, a Regional Entity or an entity with respect to such entity's own functional categories or sub-set list of Reliability Standards (which specifies Reliability Standards and may specify Requirements/sub-Requirements).

"Reactive Power" means the portion of electricity that establishes and sustains the electric and magnetic fields of alternating-current equipment. Reactive Power must be supplied to most types of magnetic equipment, such as motors and transformers. It also must supply the reactive losses on transmission facilities. Reactive Power is provided by generators, synchronous condensers, or electrostatic equipment such as capacitors and directly influences electric system voltage. It is usually expressed in kilovars (kvar) or megavars (Mvar).**

"Real Power" means the portion of electricity that supplies energy to the Load.**

"Receiving Entity" means NERC or a Regional Entity receiving Confidential Information from an owner, operator, or user of the Bulk Power System or from any other party.

"Recommendation" for purposes of Appendix 5C means the report to NERC containing the evaluation prepared in accordance with section 5.2 of Appendix 5C concerning whether or to what extent an Exception Request should be approved.

"Recommendations" or "Level 2 (Recommendations)" is a notification issued by NERC in accordance with Section 810.3.2 of the Rules of Procedure.

"Region" means the geographic area, as specified in a Regional Entity's delegation agreement with NERC, within which the Regional Entity is responsible for performing delegated functions.

"Regional Criteria" means reliability requirements developed by a Regional Entity that are necessary to implement, to augment, or to comply with Reliability Standards, but which are not Reliability Standards. Such Regional Criteria may be necessary to account for physical differences in the Bulk Power System but are not inconsistent with Reliability Standards nor do they result in lesser reliability. Such Regional Criteria are not enforceable pursuant to NERC-delegated authorities, but may be enforced through other available mechanisms. Regional Criteria may include specific acceptable operating or planning parameters, guides, agreements, protocols or other documents.

"Regional Entity" means an entity having enforcement authority pursuant to 18 C.F.R. § 39.8.++

"Regional Reliability Standard" means a type of Reliability Standard that is applicable only within a particular Regional Entity or group of Regional Entities. A Regional Reliability Standard may augment, add detail to, or implement another Reliability Standard or cover matters not addressed by other Reliability Standards. Regional Reliability Standards, upon adoption by NERC and approval by the Applicable Governmental Authority(ies), shall be Reliability Standards and shall be enforced within the applicable Regional Entity or Regional Entities pursuant to delegated authorities or to procedures prescribed by the Applicable Governmental Authority.

"Registered Ballot Body" means that aggregation of all entities or individuals that qualify for one of the Segments approved by the Board of Trustees, and are registered with NERC as potential ballot participants in the voting on proposed Reliability Standards.

"Registered Entity" means an owner, operator, or user of the Bulk Power System, or the entity registered as its designee for the purpose of compliance, that is included in the NERC Compliance Registry.

"Registration" or "Organization Registration" means the processes undertaken by NERC and Regional Entities to identify which entities are responsible for reliability functions within the Regional Entity's Region.

"Regulation Reserve Sharing Group" means a group whose members consist of two or more Balancing Authorities that collectively maintain, allocate, and supply the Regulating Reserve required for all member Balancing Authorities to use in meeting applicable regulating standards.**

"Rejection of the Exception Request" or "Rejection" means the determination that an Exception Request is not an eligible Exception Request (i.e., a Request permitted by section 4.1 of Appendix 5C) or does not contain all the Required Information in accordance with section 4.5 of Appendix 5C in order to be reviewed for substance.

"Reliability Coordinator" means the entity that is the highest level of authority who is responsible for the Reliable Operation of the Bulk Electric System, has the Wide Area view of the Bulk Electric System, and has the operating tools, processes and procedures, including the authority to prevent or mitigate emergency operating situations in both next-day analysis and real-time operations. The Reliability Coordinator has the purview that is broad enough to enable the calculation of Interconnection Reliability Operating Limits, which may be based on the operating parameters of transmission systems beyond any Transmission Operator's vision.**

"Reliability Coordinator Area" means the collection of generation, transmission and loads within the boundaries of the Reliability Coordinator. Its boundary coincides with one or more Balancing Authority Areas.**

"Reliability Standard" means a requirement, approved by the United States Federal Energy Regulatory Commission under Section 215 of the Federal Power Act, or approved or recognized

by an applicable governmental authority in other jurisdictions, to provide for Reliable Operation of the Bulk Power System. The term includes requirements for the operation of existing Bulk Power System facilities, including cybersecurity protection, and the design of planned additions or modifications to such facilities to the extent necessary to provide for Reliable Operation of the Bulk Power System, but the term does not include any requirement to enlarge such facilities or to construct new transmission capacity or generation capacity.++ (In certain contexts, this term may also refer to a "Reliability Standard" that is in the process of being developed, or not yet approved or recognized by FERC or an applicable governmental authority in other jurisdictions.)

"Reliability Standards Development Plan" means the forward-looking plan developed by NERC on an annual basis setting forth the Reliability Standards development projects that are scheduled to be worked on during the ensuing three-year period, as specified in Section 310 of the Rules of Procedure.

"Reliable Operation" means operating the elements of the Bulk Power System within equipment and electric system thermal, voltage, and stability limits so that instability, uncontrolled separation, or cascading failures of such system will not occur as a result of a sudden disturbance, including a cybersecurity incident, or unanticipated failure of system elements.++

"Remedial Action Directive" means an action (other than a Penalty or sanction) required by a Compliance Enforcement Authority that (1) is to bring a Registered Entity into compliance with a Reliability Standard or to avoid a Reliability Standard violation, and (2) is immediately necessary to protect the reliability of the Bulk Power System from an imminent or actual threat.

"Reporting Entity" means an entity required to provide data or information requested by NERC or a Regional Entity in a request for data or information pursuant to Section 1600 of the Rules of Procedure.

"Requirement" means an explicit statement in a Reliability Standard that identifies the functional entity responsible, the action or outcome that must be achieved, any conditions achieving the action or outcome, and the reliability-related benefit of the action or outcome. Each Requirement shall be a statement with which compliance is mandatory.

"Required Date" means the date given a Registered Entity in a notice from the Compliance Enforcement Authority by which some action by the Registered Entity is required.

"Required Information" means, as applicable, either (i) the information required to be provided in a TFE Request, as specified in Section 4.0 of Appendix 4D; or (ii) the information required to be provided in an Exception Request, as specified in section 4.0 of Appendix 5C.

"Requirement Part" means a component of a Requirement that is designated by a decimal number (e.g., Requirement R1 could have Requirement Parts 1.1, 1.2 and 1.3).

"Reserve Sharing Group" means a group whose members consist of two or more Balancing Authorities that collectively maintain, allocate, and supply Operating Reserves required for each Balancing Authority's use in recovering from contingencies within the group. Scheduling energy

from an Adjacent Balancing Authority to aid recovery need not constitute reserve sharing provided the transaction is ramped in over a period the supplying party could reasonably be expected to load generation in (e.g., ten minutes). If the transaction is ramped in more quickly (e.g., between zero and ten minutes) then, for the purposes of recovery from a Reportable Balancing Contingency Event, the areas become a Reserve Sharing Group.**

"Resource Planner" means the entity that develops a long-term (generally one year and beyond) plan for the resource adequacy of specific loads (customer demand and energy requirements) within a Planning Authority area.**

"Respondent" means, depending on the context, the Registered Entity, who is the subject of the Notice of Alleged Violation, contested Mitigation Plan or contested Remedial Action Directive that is the basis for the proceeding, whichever is applicable, or the Registered Entity that is the subject of the Certification decision that is the basis for a proceeding under Appendix 4E.

"Responsible Entity" means an entity that is registered for a reliability function in the NERC Compliance Registry and is responsible for complying with any Requirement, or Requirement Part.

"Revoked" means a NERC certificate that has been suspended for more than twelve months. While in this state, a certificate holder can not perform any task that requires an operator to be NERC-certified. The certificate holder will be required to pass an exam to be certified again. Any CE Hours accumulated prior to or during the revocation period will not be counted towards Credential Maintenance.

"Revoke for Cause" means a step in the disciplinary process pursuant to Section 605 of the Rules of Procedure during which the certificate is no longer valid and requiring successfully passing an exam to become certified. However, an exam will not be authorized until the revocation period expires. CE Hours earned before or during this revocation period will not be counted for maintaining a Credential.

"Scope of Responsibility" means the registered functions of a Planning Authority, Reliability Coordinator, Transmission Operator, Transmission Planner or Balancing Authority and the geographical or electric region in which the Planning Authority, Reliability Coordinator, Transmission Operator, Transmission Planner or Balancing Authority operates to perform its registered functions, or with respect to a Regional Entity, its Regional Entity Region.

"Section I Required Information" means Required Information that is to be provided in Section I of a Submitting Entity's Exception Request.

"Section II Required Information" means Required Information that is to be provided in Section II of a Submitting Entity's Exception Request.

"Section III Required Information" means Required Information that is to be provided in Section III of a Submitting Entity's Exception Request.

"Sector" means a group of Members of NERC that are Bulk Power System owners, operators, or users or other persons and entities with substantially similar interests, including governmental entities, as pertinent to the purposes and operations of NERC and the operation of the Bulk Power System, as defined in Article II, Section 4 of the NERC Bylaws. Each Sector shall constitute a class of Members for purposes of the New Jersey Nonprofit Corporation Act.

"Segment" means one of the subsets of the Registered Ballot Body whose members meet the qualification criteria for the subset.

"Self-Certification" means an attestation by a Registered Entity that it is compliant or non-compliant with a Reliability Standard Requirement that is the subject of the Self-Certification, or that it does not own Facilities that are subject to the Reliability Standard Requirement, or that the Reliability Standard Requirement is not applicable to the Registered Entity.

"Self-Logging" means a process by which Registered Entities found to be eligible by a Compliance Enforcement Authority, after a formal review of internal controls, record potential noncompliance on a log, in accordance with Appendix 4C, in lieu of individually submitted Self-Reports of each potential noncompliance.

"Self-Report" means a report by a Registered Entity stating that the Registered Entity believes it has, or may have, violated a Reliability Standard.

"Sink Balancing Authority" means the Balancing Authority in which the load (sink) is located for an Interchange Transaction and any resulting Interchange Schedule.**

"Source Balancing Authority" means the Balancing Authority in which the generation (source) is located for an Interchange Transaction and for any resulting Interchange Schedule.**

"Special Protection System" means an automatic protection system designed to detect abnormal or predetermined system conditions, and take corrective actions other than and/or in addition to the isolation of faulted components to maintain system reliability. Such action may include changes in demand, generation (MW and Mvar), or system configuration to maintain system stability, acceptable voltage, or power flows. A Special Protection System does not include (a) underfrequency or undervoltage Load shedding or (b) fault conditions that must be isolated, or (c) out-of-step relaying (not designed as an integral part of a Special Protection System).**

"Spot Check" means a process in which the Compliance Enforcement Authority requests a Registered Entity to provide information (1) to support the Registered Entity's Self-Certification, Self-Report, or Periodic Data Submittal and to assess whether the Registered Entity complies with Reliability Standards, or (2) as a random check, or (3) in response to operating problems or system events.

"Staff" or "CMEP Staff" means individuals employed or contracted by NERC or the Compliance Enforcement Authority who have the authority to make initial determinations of compliance or violation with Reliability Standards by Registered Entities and associated Penalties and Mitigation Plans.

"Strict Compliance" means compliance with the terms of an Applicable Requirement without reliance on a Technical Feasibility Exception.

"Submitting Entity" means (i) an owner, operator, or user of the Bulk Power System or any other party that submits information to NERC or a Regional Entity that it reasonably believes contains Confidential Information or, (ii) solely for purposes of Appendix 5C, the entity that submits an Exception Request in accordance with section 4.0 of Appendix 5C.

"Suspended" means certificate status due to an insufficient number of CE Hours being submitted prior to the expiration of a certificate. While in this state, a certificate holder can not perform any task that requires an operator to be NERC-certified.

"System" means a combination of generation, transmission and distribution components.**

"System Operating Limit" means the value (such as MW, Mvar, amperes, frequency or volts) that satisfies the most limiting of the prescribed operating criteria for a specified system configuration to ensure operation within acceptable reliability criteria. System Operating Limits are based upon certain operating criteria. These include, but are not limited to:

- facility ratings (applicable pre- and post-contingency equipment ratings or facility ratings)
- transient stability ratings (applicable pre- and post-contingency stability limits)
- voltage stability ratings (applicable pre- and post-contingency voltage stability)
- system voltage limits (applicable pre- and post-contingency voltage limits).**

"Technical Advisor" means any Staff member, third-party contractor, or industry stakeholder who satisfies NERC's or the Compliance Enforcement Authority's (as applicable) conflict of interest policy and is selected to assist in a proceeding by providing technical advice to the Hearing Officer and/or the Hearing Body or Hearing Panel.

"Technical Feasibility Exception" or "TFE" means an exception from Strict Compliance with the terms of an Applicable Requirement on grounds of technical feasibility or technical limitations in accordance with one or more of the criteria in section 3.0 of Appendix 4D.

"Technical Review Panel" means a panel established pursuant to section 5.3 of Appendix 5C.

"Termination of Credential" means a step in the disciplinary process pursuant to Section 605 of the Rules of Procedure whereby a Credential is permanently Revoked.

"Testimonial Hearing" means an Evidentiary Hearing at which the witness or witnesses on behalf of one or more Participants appears in person to present testimony and be subject to cross-examination.

"TFE Expiration Date" means the date on which an approved TFE expires.

"TFE Request" means a request submitted by a Responsible Entity in accordance with Appendix 4D for an exception from Strict Compliance with an Applicable Requirement.

"TFE Termination Date" means the date, as specified in a notice disapproving a TFE Request or terminating an approved TFE, on which the disapproval or termination becomes effective.

"Transmission" means an interconnected group of lines and associated equipment for the movement or transfer of electric energy between points of supply and points at which it is transformed for delivery to customers or is delivered to other electric systems.**

"Transmission Customer" means 1. any eligible customer (or its designated agent) that can or does execute a Transmission Service agreement or can and does receive Transmission Service. 2. Any of the following entities: Generator Owner, Load-Serving Entity, or Purchasing-Selling Entity.

"Transmission Operator" means the entity responsible for the reliability of its "local" transmission system, and that operates or directs the operations of the transmission Facilities.**

"Transmission Owner" means the entity that owns and maintains transmission Facilities.**

"Transmission Planner" means the entity that develops a long-term (generally one year and beyond) plan for the reliability (adequacy) of the interconnected bulk electric transmission systems within its portion of the Planning Authority area.**

"Transmission Service" means services provided to the Transmission Customer by the Transmission Service Provider to move energy from a Point of Receipt to a Point of Delivery.**

"Transmission Service Provider" means the entity that administers the transmission tariff and provides Transmission Service to Transmission Customers under applicable Transmission Service agreements.**

"Variance" means an aspect or element of a Reliability Standard that applies only within a particular Regional Entity or group of Regional Entities, or to a particular entity or class of entities. A Variance allows an alternative approach to meeting the same reliability objective as the Reliability Standard, and is typically necessitated by a physical difference. A Variance is embodied within a Reliability Standard and as such, if adopted by NERC and approved by the Applicable Governmental Authority(ies), shall be enforced within the applicable Regional Entity or Regional Entities pursuant to delegated authorities or to procedures prescribed by the Applicable Governmental Authority.

"Violation Risk Factor" or "VRF" means a factor (lower, medium or high) assigned to each Requirement of a Reliability Standard to identify the potential reliability significance of noncompliance with the Requirement.

"Violation Severity Level" or "VSL" means a measure (lower, moderate, high or severe) of the degree to which compliance with a Requirement was not achieved.

"Wide Area" means the entire Reliability Coordinator Area as well as the critical flow and status information from adjacent Reliability Coordinator Areas as determined by detailed system studies to allow the calculation of Interconnected Reliability Operating Limits.**

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Exhibit C-2

Clean Version of Proposed Appendices to the ROP

Appendix 5A Clean

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Appendix 5A

Organization Registration and Certification Manual

Effective Date:, 202X

RELIABILITY | RESILIENCE | SECURITY




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Table of Contents

Section I — Executive Summary

Overview

The purpose of this document is twofold: (1) to define the process utilized in the North American Electric Reliability Corporation (NERC) Organization Registration Program for identifying which functional entities must register as owners, operators, and users of the Bulk Power System (BPS) for compliance with Reliability Standards; and (2) to define the process utilized in the Organization Certification Program for certifying the following entities: Reliability Coordinator (RC), Balancing Authority (BA), and Transmission Operator (TOP).

To Whom Does This Document Apply?

All industry participants responsible for or intending to be responsible for, the following functions must register with NERC through the Organization Registration process. The entities are defined in the NERC *Statement of Compliance Registry Criteria*, set forth in **Appendix 5B** to the NERC Rules of Procedure (ROP), with responsibilities designated by the individual Reliability Standards or by a sub-set list of the otherwise applicable Reliability Standards determined in accordance with this **Appendix 5A**, Section III(D) to the NERC ROP.

	Entities that Must Register	Entities that Need to be Certified
Reliability Coordinator (RC)	√	√
Transmission Operator (TOP)	√	√
Balancing Authority (BA)	√	√
Planning Authority/Planning Coordinator (PA/PC)	√	
Transmission Planner (TP)	√	
Transmission Service Provider (TSP)	√	
Transmission Owner (TO)	√	
Resource Planner (RP)	√	
Distribution Provider (DP)	√	
Generator Owner (GO)	√	
Generator Operator (GOP)	√	
Reserve Sharing Group (RSG)	√	
Frequency Response Sharing Group (FRSG)	√	
Regulation Reserve Sharing Group (RRSG)	√	

When did These Processes Begin?

The initial Registration process began in January of 2006. Registration of new entities is an ongoing process. If a Registered Entity's information changes, these changes must be submitted to the applicable Regional Entity(ies).

Certification is ongoing for entities in accordance with Sections IV and V of this manual.

Where to Access and Submit Form(s)?

Certification forms are provided on each Regional Entity's website. Completed forms are to be sent electronically to the Compliance and Certification Manager of the applicable Regional Entity(ies). Registration information is submitted electronically via an online application that is hosted on the NERC website. If an entity operates in more than one Region, separate Registration applications must be completed and submitted to each of the Regional Entities. NERC will coordinate process execution when an entity is registering or certifying with multiple Regional Entities.

Roles and Responsibilities

The following is a high-level overview of the roles and responsibilities in the Registration and Certification processes:

NERC

1. Oversight of entity processes performed by the Regional Entities, including:
   a. Governance per the Regional Entity's delegation agreement with NERC.
   b. Coordination of process execution when an entity is registering and/or certifying with multiple Regional Entities.
2. Manage each entity's NERC Compliance Registry identification number (NERC ID) including:
   a. Sending a Registration or Certification letter that contains the NERC ID to the applicable Regional Entity(ies) for review and approval. If the Regional Entity(ies) agrees with all the information provided, it will notify NERC to issue the NERC ID to the Registered Entity and will send a copy of the notification being provided to the Regional Entity(ies).
   b. Ensuring each Registered Entity has only one NERC ID for all Regional Entities in which registered.
3. RESERVED
4. Maintain accurate Registration and Certification records including granting Certification certificates for the Registered Entity(ies) responsible for compliance (including Joint Registration Organization (JRO)/Coordinated Functional Registration (CFR)).
5. Maintain published up-to-date list of Registered Entities (i.e. the NERC Compliance Registry (NCR)) on the NERC website. NERC maintains the NCR, which identifies each Registered Entity and the applicable functional categories for which it is registered.
6. Lead panel reviews in accordance with **Appendix 5A**, *Organization Registration and Organization Certification Manual*, Section III(D).

Regional Entity

1. Performs data collection and mapping of BPS facilities and those facilities that have a material impact on the BPS within its Regional Entity defined reliability Region boundaries.
2. Approves or disapproves entity Registration applications.
3. Reviews entity Certification applications for completeness.
4. Notifies NERC of entities registered with the Regional Entity.
5. Approves or denies Certification Team (CT) recommendations and notifies the entity and NERC of the decision.
6. Provides leadership to the CT throughout the Certification process.

Entity Submitting the Application

1. Completes and submits Registration and/or Certification application.
2. Submits updates to Registration and/or Certification information as necessary and/or requested.
3. Responds to Regional Entity and/or NERC questions pertaining to Registration and/or Certification.
4. Provides documentation or other evidence requested or required to verify compliance with Certification requirements.

Section II — Introduction to Organization Registration and Organization Certification Processes

The processes utilized to implement the Organization Registration and Organization Certification Programs are administered by each Regional Entity. Pursuant to its delegation agreement with NERC, each Regional Entity is responsible for registering and certifying industry participants within its Regional Entity reliability Region boundaries. Each Regional Entity must use the following NERC processes.

Organization Registration — Entities Required to Register

All industry participants responsible for one or more of the functions below must register for each function through the Organization Registration Program. These entities are defined in the NERC *Statement of Compliance Registry Criteria*.

- RC
- TOP
- BA
- PA/PC
- TP
- TSP
- TO
- RP
- DP
- GO
- GOP
- RSG
- FRSG
- RRSG

The Registration procedure is in Section III of this manual.

Organization Certification

Prospective and existing Registered Entities intending to perform or performing the RC, TOP, and/or BA functions shall achieve and/or maintain certification to operate one or more RC, TOP, and/or BA Areas. Every RC, TOP, and BA Area shall have a certified RC, TOP, and BA responsible for performing the duties and tasks identified in and required by the Reliability Standards.

Certification is required prior to the start of, and during the operation of a RC, TOP, or BA Area, subject to exception in NERC's sole discretion (conditional Certification). In such exceptions, the Registered Entity must satisfy conditions imposed according to an implementation plan agreed to by NERC to continue or discontinue operating its Area(s).

The activities of the program are designed to identify issues that, if not closed, could lead to unacceptable performance of the duties and responsibilities applicable to the certified function. The absence of a certified RC,

TOP, and/or BA for any Area jeopardizes the functional relationships within and between Areas specified by the Reliability Standards, and may lead to the inability of Registered Entities to maintain compliance with standards requiring performance with respect to those relationships.

The Certification/Review Team (CRT) works to establish one of the two findings below, utilizing Open Issues and Areas of Concern derived from an in-depth review and well-documented assessment of an entity's capability to perform the tasks of the certifiable function. Open Issues are items that must be closed before (continued) Certification is recommended.

- Certification/Review Team (CRT) recommends (initial or continued) certification contingent upon resolution of specified Open Issues (if any)
- Certification/Review Team (CRT) cannot recommend (initial or continued) certification. (Usually where the applicant contests Open Issues. The applicant has remedy in the appeal process of Section VII.)

This Certification process is described in Section IV of this manual. Certification reviews are conducted according to Section V. The Registered Entity is required to start operation of its Area within 12 months of being NERC certified.

Section III — Organization Registration Process

Purpose and Scope

The purpose and scope of this process is to provide guidance on how a user, owner, and/or operator of the BPS should be registered in the NCR.

Overview

Section 39.2 of the Commission's regulations, 18 C.F.R. § 39.2, requires each owner, operator, and user of the BPS to be registered with NERC and to comply with approved Reliability Standards.

Owners, operators, and users of the BPS will be registered by function(s) and are:

1. Responsible for compliance with all applicable Requirements/sub-Requirements within Reliability Standards approved by Applicable Governmental Authorities, for the applicable functions for which the Registered Entity is registered, except to the extent that an entity is granted a sub-set list of applicable Reliability Standards, which specifies the Reliability Standards and may specify Requirements/sub-Requirements by NERC, in which case the entity will be responsible for compliance with only such sub-set list; and
2. Subject to the compliance monitoring and enforcement requirements of Section 400 of the ROP.

If an entity does not agree with a Registration determination, it may request a NERC-led Registration Review Panel evaluation in accordance with Section III(D) of Appendix 5A. Entities should seek a determination from the NERC-led Registration Review Panel prior to making an appeal to the BOTCC in accordance with NERC ROP Section 500 and Section VI of Appendix 5A.

For Registration determinations dependent on application of the BES Definition, NERC has established a procedure to determine Inclusion and Exclusion Exceptions to the BES Definition (Appendix 5C). Appendix 5A relates to Registered Entity status whereas Appendix 5C relates to an Element's BES status. In cases where a BES Exception determination pursuant to Appendix 5C directly impacts an entity's functional registration requirements, the entity must initiate the BES Exceptions process prior to requesting a Registration change in status, and should be aware that the determination in that proceeding may be necessary prior to reaching a final decision by the NERC-led Registration Review Panel. This situation is dependent on facts and circumstances.

A. Organization Registration Application Process

1. This procedure applies to the following applicable entities: 1) those entities to be registered for the first time and 2) currently registered or previously registered entities for which registration changes are sought. Deactivation, Reactivation, and registration for a sub-set list of Reliability Standards are subject to the procedures in this subsection III(A). Additional procedures applicable to Deactivation and Reactivation are contained in subsections III(B) and III(C), respectively. Applicable entities shall begin the Registration process by submitting a completed Registration application to the Regional Entity(ies) of the reliability Region(s) where the entity performs or intends to perform its function(s).
    a. At any time, an entity may recommend in writing, with supporting documentation, to the Regional Entity(ies) that an entity be added to or removed from the Compliance Registry.
    b. If an entity does not have a NERC ID, NERC shall assign one.
    c. An entity responsible for more than one function will use a single NERC ID.
    d. The Registration process for an entity may also be initiated by a Regional Entity, NERC, or Applicable Governmental Authority.

e. At any time, an entity whose registration is at issue may request expedited treatment and waiver of applicable timelines. NERC, in its sole discretion, shall determine if such a request will be granted and alternative timelines. NERC's decision is not a final decision that is subject to appeal.

f. The following issues require determination by a NERC-led Registration Review Panel:

i. If, based on the entity's materiality to BPS reliability, the Regional Entity proposes to register an entity that does not meet the criteria set forth in Appendix 5B, Statement of Compliance Registry Criteria, the Regional Entity will submit a request for a determination by a NERC-led Registration Review Panel in accordance with Appendix 5A, Section III(D).

ii. If, based on the entity's lack of materiality to BPS reliability, an entity that meets the criteria set forth in Appendix 5B, Statement of Compliance Registry Criteria, believes that it should not be registered, the entity may submit a request for a determination by a NERC-led Registration Review Panel in accordance with Appendix 5A, Section III(D).

iii. If an entity disputes a Regional Entity determination that the entity meets the criteria set forth in Appendix 5B, Statement of Compliance Registry Criteria, the entity may submit a request for determination by a NERC-led Registration Review Panel in accordance with Appendix 5A, Section III(D).

iv. An entity seeking to be registered for a sub-set list of Reliability Standards may submit a request for a determination by a NERC-led Registration Review Panel in accordance with Appendix 5A, Section III(D).[1]

2. NERC shall coordinate Registration of entities that are required to register with multiple Regional Entities in order to ensure consistency of the Registration process.

3. For entities applying for the RC, TOP, and BA functions, Certification and Registration processes should be initiated concurrently using the applicable processes set forth in this manual. The entity should initiate the Certification process per Section IV of this manual.

4. Regional Entities shall evaluate the submitted information and determine if the information is complete/correct. If the information is not complete/correct, the entity will be notified to complete/correct or clarify the Registration information.

5. A single entity must register for all function type(s) that it performs itself. Provided that, an entity may execute an agreement to register as a Lead Entity of a JRO on behalf of one or more of its parties to the JRO agreement for one or more function type(s) for which the parties would have otherwise been required to register. The Lead Entity thereby, accepts on the parties' behalf compliance responsibility for all Requirements/sub-Requirements of Reliability Standards applicable to that function or those functions including reporting requirements. (ROP Section 507)

6. Multiple entities may each register for a function and delineate compliance responsibility for that function using a CFR for one or more Reliability Standard(s) and/or for one or more Requirements/sub-Requirements within particular Reliability Standard(s) applicable to a specific function type. (ROP Section 508)

7. In completing the Regional Entity responsibilities for the Registration process, the following are key items the Regional Entity must verify:

a. That function registrations are consistent with the requirements contained in ROP Section 501(1.4).

[1] If NERC has established clearly defined criteria for eligibility for a sub-set list of applicable Reliability Standards and has identified the sub-set list that may apply to similarly situated entities, such criteria shall govern the applicability of such sub-set list and such a matter shall not proceed to the NERC-led review panel, unless there is a dispute by the entity whose sub-set list treatment is at issue.

b. The Registration submission includes all data requested by NERC that is necessary for accurately identifying and contacting the Registered Entity.

8. The Regional Entity shall forward all Registration information to NERC for inclusion of an entity on the NCR:

   a. Within five business Days of a Registration determination by NERC or the NERC-led Registration Review Panel, as applicable, NERC will forward the proposed additions or changes to the NCR to the Regional Entity for review and comment.

   b. The Regional Entity has five business Days to respond to the proposed changes.

   c. If NERC does not receive any comments, the NCR will be revised. If NERC does receive comments, NERC will work with the Regional Entity to the extent changes are needed to the NCR and will revise the NCR accordingly.

9. NERC updates the NCR and notifies the applicable Registered Entity(ies) within five business Days of the update.

10. The Registered Entity may appeal the final registration determination by NERC in accordance with the ROP Section 500 and Section VI of **Appendix 5A**.

11. The NCR shall be dynamic and will be revised as necessary to take account of changing circumstances. Per the Regional Entity's delegation agreement, the Regional Entity will take any recommendation received under Section 1.a, and other applicable information, under advisement as it determines whether an entity should be on the NCR.

    a. Each Registered Entity identified in the NCR shall notify its corresponding Regional Entity and/or NERC of any corrections, revisions, deletions, changes in ownership, changes in corporate structure, or similar matters that affect the Registered Entity's responsibilities with respect to the Reliability Standards.[2] Failure to notify will not relieve the Registered Entity from any responsibility to comply with the Reliability Standards or shield it from any Penalties or sanctions associated with failing to comply with the Reliability Standards. (ROP Section 400)

    b. Each Regional Entity has an independent obligation, even in the absence of a notification by an entity, to review and submit updates to the NCR to NERC, consistent with the procedures in this Section III, with appropriate notification to the affected entities, to the extent the Regional Entity is aware of, or possesses information that the NCR should be updated. These updates include, but are not limited to: 1) conditions on which the sub-set list are no longer applicable; 2) where a new and emerging risk to reliability is identified that changes the basis: a) upon which the entity was deactivated or deregistered; or b) upon which a sub-set list of requirements was made applicable; or 3) deactivation of entities that no longer meet the applicable registration thresholds. This does not excuse the Registered Entity from its obligation to provide such required notifications.

12. NERC may extend the timelines for processing Registration matters for good cause shown. Requests should be sent to the Registration email address, found on the Registration and Certification page of the NERC website. NERC shall notify the Registered Entity and the Regional Entity of such time extensions.

B. Deactivation Process

1. The term Deactivation refers to removal of an entity from the NCR for a specific functional category.

2. As a result of Deactivation, the entity is no longer subject to any prospective compliance obligations with respect to Reliability Standards applicable to that functional category.

[2] This includes changes in ownership of BPS facilities, changes in the applicability of the BES Definition to a Facility, and newly installed BPS facilities.

3. If all functional categories have been deactivated for a given entity, such entity would be deregistered and removed from the NCR. However, the entity's compliance history will be retained. In its letter notifying the entity of its Deactivation or deregistration, as applicable, NERC will notify the entity of the required retention period, in accordance with the NERC ROP.
4. An entity seeking Deactivation of RC, TOP, or BA registrations shall demonstrate to the satisfaction of its Regional Entity and NERC through the Certification review process, described in **Appendix 5A** Section V, that the duties and tasks identified in and required by the Reliability Standards either have properly been transferred to another Certified and Registered Entity or the Area has ceased to operate.
5. A Registered Entity may submit a request for Deactivation and supporting information to the Regional Entity at any time. Such information shall include:
    a. Entity name and NCR ID number;
    b. Functions for which Deactivation is requested; and
    c. The basis on which Deactivation is requested, including supporting documentation, which may be limited to an attestation, if appropriate.
6. The Regional Entity shall request any additional information from the Registered Entity within 10 Days of receipt of the request for Deactivation.
7. The Registered Entity shall provide the additional information within 20 Days of its request for Deactivation.
8. The Regional Entity will issue a decision within 50 Days of the date of receipt of all requested information from the Registered Entity.
9. If the Regional Entity approves the request for Deactivation, it shall forward its Deactivation determination to NERC within five business Days of issuance of the decision.
10. If NERC approves the Deactivation determination and the Registered Entity agrees with the determination, NERC will forward within five business Days of receipt of the Deactivation determination from the Regional Entity, the proposed additions or changes to the NCR to the Regional Entity for review and comment.
    a. The Regional Entity has five business Days to respond to the proposed changes.
    b. If NERC does not receive any comments, the NCR will be revised. If NERC receives comments, NERC will work with the Regional Entity to the extent changes are needed to the NCR and will revise the NCR accordingly.

C. Reactivation Process

1. NERC maintains the NCR, which identifies each Registered Entity and the applicable functional categories for which it is registered.
2. The term Reactivation refers to re-registration of an entity to the NCR for a specific functional category or the revocation of, or additions to, a sub-set list of Reliability Standards (which specifies Reliability Standards and may specify Requirements/sub-Requirements) that has been granted to an entity. Reactivation may be initiated by NERC, a Regional Entity or an entity with respect to such entity's own functional categories or sub-set list of Reliability Standards (which specifies Reliability Standards and may specify Requirements/sub-Requirements).
3. As a result of Reactivation, and consistent with the implementation plan to be developed pursuant to this paragraph, the entity shall prospectively comply with all Reliability Standards applicable to that functional category, or with the sub-set list specified in the Reactivation determination, unless otherwise notified. Within 30 days of a final Reactivation determination, the entity shall submit a proposed implementation plan to the Regional Entity detailing the schedule for complying with any Reliability Standards applicable to the

Reactivation. The Regional Entity and Registered Entity shall confer to agree upon such schedule. If the Regional Entity and Registered Entity are unable to agree on the implementation plan, the Regional Entity shall notify NERC via the Registration email address, found on the Registration and Certification page of the NERC website, of the disagreement, and shall provide statements of the Regional Entity's and the Registered Entity's positions, and NERC shall specify a reasonable implementation schedule.

4. The entity's prior compliance history will be retained and shall apply with respect to the Reactivation. In its letter notifying the entity of its Reactivation, NERC will notify the entity of its registration in accordance with the NERC ROP.

D. NERC-led Registration Review Panel

1. NERC shall establish a NERC-led Registration Review Panel (Panel) comprised of a NERC lead with Regional Entity participants, to evaluate: 1) Registered Entity requests for Deactivation of, or decisions not to register, an entity that meets Sections I through IV of the Registry Criteria, 2) requests to add an entity that does not meet (i.e., falls below) Sections I through IV of the Registry Criteria, 3) disputes regarding the application of Sections I through IV of the Registration Criteria, and/or requests for a sub-set list of applicable Reliability Standards (which may specify the Requirements/sub-Requirements).

    a. The Panel will be comprised of a standing pool of individuals with relevant expertise from NERC and each of the Regional Entities. Individuals with relevant expertise shall be appointed by the Regional Entity senior executive (CEO, President, General Manager, etc.) and individuals with relevant expertise shall be appointed by the NERC senior executive (CEO, President, General Manager, etc.). NERC shall select the Panel members for a given matter from the standing pool.

    b. Panel members for a given matter shall comply with Subsection 7 of Section 403 of the NERC ROP, shall not be employed by the Regional Entity whose determination is being reviewed or have otherwise participated in the review of the registration matter, and shall have the required technical background to evaluate registration matters.

2. An applicant requests a Panel review by completing an application using the **NERC-led Review Request Form** (Request Form) available on the NERC website (www.nerc.com)

    a. The Request Form provides instruction for submittal of documentation and data associated with the request.

    b. The applicant[3] should include an evaluation of materiality,[4] a description of the applicability of Sections I through IV, of the Registration Criteria, and/or an assessment of the impact of a sub-set of reliability standards, as appropriate.

    c. The burden of proof is on the applicant that makes the request for a Panel review, except in two instances where the burden of proof is on the applicable Regional Entity. These two instances include: 1) disputes regarding application of Sections I through IV of Registry Criteria for registration, and 2) disputes where NERC has (i) established clearly defined criteria for eligibility for a sub-set of applicable Reliability Standards (which may specify Requirements/sub-Requirements) and (ii) identified similarly situated entities that the sub-set list may apply to.

    d. For the purpose of this Panel process, the parties are the applicable Regional Entity(ies), RC, BA, TOP, and PC and the entity whose registration status is at issue.

[3] Applicants can either be a Regional Entity or an entity whose registration or sub-set list status is at issue.

[4] The evaluation of materiality should include the relevant "materiality test" factors listed in the "Determination of Material Impact" section of Appendix 5B, and/or any other factors that may be considered relevant to the request for Panel review.

e. Parties are to upload any documents, data, and/or information related to the Panel request to the secure location established by NERC for the Panel review.[5] When materials are uploaded to this location by a party, that party will provide notice to all other parties via email.

3. NERC will review the submitted documentation and determine if the application is valid within 30 days of receipt.
4. If the application is deemed not valid, NERC will send a written notification to the applicant via email with a reason the application was rejected.
5. If the application is deemed valid, NERC will send a written notice of NERC's acceptance of a valid Panel request to the applicant and the parties via email.
   a. Unless informed otherwise in NERC's notice of a valid request, the entity whose status at issue will have their current responsibilities for compliance with approved Reliability Standards in effect until the issue at hand has a final determination.
6. The Regional Entity(ies) or the entity whose registration status is as issue, as appropriate, will provide a written assessment of the Panel request to NERC, as described in step 2(e), within 20 days of NERC's acceptance of a valid Panel request.
   a. The RC, BA, TOP, and PC are also requested to provide a written assessment to NERC, as described in step 2(e), within 30 days of NERC's acceptance of a valid Panel request.
   b. The Regional Entity, or entity whose registration status is at issue, as appropriate, can provide a written response to NERC, as described in step 2(e), of any party's assessment within 40 days of NERC's acceptance of a valid Panel request.
7. The standard of proof in any proceeding under these procedures shall be by a preponderance of the evidence. The Panel will evaluate all documentation, assessments, and responses submitted to determine whether the weight of the evidence supports the Registration action under review more than it does not support the action. The Panel may issue a request for information to the applicant or any of the parties and will copy all parties on any such correspondence. The Panel will render its decision within 60 Days of the final submission to the panel or relevant correspondence is received related to the request from any party.
8. In reaching a decision, the Panel will apply the materiality test and other criteria, as applicable, set forth in the "Determination of Material Impact" section of Appendix 5B, Statement of Compliance Registry Criteria and any applicable guidance. The Panel shall also include a review of individual and aggregate system-wide risks to, and considerations of, reliability of the BPS, as well as the BES Definition, as applicable.
9. NERC may use its discretion to extend the timelines of the Panel process for good cause. Any party may also request to extend the timelines by sending an email to the Registration email address, found on the Registration and Certification page of the NERC website. NERC shall notify all parties of such time extensions.
10. The Panel decision will be issued to the applicant with a copy to all parties via email. The decision (including its basis) will also be posted on the NERC website,[6] with confidential information redacted in accordance with Section 1500 of the NERC ROP.
11. Any required changes to the NCR resulting from the Panel decision will be initiated by the Regional Entity in accordance with the Organization Registration Process of this manual. An entity may file an appeal with the BOTCC, in accordance with NERC ROP Section 500 and **Appendix 5A,** Section VI, if it wishes to dispute the Registration determination of the Panel.

[5] NERC will provide instructions to each party regarding how to request access to the secure location.

[6] A Panel decision subject to appeal will not be posted prior to the 21 day appeal window closing (in accordance with **Appendix 5A**, Section VI), which begins when the decision is issued to the parties. If no appeal is received, the decision will be posted and the Federal Energy Regulatory Commission will be notified.

Section IV — Organization Certification Process

Purpose and Scope

Reliability Coordinators, Transmission Operators, and Balancing Authorities take actions in Real-time that impact the reliable operation of the Bulk Power System. Certification activities assess the processes, procedures, tools, and training these organizations use in performing these functions and provide a prospective level of assurance that the organization has the capacity to meet the reliability obligations of its registration. The Certification will adhere to the following process to the extent allowed by the circumstances.

Organization Certification Process

Initiation

1. Certification processes shall begin upon the Regional Entity's receipt of a certification application for a Registered Entity or prospective Registered Entity; or when an entity has been registered by NERC for the functions of RC, TOP, and BA.
    a. An entity in a single Regional Entity reliability region shall initiate the Certification process by completing a Certification application (Certification applications are provided on each Regional Entity's website) and sending it to that Regional Entity which will manage the Certification process.
    b. An entity in multiple Regional Entity reliability regions shall initiate the Certification process by completing a Certification application (Certification applications are provided on each Regional Entity's website) and sending it to each Regional Entity. Each Regional will inform NERC of request with a recommendation for which Regional Entity will provide the leadership to manage the Certification process. NERC will determine which Regional Entity shall lead review of the application.
    c. The Regional Entity leading the review of the application shall review the application, and respond and acknowledge receipt or submit requests for more information within 30 days of its receipt of the application.
        i. If the application is not complete or accurate, the Regional Entity will notify the entity to revise the application as needed.
        ii. As part of such review, the Regional Entity may propose to issue a determination rejecting an application on a procedural basis. The applicant will be given 15 days to resolve the reason for rejection. If the Regional Entity and NERC determine that the applicant would fail to meet Registry Criteria or would otherwise not be able to competently perform the duties and responsibilities required under relevant Reliability Standards for the applicable Area, then a rejection notice will be sent to the applicant. Thereafter, the applicant may file an appeal of the rejection in accordance with Appendix 5A, Section VII.
    d. With the agreement of the Registered Entity, the Regional Entity or NERC may initiate certification processes based on documented conversations or other communications with a Registered Entity that contain information equivalent to that of the application.
2. The Regional Entity shall identify a team lead (CTL) for the certification activity.
3. The CTL shall notify NERC of the request for certification, and the following will take place:
    a. The CTL and NERC will review the request for Certification and concur on acceptance. When the application is deemed complete and accurate, it will be accepted.

b. If accepted, the CTL will inform the Registered Entity of the decision to initiate certification activities.

   i. The entity and the Regional Entity shall agree to a timeline including specific milestones for the Certification process. The proposed schedule for the Certification Process shall be submitted to NERC for approval. NERC shall review the draft final schedule and will (i) approve; (ii) modify; or (iii) reject the final schedule within 45 days of receipt from the CTL.

   ii. Certification activities are expected to be completed, allowing sufficient time to correct any Open Issues noted in the entity's preparedness, prior to the effective date of an entity's Registration.

c. In the case when an entity has been registered by NERC on behalf of the entity for the functions of RC, TOP, or BA, Certification activities will be concurrent with the entity's Registration implementation plan.

4. The following subsections detail which entities are required to be certified if they are a party to a JRO, CFR, or other delegation agreement.

   a. Each entity that has taken responsibility for Reliability Standards and/or Requirements/sub-Requirements applicable to the certifiable functions by virtue of being a member of a JRO, CFR, or other agreement shall be the entity NERC certifies to operate their portion of the RC, TOP, or BA Area(s).

   b. For all other entities that perform tasks related to the RC, TOP, or BA functions within a JRO or other agreement, the Regional Entity(ies) shall, based on a review of the JRO or other agreement, identify and notify such entities of the need for an evaluation and determination of the applicability of a "capability verification" or "readiness evaluation"[7] for those tasks.

Planning

1. The CTL shall form the team that will be responsible for performing the activities included in the Certification process.

   a. Participants shall adhere to NERC's confidentiality requirements for any data or information made available through the Certification process. Participants shall not be employees of or have a direct financial interest in the entity or any of its affiliates.

   b. Certification teams (CT) shall consist of the following:

      i. For BA certifications, the CT shall have representation from an existing BA, the entity's proposed RC, TOP, each affected Regional Entity, and NERC.

      ii. For RC certifications, the CT shall have representation from an existing RC, a BA and a TOP in the proposed Reliability Coordinator Area, each affected Regional Entity, and NERC.

      iii. For TOP certifications, the CT shall have representation from an existing TOP, the entity's proposed BA(s) and RC, each affected Regional Entity, and NERC.

      iv. Additional CT members with expertise in any of the NERC registry functional areas may be added as necessary (i.e., NERC, Regional Entity staff).

   c. If the entity objects to any member of the CT, the entity must make that known, in writing, to the Regional Entity listing the reasons for the objection. The Regional Entity will either replace the team member or respond with written justification for keeping the member on the team.

   d. Entities such as government representatives or other stakeholders may be observers in the Certification process. Any Confidential Information will be handled in accordance with Section 1500 of the NERC ROP.

2. CT members shall have the necessary diversity in their technical training and experience to collectively represent the subject matter competencies needed to perform the evaluation of the specific function being

[7] A "capability verification" or "readiness evaluation" is a review of the duties and tasks of the Registered Entity that it has delegated to another entity through an agreement.

certified. Previous experience as a System Operator, Operations Support Personnel, or management of a Control Center is desired for CT members performing the on-site visit.

3. The CTL shall ensure all CT members have completed the following:
   a. Certification team member training requirements as established by NERC
   b. Non-ERO employees shall also complete the following:
      i. Certification team member training record form
      ii. Certification team conflict of interest form
      iii. An ERO confidentiality agreement form
4. The CTL shall review the certification application (and Entity information available through other ERO programs) with NERC to determine the scope of the assessment. The CTL shall identify the competency areas to be evaluated based on the function(s) for which the entity is to be certified and the method(s) for their evaluation.
5. The CTL shall utilize a secured server to distribute and house all relevant certification activity documents, including but not limited to the following:
   a. The application or other documented correspondence with the Registered Entity initiating the certification activity
   b. All relevant correspondence between the CTL and the applicant, including the certification packet (as described in step 6 below)
   c. All relevant correspondence between the CTL and the CT members
   d. The work papers used to evaluate the entity during the process
   e. The overall process schedule
   f. The agenda for the on-site visit
   g. The final certification report
   h. The Regional Entity certification process check sheet indicating the completion of certain process check-points
6. A Certification packet shall be developed and sent to the entity at least ninety (90) days prior to an on- site visit. It shall contain the following:
   a. Notification of the certification process
   b. Logistic information request
   c. The tentative overall process schedule and on-site agenda
   d. The CT roster and member biographies
   e. Request of confirmation of no objections to CT members
   f. Pre-certification survey that must be returned to the CTL within fifteen (15) days of receipt
   g. Any initial requests for information
7. CTL shall contact the entity within one week of submitting the packet to confirm receipt of the package and discuss any concerns the entity may have.
8. The entity shall complete and return the requested information and supporting documentation no later than four (4) weeks prior to the on-site visit.
9. The CTL and CT shall review the logistic information request response, in order to do the following:

a. Understand the entity's expectations of the CT when on site

b. Make all travel arrangements

10. If the CT is to be broken into smaller groups, the CTL shall identify sub-teams and assign a scribe(s) to document the assessment:

    a. For complex Certifications, the CTL may assign members of the CT to different focus areas. For example:

        i. Facilities: Examples may include the physical cyber assets against the CIP standards, the cyber training, the maintenance contracts and records for the facilities, the electrical system and uninterruptible power supply (UPS), the cybersecurity of servers, passwords, etc., per the CIP standards, and the physical installation of data and voice equipment.

        ii. EMS/SCADA: Interview the EMS/SCADA SMEs to ensure that the tools will provide adequate situational awareness against the NERC standards. Ensure adequate change control of the EMS/SCADA. Review the data transfer, server, applications, and redundancy configuration of the core tools including EMS, OSI-PI, ICCP, outage scheduling, scheduling, map-board displays, communication systems, etc.

        iii. Operator Preparedness: Interview the operators at their workstations and ask them to present the tools, procedures, and job aids in use for normal day-to-day and emergency operations. This could include cyber intrusion detection and real-time assessment. Interview the training staff regarding initial training needed to support the transition to the new responsibilities and continuing training to the NERC standards.

        iv. Critical Infrastructure Preparedness: Interview the CIP staff to understand how critical infrastructure protections are being utilized.

    b. The CTL shall ensure documentation used to substantiate the conclusions of the Certification (Review) is collected from each sub-team.

Fieldwork

1. Areas of capability to be evaluated by the certification activity shall be tailored to the situation and matched with appropriate assessment methods (e.g., validation of legacy information, review of entity responses, document review, direct observation, or personnel interview, etc.)
2. The CTL shall schedule a document review(s) with the CT prior to the on-site visit. Document reviews could take place face-to-face or via teleconference.
3. During document reviews, the CT shall note all the following:

    a. Follow-up or corroborating questions for the entity's management, SMEs, and system operators based upon the review of supporting documentation

    b. Additional requests for information (to be submitted to the entity prior to the on-site visit.)

    c. Comments during the document review that support the entity's abilities to perform the function for which the entity applied and indicate items which do not need further review

    d. Issues that need to be addressed prior to certification being granted

4. The CTL shall provide the entity a final schedule and agenda for the on-site visit based upon the results of the document review.
5. The CT on-site visit to the entity's location where operational functionality is performed shall include the following:

    a. Opening presentation

b. At a minimum, the team will:

   i. Review with the entity the data that is available only on-site;

   ii. Interview the operations, management, and training personnel;

   iii. Inspect the Facilities and equipment associated with the function being certified;

   iv. Request demonstration of all tools identified in the scope of the Certification;

   v. Review documents and data including agreements, processes, and procedures identified in the document review;

   vi. Verify operating personnel Certification credentials and proposed work schedules; and

   vii. Review any additional documentation resulting from inquiries arising during the on-site visit.

c. The CT shall interview other entity personnel as required to clarify responses covered in the document review.

d. At the end of each day, the CT will meet for the debriefing. The CTL shall lead a daily debriefing with the entity in order to do the following:

   i. Identify the status of the assessment

   ii. Identify any items of concern that need to be addressed

   iii. Provide an update to the schedule

e. The CTL shall provide an exit briefing at the end of the on-site visit in order to do the following:

   i. Identify any Open Issues that need to be addressed, and identify a timeline for follow-up to closure

   ii. Discuss the reporting process

   iii. Discuss the next steps in the certification process, including any Areas of Concern and the schedule of a post-onsite visit, if required.

   iv. Convey that entity feedback forms will be sent to allow the entity to resolve any open with a request for candid feedback.

Reporting

1. The CTL will provide the CT and entity with feedback forms, and request that they are returned within five (5) calendar days with a copy to the Certification email address, found on the Registration and Certification page of the NERC website.
2. After completion of the on-site visit, the CTL shall develop a draft final report, in coordination with input from the CT, which presupposes all Open Issues are closed. The format for the report shall conform to the template posted on the NERC website, generally containing:

   - Title page
   - Table of Contents
   - Introduction – A brief discussion on the Regional Entity(ies) involved, the entity being certified, a description of the function the entity(ies) are being certified for, and a brief timeline of the Certification project.
   - CT – Provide the CT makeup.
   - Objective and Scope – Discussion on entity application (who, what, when, & how).
   - Overall Conclusion – finding of the CT.

- Open Issues - Any item(s) that must be closed prior to going operational and within 180 days of conclusion of the on-site visit.
- Positive Observations.
- Company History – Discussion on the applicant's company history.
- Company Details – Specific details regarding the Reliability Coordinator, Transmission Operator or Balancing Authority Areas to be operated and the entity's relationship with other entities (RCs, TOPs, and BAs etc.).
- Documentation List – Provide a list of critical documentation reviewed by the CT used to make the CT's conclusion and the documentation retention requirements.
- Attachments – Describe those attachments that are for public viewing and those that are separated from the report due to confidentiality issues such as Critical Infrastructure documentation.

3. The CTL shall transmit the draft final report to the CT requesting final comments within five (5) business days, unless agreed to otherwise.
4. After the CT has completed their review of the draft report, the CTL shall transmit the draft final report to the entity, requesting return with comments within fourteen (14) calendar days, unless agreed to otherwise.
5. Entity comments will be given due consideration and incorporated in the final report at the discretion of the CTL and the input of the CT. The CTL and CT will review the completed final report.
6. When all Open Issues are satisfactorily closed, the CTL will submit the final report to Regional Entity(ies) management for consideration and approval. CT minority opinions and areas where CT consensus was not reached will be communicated to Regional Entity(ies) management prior to approval, but will not be included in the final report nor in the Regional Entity recommendation to NERC.
    a. If Regional Entity management contradicts the CT finding, the CTL will work with the CT the entity to resolve any issues.
    b. The Regional Entity CEO (or a designee) will transmit to NERC and copy the entity the final CT report with a recommendation regarding NERC's certification of the entity.
7. If NERC approves the entity for certification, NERC shall email confirmation to the entity and post the final report on NERC's public website. Attached to the email will be the formal certification letter and NERC certificate. Any Confidential Information will be redacted in accordance with Section 1500 of the NERC ROP.
8. The entity may appeal NERC's decision in accordance with the Rules of Procedure and Section VII of this manual.
9. The certification process shall be completed within nine (9) months unless agreed to by all parties involved in the process
10. Operational responsibility for RC, TOP, or BA Areas shall not begin prior to the entity's registration effective date. Trial operations, conducted in parallel with an incumbent RC, TOP, or BA who retains responsibility, shall be coordinated to ensure operational authority for an Area is clear at all times.
11. The applicant must commence operations for its RC, TOP, or BA Areas within twelve (12) months of being certified by NERC. If the applicant fails to commence operation within twelve (12) months, the certification process must be repeated.
    a. During the pendency of the certification process, NERC may use its discretion to issue conditional Certification to ensure that the entity can be Registered, and no areas of the BPS are lacking any entities to perform the duties and tasks identified in and required by the Reliability Standards to the fullest extent practical.

i. Conditional Certification will include an implementation plan which provides qualifications or criteria that NERC and the Regional Entity have determined necessary to address the risk of an entity failing to be certified or to be certified when needed.

ii. The entity subject to conditional Certification shall create an implementation plan that establishes how delayed or failed certification is mitigated so that no gaps in reliability occur. The implementation plan would also detail potential impacts both to the applicant and to any affected entities, and discuss how those impacts would be mitigated, how required functions would be served, and how other affected entities within its prospective footprint would meet their compliance responsibilities if certification is failed or delayed.

iii. NERC and the Regional Entity will work with the applicant to develop the implementation plan. If the parties are unable to agree upon an implementation plan, NERC will issue an implementation plan.

Data Retention

1. Documentation used to substantiate the conclusions of the Certification (Review) must be retained by the Regional Entity for six (6) years.
2. Documentation used to substantiate program oversight of the Certification processes must be retained by NERC for six (6) years.

NERC will maintain and post all Certification Final Reports on its website. Any Confidential Information will be redacted in accordance with Section 1500 of the NERC ROP.

Section V — Organization Certification Review Process

Purpose and Scope

Certification review provides reasonable assurance an already certified and operational Registered Entity will continue to support reliable operations of the BPS after initiating a material change. The review will seek assurance that the entity has addressed personnel training and qualifications, facilities, and equipment needed to perform and maintain the reliability functions in accordance with the applicable Requirements of Reliability Standards, considering among others the following:

- BPS reliability impacts of the change
- Critical Infrastructure Protection implications of the change
- Operator training in support of the change
- Data collection, sharing, and facilities monitoring and control necessary for Real-time Assessments, as well as next-day and longer-term planning
- Coordination of normal and emergency operations

Overview

Certification review activities, including the checks and balances of reporting and documenting those activities, should take place in advance of the change. Functional operations and compliance to the Standards remain the responsibility of the applicable Registered Entity. Certification is of the organization performing the function—not of a facility or system of equipment. Every RC, TOP, and BA Area shall have a certified RC, TOP, and BA registered as responsible for performing the duties and tasks identified in and required by the Reliability Standards. Entities seeking Deactivation of BA, TOP, or RC registrations shall demonstrate to the satisfaction of their Regional Entity and NERC through the Certification review process that the duties and tasks identified in and required by the Reliability Standards either have properly been transferred to another Certified and Registered Entity or the Area has ceased to operate. An entity remains certified during the review activities and subject to all applicable requirements of Reliability Standards, unless conditional Certification is granted by NERC providing qualifications or criteria that NERC and the Regional Entity have determined necessary to address the risk of an entity failing to be certified or to be certified when needed.

Items that are to be considered for a Certification review include one or more of the following non- exhaustive list of changes from an entity's prior certification assessments.

a. Changes to Registered Entity's footprint[8] (including de-certification changes to existing JRO/CFR assignments or sub-set list of requirements):

   i. The review of changes to an already registered and operational Entity's footprint is primarily concerned with ensuring the gaining functional entity has the tools, training, and security in place to reliably operate with new responsibilities. Changes to an entity's footprint can be characterized by new metered boundaries associated with the integration or dis-association of existing electrical areas of the BPS (Reliability Coordinator Area, Transmission Operator Area, or Balancing Authority Area).

b. Relocation of the Control Center:

   i. Fundamental to the reliable operation of the interconnected transmission network are the control centers that continuously monitor, assess, and control the generation and transmission power flows on the BES. Of interest are impacts to the functionality provided within these facilities for continued reliable operations of the BES that affect:

[8] This includes changes in ownership of BPS facilities, changes in the applicability of the BES Definition to a Facility, and newly installed BPS facilities.

- Tools and applications that System Operators use for situational awareness of the BES
- Data exchange capabilities
- Interpersonal (and alternate) Communications capabilities
- Power source(s)
- Physical and cyber security

ii. The impact of the relocation of the Control Center on the entity's ability to perform the functions for which the entity is registered under normal and emergency conditions should be explored and documented to understand the manner in which the Control Center continues to support the reliable operations of the BES.

c. Modification of the Energy Management System (EMS) which is expected to materially affect CIP security perimeters or the System Operator's: 1) situational awareness tools, 2) functionality, or 3) machine interfaces.

NERC may revoke an entity's certification and de-certify that entity if NERC determines that the entity is no longer performing the responsibilities that are associated with the function for which it is certified. Revocation shall be posted to the NERC website. The entity will remain registered and subject to compliance for the function, unless it has gone through the deactivation or deregistration process for the applicable function. NERC's revocation may be appealed in accordance with **Appendix 5A**, Section VII.

Organization Certification Review Process

Initiation

1. A Registered Entity that requires a review of the conditions upon which their certification was granted shall complete the appropriate form and submit it to the applicable Regional Entity. Informal dialogue on potential certification activity is encouraged as far in advance as possible.
   a. An entity in a single Regional Entity reliability region shall initiate the Certification review process by completing an application (Certification review applications are provided on each Regional Entity's website) and sending it to the Regional Entity that will manage the Certification review process.
   b. An entity in multiple Regional Entity reliability regions shall initiate the certification process by completing a certification application (certification applications are provided on each Regional Entity's website) and sending it to each Regional Entity. Each Regional Entity will inform NERC of the request with a recommendation for which Regional Entity will provide leadership to manage the certification process. NERC will determine which Regional Entity shall lead review of the application.
   c. The Regional Entity leading the review of the application shall review the application and respond with either acceptance or a request for more information within 30 days of the receipt of the request.
2. Upon receipt of the request for Certification review, the Regional Entity(ies) shall evaluate as follows:
   a. If the application is not complete or accurate, the Regional Entity will notify the entity to revise the application as needed.
   b. For an entity that is not required to be certified but performs tasks associated with a RC, TOP, or BA in accordance with Section IV, the Regional Entity shall consult with the Registered Entity regarding the applicability of a "capability verification" or "readiness evaluation" regarding those tasks.
   c. The Regional Entity or NERC may initiate the Certification review processes based on documented conversations or other communications with a Registered Entity that contain information equivalent to that of the application.

d. The decision to certify changes to an already operating and certified Registered Entity is a collaborative decision between the affected Regional Entity(ies) and NERC. The decision may be to conduct a review under this Certification review process or engage in any lesser activity necessary to understand changes that are material to an entity's operations or inherent risk.

3. When the decision is made to initiate a Certification review, the Regional Entity shall identify a team lead (CRTL) for the Certification review activity and the following will take place:

   a. The CRTL will inform the Registered Entity of the decision to initiate Certification review activities.

   b. The CRTL shall tailor the scope of the Certification review to evaluate those capabilities that are affected as a direct result of the reason for the review.

   c. The Regional Entity and NERC will determine if an on-site visit is required or if off-site review is sufficient. NERC has the final authority in this decision.

   d. The entity and the Regional Entity shall agree to a timeline including specific milestones for the Certification review process. The proposed schedule for the Certification review process shall be submitted to NERC for approval. NERC shall review the draft final schedule and will (i) approve; (ii) modify; or (iii) reject the final schedule within 45 days of receipt from the CRTL.

   e. Certification review activities are expected to be completed allowing sufficient time to address the risk of an entity failing to be certified or to be certified when needed prior to the effective date of any registration changes

Planning

1. The CRTL shall form the team (CRT) that will be responsible for performing the activities included in the Certification review process.

   a. The CRTL shall review the request (and entity information available through other ERO programs) with NERC to identify the competency areas to be evaluated and the method(s) for their evaluation (entity/neighbor questionnaire, request documents for review, on-site demonstration, personnel interview, etc.)

   b. The CRT participants shall adhere to NERC's confidentiality requirements under Section 1500 for any data or information made available through the Certification review process. Participants shall not be employees of or have a direct financial interest in the entity or any of its affiliates.

   c. CRT Composition:

      i. The CRT shall have the necessary diversity in their technical training and experience to collectively represent the subject matter competencies needed to perform the evaluation of the specific function being certified. Previous experience as a System Operator, Operations Support Personnel, or management of a Control Center is desired for CRT members performing the on-site visit.

      ii. Entities such as government representatives or other stakeholders may be observers in the Certification review process.

   d. If the entity objects to any member of the CRT, the entity must make that known, in writing, to the Regional Entity, listing the reasons for the objection. The Regional Entity will either replace the team member or respond with written justification for keeping the member on the team.

2. The CRTL shall ensure all CRT members have completed the following:

   a. Certification team member training requirements as established by NERC

   b. Team Member profile documenting technical training and experience of team members

c. For non-ERO employees they shall also complete the following:

3. The CRTL shall utilize a secured server to distribute and house all relevant Certification review activity documents, including but not limited to the following:
   a. The application or other documented correspondence with the Registered Entity initiating the certification activity
   b. All relevant correspondence between the CRTL and the applicant, including the certification packet (as described in step 4 below)
   c. All relevant correspondence between the CRTL and the CRT members
   d. The work papers used to evaluate the entity during the process
   e. The overall process schedule
   f. The agenda for the on-site visit, if required
   g. The final Certification review summary report
   h. The Regional Entity certification process check sheet indicating the completion of certain process check-points
4. A Certification review packet shall be developed and sent to the entity at least ninety (90) days prior to an on-site visit. It shall contain the following:
   a. Notification of the Certification review process
   b. Logistic information request
   c. The tentative overall process schedule and tentative on-site agenda
   d. The CRT roster and member biographies
   e. Request of confirmation of no-objections to CRT members
   f. Pre-certification survey that must be returned to the CRTL within fifteen (15) days of receipt
   g. Any initial requests for information
5. The CRTL shall contact the entity within one week of submitting the packet to confirm receipt of the package and discuss any concerns the entity may have.
6. The entity shall complete and return the requested information no later than four (4) weeks prior to the on-site visit.
7. The CRTL and CRT shall review the logistic information request, in order to do the following:
   a. Understand the entity's expectations of the CRT when on site
   b. Make travel arrangements

Fieldwork

1. Areas of capability to be evaluated by the Certification review activity shall be tailored to the situation and matched with appropriate assessment methods (e.g., validation of legacy information, review of questionnaire responses, document review, direct observation, or personnel interview, etc.)
2. The CRTL shall schedule a document review(s) with the CRT prior to the on-site visit. Document reviews could take place face-to-face or via teleconference.
3. During document reviews, the CRT shall note all the following:

a. Follow-up or corroborating questions for the entity's management, SMEs, and system operators based upon the review of supporting documentation

b. Additional requests for information (to be submitted to the entity)

c. Comments during the document review that support the entity's abilities to perform the function for which the entity applied and items which do not need further review

d. Issues that need to be addressed prior to continued certification being recommended

4. The CRTL shall provide the entity a final schedule and agenda for the on-site visit (if applicable) based upon the results of the document review.

5. As appropriate, the CRT shall conduct interviews at the entity's facilities or via teleconference. The team will:

   a. Review with the entity any data or information requiring clarification

   b. Interview operations, management, and training personnel

   c. During on-site visits:

      i. Inspect the facilities and equipment associated with the applicable Reliability Standards referenced in the questionnaire;

      ii. Request demonstration of all tools affected by the change;

   d. Review documents and data including agreements, processes, and procedures identified by CRT

   e. Review any additional documentation resulting from inquiries arising during the interview

6. At the end of each on-site day, the CRT will meet for debriefing. The CRTL shall lead a daily debriefing with the entity in order to do the following:

   a. Identify the status of the assessment

   b. Identify any items of concern that need to be addressed

   c. Provide an update to the schedule

7. The CRTL shall provide an exit briefing at the end of the on-site visit in order to do the following:

   a. Identify any Open Issues that need to be addressed, and identify a timeline for follow-up to closure

   b. Discuss the reporting process

   c. Discuss the next steps in the Certification review process, including any areas of concern and the schedule of a post-onsite visit, if required

   d. Convey that entity feedback forms will be sent to the entity

Reporting

1. The CRTL will provide the CRT and entity with feedback forms, and request that they are returned within five (5) calendar days with a copy to the Certification email address, found on the Registration and Certification page of the NERC website.

2. After completion of the on-site visit, the CRTL shall develop a draft summary report, in coordination with input from the CRT, which presupposes all Open Issues are closed. The format for the report shall conform to the template posted on the NERC website.

3. The entity, in conjunction with the CRT, shall attempt to resolve any Open Issues prior to issuance of the draft summary report.

4. The CRTL shall transmit the draft final report to the CRT requesting final comments within five (5) business days, unless agreed to otherwise.
5. After the CRT has completed their review of the draft report, the CRTL shall transmit the draft final report to the entity, requesting return with comments within fourteen (14) calendar days, unless agreed to otherwise.
6. At the discretion of the CRT and NERC, the entity may be permitted to implement the change at any point in time after the exit briefing. Trial operations, if used, shall be coordinated to ensure operational authority for an Area is clear at all times.
7. Entity comments will be given due consideration and incorporated into the summary report at the discretion of the CRTL and the input of the CRT. The CRTL will review the completed summary report with the CRT.
8. When all Open Issues are satisfactorily closed, the CRTL will submit the summary report to Regional Entity(ies) management for consideration and approval. CRT minority opinions and areas where CRT consensus was not reached will be communicated to Regional Entity(ies) management prior to approval but will not be included in the final report nor in the Regional Entity recommendation to NERC.
    a. If Regional Entity management contradicts the CRT finding, the CRTL will work with the CRT and the entity to resolve any issues.
    b. The Regional Entity CEO (or a designee) will transmit to NERC and copy the entity the final CRT report with a recommendation regarding NERC's certification of the entity.
9. If NERC approves continued certification for the entity, NERC shall email confirmation to the entity.
10. If NERC declines continued certification for the entity, NERC shall make available to the entity Hearing Procedures for use in Appeals of Certification Matters, CCCPP-005 contained in Appendix 4E.

Data Retention

1. Documentation used to substantiate the conclusions of the Certification review must be retained by the Regional Entity for six (6) years.
2. Documentation used to substantiate program oversight of the certification processes must be retained by NERC for six (6) years.

Section VI — NERC Organization Registration Appeals Process

Purpose and Scope

This section describes the process that any organization must use to seek review of its listing and functional assignment on the NCR.

Overview

NERC has established documented procedures to ensure a fair and impartial appeals process. No one with a direct interest in a dispute may participate in the appeals process except as a party or witness. See Figure 3, *Organization Registration Appeals Process Overview*.

Organization Registration Appeals Procedure

1. Any Registered Entity included on the NCR may challenge final decisions regarding its listing, functional assignments, and determinations regarding the applicability of a sub-set of Reliability Standards (which specifies the specific Reliability Standards and may specify Requirements/sub-Requirements).
2. All registration appeals must be filed in writing to NERC, via electronic and registered mail. Appeals are sent to:

   Organization Registration and Certification
   Main: (404) 446-2560
   Facsimile: (404) 446-2595
   Email: Communications@NERC.net
   Address: As posted on NERC.com
3. Each party in the appeals process shall pay its own expenses for each step in the process.
4. A stipulation of invoking the appeals process is that the Regional Entity or Registered Entity requesting the appeal agrees that NERC (its Members, Board, committees, subcommittees, and staff), any person assisting in the appeals process, and any company employing a person assisting in the appeals process, shall not be liable for, and shall be held harmless against the consequences of or any action or inaction or of any agreement reached in resolution of the dispute or any failure to reach agreement as a result of the appeals proceeding. This "hold harmless" clause does not extend to matters constituting gross negligence, intentional misconduct, or a breach of confidentiality.
5. Parties retain the right to seek further review of a decision in whatever regulatory agency or court that may have jurisdiction.
6. All appeals must be received within 21 Days of receipt of the NERC determination that is being appealed. The appeal must state why the Registered Entity believes it should not be registered or should be deactivated based on the NERC ROP and the *NERC Statement of Compliance Registry Criteria* or why its compliance obligations should be limited only to a sub-set list of otherwise applicable Reliability Standards (which specifies the Reliability Standards and may specify Requirements/sub-Requirements). A copy of the appeal must be concurrently served on the Regional Entity.
7. After receipt of the appeal, the Registered Entity has a 30 day period to work with the Regional Entity to resolve the appeal, if possible. NERC may extend such deadline in its sole discretion. If the appeal is resolved, the Regional Entity will notify NERC with the details of the resolution and NERC will close the appeal.

8. At any time through this appeals process, a Registered Entity may agree with the decision and/or agree to close the appeal. NERC shall notify the involved parties and the NERC BOTCC that the appeal is resolved and update the NCR as applicable.
9. NERC will notify the Registered Entity and the applicable Regional Entity(ies) regarding the appeal with the following expectations:
    a. The Registered Entity will provide NERC and the applicable Regional Entity(ies) any additional data supporting its appeal within 10 Days of the date of the NERC appeal notification.
    b. The applicable Regional Entity(ies) will provide a copy of its assessment directly to the Registered Entity, as well as to NERC, within 20 Days of the date of the NERC appeal notification.
    c. The Registered Entity may submit a response to the Regional Entity(ies) assessment, with copies to the Regional Entity(ies) and NERC, within 30 Days of the date of the NERC appeal notification.
    d. To ensure there is no confusion with respect to the rights and responsibilities of the Registered Entity during the appeal process, the notification will confirm whether the Registered Entity will remain on the NERC Compliance Registry and will be responsible for compliance with approved Reliability Standards applicable to the function under appeal during the appeal.
    e. NERC may extend the timelines for good cause shown. Requests should be sent to the Registration email address, found on the Registration and Certification page on the NERC website. NERC shall notify the Registered Entity and the Regional Entity of such time extensions.
10. Hearing and Ruling by the BOTCC
    a. The BOTCC will resolve Registration disputes and apply a *de novo* review.
    b. The BOTCC may request additional data from NERC, the relevant Regional Entity(ies) or the Registered Entity, and prescribe the timeframe for the submitting the requested data.
    c. The BOTCC will provide a written decision regarding any appeals, along with the basis for its decision.
    d. If the BOTCC upholds the appeal, NERC will:
        - Notify the Registered Entity and Regional Entity(ies) that the appeal was granted.
        - Update the NCR.
    e. If the BOTCC does not uphold the appeal, NERC will:
        - Notify the Registered Entity and the Regional Entity(ies) that the appeal was denied.
        - The Registered Entity may appeal to Federal Energy Regulatory Commission (FERC) or another Applicable Governmental Authority within 21 Days of the notification of the decision.
    f. A record of the appeals process shall be maintained by NERC. Confidentiality of the record of the appeal will be based on the NERC ROP Section 1500.

Section VII — NERC Organization Certification Appeals Process

Purpose and Scope

This section describes the process for an organization to appeal the Certification decision that was determined in the Certification process.

Overview

The NERC Organization Certification Program provides a key means to fulfill NERC's mission. In conducting this program, NERC has established documented procedures to ensure a fair and impartial appeals process. No one with a direct interest in a dispute may participate in the appeals process except as a party or witness. See Figure 4 *Organization Certification Appeals Process Overview*.

Organization Certification Appeals Procedure

1. Appeal for an Organization Certification finding.
2. Any entity can appeal an Organization Certification decision issued as a result of the Certification process.
3. Requirements and Conditions for Appeals.
    a. For all appeals under the NERC Organization Certification Program, the appeals process begins when an entity notifies the NERC via the Certification email address, found on the Registration and Certification page of the NERC website that it wishes to use the NERC appeals process.
        - The Director of Compliance is the main contact for all parties in all steps of the appeals process.
        - If an appeal is not filed within 21 Days of the date that the Certification report or finding is issued, or the final Regional Entity appeals process ruling is made, the finding shall be considered final and un-appealable.
    b. Each party in the appeals process shall pay its own expenses for each step in the process.
    c. A stipulation of invoking the appeals process is that the Regional Entity or entity requesting the appeal agrees that NERC (its Members, Board, committees, subcommittees, and staff), any person assisting in the appeals process, and any company employing a person assisting in the appeals process, shall not be liable, and shall be held harmless against the consequences of any action or inaction or of any agreement reached in resolution of the dispute or any failure to reach agreement as a result of the appeals proceeding. This "hold harmless" clause does not extend to matters constituting gross negligence, intentional misconduct, or a breach of confidentiality.
    d. Parties retain the right to seek further review of a decision in whatever regulatory agency or court that may have jurisdiction.
4. At any time through this appeals process, an entity may withdraw its appeal.
5. Hearing and Ruling by the Compliance and Certification Committee.
    a. Within 28 Days of receiving notice from the NERC Director of Compliance, the CCC will conduct a hearing where all the parties or representatives of the disputing parties will present the issue in question, in accordance with CCC procedure CCCPP-005, *Hearing Procedures for Use in Appeals of Certification Matters*, which is incorporated in **Appendix 4E** of the ROP.
    b. If the appeal is upheld, NERC notifies the entity and Regional Entity(ies), updates the NCR, and issues any appropriate letter and certificate to the entity.
    c. If the appeal is denied, NERC notifies the entity and Regional Entity(ies).

6. Hearings and Ruling by the BOTCC.

   a. The BOTCC will be asked to resolve a dispute related to the NERC Organization Certification Program if any party to the appeal contests the CCC final order.

   b. The BOTCC may request additional data from NERC, Regional Entity(ies) or the entity and prescribe the timeframe for submitting the requested data.

   c. At the next regularly scheduled BOTCC meeting, or at a special meeting if the Board determines it is necessary, the Chair of the CCC will present a summary of the dispute and the actions taken to the BOTCC.

      - Each party will have an opportunity to state its case.
      - The BOTCC will then rule on the dispute.

   d. If the BOTCC upholds the appeal, NERC will:

      - Notify the entity and the Regional Entity(ies) that the appeal was upheld.
      - Update the NCR.
      - Issue a Certification letter and a certificate to the entity as applicable.

   e. If the BOTCC does not uphold the appeal, NERC will notify the entity and the Regional Entity(ies) that the appeal was denied.

      - The entity may appeal to Applicable Governmental Authorities within 21 Days of the issuance of the decision.

   f. A record of the appeals process shall be maintained by NERC and available upon request. Confidentiality of the record of the appeal will be based on the NERC ROP Section 1500.

Definitions

Capitalized terms used in this Appendix shall have the definitions set forth in Appendix 2 of the ROP. For convenience of reference, definitions used in this Appendix are also set forth below:

NERC Organization Certification	The process undertaken by NERC and a Regional Entity to verify that a new entity is capable of responsibilities for tasks associated with a particular function such as a Balancing Authority, Transmission Operator, and/or Reliability Coordinator.
Compliance and Certification Manager	The individual/individuals within the Regional Entity that is/are responsible for monitoring compliance of entities with applicable NERC Reliability Standards.
Days	Days as used in the Registration and Certification processes are defined as calendar days.
Footprint	The geographical or electric area served by an entity.
Functional Entity	An entity responsible for a function that is required to ensure the Reliable Operation of the electric grid as identified in the NERC Reliability Standards.
Mapping	The process of determining whether a Regional Entity's Footprint is being served by Registered Entities.
NERC Identification Number (NERC ID)	A number given to NERC Registered Entities that will be used to identify the entity for certain NERC activities. Corporate entities may have multiple NERC IDs to show different corporate involvement in NERC activities.
Regional Entity	An entity having enforcement authority pursuant to 18 C.F.R. § 39.8.
Registration	Processes undertaken by NERC and Regional Entities to identify which entities are responsible for reliability functions within the Regional Entity's Region.
Coordinated Functional Registration (CFR)	Where two or more entities (parties) agree in writing upon a division of compliance responsibility among the parties for one or more Reliability Standard(s) applicable to a particular function, and/or for one or more Requirement(s)/sub-Requirement(s) within particular Reliability Standard(s).

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Exhibit C-3

Clean Version of Proposed Appendices to the ROP

Appendix 5B Clean

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Appendix 5B

Statement of Compliance Registry Criteria
Revision 8

Effective:, 202X

RELIABILITY | RESILIENCE | SECURITY




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Statement of Compliance Registry Criteria (Revision 8)

Summary

This document describes how the North American Electric Reliability Corporation (NERC) will identify organizations that may be candidates for Registration and assign them to the Compliance Registry.

NERC and the Regional Entities[1] have the obligation to identify and register all entities that meet the criteria for inclusion in the Compliance Registry, as further explained in the balance of this document.

Organizations will be responsible to register and to comply with approved Reliability Standards to the extent that they are owners, operators, and users of the Bulk Power System (BPS), perform a function listed in the functional types identified in Section II of this document, and are material to the Reliable Operation of the interconnected BPS as defined by the criteria and sections set forth in this document. NERC will apply the following principles to the Compliance Registry:

- In order to carry out its responsibilities related to enforcement of Reliability Standards, NERC must identify the owners, operators, and users of the BPS who have a material impact[2] on the BPS through a Compliance Registry. NERC and the Regional Entities will make their best efforts to identify all owners, users and operators who have a material impact on the BPS in order to develop a complete and current Compliance Registry list. The Compliance Registry will be updated as required and maintained on an on-going basis.
- Organizations listed in the Compliance Registry are responsible and will be monitored for compliance with applicable mandatory Reliability Standards. They will be subject to NERC's and the Regional Entities' Compliance Monitoring and Enforcement Programs.
- NERC and Regional Entities will not monitor nor hold those not in the Compliance Registry responsible for compliance with the Reliability Standards. An entity which is not initially placed on the Compliance Registry, but which is identified subsequently as having a material impact on the BPS, will be added to the Compliance Registry. Such entity will not be subject to a sanction or Penalty by NERC or the Regional Entity for actions or inactions prior to being placed on the Compliance Registry, but may be required to comply with a Remedial Action Directive or Mitigation Plan in order to become compliant with applicable Reliability Standards. After such entity has been placed on the Compliance Registry, it shall be responsible for complying with Reliability Standards and may be subject to sanctions or Penalties as well as any Remedial Action Directives and Mitigation Plans required by the Regional Entities or NERC for future violations, including any failure to follow a Remedial Action Directive or Mitigation Plan to become compliant with Reliability Standards.
- Required compliance by a given organization with the Reliability Standards will begin the later of (i) inclusion of that organization in the Compliance Registry and (ii) approval by the Applicable Governmental Authority of mandatory Reliability Standards applicable to the registered entity.

Entities responsible for funding NERC and the Regional Entities have been identified in the budget documents filed with FERC.[3] Presence on or absence from the Compliance Registry has no bearing on an entity's independent responsibility for funding NERC and the Regional Entities.

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[1] The term "Regional Entities" includes Cross-Border Regional Entities that have footprints in the U.S., Canada, and Mexico, as applicable. Applicable Governmental Authorities in Canadian jurisdictions may have adopted their own Rules of Procedure and Compliance Registry requirements. Registered Entities may be subject to the Compliance Monitoring and Enforcement Programs (CMEP) in their respective jurisdictions, in accordance with applicable laws and regulations.

[2] The criteria for determining whether an entity will be placed on the Compliance Registry are set forth in the balance of this document. At any time a person may recommend in writing, with supporting reasons, to the Director of Compliance (or an equivalent position) that an organization be added to or removed from the Compliance Registry, pursuant to NERC Rules of Procedure Section 501.1.3.5.

[3] Budget documents are submitted to Applicable Governmental Authorities in Canada for information.

Background

The initial Registration process began in January of 2006. Registration of new entities is an ongoing process. If a Registered Entity's information changes, these changes must be submitted to the applicable Regional Entity(ies). Based on selection as the ERO, NERC's Organization Registration program[4] is the means by which NERC and the Regional Entities plan, manage, and execute Reliability Standard compliance oversight of owners, operators, and users of the BPS. Organizations listed in the Compliance Registry are subject to NERC's and the Regional Entities' Compliance Monitoring and Enforcement Programs.

Statement of Issue

As the ERO, NERC intends to comprehensively and thoroughly protect the reliability of the grid. To support this goal NERC will include in its Compliance Registry each entity that NERC concludes can materially impact the reliability of the BPS.

NERC will identify those entities that may need to be listed in its Compliance Registry. Identifying these organizations is necessary and prudent for the purpose of determining resource needs, both at the NERC and Regional Entity level, and for communicating with these entities regarding their potential responsibilities and obligations. Candidate entities can be identified at any time, as and when needed. The Compliance Registry is available on NERC's website.

Resolution

The potential costs and effort of registering every organization potentially within the scope of "owner, operator, and user of the BPS," while ignoring their impact upon reliability, would be disproportionate to the improvement in reliability that would reasonably be anticipated from doing so.

NERC and the Regional Entities have identified two principles they believe are key to the entity selection process. These are:

1. There needs to be consistency between Regions and across the continent with respect to which entities are registered; and
2. Any entity reasonably deemed material to the reliability of the BPS will be registered, irrespective of other considerations.

To address the second principle the Regional Entities, working with NERC, will identify and register any entity they deem material to the reliability of the BPS.

Registry Criteria

In order to promote consistency, NERC and the Regional Entities use the following criteria as the basis for determining whether particular entities should be identified as candidates for Registration. All organizations meeting or exceeding the criteria will be identified as candidates.

The following criteria (Sections I-V) plus the statement in Section VI will provide guidance regarding an entity's Registration status:

I. Owners, operators, or users of the BPS are candidates for Registration.[5]

[4] See NERC ERO Application; Exhibit C; Section 500 – Organization Registration and Certification.

[5] See NERC Rules of Procedure Section 501.1 NERC Compliance Registry — NERC shall establish and maintain the NCR of the BPS owners, operators, and users that are subject to approved Reliability Standards. For purposes of this Section I, users, owners, and operators of the BPS includes: 1) entities that use, own, or operate Elements of the Bulk Electric System (BES) as defined in Appendix 2 of the NERC Rules of Procedure and NERC Glossary of Terms; as well as 2) entities otherwise defined in the Registry Criteria in this Appendix 5B.

II. Entities identified in Section I above will be categorized as Registration candidates who may be subject to Registration under one or more appropriate Functional Entity types based on a comparison of the functions the entity normally performs against the following function type definitions.[6]

Function Type	Acronym	Definition/Discussion
Balancing Authority	BA	The responsible entity that integrates resource plans ahead of time, maintains Load-interchange-generation balance within a Balancing Authority Area, and supports Interconnection frequency in real-time.
Distribution Provider	DP	Provides and operates the "wires" between the transmission system and the end-use customer. For those end-use customers who are served at transmission voltages, the Transmission Owner also serves as the Distribution Provider. Thus, the Distribution Provider is not defined by a specific voltage, but rather as performing the distribution function at any voltage. Note: As provided in Section III.b.1 below, a Distribution Provider entity shall be an Underfrequency Load Shedding (UFLS)-Only Distribution Provider if it is the responsible entity that owns, controls or operates UFLS Protection System(s) needed to implement a required UFLS program designed for the protection of the BES, but does not meet any of the other registration criteria for a Distribution Provider.
Frequency Response Sharing Group	FRSG	A group whose members consist of two or more Balancing Authorities that collectively maintain, allocate, and supply operating resources required to jointly meet the sum of the Frequency Response Obligations of its members.
Generator Operator	GOP	The entity that: 1) operates generating Facility(ies) and performs the functions of supplying energy and Interconnected Operations Services (Category 1 GOP); or 2) operates non-BES inverter based generating resources that either have or contribute to an aggregate nameplate capacity of greater than or equal to 20 MVA, connected through a system designed primarily for delivering such capacity to a common point of connection at a voltage greater than or equal to 60 kV (Category 2 GOP).
Generator Owner	GO	The entity that: 1) owns and maintains generating Facility(ies) (Category 1 GO); or 2) owns and maintains non-BES inverter based generating resources that either have or contribute to an aggregate nameplate capacity of greater than or equal to 20 MVA, connected through a system designed primarily for delivering such capacity to a common point of connection at a voltage greater than or equal to 60 kV (Category 2 GO).

[6] Exclusion: An entity will not be registered based on these criteria if responsibilities for compliance with approved NERC Reliability Standards or associated Requirements including reporting have been transferred by written agreement to another entity that has registered for the appropriate function for the transferred responsibilities, including bilateral agreements and Sections 501, 507, and 508 of the NERC Rules of Procedure.

Function Type	Acronym	Definition/Discussion
Planning Authority/ Planning Coordinator	PA/PC	The responsible entity that coordinates and integrates transmission Facilities and service plans, resource plans, and Protection Systems.
Reliability Coordinator	RC	The entity that is the highest level of authority who is responsible for the Reliable Operation of the BES, has the Wide Area view of the BES, and has the operating tools, processes and procedures, including the authority to prevent or mitigate emergency operating situations in both next-day analysis and real-time operations. The Reliability Coordinator has the purview that is broad enough to enable the calculation of Interconnection Reliability Operating Limits, which may be based on the operating parameters of transmission systems beyond any Transmission Operator's vision.
Regulation Reserve Sharing Group	RRSG	A group whose members consist of two or more Balancing Authorities that collectively maintain, allocate, and supply the Regulating Reserve required for all member Balancing Authorities to use in meeting applicable regulating standards.
Reserve Sharing Group	RSG	A group whose members consist of two or more Balancing Authorities that collectively maintain, allocate, and supply Operating Reserves required for each Balancing Authority's use in recovering from contingencies within the group. Scheduling energy from an Adjacent Balancing Authority to aid recovery need not constitute reserve sharing provided the transaction is ramped in over a period the supplying party could reasonably be expected to load generation in (e.g., ten minutes). If the transaction is ramped in more quickly (e.g., between zero and ten minutes), then, for the purposes of recovery from a Reportable Balancing Contingency Event, the areas become a Reserve Sharing Group.
Resource Planner	RP	The entity that develops a long-term (generally one year and beyond) plan for the resource adequacy of specific Loads (customer demand and energy requirements) within a Planning Authority area.
Transmission Owner	TO	The entity that owns and maintains transmission Facilities.
Transmission Operator	TOP	The entity responsible for the reliability of its local transmission system and operates or directs the operations of the transmission Facilities.
Transmission Planner	TP	The entity that develops a long-term (generally one year and beyond) plan for the reliability (adequacy) of the interconnected bulk electric transmission systems within its portion of the Planning Authority area.
Transmission Service Provider	TSP	The entity that administers the transmission tariff and provides Transmission Service to Transmission Customers under applicable Transmission Service agreements.

III. Entities identified in Section II above as being subject to Registration as a Distribution Provider should be included in the Compliance Registry for these functions only if they meet any of the criteria listed below:

III(a) Distribution Provider:

III.a.1 Distribution Provider system serving >75 MW of peak Load that is directly connected to the BES;[7] or

III.a.2 Distribution Provider is the responsible entity that owns, controls, or operates Facilities that are part of any of the following Protection Systems or programs designed, installed, and operated for the protection of the BES:[8]

- a required Undervoltage Load Shedding (UVLS) program and/or
- a required Special Protection System or Remedial Action Scheme and/or
- a required transmission Protection System; or

III.a.3 Distribution Provider that is responsible for providing services related to Nuclear Plant Interface Requirements (NPIRs) pursuant to an executed agreement; or

III.a.4 Distribution Provider with field switching personnel identified as performing unique tasks associated with the Transmission Operator's restoration plan that are outside of their normal tasks.

III(b) Distribution Provider with UFLS-Only assets (referred to as "UFLS-Only Distribution Provider")

III.b.1 UFLS-Only Distribution Provider does not meet any of the other registration criteria in Sections III(a)(1)-(4) for a Distribution Provider; and

III.b.2 UFLS-Only Distribution Provider is the responsible entity that owns, controls, or operates UFLS Protection System(s) needed to implement a required UFLS Program designed for the protection of the BES.

The Reliability Standards applicable to UFLS-Only Distribution Providers are: (1) any version of PRC-005 and PRC-006 applicable to UFLS-Only Distribution Providers, (2) any regional Reliability Standard whose purpose is to develop or establish a UFLS Program, and (3) any Reliability Standard that lists UFLS-Only Distribution Provider in the applicability section. Reliability Standards that apply to Distribution Providers will not apply to UFLS-Only Distribution Providers, unless explicitly stated in the applicability section of these Reliability Standards and in future revisions and/or versions.

IV. Joint Registration Organization, Coordinated Functional Registration and applicable Member Registration.

Pursuant to FERC's directive in paragraph 107 of Order No. 693, NERC's rules pertaining to joint Registrations and Joint Registration Organizations, as well as Coordinated Functional Registrations, are now found in Section 501, 507, and 508 of the NERC Rules of Procedure.

V. If NERC or a Regional Entity encounters an organization that is not listed in the Compliance Registry, but which should be subject to the Reliability Standards, NERC or the Regional Entity is obligated and will initiate actions to add that organization to the Compliance Registry, subject to that organization's right to challenge as provided in Section 500 of NERC's Rules of Procedure.

[7] Ownership, control or operation of UFLS Protection System(s) needed to implement a required UFLS Program designed for the protection of the BES does not affect an entity's eligibility for registration pursuant to III.a.1.

[8] As used in Section III.a.2, "protection of the Bulk Electric System" means protection to prevent instability, Cascading, or uncontrolled separation of the BES and not for local voltage issues (UVLS) or local line loading management (Special Protection System) that are demonstrated to be contained within a local area.

Determination of Material Impact[9]

An entity that does not meet (i.e., falls below) the criteria may nevertheless be registered if it can be demonstrated that the entity has a material impact on the reliability of the BPS. Similarly, an entity that meets the criteria may be excluded if it can be demonstrated to NERC that the entity does not have a material impact on the reliability of the BPS. Such Registration decisions regarding materiality must be made by the NERC-led Registration Review Panel in accordance with Section III(D) of Appendix 5A to the NERC Rules of Procedure. In order to ensure a consistent approach to assessing materiality, a non-exclusive set of factors ("materiality test") for consideration is identified below; however, only a sub-set of these factors, or other additional factors, may be applicable to a particular functional registration category or specific entity, as appropriate:

1. Is the entity specifically identified in the emergency operation plans and/or restoration plans of an associated Reliability Coordinator, Balancing Authority, Generator Operator or Transmission Operator?
2. Will intentional or inadvertent removal of an Element owned or operated by the entity, or a common mode failure of two Elements as identified in the Reliability Standards (for example, loss of two Elements as a result of a breaker failure), lead to a reliability issue on another entity's system (such as a neighboring entity's Element exceeding an applicable rating, or loss of non-consequential load due to a single contingency)? Conversely, will such contingencies on a neighboring entity's system result in issues for Reliability Standards compliance on the system of the entity in question?
3. Can the normal operation, misoperation or malicious use of the entity's cyber assets cause a detrimental impact (e.g., by limiting the operational alternatives) on the operational reliability of an associated Balancing Authority, Generator Operator or Transmission Operator?
4. Can the normal operation, misoperation, or malicious use of the entity's Protection Systems (including UFLS, UVLS, Special Protection System, Remedial Action Schemes and other Protection Systems protecting BES Facilities) cause an adverse impact on the operational reliability of any associated Balancing Authority, Generator Operator or Transmission Operator, or the automatic load shedding programs of a PC or TP (UFLS, UVLS)?

Limitation of responsibilities to a sub-set of Reliability Standards

NERC may limit the compliance obligations of (1) a given entity registered for a particular function or (2) a similarly situated class of entities, as warranted based on the particular facts and circumstances, to a sub-set list of Reliability Standards (which may specify Requirements/sub-Requirements). If NERC establishes a sub-set list for similarly situated class of entities, NERC will post the eligibility criteria and sub-set list of applicable Reliability Standards to the Registration and Certification page of the NERC Website.

[9] The Determination of Material Impact applies when an entity seeks a NERC-led Registration Review Panel to review its request for examination of registration based on material impact. As stated in Appendix 5A, "[t]he Panel shall also include a review of individual and aggregate system-wide risks to, and considerations of, reliability of the BPS, as well as the BES Definition, as applicable." Appendix 5A, Section III(D). Any such request will be reviewed on a case by case basis in accordance with the Panel procedures set forth in Appendix 5A.

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Exhibit D

Redline Version of Proposed Appendices to the ROP

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Exhibit D-1

Redline Version of Proposed Appendices to the ROP

Appendix 2 Redline

NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

DEFINITIONS USED IN THE RULES OF PROCEDURE

APPENDIX 2 TO THE RULES OF PROCEDURE

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General

For purposes of the NERC Rules of Procedure, including all Appendices, the terms defined in this Appendix shall have the meanings set forth herein. For convenience of reference to the user, definitions of terms that are used in a particular Appendix may be repeated in that Appendix.

Where used in the Rules of Procedure, a defined term will be capitalized. Where a term defined in this Appendix appears in the Rules of Procedure but is not capitalized, the term is there being used in its ordinary and commonly understood meaning and not as defined in this Appendix (if different). Other terms that are not defined terms, such as the names of entities, organizations, committees, or programs; position titles; titles of documents or forms; section headings; geographic locations; and other terms commonly presented as proper nouns, may also be capitalized in the Rules of Procedure without being defined in this Appendix.

Definitions of terms in this Appendix that are marked with asterisks (**) are taken from the NERC *Glossary of Terms Used in Reliability Standards*. Definitions of terms in this Appendix that are marked with "pluses" (++) are taken from Section 215 of the Federal Power Act or the Commission's regulations at 18 C.F.R. Part 39 or Part 388.

Other terms used in the Rules of Procedure but not defined in this Appendix that have commonly understood and used technical meanings in the electric power industry, including applicable codes and standards, shall be construed in accordance with such commonly understood and used technical meanings.

Specific Definitions

"Acceptance of the Exception Request" or "Acceptance" means the determination that an eligible Exception Request (i.e., a Request permitted by section 4.1 of Appendix 5C) contains all the Required Information so that it can undergo substantive review.

"Adjacent Balancing Authority" means a Balancing Authority whose Balancing Authority Area is interconnected with another Balancing Authority Area either directly or via a multi-party agreement or transmission tariff.**

"Adjusted Penalty Amount" means the proposed Penalty for a violation of a Reliability Standard as determined based on application of the adjustment factors identified in Section 4.3 of the *Sanction Guidelines* to the Base Penalty Amount.

"Advisories" or "Level 1 (Advisories)" is a notification issued by NERC in accordance with Section 810.3.1 of the Rules of Procedure.

"Alleged Violation" means a potential noncompliance for which the Compliance Enforcement Authority has determined, based on an assessment of the facts and circumstances surrounding the potential noncompliance, that evidence exists to indicate a Registered Entity has violated a Reliability Standard and such violation will be resolved outside of the Compliance Exception or FFT processes.

"Annual Report" means the annual report to be filed by NERC with FERC and other Applicable Governmental Authorities in accordance with Section 13.0 of Appendix 4D.

"Applicable Governmental Authority" means the FERC within the United States and the appropriate governmental authority with subject matter jurisdiction over reliability in Canada and Mexico.

"Applicable Requirement" means a Requirement or a Requirement Part of a CIP Standard that (i) expressly provides that compliance with the terms of the Requirement or Requirement Part is required where technically feasible or (ii) is subject to Appendix 4D by FERC directive.

"Approval of the Exception Request" or "Approval" means the determination by NERC that an Exception Request meets the criteria to receive the requested Exception.

"Balancing Authority" means the responsible entity that integrates resource plans ahead of time, maintains load-interchange-generation balance within a Balancing Authority Area, and supports Interconnection frequency in real time.**

"Balancing Authority Area" means the collection of generation, transmission, and loads within the metered boundaries of the Balancing Authority. The Balancing Authority maintains load-resource balance within this area.**

"Base Penalty Amount" means the proposed Penalty for a violation of a Reliability Standard as initially determined pursuant to Sections 4.1 and 4.2 of the NERC *Sanction Guidelines*, before application of any adjustment factors.

"BES Cyber Asset" means a Cyber Asset that if rendered unavailable, degraded, or misused would, within 15 minutes of its required operation, misoperation, or non-operation, adversely impact one or more Facilities, systems, or equipment, which, if destroyed, degraded, or otherwise rendered unavailable when needed, would affect the reliable operation of the Bulk Electric System. Redundancy of affected Facilities, systems, and equipment shall not be considered when determining adverse impact. Each BES Cyber Asset is included in one or more BES Cyber Systems.**

"BES Cyber System" means one or more BES Cyber Assets logically grouped by a responsible entity to perform one or more reliability tasks for a functional entity.**

"BES Definition" means the NERC definition of the Bulk Electric System as set forth in the NERC *Glossary of Terms Used in Reliability Standards.*

"Blackstart Resource" means a generating unit(s) and its associated set of equipment which has the ability to be started without support from the System or is designed to remain energized without connection to the remainder of the System, with the ability to energize a bus, meeting the

Transmission Operator's restoration plan needs for Real and Reactive Power capability, frequency and voltage control, and that has been included in the Transmission Operator's restoration plan.**

"Board" or "Board of Trustees" means the Board of Trustees of NERC.

"Board of Trustees Compliance Committee," "BOTCC" or "Compliance Committee" means the Compliance Committee of the NERC Board of Trustees, or its successor.

"Bulk Electric System" or "BES" means unless modified by the lists shown below, all Transmission Elements operated at 100 kV or higher and Real Power and Reactive Power resources connected at 100 kV or higher. This does not include facilities used in the local distribution of electric energy.

Inclusions:

- **I1** - Transformers with the primary terminal and at least one secondary terminal operated at 100 kV or higher unless excluded by application of Exclusion E1 or E3.

- **I2** - Generating resource(s) including the generator terminals through the high-side of the step-up transformer(s) connected at a voltage of 100 kV or above with:
    a) Gross individual nameplate rating greater than 20 MVA. Or,
    b) Gross plant/facility aggregate nameplate rating greater than 75 MVA.

- **I3** - Blackstart Resources identified in the Transmission Operator's restoration plan.

- **I4** - Dispersed power producing resources that aggregate to a total capacity greater than 75 MVA (gross nameplate rating), and that are connected through a system designed primarily for delivering such capacity to a common point of connection at a voltage of 100 kV or above. Thus, the facilities designated as BES are:
    a) The individual resources, and
    b) The system designed primarily for delivering capacity from the point where those resources aggregate to greater than 75 MVA to a common point of connection at a voltage of 100 kV or above.

- **I5** - Static or dynamic devices (excluding generators) dedicated to supplying or absorbing Reactive Power that are connected at 100 kV or higher, or through a dedicated transformer with a high-side voltage of 100 kV or higher, or through a transformer that is designated in Inclusion I1 unless excluded by application of Exclusion E4.

Exclusions:

- **E1** - Radial systems: A group of contiguous transmission Elements that emanates from a single point of connection of 100 kV or higher and:

    a) Only serves Load. Or,

b) Only includes generation resources, not identified in Inclusions I2, I3, or I4, with an aggregate capacity less than or equal to 75 MVA (gross nameplate rating). Or,

c) Where the radial system serves Load and includes generation resources, not identified in Inclusions I2, I3 or I4, with an aggregate capacity of non-retail generation less than or equal to 75 MVA (gross nameplate rating).

Note 1 – A normally open switching device between radial systems, as depicted on prints or one-line diagrams for example, does not affect this exclusion.

Note 2 – The presence of a contiguous loop, operated at a voltage level of 50 kV or less, between configurations being considered as radial systems, does not affect this exclusion.

- **E2** - A generating unit or multiple generating units on the customer's side of the retail meter that serve all or part of the retail Load with electric energy if: (i) the net capacity provided to the BES does not exceed 75 MVA, and (ii) standby, back-up, and maintenance power services are provided to the generating unit or multiple generating units or to the retail Load by a Balancing Authority, or provided pursuant to a binding obligation with a Generator Owner or Generator Operator, or under terms approved by the applicable regulatory authority.

- **E3** - Local networks (LN): A group of contiguous transmission Elements operated at less than 300 kV that distribute power to Load rather than transfer bulk power across the interconnected system. LN's emanate from multiple points of connection at 100 kV or higher to improve the level of service to retail customers and not to accommodate bulk power transfer across the interconnected system. The LN is characterized by all of the following:

  a) Limits on connected generation: The LN and its underlying Elements do not include generation resources identified in Inclusions I2, I3, or I4 and do not have an aggregate capacity of non-retail generation greater than 75 MVA (gross nameplate rating);

  b) Real Power flows only into the LN and the LN does not transfer energy originating outside the LN for delivery through the LN; and

  c) Not part of a Flowgate or transfer path: The LN does not contain any part of a permanent Flowgate in the Eastern Interconnection, a major transfer path within the Western Interconnection, or a comparable monitored Facility in the ERCOT or Quebec Interconnections, and is not a monitored Facility included in an Interconnection Reliability Operating Limit (IROL).

- **E4** - Reactive Power devices installed for the sole benefit of a retail customer(s).

Note - Elements may be included or excluded on a case-by-case basis through the Rules of Procedure exception process.**

"Bulk Power System" means, depending on the context:
(i) (A) facilities and control systems necessary for operating an interconnected electric energy transmission network (or any portion thereof); and
(B) electric energy from generation facilities needed to maintain transmission system reliability. The term does not include facilities used in the local distribution of electric energy [++]. (Note that the terms "Bulk-Power System" or "Bulk Power System" shall have the same meaning.)
(ii) Solely for purposes of Appendix 4E, Bulk Electric System.

"Canadian" means one of the following: (a) a company or association incorporated or organized under the laws of Canada, or its designated representative(s) irrespective of nationality; (b) an agency of a federal, provincial, or local government in Canada, or its designated representative(s) irrespective of nationality; or (c) a self-representing individual who is a Canadian citizen residing in Canada.

"Canadian Entity" means a Registered Entity (or, solely for purposes of Appendix 4D, a Responsible Entity) that is organized under Canadian federal or provincial law.

"Cascading" means the uncontrolled successive loss of System Elements triggered by an incident at any location. Cascading results in widespread electric service interruption that cannot be restrained from sequentially spreading beyond an area predetermined by studies.**

"CCC" means the NERC Compliance and Certification Committee.

"Certification" means, depending on the context, (i) the process undertaken by NERC and a Regional Entity to verify that an entity is capable of responsibilities for tasks associated with a particular function such as a Balancing Authority, Transmission Operator and/or Reliability Coordinator; such Certification activities are further described in Section 500 and Appendix 5A of the NERC Rules of Procedure; or (ii) for purposes of Section 600 of the Rules of Procedure, an official recognition that indicates the recipient has passed a NERC exam or completed a specified number of Continuing Education Hours.

"Certification Staff" means individuals employed or contracted by NERC who have the authority to make initial determinations of Certification of entities performing reliability functions.

"Certification Team" means a team assembled by a Regional Entity that will be responsible for performing the activities included in the Certification process for an entity pursuant to Appendix 5A.

"CIP Senior Manager" means a single senior management official with overall authority and responsibility for leading and managing implementation of and continuing adherence to the requirements within the NERC CIP Standards.**

"Classified National Security Information" means Required Information that has been determined to be protected from unauthorized disclosure pursuant to Executive Order No. 12958, as amended,

and/or the regulations of the NRC at 10 C.F.R. §95.35; or pursuant to any comparable provision of Canadian federal or provincial law.

"Clerk" means an individual assigned by the Compliance Enforcement Authority or NERC to perform administrative tasks relating to the conduct of hearings as described in Attachment 2, Hearing Procedures, to Appendix 4C.

"Commission" means the Federal Energy Regulatory Commission or FERC.

"Complaint" means an allegation that a Registered Entity violated a Reliability Standard.

"Compliance and Certification Manager" means individual/individuals within the Regional Entity that is/are responsible for monitoring compliance of entities with applicable NERC Reliability Standards.

"Compliance Audit" means a systematic, objective review and examination of records and activities to determine whether a Registered Entity meets the Requirements of applicable Reliability Standards.

"Compliance Audit Participants" means Registered Entities scheduled to be audited and the audit team members.

"Compliance Enforcement Authority" means NERC or the Regional Entity in their respective roles of monitoring and enforcing compliance with the NERC Reliability Standards.

"Compliance Enforcement Authority's Area of Responsibility" means the Compliance Enforcement Authority's Region. If a Regional Entity is the Compliance Enforcement Authority, the Compliance Enforcement Authority's Area of Responsibility is shown in Exhibit A to the delegation agreement between the Regional Entity and NERC.

"Compliance Exception" means a noncompliance that is addressed in Appendix 4C and is not pursued through an enforcement action under Section 5.0 of Appendix 4C to these Rules of Procedure by a Compliance Enforcement Authority.

"Compliance Investigation" means a comprehensive investigation, which may include an on-site visit with interviews of the appropriate personnel, to determine if a violation of a Reliability Standard has occurred.

"Compliance Monitoring and Enforcement Program" or "CMEP" means, depending on the context (1) the NERC *Compliance Monitoring and Enforcement Program* (Appendix 4C to the NERC Rules of Procedure) or the Commission-approved program of a Regional Entity, as applicable, or (2) the program, department or organization within NERC or a Regional Entity that is responsible for performing compliance monitoring and enforcement activities with respect to Registered Entities' compliance with Reliability Standards.

"Compliant Date" means the date by which a Responsible Entity is required to be in compliance with an Applicable Requirement of a CIP Standard.

"Confidential Business and Market Information" means any information that pertains to the interests of any entity, that was developed or acquired by that entity, and that is proprietary or competitively sensitive.

"Confidential Information" means (i) Confidential Business and Market Information; (ii) Critical Electric Infrastructure Information; (iii) Critical Energy Infrastructure Information; (iv) personnel information that identifies or could be used to identify a specific individual, or reveals personnel, financial, medical, or other personal information; (v) work papers, including any records produced for or created in the course of an evaluation or audit; (vi) investigative files, including any records produced for or created in the course of an investigation; or (vii) Cyber Security Incident Information; provided, that public information developed or acquired by an entity shall be excluded from this definition; or (vii) for purposes of Appendix 4D, any other information that is designated as Confidential Information in Section 11.0 of Appendix 4D.

"Confirmed Violation" means an Alleged Violation for which (1) the Registered Entity has accepted or not contested the Notice of Alleged Violation and Penalty or Sanction or other notification of the Alleged Violation, or (2) there has been the issuance of a final order from NERC or a Hearing Body finding a violation, Penalty or sanction, or (3) the period for requesting a hearing or an appeal has expired, or (4) the Registered Entity has executed a settlement agreement pursuant to Section 5.6.

"Consolidated Hearing Process" means the process pursuant to Section 403.15B used to conduct hearings and issue decisions concerning disputed compliance matters in accordance with Attachment 2, Hearing Procedures, of Appendix 4C.

"Continuing Education Hour" or "CE Hour" means based on sixty clock minutes, and includes at least fifty minutes of participation in a group or self-study learning activity that meets the criteria of the NERC Continuing Education Program.

"Continuing Education Program Provider" or "Provider" means the individual or organization offering a learning activity to participants and maintaining documentation required by Section 600 of the Rules of Procedure.

"Coordinated Functional Registration" means where two or more entities (parties) agree in writing upon a division of compliance responsibility among the parties for one or more Reliability Standard(s) applicable to a particular function, and/or for one or more Requirement(s)/sub-Requirement(s) within particular Reliability Standard(s).

"Covered Asset" means any BES Cyber Asset, BES Cyber System, Protected Cyber Asset, Electronic Access Control or Monitoring System, or Physical Access Control System that is subject to an Applicable Requirement.

"Credential" means a NERC designation that indicates the level of qualification achieved (i.e., reliability operator; balancing, interchange, and transmission operator; balancing and interchange operator; and transmission operator).

"Critical Electric Infrastructure" means a system or asset of the bulk power system, whether physical or virtual, the incapacity or destruction of which would negatively affect national security, economic security, public health or safety, or any combination of such matters.

"Critical Electric Infrastructure Information" means information related to proposed or existing Critical Electric Infrastructure. Such term includes information that qualifies as Critical Energy Infrastructure Information as defined herein.

"Critical Energy Infrastructure Information" means specific engineering, vulnerability, or detailed design information about proposed or existing Critical Infrastructure that (i) relates details about the production, generation, transportation, transmission, or distribution of energy; (ii) could be useful to a person in planning an attack on Critical Infrastructure; and (iii) does not simply give the location of the Critical Infrastructure.++

"Critical Infrastructure" means existing and proposed systems and assets, whether physical or virtual, the incapacity or destruction of which would negatively affect security, economic security, public health or safety, or any combination of those matters.++

"Critical Infrastructure Protection Standard" or "CIP Standard" means any of NERC Reliability Standards included in the Critical Infrastructure Protection group of Reliability Standards that is adopted by the NERC Board of Trustees according to the NERC *Bylaws* and *Rules of Procedure* and approved by Applicable Governmental Authorities.

"Cross-Border Regional Entity" means a Regional Entity that encompasses a part of the United States and a part of Canada or Mexico.++

"Cyber Assets" means programmable electronic devices, including hardware, software, and data in those devices.**

"Cyber Security Incident" means any malicious or suspicious event that disrupts, or was an attempt to disrupt, the operation of those programmable electronic devices and communications networks including hardware, software and data that are essential to the Reliable Operation of the Bulk Power System.++

"Cyber Security Incident Information" means any information related to, describing, or which could be used to plan or cause a Cyber Security Incident.

"Days", as used in Appendix 5A with respect to the Registration and Certification processes, means calendar days.

"Deactivation," as used in Appendix 5A with respect to the Registration processes, refers to removal of an entity from the NCR for a specific functional category. As a result of deactivation,

the entity is no longer subject to any prospective compliance obligations with respect to Reliability Standards applicable to that functional category.

"Delegate" means a person to whom the CIP Senior Manager of a Responsible Entity has delegated authority pursuant to Requirement R4 of CIP Standard CIP-003 (or any successor provision).

"Director of Compliance" means the Director of Compliance of NERC or of the Compliance Enforcement Authority, as applicable, or other individual designated by the Compliance Enforcement Authority who is responsible for the management and supervision of Compliance Staff, or his or her designee.

"Director of Enforcement" means the Director of Enforcement of NERC or of the Compliance Enforcement Authority, as applicable, or other individual designated by the Compliance Enforcement Authority who is responsible for the management and supervision of Enforcement Staff, or his or her designee.

"Disapproval of the Exception Request" or "Disapproval" means the determination by NERC that an Exception Request does not meet the criteria to receive the requested Exception.

"Distribution Factor" means the portion of an Interchange Transaction, typically expressed in per unit that flows across a transmission facility (Flowgate).**

"Distribution Provider" means the entity that provides and operates the "wires" between the transmission system and the end-use customer. For those end-use customers who are served at transmission voltages, the Transmission Owner also serves as the Distribution Provider. Thus, the Distribution Provider is not defined by a specific voltage, but rather as performing the distribution function at any voltage.**

"Document" means, in addition to the commonly understood meaning of the term as information written or printed on paper, any electronically stored information, including writings, drawings, graphs, charts, photographs, sound recordings, images and other data or data compilations stored in any medium from which information can be obtained, and shall be translated by the producing party into reasonably usable form.

"Electric Reliability Organization" or "ERO" means the organization that is certified by the Commission under Section 39.3 of its regulations, the purpose of which is to establish and enforce Reliability Standards for the Bulk Power System in the United States, subject to Commission review. The organization may also have received recognition by Applicable Governmental Authorities in Canada and Mexico to establish and enforce Reliability Standards for the Bulk Power Systems of the respective countries.

"Electronic Access Control or Monitoring Systems" means Cyber Assets that perform electronic access control or electronic access monitoring of the Electronic Security Perimeter(s) or BES Cyber Systems. This includes Intermediate Systems.**

"Electronic Access Point" means a Cyber Asset interface on an Electronic Security Perimeter that allows routable communication between Cyber Assets outside an Electronic Security Perimeter and Cyber Assets inside an Electronic Security Perimeter.**

"Electronic Security Perimeter" means the logical border surrounding a network to which BES Cyber Systems are connected using a routable protocol.**

"Element" means 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.**

"Eligible Reviewer" means a person who has the required security clearances or other qualifications, or who otherwise meets the applicable criteria, to have access to Confidential Information, Classified National Security Information, NRC Safeguards Information or Protected FOIA Information, as applicable to the particular information to be reviewed.

"End Date" means the last date of the period to be covered in a Compliance Audit.

"Essential Actions" or "Level 3 (Essential Actions)" is a notification issued by NERC in accordance with Section 810.3.3 of the Rules of Procedure.

"Evidentiary Hearing" means a hearing at which one or more Participants submits evidence for the record. A Testimonial Hearing is an Evidentiary Hearing, but an Evidentiary Hearing does not necessarily include the presentation of testimony by witnesses in person.

"Exception" means either an Inclusion Exception or an Exclusion Exception.

"Exception Procedure" means the procedure set forth in Appendix 5C.

"Exception Request" means a request made by a Submitting Entity in accordance with Appendix 5C for an Exception.

"Exception Request Form" means the form adopted by each Regional Entity, in accordance with a template provided by NERC, for use by Submitting Entities in submitting Exception Requests; provided, that the Exception Request Form must include Section III.B as adopted by NERC.

"Exclusion Exception" means a determination that an Element that falls within the BES Definition should be excluded from the BES.

"Facility" means a set of electrical equipment that operates as a single Bulk Electric System Element (e.g., a line, a generator, a shunt compensator, transformer, etc.)**

"FERC" means the United States Federal Energy Regulatory Commission.

"Final Penalty Amount" means the final, proposed Penalty for violation of a Reliability Standard, determined in accordance with the *Sanction Guidelines*.

"Find, Fix, Track and Report" or "FFT" means a streamlined process, addressed in Appendix 4C, to resolve minimal or moderate risk, remediated noncompliance that are not assessed a financial penalty.

"Flowgate" means 1.) A portion of the Transmission system through which the Interchange Distribution Calculator calculates the power flow from Interchange Transactions. 2.) A mathematical construct, comprised of one or more monitored transmission Facilities and optionally one or more contingency Facilities, used to analyze the impact of power flows upon the Bulk Electric System.**

"FOIA" means the U.S. Freedom of Information Act, 5 U.S.C. §552.

"Footprint" means the geographical or electric area served by an entity.

"Frequency Response Sharing Group" means a group whose members consist of two or more Balancing Authorities that collectively maintain, allocate, and supply operating resources required to jointly meet the sum of the Frequency Response Obligations of its members.**

"Functional Entity" means an entity responsible for a function that is required to ensure the Reliable Operation of the electric grid as identified in the NERC Reliability Standards.

"Generator Operator" means the entity that: 1) operates generating Facility(ies) and performs the functions of supplying energy and Interconnected Operations Services (Category 1 GOP); or 2) operates non-BES inverter based generating resources that either have or contribute to an aggregate nameplate capacity of greater than or equal to 20 MVA, connected through a system designed primarily for delivering such capacity to a common point of connection at a voltage greater than or equal to 60 kV (Category 2 GOP).

"Generator Owner" means an entity that: 1) owns and maintains generating Facility(ies) (Category 1 GO); or 2) owns and maintains non-BES inverter based generating resources that either have or contribute to an aggregate nameplate capacity of greater than or equal to 20 MVA, connected through a system designed primarily for delivering such capacity to a common point of connection at a voltage greater than or equal to 60 kV(Category 2 GO).

"Hearing Body" means the body designated by the Compliance Enforcement Authority to conduct hearings and issue decisions concerning disputed compliance matters in accordance with Attachment 2, Hearing Procedures, of Appendix 4C.

"Hearing Officer" means, depending on the context, (i) an individual employed or contracted by the Compliance Enforcement Authority or NERC to preside over hearings conducted pursuant to Attachment 2, Hearing Procedures, of Appendix 4C; the Hearing Officer shall not be a member of the Hearing Body, or (ii) solely for hearings conducted pursuant to Appendix 4E, (A) a CCC member or (B) an individual employed or contracted by NERC, as designated and approved by

the CCC to preside over hearings conducted pursuant to the Hearing Procedures in Appendix E; the Hearing Officer shall not be a member of the Hearing Panel.

"Hearing Panel" means the five person hearing body established as set forth in the CCC Charter on a case by case basis and that is responsible for adjudicating a matter as set forth in Appendix 4E.

"Hearing Procedures" means, depending on the context, (i) Attachment 2 to the NERC or a Regional Entity CMEP, as applicable, or (ii) the hearing procedures of the NERC Compliance and Certification Committee in Appendix 4E.

"Inclusion Exception" means a determination that an Element that falls outside the BES Definition should be included in the BES.

"Inherent Risk Assessment" or "IRA" means a review by the Compliance Enforcement Authority of potential risks posed by an individual Registered Entity to the reliability of the Bulk Power System. An IRA considers factors such as, but is not limited to, assets, system, geography, interconnectivity, prior compliance history and factors unique to the Registered Entity. The results of an entity-specific IRA may result in the scope of compliance monitoring for a particular Registered Entity to include more, fewer, or different Reliability Standards than those contained in the annual ERO CMEP Implementation Plan.

"Interactive Remote Access" means user-initiated access by a person employing a remote access client or other remote access technology using a routable protocol. Remote access originates from a Cyber Asset that is not an Intermediate System and not located within any of the Responsible Entity's Electronic Security Perimeter(s) or at a defined Electronic Access Point. Remote access may be initiated from: 1) Cyber Assets used or owned by the Responsible Entity, 2) Cyber Assets used or owned by employees, and 3) Cyber Assets used or owned by vendors, contractors, or consultants. Interactive remote access does not include system-to-system process communications.**

"Interchange" means energy transfers that cross Balancing Authority boundaries.**

"Interchange Authority" means the responsible entity that authorizes the implementation of valid and balanced Interchange Schedules between Balancing Authority Areas, and ensures communication of Interchange information for reliability assessment purposes.**

"Interchange Distribution Calculator" means the mechanism used by Reliability Coordinators in the Eastern Interconnection to calculate the distribution of Interchange Transactions over specific Flowgates. It includes a database of all Interchange Transactions and a matrix of the Distribution Factors for the Eastern Interconnection.**

"Interchange Schedule" means an agreed-upon Interchange Transaction size (megawatts), start and end time, beginning and ending ramp times and rate, and type required for delivery and receipt of power and energy between the Source and Sink Balancing Authorities involved in the transaction.**

"Interchange Transaction" means an agreement to transfer energy from a seller to a buyer that crosses one or more Balancing Authority Area boundaries.**

"Interconnected Operations Service" means a service (exclusive of basic energy and Transmission Services) that is required to support the Reliable Operation of interconnected Bulk Electric Systems.**

"Interconnection" means a geographic area in which the operation of Bulk Power System components is synchronized such that the failure of one or more of such components may adversely affect the ability of the operators of other components within the system to maintain Reliable Operation of the Facilities within their control.++ When capitalized, any one of the four major electric system networks in North America: Eastern, Western, ERCOT and Quebec.**

"Interconnection Reliability Operating Limit" means a System Operating Limit that, if violated, could lead to instability, uncontrolled separation, or Cascading outages that adversely impact the reliability of the Bulk Electric System.**

"Intermediate System" means a Cyber Asset or collection of Cyber Assets performing access control to restrict Interactive Remote Access to only authorized users. The Intermediate System must not be located inside the Electronic Security Perimeter.**

"Internal Control Evaluation" or "ICE" means a review by the Compliance Enforcement Authority of a Registered Entity's internal controls. The ICE may further refine the compliance oversight plan, including the scope of an audit, the type and application of compliance monitoring tools, the depth and breadth of a particular area of review.

"Interpretation" means an addendum to a Reliability Standard, developed in accordance with the NERC *Standard Processes Manual* and approved by the Applicable Governmental Authority(ies), that provides additional clarity about one or more Requirements in the Reliability Standard.

"ISO/RTO" means an independent transmission system operator or regional transmission organization approved by the FERC or the Public Utility Commission of Texas.

"Joint Registration Organization" means two or more entities (the parties) agree in writing upon a division of compliance responsibility where an entity registers in the Compliance Registry for one or more function type(s) for itself and on behalf of one or more other parties to such agreement for function type(s) for which such parties would otherwise be required to register.

"Lead Entity" means (1) within the meaning of Appendices 5A and 5B, the entity identified in a Joint Registration Organization or Coordinated Functional Registration agreement as the primary Point of Contact that administers that agreement with NERC and the applicable Regional Entity(ies), and (2) within the meaning of Appendix 5C, the entity that submits the Exception Request information that is common to a group of Submitting Entities that are submitting Exception Requests jointly.

"Lead Mediator" means a member of a mediation team formed pursuant to Appendix 4E who is selected by the members to coordinate the mediation process and serve as the mediation team's primary contact with the Parties.

"Load" means an end-use device or customer that receives power from the electric system.**

"Load-Serving Entity" means an entity that secures energy and Transmission Service (and related Interconnected Operations Services) to serve the electrical demand and energy requirements of its end-use customers.**

"Mapping" means the process of determining whether a Regional Entity's Footprint is being served by Registered Entities.

"Material Change" means a change in facts that modifies Required Information in connection with an approved TFE. Examples of a Material Change could include, but are not limited to an increase in device count (but not a decrease), change in compensating measures, change in statement of basis for approval for the TFE, a change in the TFE Expiration Date, or a Responsible Entity achieving Strict Compliance with the Applicable Requirement.

"Material Change Report" means a report submitted by the Responsible Entity to the Regional Entity in the event there is a Material Change to the facts underlying an approved TFE pursuant to Section 4.0 of Appendix 4D.

"Mediation Settlement Agreement" means a written agreement entered into by the Parties to a mediation pursuant to Appendix 4E that resolves the dispute.

"Member" means a member of NERC pursuant to Article II of its Bylaws.

"Member Representatives Committee" or "MRC" means the body established pursuant to Article VIII of the NERC Bylaws.

"Mexican Entity" means a Registered Entity that is organized under Mexican law.

"Mitigating Activities" means actions taken by a Registered Entity to correct and prevent recurrence of a noncompliance, whether or not the actions are embodied in a Mitigation Plan.

"Mitigation Plan" means an action plan developed by the Registered Entity to (1) correct a noncompliance with a Reliability Standard and (2) prevent re-occurrence of the violation.

"NERC-Approved Learning Activity" means training that maintains or improves professional competence and has been approved by NERC for use in its Continuing Education Program.

"NERC Compliance Monitoring and Enforcement Program Implementation Plan," "NERC Implementation Plan" or "ERO Compliance Monitoring and Enforcement Program (CMEP) Implementation Plan" means the annual ERO CMEP Implementation Plan that identifies the risk elements to prioritize risks to the Bulk Power System. These risk elements and related NERC

Reliability Standards and Requirements become inputs for Regional Entities in their compliance oversight for individual Registered Entities. The ERO CMEP Implementation Plan may be updated more often than annually as needed.

"NERC Compliance Registry," "Compliance Registry" or "NCR" means a list, maintained by NERC pursuant to Section 500 of the NERC Rules of Procedure and Appendix 5B, the NERC *Statement of Compliance Registry Criteria*, of the owners, operators and users of the Bulk Power System, and the entities registered as their designees, that perform one or more functions in support of reliability of the Bulk Power System and are required to comply with one or more Requirements of Reliability Standards.

"NERC Identification Number" or "NERC ID" means a number given to NERC Registered Entities that will be used to identify the entity for certain NERC activities. Corporate entities may have multiple NERC IDs to show different corporate involvement in NERC activities.

"NERC Organization Certification" or "Organization Certification" means the process undertaken by NERC and a Regional Entity to verify that a new entity is capable of responsibilities for tasks associated with a particular function such as a Balancing Authority, Transmission Operator, and/or Reliability Coordinator; such certification activities are further described in Section 500 and Appendix 5A of the NERC Rules of Procedure.

"Net Energy for Load" or "NEL" means net generation of an electric system plus energy received from others less energy delivered to others through interchange. It includes system losses but excludes energy required for the storage of energy at energy storage facilities.

"Notice of Alleged Violation and Proposed Penalty or Sanction" means a notice issued by the Compliance Enforcement Authority to a Registered Entity pursuant to Section 5.3 of Appendix 4C.

"Notice of Completion of Enforcement Action" means a notice issued by the Compliance Enforcement Authority to a Registered Entity, pursuant to Section 5.10 of Appendix 4C, stating than an enforcement action is closed.

"Notice of Confirmed Violation" means a notice issued by the Compliance Enforcement Authority to a Registered Entity confirming the violation of one or more Reliability Standards.

"Notice of Penalty" means a notice prepared by NERC and filed with FERC, following approval by NERC of a Notice or other notification of Confirmed Violation or a settlement agreement, stating the Penalty or sanction imposed or agreed to for the Confirmed Violation or as part of the settlement.

"Notice of Preliminary Screen" means a notice issued by the Compliance Enforcement Authority to a Registered Entity that (1) states a potential noncompliance has been identified, (2) provides a brief description of the potential noncompliance, including the Reliability Standard Requirement(s) and the date(s) involved, and (3) instructs the Registered Entity to retain and preserve all data and records relating to the potential noncompliance.

"NRC" means the United States Nuclear Regulatory Commission.

"NRC Safeguards Information" means Required Information that is subject to restrictions on disclosure pursuant to 42 U.S.C. §2167 and the regulations of the NRC at 10 C.F.R. §73.21-73.23; or pursuant to comparable provisions of Canadian federal or provincial law.

"Open Access Transmission Tariff" means an electronic transmission tariff accepted by the U.S. Federal Energy Regulatory Commission requiring the Transmission Service Provider to furnish to all shippers with non-discriminating service comparable to that provided by Transmission Owners to themselves.**

"Owner" means the owner(s) of an Element or Elements that is or may be determined to be part of the BES as a result of either the application of the BES Definition or an Exception, or another entity, such as an operator, authorized to act on behalf of the owner of the Element or Elements in the context of an Exception Request.

"Participant" means a Respondent and any other Person who is allowed or required by the Hearing Body or by FERC to participate as an intervenor in a proceeding conducted pursuant to the Hearing Procedures, and as used in the Hearing Procedures shall include, depending on the context, the members of the Compliance Staff that participate in a proceeding or the members of the Certification Staff that participate in a proceeding pursuant to Appendix 4E.

"Party" or "Parties" means a Person or the Persons participating in a mediation pursuant to Appendix 4E.

"Penalty" means and includes all penalties and sanctions, including but not limited to a monetary or non-monetary penalty; a limitation on an activity, function, operation or other appropriate sanction; or the addition of the Registered Entity or Respondent to a reliability watch list composed of major violators. Penalties must be within the range set forth in the NERC *Sanction Guidelines* approved by FERC pursuant to 18 C.F.R. Section 39.7(g)(2), and shall bear a reasonable relation to the seriousness of a Registered Entity's or Respondent's violation and take into consideration any timely efforts made by the Registered Entity or Respondent to remedy the violation.

"Periodic Data Submittals" means modeling, studies, analyses, documents, procedures, methodologies, operating data, process information or other information to demonstrate compliance with Reliability Standards and provided by Registered Entities to the Compliance Enforcement Authority on a time frame required by a Reliability Standard or an ad hoc basis.

"Person" means any individual, partnership, corporation, limited liability company, governmental body, association, joint stock company, public trust, organized group of persons, whether incorporated or not, or any other legal entity.

"Planning Authority" means the responsible entity that coordinates and integrates transmission Facilities and service plans, resource plans, and Protection Systems.**

"Physical Access Control Systems" means Cyber Assets that control, alert, or log access to the Physical Security Perimeter(s), exclusive of locally mounted hardware or devices at the Physical Security Perimeter such as motion sensors, electronic lock control mechanisms, and badge readers.**

"Physical Security Perimeter" means the physical border surrounding locations in which BES Cyber Assets, BES Cyber Systems, or Electronic Access Control or Monitoring Systems reside, and for which access is controlled.**

"Point of Delivery" means a location that a Transmission Service Provider specifies on its transmission system where an Interchange Transaction leaves or a Load-Serving Entity receives its energy.**

"Point of Receipt" means a location that the Transmission Service Provider specifies on its transmission system where an Interchange Transaction enters or a generator delivers its output.**

"Potential Noncompliance" means the identification, by the Compliance Enforcement Authority, of a possible failure by a Registered Entity to comply with a Reliability Standard that is applicable to the Registered Entity.

"Preliminary Screen" means an initial evaluation of evidence indicating potential noncompliance with a Reliability Standard has occurred or is occurring, conducted by the Compliance Enforcement Authority, and consisting of an evaluation of whether (1) the entity allegedly involved in the potential noncompliance is registered, (2) the Reliability Standard Requirement to which the evidence of potential noncompliance relates is applicable to a reliability function for which the entity is registered, and (3) if known, the potential noncompliance is not a duplicate of one that is currently being processed.

"Probation" means a step in the disciplinary process pursuant to Section 605 of the Rules of Procedure during which the certificate is still valid. During the probationary period, a subsequent offense of misconduct, as determined through the same process as described above, may be cause for more serious consequences.

"Protected Cyber Asset" means one or more Cyber Assets connected using a routable protocol within or on an Electronic Security Perimeter that is not part of the highest impact BES Cyber System within the same Electronic Security Perimeter. The impact rating of Protected Cyber Assets is equal to the highest rated BES Cyber System in the same Electronic Security Perimeter.**

"Protected FOIA Information" means Required Information, held by a governmental entity, that is subject to an exemption from disclosure under FOIA (5 U.S.C. §552(e)), under any similar state or local statutory provision, or under any comparable provision of Canadian federal or provincial law, which would be lost were the Required Information to be placed into the public domain.

"Protection System" means protective relays which respond to electrical quantities, communications systems necessary for correct operation of protective functions, voltage and current sensing devices providing inputs to protective relays, station dc supply associated with

protective functions (including station batteries, battery chargers, and non-battery-based dc supply), and control circuitry associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.**

"Purchasing-Selling Entity" means the entity that purchases, or sells, and takes title to, energy, capacity, and Interconnected Operations Services. Purchasing-Selling Entities may be affiliated or unaffiliated merchants and may or may not own generating facilities.**

"Reactivation" refers to re-registration pursuant to the NERC Rules of Procedure Section 500 and Appendices 5A and 5B of an entity to the NCR for a specific functional category or the revocation of, or additions to, a sub-set list of Reliability Standards (which specifies Reliability Standards and may specify Requirements/sub-Requirements) that has been granted to an entity. Reactivation may be initiated by NERC, a Regional Entity or an entity with respect to such entity's own functional categories or sub-set list of Reliability Standards (which specifies Reliability Standards and may specify Requirements/sub-Requirements).

"Reactive Power" means the portion of electricity that establishes and sustains the electric and magnetic fields of alternating-current equipment. Reactive Power must be supplied to most types of magnetic equipment, such as motors and transformers. It also must supply the reactive losses on transmission facilities. Reactive Power is provided by generators, synchronous condensers, or electrostatic equipment such as capacitors and directly influences electric system voltage. It is usually expressed in kilovars (kvar) or megavars (Mvar).**

"Real Power" means the portion of electricity that supplies energy to the Load.**

"Receiving Entity" means NERC or a Regional Entity receiving Confidential Information from an owner, operator, or user of the Bulk Power System or from any other party.

"Recommendation" for purposes of Appendix 5C means the report to NERC containing the evaluation prepared in accordance with section 5.2 of Appendix 5C concerning whether or to what extent an Exception Request should be approved.

"Recommendations" or "Level 2 (Recommendations)" is a notification issued by NERC in accordance with Section 810.3.2 of the Rules of Procedure.

"Region" means the geographic area, as specified in a Regional Entity's delegation agreement with NERC, within which the Regional Entity is responsible for performing delegated functions.

"Regional Criteria" means reliability requirements developed by a Regional Entity that are necessary to implement, to augment, or to comply with Reliability Standards, but which are not Reliability Standards. Such Regional Criteria may be necessary to account for physical differences in the Bulk Power System but are not inconsistent with Reliability Standards nor do they result in lesser reliability. Such Regional Criteria are not enforceable pursuant to NERC-delegated authorities, but may be enforced through other available mechanisms. Regional Criteria may include specific acceptable operating or planning parameters, guides, agreements, protocols or other documents.

"Regional Entity" means an entity having enforcement authority pursuant to 18 C.F.R. § 39.8.++

"Regional Reliability Standard" means a type of Reliability Standard that is applicable only within a particular Regional Entity or group of Regional Entities. A Regional Reliability Standard may augment, add detail to, or implement another Reliability Standard or cover matters not addressed by other Reliability Standards. Regional Reliability Standards, upon adoption by NERC and approval by the Applicable Governmental Authority(ies), shall be Reliability Standards and shall be enforced within the applicable Regional Entity or Regional Entities pursuant to delegated authorities or to procedures prescribed by the Applicable Governmental Authority.

"Registered Ballot Body" means that aggregation of all entities or individuals that qualify for one of the Segments approved by the Board of Trustees, and are registered with NERC as potential ballot participants in the voting on proposed Reliability Standards.

"Registered Entity" means an owner, operator, or user of the Bulk Power System, or the entity registered as its designee for the purpose of compliance, that is included in the NERC Compliance Registry.

"Registration" or "Organization Registration" means the processes undertaken by NERC and Regional Entities to identify which entities are responsible for reliability functions within the Regional Entity's Region.

"Regulation Reserve Sharing Group" means a group whose members consist of two or more Balancing Authorities that collectively maintain, allocate, and supply the Regulating Reserve required for all member Balancing Authorities to use in meeting applicable regulating standards.**

"Rejection of the Exception Request" or "Rejection" means the determination that an Exception Request is not an eligible Exception Request (i.e., a Request permitted by section 4.1 of Appendix 5C) or does not contain all the Required Information in accordance with section 4.5 of Appendix 5C in order to be reviewed for substance.

"Reliability Coordinator" means the entity that is the highest level of authority who is responsible for the Reliable Operation of the Bulk Electric System, has the Wide Area view of the Bulk Electric System, and has the operating tools, processes and procedures, including the authority to prevent or mitigate emergency operating situations in both next-day analysis and real-time operations. The Reliability Coordinator has the purview that is broad enough to enable the calculation of Interconnection Reliability Operating Limits, which may be based on the operating parameters of transmission systems beyond any Transmission Operator's vision.**

"Reliability Coordinator Area" means the collection of generation, transmission and loads within the boundaries of the Reliability Coordinator. Its boundary coincides with one or more Balancing Authority Areas.**

"Reliability Standard" means a requirement, approved by the United States Federal Energy Regulatory Commission under Section 215 of the Federal Power Act, or approved or recognized

by an applicable governmental authority in other jurisdictions, to provide for Reliable Operation of the Bulk Power System. The term includes requirements for the operation of existing Bulk Power System facilities, including cybersecurity protection, and the design of planned additions or modifications to such facilities to the extent necessary to provide for Reliable Operation of the Bulk Power System, but the term does not include any requirement to enlarge such facilities or to construct new transmission capacity or generation capacity.++ (In certain contexts, this term may also refer to a "Reliability Standard" that is in the process of being developed, or not yet approved or recognized by FERC or an applicable governmental authority in other jurisdictions.)

"Reliability Standards Development Plan" means the forward-looking plan developed by NERC on an annual basis setting forth the Reliability Standards development projects that are scheduled to be worked on during the ensuing three-year period, as specified in Section 310 of the Rules of Procedure.

"Reliable Operation" means operating the elements of the Bulk Power System within equipment and electric system thermal, voltage, and stability limits so that instability, uncontrolled separation, or cascading failures of such system will not occur as a result of a sudden disturbance, including a cybersecurity incident, or unanticipated failure of system elements.++

"Remedial Action Directive" means an action (other than a Penalty or sanction) required by a Compliance Enforcement Authority that (1) is to bring a Registered Entity into compliance with a Reliability Standard or to avoid a Reliability Standard violation, and (2) is immediately necessary to protect the reliability of the Bulk Power System from an imminent or actual threat.

"Reporting Entity" means an entity required to provide data or information requested by NERC or a Regional Entity in a request for data or information pursuant to Section 1600 of the Rules of Procedure.

"Requirement" means an explicit statement in a Reliability Standard that identifies the functional entity responsible, the action or outcome that must be achieved, any conditions achieving the action or outcome, and the reliability-related benefit of the action or outcome. Each Requirement shall be a statement with which compliance is mandatory.

"Required Date" means the date given a Registered Entity in a notice from the Compliance Enforcement Authority by which some action by the Registered Entity is required.

"Required Information" means, as applicable, either (i) the information required to be provided in a TFE Request, as specified in Section 4.0 of Appendix 4D; or (ii) the information required to be provided in an Exception Request, as specified in section 4.0 of Appendix 5C.

"Requirement Part" means a component of a Requirement that is designated by a decimal number (e.g., Requirement R1 could have Requirement Parts 1.1, 1.2 and 1.3).

"Reserve Sharing Group" means a group whose members consist of two or more Balancing Authorities that collectively maintain, allocate, and supply Operating Reserves required for each Balancing Authority's use in recovering from contingencies within the group. Scheduling energy

from an Adjacent Balancing Authority to aid recovery need not constitute reserve sharing provided the transaction is ramped in over a period the supplying party could reasonably be expected to load generation in (e.g., ten minutes). If the transaction is ramped in more quickly~~er~~ (e.g., between zero and ten minutes) then, for the purposes of recovery from a Reportable Balancing Contingency Event~~disturbance control performance~~, the areas become a Reserve Sharing Group.**

"Resource Planner" means the entity that develops a long-term (generally one year and beyond) plan for the resource adequacy of specific loads (customer demand and energy requirements) within a Planning Authority area.**

"Respondent" means, depending on the context, the Registered Entity, who is the subject of the Notice of Alleged Violation, contested Mitigation Plan or contested Remedial Action Directive that is the basis for the proceeding, whichever is applicable, or the Registered Entity that is the subject of the Certification decision that is the basis for a proceeding under Appendix 4E.

"Responsible Entity" means an entity that is registered for a reliability function in the NERC Compliance Registry and is responsible for complying with any Requirement, or Requirement Part.

"Revoked" means a NERC certificate that has been suspended for more than twelve months. While in this state, a certificate holder can not perform any task that requires an operator to be NERC-certified. The certificate holder will be required to pass an exam to be certified again. Any CE Hours accumulated prior to or during the revocation period will not be counted towards Credential Maintenance.

"Revoke for Cause" means a step in the disciplinary process pursuant to Section 605 of the Rules of Procedure during which the certificate is no longer valid and requiring successfully passing an exam to become certified. However, an exam will not be authorized until the revocation period expires. CE Hours earned before or during this revocation period will not be counted for maintaining a Credential.

"Scope of Responsibility" means the registered functions of a Planning Authority, Reliability Coordinator, Transmission Operator, Transmission Planner or Balancing Authority and the geographical or electric region in which the Planning Authority, Reliability Coordinator, Transmission Operator, Transmission Planner or Balancing Authority operates to perform its registered functions, or with respect to a Regional Entity, its Regional Entity Region.

"Section I Required Information" means Required Information that is to be provided in Section I of a Submitting Entity's Exception Request.

"Section II Required Information" means Required Information that is to be provided in Section II of a Submitting Entity's Exception Request.

"Section III Required Information" means Required Information that is to be provided in Section III of a Submitting Entity's Exception Request.

"Sector" means a group of Members of NERC that are Bulk Power System owners, operators, or users or other persons and entities with substantially similar interests, including governmental entities, as pertinent to the purposes and operations of NERC and the operation of the Bulk Power System, as defined in Article II, Section 4 of the NERC Bylaws. Each Sector shall constitute a class of Members for purposes of the New Jersey Nonprofit Corporation Act.

"Segment" means one of the subsets of the Registered Ballot Body whose members meet the qualification criteria for the subset.

"Self-Certification" means an attestation by a Registered Entity that it is compliant or non-compliant with a Reliability Standard Requirement that is the subject of the Self-Certification, or that it does not own Facilities that are subject to the Reliability Standard Requirement, or that the Reliability Standard Requirement is not applicable to the Registered Entity.

"Self-Logging" means a process by which Registered Entities found to be eligible by a Compliance Enforcement Authority, after a formal review of internal controls, record potential noncompliance on a log, in accordance with Appendix 4C, in lieu of individually submitted Self-Reports of each potential noncompliance.

"Self-Report" means a report by a Registered Entity stating that the Registered Entity believes it has, or may have, violated a Reliability Standard.

"Sink Balancing Authority" means the Balancing Authority in which the load (sink) is located for an Interchange Transaction and any resulting Interchange Schedule.**

"Source Balancing Authority" means the Balancing Authority in which the generation (source) is located for an Interchange Transaction and for any resulting Interchange Schedule.**

"Special Protection System" means an automatic protection system designed to detect abnormal or predetermined system conditions, and take corrective actions other than and/or in addition to the isolation of faulted components to maintain system reliability. Such action may include changes in demand, generation (MW and Mvar), or system configuration to maintain system stability, acceptable voltage, or power flows. A Special Protection System does not include (a) underfrequency or undervoltage Load shedding or (b) fault conditions that must be isolated, or (c) out-of-step relaying (not designed as an integral part of a Special Protection System).**

"Spot Check" means a process in which the Compliance Enforcement Authority requests a Registered Entity to provide information (1) to support the Registered Entity's Self-Certification, Self-Report, or Periodic Data Submittal and to assess whether the Registered Entity complies with Reliability Standards, or (2) as a random check, or (3) in response to operating problems or system events.

"Staff" or "CMEP Staff" means individuals employed or contracted by NERC or the Compliance Enforcement Authority who have the authority to make initial determinations of compliance or violation with Reliability Standards by Registered Entities and associated Penalties and Mitigation Plans.

"Strict Compliance" means compliance with the terms of an Applicable Requirement without reliance on a Technical Feasibility Exception.

"Submitting Entity" means (i) an owner, operator, or user of the Bulk Power System or any other party that submits information to NERC or a Regional Entity that it reasonably believes contains Confidential Information or, (ii) solely for purposes of Appendix 5C, the entity that submits an Exception Request in accordance with section 4.0 of Appendix 5C.

"Suspended" means certificate status due to an insufficient number of CE Hours being submitted prior to the expiration of a certificate. While in this state, a certificate holder can not perform any task that requires an operator to be NERC-certified.

"System" means a combination of generation, transmission and distribution components.**

"System Operating Limit" means the value (such as MW, Mvar, amperes, frequency or volts) that satisfies the most limiting of the prescribed operating criteria for a specified system configuration to ensure operation within acceptable reliability criteria. System Operating Limits are based upon certain operating criteria. These include, but are not limited to:

- facility ratings (applicable pre- and post-contingency equipment ratings or facility ratings)
- transient stability ratings (applicable pre- and post-contingency stability limits)
- voltage stability ratings (applicable pre- and post-contingency voltage stability)
- system voltage limits (applicable pre- and post-contingency voltage limits).**

"Technical Advisor" means any Staff member, third-party contractor, or industry stakeholder who satisfies NERC's or the Compliance Enforcement Authority's (as applicable) conflict of interest policy and is selected to assist in a proceeding by providing technical advice to the Hearing Officer and/or the Hearing Body or Hearing Panel.

"Technical Feasibility Exception" or "TFE" means an exception from Strict Compliance with the terms of an Applicable Requirement on grounds of technical feasibility or technical limitations in accordance with one or more of the criteria in section 3.0 of Appendix 4D.

"Technical Review Panel" means a panel established pursuant to section 5.3 of Appendix 5C.

"Termination of Credential" means a step in the disciplinary process pursuant to Section 605 of the Rules of Procedure whereby a Credential is permanently Revoked.

"Testimonial Hearing" means an Evidentiary Hearing at which the witness or witnesses on behalf of one or more Participants appears in person to present testimony and be subject to cross-examination.

"TFE Expiration Date" means the date on which an approved TFE expires.

"TFE Request" means a request submitted by a Responsible Entity in accordance with Appendix 4D for an exception from Strict Compliance with an Applicable Requirement.

"TFE Termination Date" means the date, as specified in a notice disapproving a TFE Request or terminating an approved TFE, on which the disapproval or termination becomes effective.

"Transmission" means an interconnected group of lines and associated equipment for the movement or transfer of electric energy between points of supply and points at which it is transformed for delivery to customers or is delivered to other electric systems.**

"Transmission Customer" means 1. any eligible customer (or its designated agent) that can or does execute a Transmission Service agreement or can and does receive Transmission Service. 2. Any of the following entities: Generator Owner, Load-Serving Entity, or Purchasing-Selling Entity.

"Transmission Operator" means the entity responsible for the reliability of its "local" transmission system, and that operates or directs the operations of the transmission Facilities.**

"Transmission Owner" means the entity that owns and maintains transmission Facilities.**

"Transmission Planner" means the entity that develops a long-term (generally one year and beyond) plan for the reliability (adequacy) of the interconnected bulk electric transmission systems within its portion of the Planning Authority area.**

"Transmission Service" means services provided to the Transmission Customer by the Transmission Service Provider to move energy from a Point of Receipt to a Point of Delivery.**

"Transmission Service Provider" means the entity that administers the transmission tariff and provides Transmission Service to Transmission Customers under applicable Transmission Service agreements.**

"Variance" means an aspect or element of a Reliability Standard that applies only within a particular Regional Entity or group of Regional Entities, or to a particular entity or class of entities. A Variance allows an alternative approach to meeting the same reliability objective as the Reliability Standard, and is typically necessitated by a physical difference. A Variance is embodied within a Reliability Standard and as such, if adopted by NERC and approved by the Applicable Governmental Authority(ies), shall be enforced within the applicable Regional Entity or Regional Entities pursuant to delegated authorities or to procedures prescribed by the Applicable Governmental Authority.

"Violation Risk Factor" or "VRF" means a factor (lower, medium or high) assigned to each Requirement of a Reliability Standard to identify the potential reliability significance of noncompliance with the Requirement.

"Violation Severity Level" or "VSL" means a measure (lower, moderate, high or severe) of the degree to which compliance with a Requirement was not achieved.

"Wide Area" means the entire Reliability Coordinator Area as well as the critical flow and status information from adjacent Reliability Coordinator Areas as determined by detailed system studies to allow the calculation of Interconnected Reliability Operating Limits.**

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Exhibit D-2

Redline Version of Proposed Appendices to the ROP

Appendix 5A Redline

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Appendix 5A

Organization Registration and Certification Manual

Effective Date: ~~January 19~~, 202X~~1~~

RELIABILITY | RESILIENCE | SECURITY




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Table of Contents

Section I — Executive Summary

Overview

The purpose of this document is twofold: (1) to define the process utilized in the North American Electric Reliability Corporation (NERC) Organization Registration Program for identifying which functional entities must register as owners, operators, and users of the Bulk Power System (BPS) for compliance with Reliability Standards; and (2) to define the process utilized in the Organization Certification Program for certifying the following entities: Reliability Coordinator (RC), Balancing Authority (BA), and Transmission Operator (TOP).

To Whom Does This Document Apply?

All industry participants responsible for or intending to be responsible for, the following functions must register with NERC through the Organization Registration process. The entities are defined in the NERC *Statement of Compliance Registry Criteria*, set forth in **Appendix 5B** to the NERC Rules of Procedure (ROP), with responsibilities designated by the individual Reliability Standards or by a sub-set list of the otherwise applicable Reliability Standards determined in accordance with this **Appendix 5A**, Section III(D) to the NERC ROP.

	Entities that Must Register	Entities that Need to be Certified
Reliability Coordinator (RC)	√	√
Transmission Operator (TOP)	√	√
Balancing Authority (BA)	√	√
Planning Authority/Planning Coordinator (PA/PC)	√	
Transmission Planner (TP)	√	
Transmission Service Provider (TSP)	√	
Transmission Owner (TO)	√	
Resource Planner (RP)	√	
Distribution Provider (DP)	√	
Generator Owner (GO)	√	
Generator Operator (GOP)	√	
Reserve Sharing Group (RSG)	√	
Frequency Response Sharing Group (FRSG)	√	
Regulation Reserve Sharing Group (RRSG)	√	

When did These Processes Begin?

The initial Registration process began in January of 2006. Registration of new entities is an ongoing process. If a Registered Entity's information changes, these changes must be submitted to the applicable Regional Entity(ies).

Certification is ongoing for entities in accordance with Sections IV and V of this manual.

Where to Access and Submit Form(s)?

Certification forms are provided on each Regional Entity's website. Completed forms are to be sent electronically to the Compliance and Certification Manager of the applicable Regional Entity(ies). Registration information is submitted electronically via an online application that is hosted on the NERC website. If an entity operates in more than one Region, separate Registration applications must be completed and submitted to each of the Regional Entities. NERC will coordinate process execution when an entity is registering or certifying with multiple Regional Entities.

Roles and Responsibilities

The following is a high-level overview of the roles and responsibilities in the Registration and Certification processes:

NERC

1. Oversight of entity processes performed by the Regional Entities, including:
   a. Governance per the Regional Entity's delegation agreement with NERC.
   b. Coordination of process execution when an entity is registering and/or certifying with multiple Regional Entities.
2. Manage each entity's NERC Compliance Registry identification number (NERC ID) including:
   a. Sending a Registration or Certification letter that contains the NERC ID to the applicable Regional Entity(ies) for review and approval. If the Regional Entity(ies) agrees with all the information provided, it will notify NERC to issue the NERC ID to the Registered Entity and will send a copy of the notification being provided to the Regional Entity(ies).
   b. Ensuring each Registered Entity has only one NERC ID for all Regional Entities in which registered.
3. RESERVED~~Make modeling changes based on Registration information.~~
4. Maintain accurate Registration and Certification records including granting Certification certificates for the Registered Entity(ies) responsible for compliance (including Joint Registration Organization (JRO)/Coordinated Functional Registration (CFR)).
5. Maintain published up-to-date list of Registered Entities (i.e. the NERC Compliance Registry (NCR)) on the NERC website. NERC maintains the NCR, which identifies each Registered Entity and the applicable functional categories for which it is registered.
6. Lead panel reviews in accordance with **Appendix 5A**, *Organization Registration and Organization Certification Manual*, Section III(D).

Regional Entity

1. Performs data collection and mapping of BPS f~~F~~acilities and those ~~F~~facilities that have a material impact on the BPS within its Regional Entity defined reliability Region boundaries.
2. Approves or disapproves entity Registration applications.
3. Reviews entity Certification applications for completeness.
4. Notifies NERC of entities registered with the Regional Entity.
5. Approves or denies Certification Team (CT) recommendations and notifies the entity and NERC of the decision.
6. Provides leadership to the CT throughout the Certification process.

Entity Submitting the Application

1. Completes and submits Registration and/or Certification application.
2. Submits updates to Registration and/or Certification information as necessary and/or requested.
3. Responds to Regional Entity and/or NERC questions pertaining to Registration and/or Certification.
4. Provides documentation or other evidence requested or required to verify compliance with Certification requirements.

Section II — Introduction to Organization Registration and Organization Certification Processes

The processes utilized to implement the Organization Registration and Organization Certification Programs are administered by each Regional Entity. Pursuant to its delegation agreement with NERC, each Regional Entity is responsible for registering and certifying industry participants within its Regional Entity reliability Region boundaries. Each Regional Entity must use the following NERC processes.

Organization Registration — Entities Required to Register

All industry participants responsible for one or more of the functions below must register for each function through the Organization Registration Program. These entities are defined in the NERC *Statement of Compliance Registry Criteria*.

- RC
- TOP
- BA
- PA/PC
- TP
- TSP
- TO
- RP
- DP
- GO
- GOP
- RSG
- FRSG
- ~~Regulation Reserve Sharing Group~~RRSG

The Registration procedure is in Section III of this manual.

Organization Certification

Prospective and existing Registered Entities intending to perform or performing the RC, TOP, and/or BA functions shall achieve and/or maintain certification to operate one or more RC, TOP, and/or BA Areas. Every RC, TOP, and BA Area shall have a certified RC, TOP, and BA responsible for performing the duties and tasks identified in and required by the Reliability Standards.

Certification is required prior to the start of, and during the operation of a RC, TOP, or BA Area, subject to exception in NERC's sole discretion (conditional Certification). In such exceptions, the Registered Entity must satisfy conditions imposed according to an implementation plan agreed to by NERC to continue or discontinue operating its Area(s).

The activities of the program are designed to identify issues that, if not closed, could lead to unacceptable performance of the duties and responsibilities applicable to the certified function. The absence of a certified RC,

TOP, and/or BA for any Area jeopardizes the functional relationships within and between Areas specified by the Reliability Standards, and may lead to the inability of Registered Entities to maintain compliance with standards requiring performance with respect to those relationships.

The Certification/Review Team (CRT) works to establish one of the two findings below, utilizing Open Issues and Areas of Concern derived from an in-depth review and well-documented assessment of an entity's capability to perform the tasks of the certifiable function. Open Issues are items that must be closed before (continued) Certification is recommended.

- Certification/Review Team (CRT) recommends (initial or continued) certification contingent upon resolution of specified Open Issues (if any)
- Certification/Review Team (CRT) cannot recommend (initial or continued) certification. (Usually where the applicant contests Open Issues. The applicant has remedy in the appeal process of Section VII.)

This Certification process is described in Section IV of this manual. Certification reviews are conducted according to Section V. The Registered Entity is required to start operation of its Area within 12 months of being NERC certified.

Section III — Organization Registration Process

Purpose and Scope

The purpose and scope of this process is to provide guidance on how a user, owner, and/or operator of the BPS should be registered in the NCR.

Overview

Section 39.2 of the Commission's regulations, 18 C.F.R. § 39.2, requires each owner, operator, and user of the BPS to be registered with NERC and to comply with approved Reliability Standards.

Owners, operators, and users of the BPS will be registered by function(s) and are:

1. Responsible for compliance with all applicable Requirements/sub-Requirements within Reliability Standards approved by Applicable Governmental Authorities, for the applicable functions for which the Registered Entity is registered, except to the extent that an entity is granted a sub-set list of applicable Reliability Standards, which specifies the Reliability Standards and may specify Requirements/sub-Requirements by NERC, in which case the entity will be responsible for compliance with only such sub-set list; and
2. Subject to the compliance monitoring and enforcement requirements of Section 400 of the ROP.

If an entity does not agree with a Registration determination, it may request a NERC-led Registration Review Panel evaluation in accordance with Section III(D) of Appendix 5A. Entities should seek a determination from the NERC-led Registration Review Panel prior to making an appeal to the BOTCC in accordance with NERC ROP Section 500 and Section VI of Appendix 5A.

For Registration determinations dependent on application of the BES Definition, NERC has established a procedure to determine Inclusion and Exclusion Exceptions to the BES Definition (Appendix 5C). Appendix 5A relates to Registered Entity status whereas Appendix 5C relates to an Element's BES status. In cases where a BES Exception determination pursuant to Appendix 5C directly impacts an entity's functional registration requirements, the entity must initiate the BES Exceptions process prior to requesting a Registration change in status, and should be aware that the determination in that proceeding may be necessary prior to reaching a final decision by the NERC-led Registration Review Panel. This situation is dependent on facts and circumstances.

A. Organization Registration Application Process

1. This procedure applies to the following applicable entities: 1) those entities to be registered for the first time and 2) currently registered or previously registered entities for which registration changes are sought. Deactivation, Reactivation, and registration for a sub-set list of Reliability Standards are subject to the procedures in this subsection III(A). Additional procedures applicable to Deactivation and Reactivation are contained in subsections III(B) and III(C), respectively. Applicable entities shall begin the Registration process by submitting a completed Registration application to the Regional Entity(ies) of the reliability Region(s) where the entity performs or intends to perform its function(s).
    a. At any time, an entity may recommend in writing, with supporting documentation, to the Regional Entity(ies) that an entity be added to or removed from the Compliance Registry.
    b. If an entity does not have a NERC ID, NERC shall assign one.
    c. An entity responsible for more than one function will use a single NERC ID.
    d. The Registration process for an entity may also be initiated by a Regional Entity, NERC, or Applicable Governmental Authority.

e. At any time, an entity whose registration is at issue may request expedited treatment and waiver of applicable timelines. NERC, in its sole discretion, shall determine if such a request will be granted and alternative timelines. NERC's decision is not a final decision that is subject to appeal.

f. The following issues require determination by a NERC-led Registration Review Panel:

i. If, based on the entity's materiality to BPES reliability, the Regional Entity proposes to register an entity that does not meet the criteria set forth in Appendix 5B, Statement of Compliance Registry Criteria, the Regional Entity will submit a request for a determination by a NERC-led Registration Review Panel in accordance with Appendix 5A, Section III(D).

ii. If, based on the entity's lack of materiality to BPES reliability, an entity that meets the criteria set forth in Appendix 5B, Statement of Compliance Registry Criteria, believes that it should not be registered, the entity may submit a request for a determination by a NERC-led Registration Review Panel in accordance with Appendix 5A, Section III(D).

iii. If an entity disputes a Regional Entity determination that the entity meets the criteria set forth in Appendix 5B, Statement of Compliance Registry Criteria, the entity may submit a request for determination by a NERC-led Registration Review Panel in accordance with Appendix 5A, Section III(D).

iv. An entity seeking to be registered for a sub-set list of Reliability Standards may submit a request for a determination by a NERC-led Registration Review Panel in accordance with Appendix 5A, Section III(D).[1]

2. NERC shall coordinate Registration of entities that are required to register with multiple Regional Entities in order to ensure consistency of the Registration process.

3. For entities applying for the RC, TOP, and BA functions, Certification and Registration processes should be initiated concurrently using the applicable processes set forth in this manual. The entity should initiate the Certification process per Section IV of this manual.

4. Regional Entities shall evaluate the submitted information and determine if the information is complete/correct. If the information is not complete/correct, the entity will be notified to complete/correct or clarify the Registration information.

5. A single entity must register for all function type(s) that it performs itself. Provided that, an entity may execute an agreement to register as a Lead Entity of a JRO on behalf of one or more of its parties to the JRO agreement for one or more function type(s) for which the parties would have otherwise been required to register. The Lead Entity thereby, accepts on the parties' behalf compliance responsibility for all Requirements/sub-Requirements of Reliability Standards applicable to that function or those functions including reporting requirements. (ROP Section 507)

6. Multiple entities may each register for a function and delineate compliance responsibility for that function using a CFR for one or more Reliability Standard(s) and/or for one or more Requirements/sub-Requirements within particular Reliability Standard(s) applicable to a specific function type. (ROP Section 508)

7. In completing the Regional Entity responsibilities for the Registration process, the following are key items the Regional Entity must verify:

a. That function registrations are consistent with the requirements contained in ROP Section 501(1.4).

[1] If NERC has established clearly defined criteria for eligibility for a sub-set list of applicable Reliability Standards and has identified the sub-set list that may apply to similarly situated entities, such criteria shall govern the applicability of such sub-set list and such a matter shall not proceed to the NERC-led review panel, unless there is a dispute by the entity whose sub-set list treatment is at issue.

b. The Registration submission includes all data requested by NERC that is necessary for accurately identifying and contacting the Registered Entity.

8. The Regional Entity shall forward all Registration information to NERC for inclusion of an entity on the NCR:

   a. Within five business Days of a Registration determination by NERC or the NERC-led Registration Review Panel, as applicable, NERC will forward the proposed additions or changes to the NCR to the Regional Entity for review and comment.

   b. The Regional Entity has five business Days to respond to the proposed changes.

   c. If NERC does not receive any comments, the NCR will be revised. If NERC does receive comments, NERC will work with the Regional Entity to the extent changes are needed to the NCR and will revise the NCR accordingly.

9. NERC updates the NCR and notifies the applicable Registered Entity(ies) within five business Days of the update.

10. The Registered Entity may appeal the final registration determination by NERC in accordance with the ROP Section 500 and Section VI of **Appendix 5A**.

11. The NCR shall be dynamic and will be revised as necessary to take account of changing circumstances. Per the Regional Entity's delegation agreement, the Regional Entity will take any recommendation received under Section 1.a, and other applicable information, under advisement as it determines whether an entity should be on the NCR.

    a. Each Registered Entity identified in the NCR shall notify its corresponding Regional Entity and/or NERC of any corrections, revisions, deletions, changes in ownership, changes in corporate structure, or similar matters that affect the Registered Entity's responsibilities with respect to the Reliability Standards.[2] Failure to notify will not relieve the Registered Entity from any responsibility to comply with the Reliability Standards or shield it from any Penalties or sanctions associated with failing to comply with the Reliability Standards. (ROP Section 400)

    b. Each Regional Entity has an independent obligation, even in the absence of a notification by an entity, to review and submit updates to the NCR to NERC, consistent with the procedures in this Section III, with appropriate notification to the affected entities, to the extent the Regional Entity is aware of, or possesses information that the NCR should be updated. These updates include, but are not limited to: 1) conditions on which the sub-set list are no longer applicable; 2) where a new and emerging risk to reliability is identified that changes the basis: a) upon which the entity was deactivated or deregistered; or b) upon which a sub-set list of requirements was made applicable; or 3) deactivation of entities that no longer meet the applicable registration thresholds. This does not excuse the Registered Entity from its obligation to provide such required notifications.

12. NERC may extend the timelines for processing Registration matters for good cause shown. Requests should be sent to the Registration email address, found on the Registration and Certification page of the NERC website. NERC shall notify the Registered Entity and the Regional Entity of such time extensions.

B. Deactivation Process

1. The term Deactivation refers to removal of an entity from the NCR for a specific functional category.

2. As a result of Deactivation, the entity is no longer subject to any prospective compliance obligations with respect to Reliability Standards applicable to that functional category.

[2] This includes changes in ownership of B~~E~~PS f~~F~~acilities, changes in the applicability of the BES Definition to a Facility, and newly installed B~~E~~PS ~~F~~facilities.

3. If all functional categories have been deactivated for a given entity, such entity would be deregistered and removed from the NCR. However, the entity's compliance history will be retained. In its letter notifying the entity of its Deactivation or deregistration, as applicable, NERC will notify the entity of the required retention period, in accordance with the NERC ROP.
4. An entity seeking Deactivation of RC, TOP, or BA registrations shall demonstrate to the satisfaction of its Regional Entity and NERC through the Certification review process, described in **Appendix 5A** Section V, that the duties and tasks identified in and required by the Reliability Standards either have properly been transferred to another Certified and Registered Entity or the Area has ceased to operate.
5. A Registered Entity may submit a request for Deactivation and supporting information to the Regional Entity at any time. Such information shall include:
    a. Entity name and NCR ID number;
    b. Functions for which Deactivation is requested; and
    c. The basis on which Deactivation is requested, including supporting documentation, which may be limited to an attestation, if appropriate.
6. The Regional Entity shall request any additional information from the Registered Entity within 10 Days of receipt of the request for Deactivation.
7. The Registered Entity shall provide the additional information within 20 Days of its request for Deactivation.
8. The Regional Entity will issue a decision within 50 Days of the date of receipt of all requested information from the Registered Entity.
9. If the Regional Entity approves the request for Deactivation, it shall forward its Deactivation determination to NERC within five business Days of issuance of the decision.
10. If NERC approves the Deactivation determination and the Registered Entity agrees with the determination, NERC will forward within five business Days of receipt of the Deactivation determination from the Regional Entity, the proposed additions or changes to the NCR to the Regional Entity for review and comment.
    a. The Regional Entity has five business Days to respond to the proposed changes.
    b. If NERC does not receive any comments, the NCR will be revised. If NERC receives comments, NERC will work with the Regional Entity to the extent changes are needed to the NCR and will revise the NCR accordingly.

C. Reactivation Process

1. NERC maintains the NCR, which identifies each Registered Entity and the applicable functional categories for which it is registered.
2. The term Reactivation refers to re-registration of an entity to the NCR for a specific functional category or the revocation of, or additions to, a sub-set list of Reliability Standards (which specifies Reliability Standards and may specify Requirements/sub-Requirements) that has been granted to an entity. Reactivation may be initiated by NERC, a Regional Entity or an entity with respect to such entity's own functional categories or sub-set list of Reliability Standards (which specifies Reliability Standards and may specify Requirements/sub-Requirements).
3. As a result of Reactivation, and consistent with the implementation plan to be developed pursuant to this paragraph, the entity shall prospectively comply with all Reliability Standards applicable to that functional category, or with the sub-set list specified in the Reactivation determination, unless otherwise notified. Within 30 days of a final Reactivation determination, the entity shall submit a proposed implementation plan to the Regional Entity detailing the schedule for complying with any Reliability Standards applicable to the

Reactivation. The Regional Entity and Registered Entity shall confer to agree upon such schedule. If the Regional Entity and Registered Entity are unable to agree on the implementation plan, the Regional Entity shall notify NERC via the Registration email address, found on the Registration and Certification page of the NERC website, of the disagreement, and shall provide statements of the Regional Entity's and the Registered Entity's positions, and NERC shall specify a reasonable implementation schedule.

4. The entity's prior compliance history will be retained and shall apply with respect to the Reactivation. In its letter notifying the entity of its Reactivation, NERC will notify the entity of its registration in accordance with the NERC ROP.

D. NERC-led Registration Review Panel

1. NERC shall establish a NERC-led Registration Review Panel (Panel) comprised of a NERC lead with Regional Entity participants, to evaluate: 1) Registered Entity requests for Deactivation of, or decisions not to register, an entity that meets Sections I through IV of the Registry Criteria, 2) requests to add an entity that does not meet (i.e., falls below) Sections I through IV of the Registry Criteria, 3) disputes regarding the application of Sections I through IV of the Registration Criteria, and/or requests for a sub-set list of applicable Reliability Standards (which may specify the Requirements/sub-Requirements).

    a. The Panel will be comprised of a standing pool of individuals with relevant expertise from NERC and each of the Regional Entities. Individuals with relevant expertise shall be appointed by the Regional Entity senior executive (CEO, President, General Manager, etc.) and individuals with relevant expertise shall be appointed by the NERC senior executive (CEO, President, General Manager, etc.). NERC shall select the Panel members for a given matter from the standing pool.

    b. Panel members for a given matter shall comply with Subsection 7 of Section 403 of the NERC ROP, shall not be employed by the Regional Entity whose determination is being reviewed or have otherwise participated in the review of the registration matter, and shall have the required technical background to evaluate registration matters.

2. An applicant requests a Panel review by completing an application using the **NERC-led Review Request Form** (Request Form) available on the NERC website (www.nerc.com)

    a. The Request Form provides instruction for submittal of documentation and data associated with the request.

    b. The applicant[3] should include an evaluation of materiality,[4] a description of the applicability of Sections I through IV, of the Registration Criteria, and/or an assessment of the impact of a sub-set of reliability standards, as appropriate.

    c. The burden of proof is on the applicant that makes the request for a Panel review, except in two instances where the burden of proof is on the applicable Regional Entity. These two instances include: 1) disputes regarding application of Sections I through IV of Registry Criteria for registration, and 2) disputes where NERC has (i) established clearly defined criteria for eligibility for a sub-set of applicable Reliability Standards (which may specify Requirements/sub-Requirements) and (ii) identified similarly situated entities that the sub-set list may apply to.

    d. For the purpose of this Panel process, the parties are the applicable Regional Entity(ies), RC, BA, TOP, and PC and the entity whose registration status is at issue.

[3] Applicants can either be a Regional Entity or an entity whose registration or sub-set list status is at issue.

[4] The evaluation of materiality should include the relevant "materiality test" factors listed in the "Determination of Material Impact" section of Appendix 5B, and/or any other factors that may be considered relevant to the request for Panel review.

e. Parties are to upload any documents, data, and/or information related to the Panel request to the secure location established by NERC for the Panel review.[5] When materials are uploaded to this location by a party, that party will provide notice to all other parties via email.

3. NERC will review the submitted documentation and determine if the application is valid within 30 days of receipt.
4. If the application is deemed not valid, NERC will send a written notification to the applicant via email with a reason the application was rejected.
5. If the application is deemed valid, NERC will send a written notice of NERC's acceptance of a valid Panel request to the applicant and the parties via email.
   a. Unless informed otherwise in NERC's notice of a valid request, the entity whose status at issue will have their current responsibilities for compliance with approved Reliability Standards in effect until the issue at hand has a final determination.
6. The Regional Entity(ies) or the entity whose registration status is as issue, as appropriate, will provide a written assessment of the Panel request to NERC, as described in step 2(e), within 20 days of NERC's acceptance of a valid Panel request.
   a. The RC, BA, TOP, and PC are also requested to provide a written assessment to NERC, as described in step 2(e), within 30 days of NERC's acceptance of a valid Panel request.
   b. The Regional Entity, or entity whose registration status is at issue, as appropriate, can provide a written response to NERC, as described in step 2(e), of any party's assessment within 40 days of NERC's acceptance of a valid Panel request.
7. The standard of proof in any proceeding under these procedures shall be by a preponderance of the evidence. The Panel will evaluate all documentation, assessments, and responses submitted to determine whether the weight of the evidence supports the Registration action under review more than it does not support the action. The Panel may issue a request for information to the applicant or any of the parties and will copy all parties on any such correspondence. The Panel will render its decision within 60 Days of the final submission to the panel or relevant correspondence is received related to the request from any party.
8. In reaching a decision, the Panel will apply the materiality test and other criteria, as applicable, set forth in the "Determination of Material Impact" section of Appendix 5B, Statement of Compliance Registry Criteria and any applicable guidance. The Panel shall also include a review of individual and aggregate system-wide risks to, and considerations of, reliability of the BPS, as well as the BES Definition, as applicable.
9. NERC may use its discretion to extend the timelines of the Panel process for good cause. Any party may also request to extend the timelines by sending an email to the Registration email address, found on the Registration and Certification page of the NERC website. NERC shall notify all parties of such time extensions.
10. The Panel decision will be issued to the applicant with a copy to all parties via email. The decision (including its basis) will also be posted on the NERC website,[6] with confidential information redacted in accordance with Section 1500 of the NERC ROP.
11. Any required changes to the NCR resulting from the Panel decision will be initiated by the Regional Entity in accordance with the Organization Registration Process of this manual. An entity may file an appeal with the BOTCC, in accordance with NERC ROP Section 500 and **Appendix 5A,** Section VI, if it wishes to dispute the Registration determination of the Panel.

[5] NERC will provide instructions to each party regarding how to request access to the secure location.

[6] A Panel decision subject to appeal will not be posted prior to the 21 day appeal window closing (in accordance with **Appendix 5A**, Section VI), which begins when the decision is issued to the parties. If no appeal is received, the decision will be posted and the Federal Energy Regulatory Commission will be notified.

Section IV — Organization Certification Process

Purpose and Scope

Reliability Coordinators, Transmission Operators, and Balancing Authorities take actions in Real-time that impact the reliable operation of the Bulk Power System. Certification activities assess the processes, procedures, tools, and training these organizations use in performing these functions and provide a prospective level of assurance that the organization has the capacity to meet the reliability obligations of its registration. The Certification will adhere to the following process to the extent allowed by the circumstances.

Organization Certification Process

Initiation

1. Certification processes shall begin upon the Regional Entity's receipt of a certification application for a Registered Entity or prospective Registered Entity; or when an entity has been registered by NERC for the functions of RC, TOP, and BA.
    a. An entity in a single Regional Entity reliability region shall initiate the Certification process by completing a Certification application (Certification applications are provided on each Regional Entity's website) and sending it to that Regional Entity which will manage the Certification process.
    b. An entity in multiple Regional Entity reliability regions shall initiate the Certification process by completing a Certification application (Certification applications are provided on each Regional Entity's website) and sending it to each Regional Entity. Each Regional will inform NERC of request with a recommendation for which Regional Entity will provide the leadership to manage the Certification process. NERC will determine which Regional Entity shall lead review of the application.
    c. The Regional Entity leading the review of the application shall review the application, and respond and acknowledge receipt or submit requests for more information within 30 days of its receipt of the application.
        i. If the application is not complete or accurate, the Regional Entity will notify the entity to revise the application as needed.
        ii. As part of such review, the Regional Entity may propose to issue a determination rejecting an application on a procedural basis. The applicant will be given 15 days to resolve the reason for rejection. If the Regional Entity and NERC determine that the applicant would fail to meet Registry Criteria or would otherwise not be able to competently perform the duties and responsibilities required under relevant Reliability Standards for the applicable Area, then a rejection notice will be sent to the applicant. Thereafter, the applicant may file an appeal of the rejection in accordance with Appendix 5A, Section VII.
    d. With the agreement of the Registered Entity, the Regional Entity or NERC may initiate certification processes based on documented conversations or other communications with a Registered Entity that contain information equivalent to that of the application.
2. The Regional Entity shall identify a team lead (CTL) for the certification activity.
3. The CTL shall notify NERC of the request for certification, and the following will take place:
    a. The CTL and NERC will review the request for Certification and concur on acceptance. When the application is deemed complete and accurate, it will be accepted.

b. If accepted, the CTL will inform the Registered Entity of the decision to initiate certification activities.

   i. The entity and the Regional Entity shall agree to a timeline including specific milestones for the Certification process. The proposed schedule for the Certification Process shall be submitted to NERC for approval. NERC shall review the draft final schedule and will (i) approve; (ii) modify; or (iii) reject the final schedule within 45 days of receipt from the CTL.

   ii. Certification activities are expected to be completed, allowing sufficient time to correct any Open Issues noted in the entity's preparedness, prior to the effective date of an entity's Registration.

c. In the case when an entity has been registered by NERC on behalf of the entity for the functions of RC, TOP, or BA, Certification activities will be concurrent with the entity's Registration implementation plan.

4. The following subsections detail which entities are required to be certified if they are a party to a JRO, CFR, or other delegation agreement.

   a. Each entity that has taken responsibility for Reliability Standards and/or Requirements/sub-Requirements applicable to the certifiable functions by virtue of being a member of a JRO, CFR, or other agreement shall be the entity NERC certifies to operate their portion of the RC, TOP, or BA Area(s).

   b. For all other entities that perform tasks related to the RC, TOP, or BA functions within a JRO or other agreement, the Regional Entity(ies) shall, based on a review of the JRO or other agreement, identify and notify such entities of the need for an evaluation and determination of the applicability of a "capability verification" or "readiness evaluation"[7] for those tasks.

Planning

1. The CTL shall form the team that will be responsible for performing the activities included in the Certification process.

   a. Participants shall adhere to NERC's confidentiality requirements for any data or information made available through the Certification process. Participants shall not be employees of or have a direct financial interest in the entity or any of its affiliates.

   b. Certification teams (CT) shall consist of the following:

      i. For BA certifications, the CT shall have representation from an existing BA, the entity's proposed RC, TOP, each affected Regional Entity, and NERC.

      ii. For RC certifications, the CT shall have representation from an existing RC, a BA and a TOP in the proposed Reliability Coordinator Area, each affected Regional Entity, and NERC.

      iii. For TOP certifications, the CT shall have representation from an existing TOP, the entity's proposed BA(s) and RC, each affected Regional Entity, and NERC.

      iv. Additional CT members with expertise in any of the NERC registry functional areas may be added as necessary (i.e., NERC, Regional Entity staff).

   c. If the entity objects to any member of the CT, the entity must make that known, in writing, to the Regional Entity listing the reasons for the objection. The Regional Entity will either replace the team member or respond with written justification for keeping the member on the team.

   d. Entities such as government representatives or other stakeholders may be observers in the Certification process. Any Confidential Information will be handled in accordance with Section 1500 of the NERC ROP.

2. CT members shall have the necessary diversity in their technical training and experience to collectively represent the subject matter competencies needed to perform the evaluation of the specific function being

[7] A "capability verification" or "readiness evaluation" is a review of the duties and tasks of the Registered Entity that it has delegated to another entity through an agreement.

certified. Previous experience as a System Operator, Operations Support Personnel, or management of a Control Center is desired for CT members performing the on-site visit.

3. The CTL shall ensure all CT members have completed the following:
   a. Certification team member training requirements as established by NERC
   b. Non-ERO employees shall also complete the following:
      i. Certification team member training record form
      ii. Certification team conflict of interest form
      iii. An ERO confidentiality agreement form
4. The CTL shall review the certification application (and Entity information available through other ERO programs) with NERC to determine the scope of the assessment. The CTL shall identify the competency areas to be evaluated based on the function(s) for which the entity is to be certified and the method(s) for their evaluation.
5. The CTL shall utilize a secured server to distribute and house all relevant certification activity documents, including but not limited to the following:
   a. The application or other documented correspondence with the Registered Entity initiating the certification activity
   b. All relevant correspondence between the CTL and the applicant, including the certification packet (as described in step 6 below)
   c. All relevant correspondence between the CTL and the CT members
   d. The work papers used to evaluate the entity during the process
   e. The overall process schedule
   f. The agenda for the on-site visit
   g. The final certification report
   h. The Regional Entity certification process check sheet indicating the completion of certain process check-points
6. A Certification packet shall be developed and sent to the entity at least ninety (90) days prior to an on- site visit. It shall contain the following:
   a. Notification of the certification process
   b. Logistic information request
   c. The tentative overall process schedule and on-site agenda
   d. The CT roster and member biographies
   e. Request of confirmation of no objections to CT members
   f. Pre-certification survey that must be returned to the CTL within fifteen (15) days of receipt
   g. Any initial requests for information
7. CTL shall contact the entity within one week of submitting the packet to confirm receipt of the package and discuss any concerns the entity may have.
8. The entity shall complete and return the requested information and supporting documentation no later than four (4) weeks prior to the on-site visit.
9. The CTL and CT shall review the logistic information request response, in order to do the following:

a. Understand the entity's expectations of the CT when on site

b. Make all travel arrangements

10. If the CT is to be broken into smaller groups, the CTL shall identify sub-teams and assign a scribe(s) to document the assessment:

    a. For complex Certifications, the CTL may assign members of the CT to different focus areas. For example:

        i. Facilities: Examples may include the physical cyber assets against the CIP standards, the cyber training, the maintenance contracts and records for the facilities, the electrical system and uninterruptible power supply (UPS), the cybersecurity of servers, passwords, etc., per the CIP standards, and the physical installation of data and voice equipment.

        ii. EMS/SCADA: Interview the EMS/SCADA SMEs to ensure that the tools will provide adequate situational awareness against the NERC standards. Ensure adequate change control of the EMS/SCADA. Review the data transfer, server, applications, and redundancy configuration of the core tools including EMS, OSI-PI, ICCP, outage scheduling, scheduling, map-board displays, communication systems, etc.

        iii. Operator Preparedness: Interview the operators at their workstations and ask them to present the tools, procedures, and job aids in use for normal day-to-day and emergency operations. This could include cyber intrusion detection and real-time assessment. Interview the training staff regarding initial training needed to support the transition to the new responsibilities and continuing training to the NERC standards.

        iv. Critical Infrastructure Preparedness: Interview the CIP staff to understand how critical infrastructure protections are being utilized.

    b. The CTL shall ensure documentation used to substantiate the conclusions of the Certification (Review) is collected from each sub-team.

Fieldwork

1. Areas of capability to be evaluated by the certification activity shall be tailored to the situation and matched with appropriate assessment methods (e.g., validation of legacy information, review of entity responses, document review, direct observation, or personnel interview, etc.)
2. The CTL shall schedule a document review(s) with the CT prior to the on-site visit. Document reviews could take place face-to-face or via teleconference.
3. During document reviews, the CT shall note all the following:

    a. Follow-up or corroborating questions for the entity's management, SMEs, and system operators based upon the review of supporting documentation

    b. Additional requests for information (to be submitted to the entity prior to the on-site visit.)

    c. Comments during the document review that support the entity's abilities to perform the function for which the entity applied and indicate items which do not need further review

    d. Issues that need to be addressed prior to certification being granted

4. The CTL shall provide the entity a final schedule and agenda for the on-site visit based upon the results of the document review.
5. The CT on-site visit to the entity's location where operational functionality is performed shall include the following:

    a. Opening presentation

b. At a minimum, the team will:

   i. Review with the entity the data that is available only on-site;

   ii. Interview the operations, management, and training personnel;

   iii. Inspect the Facilities and equipment associated with the function being certified;

   iv. Request demonstration of all tools identified in the scope of the Certification;

   v. Review documents and data including agreements, processes, and procedures identified in the document review;

   vi. Verify operating personnel Certification credentials and proposed work schedules; and

   vii. Review any additional documentation resulting from inquiries arising during the on-site visit.

c. The CT shall interview other entity personnel as required to clarify responses covered in the document review.

d. At the end of each day, the CT will meet for the debriefing. The CTL shall lead a daily debriefing with the entity in order to do the following:

   i. Identify the status of the assessment

   ii. Identify any items of concern that need to be addressed

   iii. Provide an update to the schedule

e. The CTL shall provide an exit briefing at the end of the on-site visit in order to do the following:

   i. Identify any Open Issues that need to be addressed, and identify a timeline for follow-up to closure

   ii. Discuss the reporting process

   iii. Discuss the next steps in the certification process, including any Areas of Concern and the schedule of a post-onsite visit, if required.

   iv. Convey that entity feedback forms will be sent to allow the entity to resolve any open with a request for candid feedback.

Reporting

1. The CTL will provide the CT and entity with feedback forms, and request that they are returned within five (5) calendar days with a copy to the Certification email address, found on the Registration and Certification page of the NERC website.
2. After completion of the on-site visit, the CTL shall develop a draft final report, in coordination with input from the CT, which presupposes all Open Issues are closed. The format for the report shall conform to the template posted on the NERC website, generally containing:

   - Title page
   - Table of Contents
   - Introduction – A brief discussion on the Regional Entity(ies) involved, the entity being certified, a description of the function the entity(ies) are being certified for, and a brief timeline of the Certification project.
   - CT – Provide the CT makeup.
   - Objective and Scope – Discussion on entity application (who, what, when, & how).
   - Overall Conclusion – finding of the CT.

- Open Issues - Any item(s) that must be closed prior to going operational and within 180 days of conclusion of the on-site visit.
- Positive Observations.
- Company History – Discussion on the applicant's company history.
- Company Details – Specific details regarding the Reliability Coordinator, Transmission Operator or Balancing Authority Areas to be operated and the entity's relationship with other entities (RCs, TOPs, and BAs etc.).
- Documentation List – Provide a list of critical documentation reviewed by the CT used to make the CT's conclusion and the documentation retention requirements.
- Attachments – Describe those attachments that are for public viewing and those that are separated from the report due to confidentiality issues such as Critical Infrastructure documentation.

3. The CTL shall transmit the draft final report to the CT requesting final comments within five (5) business days, unless agreed to otherwise.
4. After the CT has completed their review of the draft report, the CTL shall transmit the draft final report to the entity, requesting return with comments within fourteen (14) calendar days, unless agreed to otherwise.
5. Entity comments will be given due consideration and incorporated in the final report at the discretion of the CTL and the input of the CT. The CTL and CT will review the completed final report.
6. When all Open Issues are satisfactorily closed, the CTL will submit the final report to Regional Entity(ies) management for consideration and approval. CT minority opinions and areas where CT consensus was not reached will be communicated to Regional Entity(ies) management prior to approval, but will not be included in the final report nor in the Regional Entity recommendation to NERC.
    a. If Regional Entity management contradicts the CT finding, the CTL will work with the CT the entity to resolve any issues.
    b. The Regional Entity CEO (or a designee) will transmit to NERC and copy the entity the final CT report with a recommendation regarding NERC's certification of the entity.
7. If NERC approves the entity for certification, NERC shall email confirmation to the entity and post the final report on NERC's public website. Attached to the email will be the formal certification letter and NERC certificate. Any Confidential Information will be redacted in accordance with Section 1500 of the NERC ROP.
8. The entity may appeal NERC's decision in accordance with the Rules of Procedure and Section VII of this manual.
9. The certification process shall be completed within nine (9) months unless agreed to by all parties involved in the process
10. Operational responsibility for RC, TOP, or BA Areas shall not begin prior to the entity's registration effective date. Trial operations, conducted in parallel with an incumbent RC, TOP, or BA who retains responsibility, shall be coordinated to ensure operational authority for an Area is clear at all times.
11. The applicant must commence operations for its RC, TOP, or BA Areas within twelve (12) months of being certified by NERC. If the applicant fails to commence operation within twelve (12) months, the certification process must be repeated.
    a. During the pendency of the certification process, NERC may use its discretion to issue conditional Certification to ensure that the entity can be Registered, and no areas of the BPS are lacking any entities to perform the duties and tasks identified in and required by the Reliability Standards to the fullest extent practical.

i. Conditional Certification will include an implementation plan which provides qualifications or criteria that NERC and the Regional Entity have determined necessary to address the risk of an entity failing to be certified or to be certified when needed.

ii. The entity subject to conditional Certification shall create an implementation plan that establishes how delayed or failed certification is mitigated so that no gaps in reliability occur. The implementation plan would also detail potential impacts both to the applicant and to any affected entities, and discuss how those impacts would be mitigated, how required functions would be served, and how other affected entities within its prospective footprint would meet their compliance responsibilities if certification is failed or delayed.

iii. NERC and the Regional Entity will work with the applicant to develop the implementation plan. If the parties are unable to agree upon an implementation plan, NERC will issue an implementation plan.

Data Retention

1. Documentation used to substantiate the conclusions of the Certification (Review) must be retained by the Regional Entity for six (6) years.
2. Documentation used to substantiate program oversight of the Certification processes must be retained by NERC for six (6) years.

NERC will maintain and post all Certification Final Reports on its website. Any Confidential Information will be redacted in accordance with Section 1500 of the NERC ROP.

Section V — Organization Certification Review Process

Purpose and Scope

Certification review provides reasonable assurance an already certified and operational Registered Entity will continue to support reliable operations of the BPS after initiating a material change. The review will seek assurance that the entity has addressed personnel training and qualifications, facilities, and equipment needed to perform and maintain the reliability functions in accordance with the applicable Requirements of Reliability Standards, considering among others the following:

- BPS reliability impacts of the change
- Critical Infrastructure Protection implications of the change
- Operator training in support of the change
- Data collection, sharing, and facilities monitoring and control necessary for Real-time Assessments, as well as next-day and longer-term planning
- Coordination of normal and emergency operations

Overview

Certification review activities, including the checks and balances of reporting and documenting those activities, should take place in advance of the change. Functional operations and compliance to the Standards remain the responsibility of the applicable Registered Entity. Certification is of the organization performing the function—not of a facility or system of equipment. Every RC, TOP, and BA Area shall have a certified RC, TOP, and BA registered as responsible for performing the duties and tasks identified in and required by the Reliability Standards. Entities seeking Deactivation of BA, TOP, or RC registrations shall demonstrate to the satisfaction of their Regional Entity and NERC through the Certification review process that the duties and tasks identified in and required by the Reliability Standards either have properly been transferred to another Certified and Registered Entity or the Area has ceased to operate. An entity remains certified during the review activities and subject to all applicable requirements of Reliability Standards, unless conditional Certification is granted by NERC providing qualifications or criteria that NERC and the Regional Entity have determined necessary to address the risk of an entity failing to be certified or to be certified when needed.

Items that are to be considered for a Certification review include one or more of the following non- exhaustive list of changes from an entity's prior certification assessments.

a. Changes to Registered Entity's footprint[8] (including de-certification changes to existing JRO/CFR assignments or sub-set list of requirements):

   i. The review of changes to an already registered and operational Entity's footprint is primarily concerned with ensuring the gaining functional entity has the tools, training, and security in place to reliably operate with new responsibilities. Changes to an entity's footprint can be characterized by new metered boundaries associated with the integration or dis-association of existing electrical areas of the BPS (Reliability Coordinator Area, Transmission Operator Area, or Balancing Authority Area).

b. Relocation of the Control Center:

   i. Fundamental to the reliable operation of the interconnected transmission network are the control centers that continuously monitor, assess, and control the generation and transmission power flows on the BES. Of interest are impacts to the functionality provided within these facilities for continued reliable operations of the BES that affect:

[8] This includes changes in ownership of BEPS fFacilities, changes in the applicability of the BES Definition to a Facility, and newly installed BPES Ffacilities.

- Tools and applications that System Operators use for situational awareness of the BES
- Data exchange capabilities
- Interpersonal (and alternate) Communications capabilities
- Power source(s)
- Physical and cyber security

ii. The impact of the relocation of the Control Center on the entity's ability to perform the functions for which the entity is registered under normal and emergency conditions should be explored and documented to understand the manner in which the Control Center continues to support the reliable operations of the BES.

c. Modification of the Energy Management System (EMS) which is expected to materially affect CIP security perimeters or the System Operator's: 1) situational awareness tools, 2) functionality, or 3) machine interfaces.

NERC may revoke an entity's certification and de-certify that entity if NERC determines that the entity is no longer performing the responsibilities that are associated with the function for which it is certified. Revocation shall be posted to the NERC website. The entity will remain registered and subject to compliance for the function, unless it has gone through the deactivation or deregistration process for the applicable function. NERC's revocation may be appealed in accordance with **Appendix 5A**, Section VII.

Organization Certification Review Process

Initiation

1. A Registered Entity that requires a review of the conditions upon which their certification was granted shall complete the appropriate form and submit it to the applicable Regional Entity. Informal dialogue on potential certification activity is encouraged as far in advance as possible.
   a. An entity in a single Regional Entity reliability region shall initiate the Certification review process by completing an application (Certification review applications are provided on each Regional Entity's website) and sending it to the Regional Entity that will manage the Certification review process.
   b. An entity in multiple Regional Entity reliability regions shall initiate the certification process by completing a certification application (certification applications are provided on each Regional Entity's website) and sending it to each Regional Entity. Each Regional Entity will inform NERC of the request with a recommendation for which Regional Entity will provide leadership to manage the certification process. NERC will determine which Regional Entity shall lead review of the application.
   c. The Regional Entity leading the review of the application shall review the application and respond with either acceptance or a request for more information within 30 days of the receipt of the request.
2. Upon receipt of the request for Certification review, the Regional Entity(ies) shall evaluate as follows:
   a. If the application is not complete or accurate, the Regional Entity will notify the entity to revise the application as needed.
   b. For an entity that is not required to be certified but performs tasks associated with a RC, TOP, or BA in accordance with Section IV, the Regional Entity shall consult with the Registered Entity regarding the applicability of a "capability verification" or "readiness evaluation" regarding those tasks.
   c. The Regional Entity or NERC may initiate the Certification review processes based on documented conversations or other communications with a Registered Entity that contain information equivalent to that of the application.

d. The decision to certify changes to an already operating and certified Registered Entity is a collaborative decision between the affected Regional Entity(ies) and NERC. The decision may be to conduct a review under this Certification review process or engage in any lesser activity necessary to understand changes that are material to an entity's operations or inherent risk.

3. When the decision is made to initiate a Certification review, the Regional Entity shall identify a team lead (CRTL) for the Certification review activity and the following will take place:

   a. The CRTL will inform the Registered Entity of the decision to initiate Certification review activities.

   b. The CRTL shall tailor the scope of the Certification review to evaluate those capabilities that are affected as a direct result of the reason for the review.

   c. The Regional Entity and NERC will determine if an on-site visit is required or if off-site review is sufficient. NERC has the final authority in this decision.

   d. The entity and the Regional Entity shall agree to a timeline including specific milestones for the Certification review process. The proposed schedule for the Certification review process shall be submitted to NERC for approval. NERC shall review the draft final schedule and will (i) approve; (ii) modify; or (iii) reject the final schedule within 45 days of receipt from the CRTL.

   e. Certification review activities are expected to be completed allowing sufficient time to address the risk of an entity failing to be certified or to be certified when needed prior to the effective date of any registration changes

Planning

1. The CRTL shall form the team (CRT) that will be responsible for performing the activities included in the Certification review process.

   a. The CRTL shall review the request (and entity information available through other ERO programs) with NERC to identify the competency areas to be evaluated and the method(s) for their evaluation (entity/neighbor questionnaire, request documents for review, on-site demonstration, personnel interview, etc.)

   b. The CRT participants shall adhere to NERC's confidentiality requirements under Section 1500 for any data or information made available through the Certification review process. Participants shall not be employees of or have a direct financial interest in the entity or any of its affiliates.

   c. CRT Composition:

      i. The CRT shall have the necessary diversity in their technical training and experience to collectively represent the subject matter competencies needed to perform the evaluation of the specific function being certified. Previous experience as a System Operator, Operations Support Personnel, or management of a Control Center is desired for CRT members performing the on-site visit.

      ii. Entities such as government representatives or other stakeholders may be observers in the Certification review process.

   d. If the entity objects to any member of the CRT, the entity must make that known, in writing, to the Regional Entity, listing the reasons for the objection. The Regional Entity will either replace the team member or respond with written justification for keeping the member on the team.

2. The CRTL shall ensure all CRT members have completed the following:

   a. Certification team member training requirements as established by NERC

   b. Team Member profile documenting technical training and experience of team members

c. For non-ERO employees they shall also complete the following:

3. The CRTL shall utilize a secured server to distribute and house all relevant Certification review activity documents, including but not limited to the following:
   a. The application or other documented correspondence with the Registered Entity initiating the certification activity
   b. All relevant correspondence between the CRTL and the applicant, including the certification packet (as described in step 4 below)
   c. All relevant correspondence between the CRTL and the CRT members
   d. The work papers used to evaluate the entity during the process
   e. The overall process schedule
   f. The agenda for the on-site visit, if required
   g. The final Certification review summary report
   h. The Regional Entity certification process check sheet indicating the completion of certain process check-points
4. A Certification review packet shall be developed and sent to the entity at least ninety (90) days prior to an on-site visit. It shall contain the following:
   a. Notification of the Certification review process
   b. Logistic information request
   c. The tentative overall process schedule and tentative on-site agenda
   d. The CRT roster and member biographies
   e. Request of confirmation of no-objections to CRT members
   f. Pre-certification survey that must be returned to the CRTL within fifteen (15) days of receipt
   g. Any initial requests for information
5. The CRTL shall contact the entity within one week of submitting the packet to confirm receipt of the package and discuss any concerns the entity may have.
6. The entity shall complete and return the requested information no later than four (4) weeks prior to the on-site visit.
7. The CRTL and CRT shall review the logistic information request, in order to do the following:
   a. Understand the entity's expectations of the CRT when on site
   b. Make travel arrangements

Fieldwork

1. Areas of capability to be evaluated by the Certification review activity shall be tailored to the situation and matched with appropriate assessment methods (e.g., validation of legacy information, review of questionnaire responses, document review, direct observation, or personnel interview, etc.)
2. The CRTL shall schedule a document review(s) with the CRT prior to the on-site visit. Document reviews could take place face-to-face or via teleconference.
3. During document reviews, the CRT shall note all the following:

a. Follow-up or corroborating questions for the entity's management, SMEs, and system operators based upon the review of supporting documentation

b. Additional requests for information (to be submitted to the entity)

c. Comments during the document review that support the entity's abilities to perform the function for which the entity applied and items which do not need further review

d. Issues that need to be addressed prior to continued certification being recommended

4. The CRTL shall provide the entity a final schedule and agenda for the on-site visit (if applicable) based upon the results of the document review.

5. As appropriate, the CRT shall conduct interviews at the entity's facilities or via teleconference. The team will:

   a. Review with the entity any data or information requiring clarification

   b. Interview operations, management, and training personnel

   c. During on-site visits:

      i. Inspect the ~~F~~facilities and equipment associated with the applicable Reliability Standards referenced in the questionnaire;

      ii. Request demonstration of all tools affected by the change;

   d. Review documents and data including agreements, processes, and procedures identified by CRT

   e. Review any additional documentation resulting from inquiries arising during the interview

6. At the end of each on-site day, the CRT will meet for debriefing. The CRTL shall lead a daily debriefing with the entity in order to do the following:

   a. Identify the status of the assessment

   b. Identify any items of concern that need to be addressed

   c. Provide an update to the schedule

7. The CRTL shall provide an exit briefing at the end of the on-site visit in order to do the following:

   a. Identify any Open Issues that need to be addressed, and identify a timeline for follow-up to closure

   b. Discuss the reporting process

   c. Discuss the next steps in the Certification review process, including any areas of concern and the schedule of a post-onsite visit, if required

   d. Convey that entity feedback forms will be sent to the entity

Reporting

1. The CRTL will provide the CRT and entity with feedback forms, and request that they are returned within five (5) calendar days with a copy to the Certification email address, found on the Registration and Certification page of the NERC website.

2. After completion of the on-site visit, the CRTL shall develop a draft summary report, in coordination with input from the CRT, which presupposes all Open Issues are closed. The format for the report shall conform to the template posted on the NERC website.

3. The entity, in conjunction with the CRT, shall attempt to resolve any Open Issues prior to issuance of the draft summary report.

4. The CRTL shall transmit the draft final report to the CRT requesting final comments within five (5) business days, unless agreed to otherwise.
5. After the CRT has completed their review of the draft report, the CRTL shall transmit the draft final report to the entity, requesting return with comments within fourteen (14) calendar days, unless agreed to otherwise.
6. At the discretion of the CRT and NERC, the entity may be permitted to implement the change at any point in time after the exit briefing. Trial operations, if used, shall be coordinated to ensure operational authority for an Area is clear at all times.
7. Entity comments will be given due consideration and incorporated into the summary report at the discretion of the CRTL and the input of the CRT. The CRTL will review the completed summary report with the CRT.
8. When all Open Issues are satisfactorily closed, the CRTL will submit the summary report to Regional Entity(ies) management for consideration and approval. CRT minority opinions and areas where CRT consensus was not reached will be communicated to Regional Entity(ies) management prior to approval but will not be included in the final report nor in the Regional Entity recommendation to NERC.
    a. If Regional Entity management contradicts the CRT finding, the CRTL will work with the CRT and the entity to resolve any issues.
    b. The Regional Entity CEO (or a designee) will transmit to NERC and copy the entity the final CRT report with a recommendation regarding NERC's certification of the entity.
9. If NERC approves continued certification for the entity, NERC shall email confirmation to the entity.
10. If NERC declines continued certification for the entity, NERC shall make available to the entity Hearing Procedures for use in Appeals of Certification Matters, CCCPP-005 contained in Appendix 4E.

Data Retention

1. Documentation used to substantiate the conclusions of the Certification review must be retained by the Regional Entity for six (6) years.
2. Documentation used to substantiate program oversight of the certification processes must be retained by NERC for six (6) years.

Section VI — NERC Organization Registration Appeals Process

Purpose and Scope

This section describes the process that any organization must use to seek review of its listing and functional assignment on the NCR.

Overview

NERC has established documented procedures to ensure a fair and impartial appeals process. No one with a direct interest in a dispute may participate in the appeals process except as a party or witness. See Figure 3, *Organization Registration Appeals Process Overview*.

Organization Registration Appeals Procedure

1. Any Registered Entity included on the NCR may challenge final decisions regarding its listing, functional assignments, and determinations regarding the applicability of a sub-set of Reliability Standards (which specifies the specific Reliability Standards and may specify Requirements/sub-Requirements).
2. All registration appeals must be filed in writing to NERC, via electronic and registered mail. Appeals are sent to:

   ~~Compliance Operations~~Organization Registration and Certification
   ~~3353 Peachtree Road NE~~
   ~~Suite 600, North Tower~~
   ~~Atlanta, GA 30326~~
   Main: (404) 446-2560
   Facsimile: (404) 446-2595
   Email: Communications@NERC.net
   Address: As posted on NERC.com
3. Each party in the appeals process shall pay its own expenses for each step in the process.
4. A stipulation of invoking the appeals process is that the Regional Entity or Registered Entity requesting the appeal agrees that NERC (its Members, Board, committees, subcommittees, and staff), any person assisting in the appeals process, and any company employing a person assisting in the appeals process, shall not be liable for, and shall be held harmless against the consequences of or any action or inaction or of any agreement reached in resolution of the dispute or any failure to reach agreement as a result of the appeals proceeding. This "hold harmless" clause does not extend to matters constituting gross negligence, intentional misconduct, or a breach of confidentiality.
5. Parties retain the right to seek further review of a decision in whatever regulatory agency or court that may have jurisdiction.
6. All appeals must be received within 21 Days of receipt of the NERC determination that is being appealed. The appeal must state why the Registered Entity believes it should not be registered or should be deactivated based on the NERC ROP and the *NERC Statement of Compliance Registry Criteria* or why its compliance obligations should be limited only to a sub-set list of otherwise applicable Reliability Standards (which specifies the Reliability Standards and may specify Requirements/sub-Requirements). A copy of the appeal must be concurrently served on the Regional Entity.

7. After receipt of the appeal, the Registered Entity has a 30 day period to work with the Regional Entity to resolve the appeal, if possible. NERC may extend such deadline in its sole discretion. If the appeal is resolved, the Regional Entity will notify NERC with the details of the resolution and NERC will close the appeal.
8. At any time through this appeals process, a Registered Entity may agree with the decision and/or agree to close the appeal. NERC shall notify the involved parties and the NERC BOTCC that the appeal is resolved and update the NCR as applicable.
9. NERC will notify the Registered Entity and the applicable Regional Entity(ies) regarding the appeal with the following expectations:
    a. The Registered Entity will provide NERC and the applicable Regional Entity(ies) any additional data supporting its appeal within 10 Days of the date of the NERC appeal notification.
    b. The applicable Regional Entity(ies) will provide a copy of its assessment directly to the Registered Entity, as well as to NERC, within 20 Days of the date of the NERC appeal notification.
    c. The Registered Entity may submit a response to the Regional Entity(ies) assessment, with copies to the Regional Entity(ies) and NERC, within 30 Days of the date of the NERC appeal notification.
    d. To ensure there is no confusion with respect to the rights and responsibilities of the Registered Entity during the appeal process, the notification will confirm whether the Registered Entity will remain on the NERC Compliance Registry and will be responsible for compliance with approved Reliability Standards applicable to the function under appeal during the appeal.
    e. NERC may extend the timelines for good cause shown. Requests should be sent to the Registration email address, found on the Registration and Certification page on the NERC website. NERC shall notify the Registered Entity and the Regional Entity of such time extensions.
10. Hearing and Ruling by the BOTCC
    a. The BOTCC will resolve Registration disputes and apply a *de novo* review.
    b. The BOTCC may request additional data from NERC, the relevant Regional Entity(ies) or the Registered Entity, and prescribe the timeframe for the submitting the requested data.
    c. The BOTCC will provide a written decision regarding any appeals, along with the basis for its decision.
    d. If the BOTCC upholds the appeal, NERC will:
        - Notify the Registered Entity and Regional Entity(ies) that the appeal was granted.
        - Update the NCR.
    e. If the BOTCC does not uphold the appeal, NERC will:
        - Notify the Registered Entity and the Regional Entity(ies) that the appeal was denied.
        - The Registered Entity may appeal to Federal Energy Regulatory Commission (FERC) or another Applicable Governmental Authority within 21 Days of the notification of the decision.
    f. A record of the appeals process shall be maintained by NERC. Confidentiality of the record of the appeal will be based on the NERC ROP Section 1500.

Section VII — NERC Organization Certification Appeals Process

Purpose and Scope

This section describes the process for an organization to appeal the Certification decision that was determined in the Certification process.

Overview

The NERC Organization Certification Program provides a key means to fulfill NERC's mission. In conducting this program, NERC has established documented procedures to ensure a fair and impartial appeals process. No one with a direct interest in a dispute may participate in the appeals process except as a party or witness. See Figure 4 *Organization Certification Appeals Process Overview*.

Organization Certification Appeals Procedure

1. Appeal for an Organization Certification finding.
2. Any entity can appeal an Organization Certification decision issued as a result of the Certification process.
3. Requirements and Conditions for Appeals.
    a. For all appeals under the NERC Organization Certification Program, the appeals process begins when an entity notifies the NERC via the Certification email address, found on the Registration and Certification page of the NERC website that it wishes to use the NERC appeals process.
        - The Director of Compliance is the main contact for all parties in all steps of the appeals process.
        - If an appeal is not filed within 21 Days of the date that the Certification report or finding is issued, or the final Regional Entity appeals process ruling is made, the finding shall be considered final and un-appealable.
    b. Each party in the appeals process shall pay its own expenses for each step in the process.
    c. A stipulation of invoking the appeals process is that the Regional Entity or entity requesting the appeal agrees that NERC (its Members, Board, committees, subcommittees, and staff), any person assisting in the appeals process, and any company employing a person assisting in the appeals process, shall not be liable, and shall be held harmless against the consequences of any action or inaction or of any agreement reached in resolution of the dispute or any failure to reach agreement as a result of the appeals proceeding. This "hold harmless" clause does not extend to matters constituting gross negligence, intentional misconduct, or a breach of confidentiality.
    d. Parties retain the right to seek further review of a decision in whatever regulatory agency or court that may have jurisdiction.
4. At any time through this appeals process, an entity may withdraw its appeal.
5. Hearing and Ruling by the Compliance and Certification Committee.
    a. Within 28 Days of receiving notice from the NERC Director of Compliance, the CCC will conduct a hearing where all the parties or representatives of the disputing parties will present the issue in question, in accordance with CCC procedure CCCPP-005, *Hearing Procedures for Use in Appeals of Certification Matters*, which is incorporated in **Appendix 4E** of the ROP.
    b. If the appeal is upheld, NERC notifies the entity and Regional Entity(ies), updates the NCR, and issues any appropriate letter and certificate to the entity.
    c. If the appeal is denied, NERC notifies the entity and Regional Entity(ies).

6. Hearings and Ruling by the BOTCC.

   a. The BOTCC will be asked to resolve a dispute related to the NERC Organization Certification Program if any party to the appeal contests the CCC final order.

   b. The BOTCC may request additional data from NERC, Regional Entity(ies) or the entity and prescribe the timeframe for submitting the requested data.

   c. At the next regularly scheduled BOTCC meeting, or at a special meeting if the Board determines it is necessary, the Chair of the CCC will present a summary of the dispute and the actions taken to the BOTCC.

      - Each party will have an opportunity to state its case.
      - The BOTCC will then rule on the dispute.

   d. If the BOTCC upholds the appeal, NERC will:

      - Notify the entity and the Regional Entity(ies) that the appeal was upheld.
      - Update the NCR.
      - Issue a Certification letter and a certificate to the entity as applicable.

   e. If the BOTCC does not uphold the appeal, NERC will notify the entity and the Regional Entity(ies) that the appeal was denied.

      - The entity may appeal to Applicable Governmental Authorities within 21 Days of the issuance of the decision.

   f. A record of the appeals process shall be maintained by NERC and available upon request. Confidentiality of the record of the appeal will be based on the NERC ROP Section 1500.

Definitions

Capitalized terms used in this Appendix shall have the definitions set forth in Appendix 2 of the ROP. For convenience of reference, definitions used in this Appendix are also set forth below:

NERC Organization Certification	The process undertaken by NERC and a Regional Entity to verify that a new entity is capable of responsibilities for tasks associated with a particular function such as a Balancing Authority, Transmission Operator, and/or Reliability Coordinator.
Compliance and Certification Manager	The individual/individuals within the Regional Entity that is/are responsible for monitoring compliance of entities with applicable NERC Reliability Standards.
Days	Days as used in the Registration and Certification processes are defined as calendar days.
Footprint	The geographical or electric area served by an entity.
Functional Entity	An entity responsible for a function that is required to ensure the Reliable Operation of the electric grid as identified in the NERC Reliability Standards.
Mapping	The process of determining whether a Regional Entity's Footprint is being served by Registered Entities.
NERC Identification Number (NERC ID)	A number given to NERC Registered Entities that will be used to identify the entity for certain NERC activities. Corporate entities may have multiple NERC IDs to show different corporate involvement in NERC activities.
Regional Entity	An entity having enforcement authority pursuant to 18 C.F.R. § 39.8.
Registration	Processes undertaken by NERC and Regional Entities to identify which entities are responsible for reliability functions within the Regional Entity's Region.
Coordinated Functional Registration (CFR)	Where two or more entities (parties) agree in writing upon a division of compliance responsibility among the parties for one or more Reliability Standard(s) applicable to a particular function, and/or for one or more Requirement(s)/sub-Requirement(s) within particular Reliability Standard(s).

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Exhibit D-3

Redline Version of Proposed Appendices to the ROP

Appendix 5B Redline

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Appendix 5B

Statement of Compliance Registry Criteria

Revision 8~~7~~

Effective: ~~January 19~~, 202X~~1~~

RELIABILITY | RESILIENCE | SECURITY




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Suite 600, North Tower
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Public

Statement of Compliance Registry Criteria (Revision 8~~7~~)

Summary

This document describes how the North American Electric Reliability Corporation (NERC) will identify organizations that may be candidates for Registration and assign them to the Compliance Registry.

NERC and the Regional Entities[1] have the obligation to identify and register all entities that meet the criteria for inclusion in the Compliance Registry, as further explained in the balance of this document.

Organizations will be responsible to register and to comply with approved Reliability Standards to the extent that they are owners, operators, and users of the Bulk Power System (BPS), perform a function listed in the functional types identified in Section II of this document, and are material to the Reliable Operation of the interconnected BPS as defined by the criteria and sections set forth in this document. NERC will apply the following principles to the Compliance Registry:

- In order to carry out its responsibilities related to enforcement of Reliability Standards, NERC must identify the owners, operators, and users of the BPS who have a material impact[2] on the BPS through a Compliance Registry. NERC and the Regional Entities will make their best efforts to identify all owners, users and operators who have a material impact on the BPS in order to develop a complete and current Compliance Registry list. The Compliance Registry will be updated as required and maintained on an on-going basis.
- Organizations listed in the Compliance Registry are responsible and will be monitored for compliance with applicable mandatory Reliability Standards. They will be subject to NERC's and the Regional Entities' Compliance Monitoring and Enforcement Programs.
- NERC and Regional Entities will not monitor nor hold those not in the Compliance Registry responsible for compliance with the Reliability Standards. An entity which is not initially placed on the Compliance Registry, but which is identified subsequently as having a material impact on the BPS, will be added to the Compliance Registry. Such entity will not be subject to a sanction or Penalty by NERC or the Regional Entity for actions or inactions prior to being placed on the Compliance Registry, but may be required to comply with a Remedial Action Directive or Mitigation Plan in order to become compliant with applicable Reliability Standards. After such entity has been placed on the Compliance Registry, it shall be responsible for complying with Reliability Standards and may be subject to sanctions or Penalties as well as any Remedial Action Directives and Mitigation Plans required by the Regional Entities or NERC for future violations, including any failure to follow a Remedial Action Directive or Mitigation Plan to become compliant with Reliability Standards.
- Required compliance by a given organization with the Reliability Standards will begin the later of (i) inclusion of that organization in the Compliance Registry and (ii) approval by the Applicable Governmental Authority of mandatory Reliability Standards applicable to the registered entity.

Entities responsible for funding NERC and the Regional Entities have been identified in the budget documents filed with FERC.[3] Presence on or absence from the Compliance Registry has no bearing on an entity's independent responsibility for funding NERC and the Regional Entities.

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[1] The term "Regional Entities" includes Cross-Border Regional Entities that have footprints in the U.S., Canada, and Mexico, as applicable. Applicable Governmental Authorities in Canadian jurisdictions may have adopted their own Rules of Procedure and Compliance Registry requirements. Registered Entities may be subject to the Compliance Monitoring and Enforcement Programs (CMEP) in their respective jurisdictions, in accordance with applicable laws and regulations.

[2] The criteria for determining whether an entity will be placed on the Compliance Registry are set forth in the balance of this document. At any time a person may recommend in writing, with supporting reasons, to the Director of Compliance (or an equivalent position) that an organization be added to or removed from the Compliance Registry, pursuant to NERC Rules of Procedure Section 501.1.3.5.

[3] Budget documents are submitted to Applicable Governmental Authorities in Canada for information.

Background

The initial Registration process began in January of 2006. Registration of new entities is an ongoing process. If a Registered Entity's information changes, these changes must be submitted to the applicable Regional Entity(ies). ~~In 2005, NERC and the Regional Entities conducted a voluntary organization registration program limited to Balancing Authorities, Planning Authorities, regional reliability organizations, Reliability Coordinators, Transmission Operators, and Transmission Planners. The list of the entities that were registered constitutes what NERC considered at that time as its Compliance Registry.~~

~~NERC initiated a broader program to identify additional organizations potentially eligible to be included in the Compliance Registry and to confirm the information of organizations currently on file, taking into account the following considerations:~~

~~As of July 20, 2006, NERC was certified as the Electric Reliability Organization (ERO) created for the U.S. by the Energy Policy Act of 2005 (EPAct) and FERC Order No. 672. NERC has received similar recognition by Canadian authorities in their respective jurisdictions.~~

~~FERC Order No. 672 directs that owners, operators and users of the BPS in the U.S. shall be registered with the ERO and the appropriate Regional Entities.~~

~~As the ERO, NERC has filed its current Reliability Standards with FERC and with Canadian authorities. As accepted and approved by FERC and appropriate Canadian authorities, the Reliability Standards are no longer voluntary, and organizations that do not fully comply with them may face Penalties or other sanctions, in accordance with applicable laws, regulations and orders of Applicable Governmental Authorities.~~

~~NERC's Reliability Standards include compliance Requirements for additional reliability function types beyond the six types registered by earlier registration programs.~~

Based on selection as the ERO, NERC's Organization Registration program[4] is the means by which NERC and the Regional Entities plan, manage, and execute Reliability Standard compliance oversight of owners, operators, and users of the BPS.

Organizations listed in the Compliance Registry are subject to NERC's and the Regional Entities' Compliance Monitoring and Enforcement Programs.

Statement of Issue

As the ERO, NERC intends to comprehensively and thoroughly protect the reliability of the grid. To support this goal NERC will include in its Compliance Registry each entity that NERC concludes can materially impact the reliability of the BPS.

NERC ~~wishes to~~will identify those entities that may need to be listed in its Compliance Registry. Identifying these organizations is necessary and prudent for the purpose of determining resource needs, both at the NERC and Regional Entity level, and for communicating with these entities regarding their potential responsibilities and obligations. Candidate entities can be identified at any time, as and when needed. The Compliance Registry is available on NERC's website.

Resolution

The potential costs and effort of registering every organization potentially within the scope of "owner, operator, and user of the BPS," while ignoring their impact upon reliability, would be disproportionate to the improvement in reliability that would reasonably be anticipated from doing so.

NERC and the Regional Entities have identified two principles they believe are key to the entity selection process. These are:

[4] See NERC ERO Application; Exhibit C; Section 500 – Organization Registration and Certification.

1. There needs to be consistency between Regions and across the continent with respect to which entities are registered; and
2. Any entity reasonably deemed material to the reliability of the BPS will be registered, irrespective of other considerations.

To address the second principle the Regional Entities, working with NERC, will identify and register any entity they deem material to the reliability of the BPS.

Registry Criteria

In order to promote consistency, NERC and the Regional Entities use the following criteria as the basis for determining whether particular entities should be identified as candidates for Registration. All organizations meeting or exceeding the criteria will be identified as candidates.

The following ~~four groups of~~ criteria (Sections I-~~I~~V) plus the statement in Section VI will provide guidance regarding an entity's Registration status:

- ~~Section I determines if the entity is an owner, operator, or user of the BPS and, hence, a candidate for organization Registration.~~
- ~~Section II uses NERC's current functional type definitions to provide an initial determination of the functional types for which the entities identified in Section I should be considered for Registration.~~
- ~~Section III lists the criteria regarding smaller entities; these criteria can be used to forego the Registration of entities that were selected to be considered for Registration pursuant to Sections I and II and, if circumstances change, for later removing entities from the Compliance Registry that no longer meet the relevant criteria.~~
- ~~Section IV — additional criteria for joint Registration. Joint Registration criteria may be used by joint action agencies, generation and transmission cooperatives and other entities which agree upon a clear division of compliance responsibility for Reliability Standards by written agreement. Rules pertaining Joint Registration Organizations, as well as Coordinated Functional Registrations, are now found in Sections 501, 507 and 508 of the NERC Rules of Procedure.~~

I. Owners, operators, or users of the BPS are candidates for Registration.[5] ~~Entities that use, own or operate Elements of the Bulk Electric System (BES) as established by NERC's approved definition of BES as stated in Appendix 2 of the NERC Rules of Procedure and the NERC Glossary are (i) owners, operators, and users of the BPS and (ii) candidates for Registration:~~

II. Entities identified in Section I above will be categorized as Registration candidates who may be subject to Registration under one or more appropriate Functional Entity types based on a comparison of the functions the entity normally performs against the following function type definitions.~~:~~[6]

[5] See NERC Rules of Procedure Section 501.1 NERC Compliance Registry — NERC shall establish and maintain the NCR of the BPS owners, operators, and users that are subject to approved Reliability Standards. For purposes of this Section I, users, owners, and operators of the BPS includes: 1) entities that use, own, or operate Elements of the Bulk Electric System (BES) as defined in Appendix 2 of the NERC Rules of Procedure and NERC Glossary of Terms; as well as 2) entities otherwise defined in the Registry Criteria in this Appendix 5B.

[6] Exclusion: An entity will not be registered based on these criteria if responsibilities for compliance with approved NERC Reliability Standards or associated Requirements including reporting have been transferred by written agreement to another entity that has registered for the appropriate function for the transferred responsibilities, including bilateral agreements and Sections 501, 507, and 508 of the NERC Rules of Procedure.

Function Type	Acronym	Definition/Discussion
Balancing Authority	BA	The responsible entity that integrates resource plans ahead of time, maintains Load-interchange-generation balance within a Balancing Authority Area, and supports Interconnection frequency in real-time.
Distribution Provider	DP	Provides and operates the "wires" between the transmission system and the end-use customer. For those end-use customers who are served at transmission voltages, the Transmission Owner also serves as the Distribution Provider. Thus, the Distribution Provider is not defined by a specific voltage, but rather as performing the distribution function at any voltage. Note: As provided in Section III.b.1 below, a Distribution Provider entity shall be an Underfrequency Load Shedding (UFLS)-Only Distribution Provider if it is the responsible entity that owns, controls or operates UFLS Protection System(s) needed to implement a required UFLS program designed for the protection of the BES, but does not meet any of the other registration criteria for a Distribution Provider.
Frequency Response Sharing Group	FRSG	A group whose members consist of two or more Balancing Authorities that collectively maintain, allocate, and supply operating resources required to jointly meet the sum of the Frequency Response Obligations of its members.
Generator Operator	GOP	The entity that: 1) operates generating Facility(ies) and performs the functions of supplying energy and Interconnected Operations Services (Category 1 GOP); or 2) operates non-BES inverter based generating resources that either have or contribute to an aggregate nameplate capacity of greater than or equal to 20 MVA, connected through a system designed primarily for delivering such capacity to a common point of connection at a voltage greater than or equal to 60 kV (Category 2 GOP).
Generator Owner	GO	The e~~E~~ntity that: 1) owns and maintains generating Facility(ies) (Category 1 GO); or 2) owns and maintains non-BES inverter based generating resources that either have or contribute to an aggregate nameplate capacity of greater than or equal to 20 MVA, connected through a system designed primarily for delivering such capacity to a common point of connection at a voltage greater than or equal to 60 kV (Category 2 GO).
Planning Authority/ Planning Coordinator	PA/PC	The responsible entity that coordinates and integrates transmission Facilities and service plans, resource plans, and Protection Systems.

Function Type	Acronym	Definition/Discussion
Reliability Coordinator	RC	The entity that is the highest level of authority who is responsible for the Reliable Operation of the BES, has the Wide Area view of the BES, and has the operating tools, processes and procedures, including the authority to prevent or mitigate emergency operating situations in both next-day analysis and real-time operations. The Reliability Coordinator has the purview that is broad enough to enable the calculation of Interconnection Reliability Operating Limits, which may be based on the operating parameters of transmission systems beyond any Transmission Operator's vision.
Regulation Reserve Sharing Group	RRSG	A group whose members consist of two or more Balancing Authorities that collectively maintain, allocate, and supply the Regulating Reserve required for all member Balancing Authorities to use in meeting applicable regulating standards.
Reserve Sharing Group	RSG	A group whose members consist of two or more Balancing Authorities that collectively maintain, allocate, and supply Operating Reserves required for each Balancing Authority's use in recovering from contingencies within the group. Scheduling energy from an Adjacent Balancing Authority to aid recovery need not constitute reserve sharing provided the transaction is ramped in over a period the supplying party could reasonably be expected to load generation in (e.g., ten minutes). If the transaction is ramped in more quickly~~er,~~ (e.g., between zero and ten minutes), then, for the purposes of recovery from a Reportable Balancing Contingency Event~~disturbance control performance~~, the areas become a Reserve Sharing Group.
Resource Planner	RP	The entity that develops a long-term (generally one year and beyond) plan for the resource adequacy of specific Loads (customer demand and energy requirements) within a Planning Authority area.
Transmission Owner	TO	The entity that owns and maintains transmission Facilities.
Transmission Operator	TOP	The entity responsible for the reliability of its local transmission system and operates or directs the operations of the transmission Facilities.
Transmission Planner	TP	The entity that develops a long-term (generally one year and beyond) plan for the reliability (adequacy) of the interconnected bulk electric transmission systems within its portion of the Planning Authority area.
Transmission Service Provider	TSP	The entity that administers the transmission tariff and provides Transmission Service to Transmission Customers under applicable Transmission Service agreements.

III. ~~Except as provided in Section V below, e~~Entities identified in Section II above as being subject to Registration as a Distribution Provider should be included in the Compliance Registry for these functions only if they meet any of the criteria listed below:

III(a) Distribution Provider:

III.a.1 Distribution Provider system serving >75 MW of peak Load that is directly connected to the BES;[7] or

III.a.2 Distribution Provider is the responsible entity that owns, controls, or operates Facilities that are part of any of the following Protection Systems or programs designed, installed, and operated for the protection of the BES:[8]

- a required Undervoltage Load Shedding (UVLS) program and/or
- a required Special Protection System or Remedial Action Scheme and/or
- a required transmission Protection System; or

III.a.3 Distribution Provider that is responsible for providing services related to Nuclear Plant Interface Requirements (NPIRs) pursuant to an executed agreement; or

III.a.4 Distribution Provider with field switching personnel identified as performing unique tasks associated with the Transmission Operator's restoration plan that are outside of their normal tasks.

III(b) Distribution Provider with UFLS-Only assets (referred to as "UFLS-Only Distribution Provider")

III.b.1 UFLS-Only Distribution Provider does not meet any of the other registration criteria in Sections III(a)(1)-(4) for a Distribution Provider; and

III.b.2 UFLS-Only Distribution Provider is the responsible entity that owns, controls, or operates UFLS Protection System(s) needed to implement a required UFLS Program designed for the protection of the BES.

The Reliability Standards applicable to UFLS-Only Distribution Providers are: (1) any version of PRC-005 and PRC-006 applicable to UFLS-Only Distribution Providers, (2) any regional Reliability Standard whose purpose is to develop or establish a UFLS Program, and (3) any Reliability Standard that lists UFLS-Only Distribution Provider in the applicability section. Reliability Standards that apply to Distribution Providers will not apply to UFLS-Only Distribution Providers, unless explicitly stated in the applicability section of these Reliability Standards and in future revisions and/or versions.

IV. Joint Registration Organization, Coordinated Functional Registration and applicable Member Registration.

Pursuant to FERC's directive in paragraph 107 of Order No. 693, NERC's rules pertaining to joint Registrations and Joint Registration Organizations, as well as Coordinated Functional Registrations, are now found in Section 501, 507, and 508 of the NERC Rules of Procedure.

V. If NERC or a Regional Entity encounters an organization that is not listed in the Compliance Registry, but which should be subject to the Reliability Standards, NERC or the Regional Entity is obligated and will initiate actions to add that organization to the Compliance Registry, subject to that organization's right to challenge as provided in Section 500 of NERC's Rules of Procedure.

Determination of Material Impact[9]

An entity that does not meet (i.e., falls below) the criteria may nevertheless be registered if it can be demonstrated that the entity has a material impact on the reliability of the BPS~~BES~~. Similarly, an entity that meets the criteria may

[7] Ownership, control or operation of UFLS Protection System(s) needed to implement a required UFLS Program designed for the protection of the BES does not affect an entity's eligibility for registration pursuant to III.a.1.

[8] As used in Section III.a.2, "protection of the Bulk Electric System" means protection to prevent instability, Cascading, or uncontrolled separation of the BES and not for local voltage issues (UVLS) or local line loading management (Special Protection System) that are demonstrated to be contained within a local area.

[9] The Determination of Material Impact applies when an entity seeks a NERC-led Registration Review Panel to review its request for examination of registration based on material impact. As stated in Appendix 5A, "[t]he Panel shall also include a review of individual and aggregate system-

be excluded if it can be demonstrated to NERC that the entity does not have a material impact on the reliability of the ~~BES~~BPS. Such Registration decisions regarding materiality must be made by the NERC-led Registration Review Panel in accordance with Section III(D) of Appendix 5A to the NERC Rules of Procedure. In order to ensure a consistent approach to assessing materiality, a non-exclusive set of factors ("materiality test") for consideration is identified below; however, only a sub-set of these factors, or other additional factors, may be applicable to a particular functional registration category or specific entity, as appropriate:

1. Is the entity specifically identified in the emergency operation plans and/or restoration plans of an associated Reliability Coordinator, Balancing Authority, Generator Operator or Transmission Operator?
2. Will intentional or inadvertent removal of an Element owned or operated by the entity, or a common mode failure of two Elements as identified in the Reliability Standards (for example, loss of two Elements as a result of a breaker failure), lead to a reliability issue on another entity's system (such as a neighboring entity's Element exceeding an applicable rating, or loss of non-consequential load due to a single contingency)? Conversely, will such contingencies on a neighboring entity's system result in issues for Reliability Standards compliance on the system of the entity in question?
3. Can the normal operation, misoperation or malicious use of the entity's cyber assets cause a detrimental impact (e.g., by limiting the operational alternatives) on the operational reliability of an associated Balancing Authority, Generator Operator or Transmission Operator?
4. Can the normal operation, misoperation, or malicious use of the entity's Protection Systems (including UFLS, UVLS, Special Protection System, Remedial Action Schemes and other Protection Systems protecting BES Facilities) cause an adverse impact on the operational reliability of any associated Balancing Authority, Generator Operator or Transmission Operator, or the automatic load shedding programs of a PC or TP (UFLS, UVLS)?

Limitation of responsibilities to a sub-set of Reliability Standards

NERC may limit the compliance obligations of (1) a given entity registered for a particular function or (2) a similarly situated class of entities, as warranted based on the particular facts and circumstances, to a sub-set list of Reliability Standards (which may specify Requirements/sub-Requirements). If NERC establishes a sub-set list for similarly situated class of entities, NERC will post the eligibility criteria and sub-set list of applicable Reliability Standards to the Registration and Certification page of the NERC Website.

wide risks to, and considerations of, reliability of the BPS, as well as the BES Definition, as applicable." Appendix 5A, Section III(D). Any such request will be reviewed on a case by case basis in accordance with the Panel procedures set forth in Appendix 5A

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Consideration of Comments

Rules of Procedure (ROP) Changes to Appendices 2, 5A, and 5B (Pertaining to the Organization Registration of Inverter-Based Resources)

NERC thanks all commenters who submitted comments on the proposed changes to the Rules of Procedure. NERC posted the proposed changes for public comment from September 13, 2023 through October 30, 2023. NERC received 18 sets of comments, as shown in the table on the following pages.

NERC has posted submitted comments on the Rules of Procedure page.

Table of Contents

List of Commenters

	Organization
1	Evergy
2	Transmission Access Policy Study Group (TAPS)
3	Invenergy
4	Advanced Energy United (United)
5	FirstEnergy Corp (FE)
6	American Electric Power (AEP)
7	Hydro-Québec
8	Electric Reliability Council of Texas, Inc. (ERCOT)
9	National Rural Electric Cooperative Association (NRECA)
10	Edison Electric Institute (EEI)
11	Solar Energy Industries Association (SEIA) and American Clean Power (ACP)
12	Pine Gate Renewables
13	AES Clean Energy
14	Southwest Power Pool (SPP)
15	Arevon Energy
16	Duke Energy
17	North American Generator Forum (NAGF)
18	Bonneville Power Administration (BPA)

Comments

1. NERC Rules of Procedure Appendix 2 – *Definitions Used in the ROP*

NERC proposes to revise the Generator Owner and Generator Operator definitions to reflect the obligation to register the entity that owns and maintains or operates non-BES inverter-based generating resources in a manner consistent with the proposal in Appendix 5B. Additionally, NERC proposes to revise the Reserve Sharing Group (RSG) definition for consistency with Reliability Standard Project 2022-01 Reporting ACE Definition and Associated Terms (Project 2022-01).

i. Appendix 2 – Definitions

Entity	Summary of Stakeholder Comments	Response
ERCOT	The summary document detailing the proposed ROP revisions indicates that one purpose of the revisions to Appendices 2 and 5B is to revise the definition for Reserve Sharing Group (RSG) to be consistent with the revised definition being proposed in Project No. 2022-01. However, the revisions included in Appendices 2 and 5B do not fully match the revisions proposed in Project No. 2022-01. Specifically, one of the revisions to the RSG definition included in Appendices 2 and 5B includes the language "recovery from a Reportable Balancing Contingency Event" (emphasis added). The corresponding language that was posted for ballot and comment from January 31 to March 16, 2023, in Project No. 2022-01 reads "recovery from a Balancing Contingency Event." Given that Reportable Balancing Contingency Event and Balancing Contingency Event are two distinct defined terms in the NERC Glossary, ERCOT recommends that this apparent discrepancy between Project No. 2022-01 and the two appendices be resolved or clarified.	Thank you for this comment. The proposed ROP revisions bring the RSG Registry Criteria and definitions in alignment with the final definition for Reserve Sharing Group (RSG) and use the term Reportable Balancing Contingency Event.

Entity	Summary of Stakeholder Comments	Response
SPP	We recommend that NERC legal combines the **UFLS Only-DP** term and its definition (located of Appendices 5B) and include them in the Appendix 5A (registration chart), Appendix 5B (compliance registry criteria chart) as well as the Appendix 2A (terms and definition). From our perspective, this will promote consistencies in reference to the industry's need applicable to definition, registration and compliance criteria.	Thank you for this comment. This project does not include revisions to Distribution Provider (DP) related criteria. UFLS Only DP continues as a sub-category of Distribution Provider.
United	The definitions of Generator Owner and Generator Operator do not clearly specify that the facilities are BES specific. With the addition of the GO-IBR and GOP-IBR entities, to the inexperienced IBR entity, it appears that these entities are both a Generator Owner-IBR and Generator Owner. To address this potential confusion, it is recommended that the definition of Generator Owner and Generator Operator be modified as shown below: "Generator Operator" means the entity that operates **BES** generating Facility(ies) and performs the functions of supplying energy and Interconnected Operations Services. "Generator Owner" means an entity that owns and maintains **BES** generating Facility(ies). Without this change, any Generator Owner – Inverter-Based Resource appears to also be a Generator Owner without delving into the definition of Facility. We recognize that this modification creates a redundancy in the definition of both Generator Operator and Generator Owner since the definition of Facility addresses the Bulk Electric System inclusion. However, in the interest of making the distinction clear to all readers, particularly entities with limited or no NERC experience, such as these new	Thank you for this comment. In response to these comments, NERC has revised the organization of its proposed revisions to Registry Criteria to better reflect that owners and operators of non-Bulk Electric System (BES), Bulk Power System (BPS) connected Inverter Based Resources (IBRs) which would fall within proposed criteria would be a non-BES connected category of Generator Owners and Operators (GOs and GOPs respectively). This organization is consistent with the structure of the ROP Registry Criteria with one set of Registry Criteria for each function. Reflecting these new entrants as Category 2 GOs and GOPs and highlighting their ownership and operation of non-BES IBRs better establishes a comparison against Category 1 GOs and GOPs which own or operate generating Facilities. Facilities is defined in the NERC Glossary as, "[a] set of electrical equipment that operates as a single Bulk Electric System Element (e.g., a line, a generator, a shunt compensator, transformer, etc.)."

Entity	Summary of Stakeholder Comments	Response
	IBR owners and operators who are not well versed in the intricacies of NERC definitions and lingo, we believe this minimal change will provide a great deal of clarity.	NERC also anticipates that establishing Category 1 and Category 2 GO/GOP will also be beneficial as NERC and industry revise Reliability Standards to better address the needs associated with BES and non-BES, BPS connected, IBRs. All of this work is to come and not part of the ROP project. In addition, NERC will include discussion in orientation materials that "Facility" is defined in the Glossary to encompass BES facilities.
PineGate	The newly proposed definitions for GO-IBR and GOP-IBR are overly broad and may unintentionally conflict with the additional "thresholds" proposed in the notes sections of Appendix 5B. Taken as written and proposed in Appendix 2, the new definitions are tied to the definition of the Bulk Power System (BPS), which is extremely broad and could be construed as any GO/GOP operating or owning an IBR that is connected anywhere at any MW. The overly broad nature of the BPS definition was one of the driving factors for the creation of the BES definition and, without the criteria and clarity provided by the BES definition to bring consistency to registration reviews of IBRs, the new definitions would seemingly expose IBRs and IBR entities to the same risks, confusion, inconsistencies, and ambiguity that resulted prior to the development of the BES definition. c) PGR notes that the definitions clearly state that the identification of GO-IBRs and GOP-IBRs is predicated on the assets being "non-BES," BPS-connected. The distinction between the use of the BES and the BPS to determine materiality and risk relative to IBRs is an important one and must be considered and	Thank you for this comment. NERC agrees additional clarity is helpful and has revised its proposal as described above in the Section 1(i) response to United. In addition, NERC notes that the Registry Criteria specifies the registered functions determined material to reliability individually or in aggregate consistent with discussion in Federal Energy Regulatory Commission (FERC) orders in Docket No. RD22-4.

Entity	Summary of Stakeholder Comments	Response
	addressed – not only from the overall definition perspective, but also from the risk, reliability standard, and materiality review perspectives.	
SEIA and ACP	Glossary of Terms SEIA and ACP appreciate NERC taking our input regarding the creation of new definitions and resolution of existing definitions into consideration as it posted the proposed revisions for comment. While we understand the intent of the newly proposed definitions, we remain concerned that, as proposed, the newly defined terms for Generator Owner-IBRs (GO-IBR) and Generator Operator – IBRs (GOP-IBR) may create ambiguity and confusion in the registration, compliance, and enforcement processes. In particular, we provide the following comments regarding the newly proposed definitions for GOP-IBR and GO-IBR: i) SEIA and ACP observe that the newly proposed definitions for GO-IBR and GOP-IBR are overly broad and may unintentionally conflict with the additional "thresholds" proposed in the notes sections of Appendix 5B. Taken as written and proposed in Appendix 2, the new definitions are tied to the definition of the BPS, which is extremely broad and could be construed as any GO/GOP operating or owning an IBR that is connected anywhere at any MVA. The overly broad nature of the BPS definition was one of the driving factors for the creation of the BES definition and, without the criteria typically provided by the BES definition to bring consistency to registration reviews, the new definitions would seemingly expose IBRs and IBR entities to the same risks, confusion, inconsistencies, and ambiguity that resulted in the development of the BES definition. Moreover, it would likely expose these much smaller resources to a much larger set of standards and requirements, e.g., equivalent to those standards	Thank you for this comment. Please see response to United and Pine Gate immediately above. The applicability of NERC Reliability Standards and Requirements (whether through some combination of a Glossary alignment project, Standard by Standard revision process, or some other approach that conforms with NERC's work under Order No. 901) will be addressed through the NERC Standards Process Manual found in Appendix 3A of the NERC ROP. This work is to come and is not part of this project. Stakeholders would be able to participate in any such projects in accordance with the Standards Process Manual. NERC looks forward to working with stakeholders on these projects. .

Entity	Summary of Stakeholder Comments	Response
	and requirements with which BES generation is required to comply, despite the overall risk posed by any one IBR to the BPS being substantially lower. The distinction between the use of the BES and the BPS to determine materiality and risk is an important one and must be considered and addressed—not only from the overall definition perspective, but also from the risk, reliability standard, and materiality review perspectives.	

2. NERC Rules of Procedure Appendix 5A – *Organization Registration and Certification Manual*

Making changes that conform with those in Appendix 5B and reducing legislative history.

i. Appendix 5A – Conforming Revisions

Entity	Summary of Stakeholder Comments	Response
EEI	EEI appreciates the opportunity to provide feedback on the proposed revisions to Appendices 2, 5A, and 5B of the NERC Rules of Procedure. EEI generally supports the revisions. However, the change from "BES" to "BPS" in the various appendices could have unintended consequences. The reason for this is because "BES" is a defined and well understood term that is used in the context of the applicability of reliability standards, whereas "BPS" is term used when generally speaking about the interconnected network or power grid. As such, its use in several of the sections is unclear and will lead to ambiguity and confusion. Accordingly, the term "BES" should be retained.	Thank you for this comment. NERC clarifies that the proposed revisions to the Registry Criteria would apply to the NERC compliance registry of BPS owners, operators, and users,[1] and that NERC is not modifying its approach to ensure that Reliability Standards are designed to support an Adequate Level of Reliability (ALR) of the BES consistent with the definition of ALR filed with FERC. ALR is the state that the design, planning, and operation of the BES will achieve when the listed Reliability Performance Objectives are met. Reliability Standards revisions, including any modification of the BES Definition are not within the scope of this project (which relates to non-BES IBR facilities).

[1] NERC Rules of Procedure, Section 501.1 - **NERC Compliance Registry** — NERC shall establish and maintain the NCR of the Bulk Power System owners, operators, and users that are subject to approved Reliability Standards.

Entity	Summary of Stakeholder Comments	Response
Evergy	These are the comments of Evergy related to the NERC Rules of Procedure changes for inverter-based resources. Evergy supports and incorporates by reference the comments of the Edison Electric Institute for these Rules of Procedure changes.	Thank you for your comment. Please also see the response to EEI immediately above.
Arevon	In Appendix 5A of the RoP, it appears that GO-IBR, GOP-IBR are sub-categories of GO and GOP, respectively, while in Appendix 2, they are defined as their own categories. This leads to immense confusion in the sense that GO-IBR and GOP-IBR are two newly created categories for registration, at the same time why are they sub-categories of currently BES GO and BES GOP? Is there a difference when it comes to an entity registering for both categories, GO and GO-IBR for example? Additionally, the two new categories are in no-way related to BES Definition as clearly pointed out by the fact that the current BES Definition is not being changed. All existing processes for registration and enforcement are geared towards NERC BES Facilities. How would those serve the new GO-IBR and GOP-IBR registrations? Why not simply halt what appears to be a rushed effort to register unregistered non-BES IBRs and operators and focus on a holistic approach that looks at all entities to be registered, the current registration process, the current BES Definition, and make appropriate revisions through industry participation, such as a Standard Drafting Team or a more NERC technical committee? There could be several traditional generating units between 20MW and 75MW that are currently not registered, which individually or in	Please see responses to United and Pine Gate in Section 1(i) above. As discussed in Docket No. RD22-4, the overarching proposal is based upon significant research by the ERO Enterprise published publicly, presented to stakeholders, and filed with FERC over several years. This research was further honed in this proceeding as reflected in the record as a result of stakeholder feedback (such as adding a 60 kV threshold as detailed in the August Work Plan update). Further, as stated above in response to SEIA and ACP in Section 1(i) above and in response to EEI in Section 2(i) above any obligations under the Reliability Standards or any potential revision to the BES Definition will be determined through the Standards Development Process.

Entity	Summary of Stakeholder Comments	Response
	aggregate can have similar material impacts to BPS as do unregistered IBRs in aggregate. It is also unclear how NERC's proposed reduction in interconnection voltage to 60kv or higher and the reduction in MW threshold to 20MW or higher does not necessitate a modification to the current BES Definition. There will be a lot of confusion when distinguishing between a Facility and a facility, especially with footnote 8, that talks about BPS facilities and BES Definition applicability to a Facility. If an entity is a GO and a GO-IBR, should it consider Facility or facilities? Typically, RCs, Bas, TOPs, and TPs tend to have procedures that are currently geared towards Facilities – such procedures will now have to reflect this change, causing more confusion for entities who then have corresponding actions based on the revised procedures or processes. For example, the TOP specifies a voltage schedule for all facilities within its area, in an audit how would a GO and GO-IBR differentiate or prove that the voltage schedule only applies to certain facilities it owns, assuming the VAR standard applies to both GO and GO-IBR?	
PineGate	The revisions to Appendix 5A show GO/GOP-IBRs as subsets of the traditional GO/GOP registrations. However, this is not consistent with the definitions proposed in Appendix 2A, which appear to differentiate these registrations and create mutually exclusive populations of GOs/GOPs and GO/GOP-IBRs. To address this, PGR recommends that the addition of these as subsets be corrected to accurately reflect the mutually exclusive nature of these registrations.	Thank you for this comment. Please see response to United and Pine Gate above in Section 1(i).

ii. Appendix 5A – NERC-led Registration Review Panel and Exceptions Processes

Entity	Summary of Stakeholder Comments	Response
United	As currently structured, there is no means to appeal a registration as a GO-IBR or GOP-IBR as the appeals process is limited to an appeal based on the BES definition. Since the GOP-IBR and GO-IBR registration does utilize the BES definition, the appeals process is not available to these entities. As there has already been some discussions related to what level the "wires" become distribution, there is concern that these new registration types may need an exemption process similar to that used for BES facilities if disputes arise. This issue can likely be addressed with minimal modifications to section 509, Appendix 5A and Appendix 5C. Suggested changes are not provided here for this issue. If NERC believes this issue is covered in other documents, a reference to those documents should be included in the Overview section of Appendix 5A and section 509 of the Rules of Procedure.	Thank you for this comment. The thresholds set in the proposed Registry Criteria are consistent with NERC's scope of authority under section 215 of the Federal Power Act over users, owners, and operators of the BPS and based on the record developed in this proceeding. Please also see responses above in Section 2(i). In response to this feedback, NERC has added clarifying revisions to Appendix 5B's Determination of Materiality notes to better reflect that this inquiry under the NERC-led Registration Review Panel process is available to owners, operators and users of the BPS not only BES.[2] This is consistent with the remainder of changes proposed. Please note, such inquiry pertains to Registration status (rather than BES Facility status under Appendix 5C of the ROP or Reliability Standards, which are both outside the scope of this proceeding).
NAGF	Recommend developing a process, similar to the current BES Exceptions process or a NERC-led registration panel, that will allow entities to challenge assigned GO-IBR or GOP_IBR registrations. Such a process should address the following:	Thank you for this comment. Please see response to United in Section 2(ii) immediately above. In addition, NERC will issue guidance to support implementation of Registry Criteria changes. The ERO Enterprise will work with constituents as they calculate aggregate capacity for purposes of the 20 MW threshold

[2] *See e.g. NERC Rules of Procedure Section 501.1* – ("**NERC Compliance Registry** — NERC shall establish and maintain the NCR of the Bulk Power System owners, operators, and users that are subject to approved Reliability Standards."); *Appendix 5A*, Section III(D)8 – ("The Panel shall also include a review of individual and aggregate system-wide risks to, and considerations of, reliability of the BPS, as well as the BES Definition, as applicable.").

Entity	Summary of Stakeholder Comments	Response
	a. Provide certainty for a potential GO-IBR entity to understand how aggregation with another entity will impact GO-IBR registration. b. Provide information on other entities at the common point of connection to the BPS such that a potential GO-IBR entity, the Transmission Owner, or Transmission Planner can conduct the necessary studies for the exemption process. c. Potential GO/GOP-IBR entities should not be mandated to comply with applicable standards until the exception process is complete.	and as they become integrated with the ERO Enterprise if the proposal is approved by the NERC Board of Trustees (Board) and FERC.
AES	I. How does NERC intend to manage the significant number of facilities/entities to be registered under this approach and the likely flurry of materiality determination requests? II. There are no changes to Appendix 5C. What process should be used by registered entities to file for exception if a non-BES GO-IBR and GOP-IBR believes that it does not pose any material impact to the BPS? How does NERC plan on expediting the "NERC-led Registration review panel" for ensuring that all correct resource is registered as GO-IBR and GOP-IBR and exception is granted to resources that does not have an impact to the BPS?	Thank you for this comment. The ERO Enterprise will work to register all the new IBRs that meet the proposed Registry Criteria, if approved, and process any registration challenge in the same manner as any other function. The ERO Enterprise is making preparations for the increased numbers of new registrations and has begun reaching out to stakeholders throughout 2023 to support the transition. Please note that Appendix 5C pertains to BES Facilities and is not within scope of this project. Please see response to United in Section 2(ii) regarding the NERC-led Registration Review Panel process.
Arevon	The current changes to RoP do not talk about a process like current NERC-led Registration Review Panel for an entity to prove that it may not materially impact the reliability of the BPS. Current processes are geared towards BES Facilities	Please see response to United and AES immediately above in Section 2(ii). NERC also takes this opportunity to highlight that the list of materiality factors listed in Appendix 5B are a non-exclusive list. The remainder of these comments

Entity	Summary of Stakeholder Comments	Response
	and registration/de-registration. Its clear that the burden of proof lies on the potential GO-IBR entity to demonstrate that the reliability of the BPS is materially not impacted, however, the potential GO-IBR entity currently has no process/means to compile such proof because of several reasons such as: • There is no specific inclusion or exclusion criteria or an exceptions process for GO-IBRs or GOP-IBRs. • The potential GO-IBR may not have any visibility if its generation is aggregating to 20 MVA or higher causing the entity to be registered. • Even if the aggregation was more than 20MVA, there is no way for the potential GO-IBR to conduct studies or request Transmission Provider(s) to conduct studies to demonstrate that the entity does not materially impact the BPS. The TPs are already backlogged with interconnection queue studies as evidenced by several reports, including NERC's Long Term Reliability Assessment (LTRA) reports. So, the TPs may be unwilling to support the entities that might need such studies. • In the meantime, the potential GO-IBR will have to register, comply with GO-IBR/GOP-IBR applicable Reliability Standards. The additional costs of registration and compliance may potentially drive some entities out of business as such costs have not been assumed into the business model. This may cause unintended adverse reliability impacts to the grid. Are NERC and Regional Entities prepared to handle this significant increase in registration and consistently across REs? There will also be a flurry of materiality determination	appear to pertain to a potential request for review of materiality and are not within scope of this project.

Entity	Summary of Stakeholder Comments	Response
	requests, for which currently there appears to be no process in place that entities can utilize.	
PineGate	this classification system appears to provide significant opportunity for the additional "inclusion" of IBRs at levels below the those identified in Appendix 5B without materiality criteria or evaluation processes that are consistent with the system size being applied, e.g., BPS v. BES. This affects not only the current processes, but the appropriate recognition of IBR entities' due process rights as the existing materiality and appeal/exclusion processes all focus on the BES definition and BES-related criteria. Because the existing process and due process rights for materiality reviews and exclusion requests currently afforded to BES generation are based on the definition being applied to those assets and Facilities, e.g., the BES definition, and GO/GOP-IBRs have been specifically excluded from the BES definition, PGR requests that NERC further revise the RoP to provide IBR entities with comparable due process rights and materiality/exclusion/appeal frameworks that are consistent with the definition being applied to their assets and Facilities, e.g., the BPS. Importantly, as there is not an associated, established BPS criteria nor established due process rights or appropriately designed frameworks for GO/GOP-IBRs, PGR requests that NERC not promulgate the RoP revisions as proposed. As discussed above, the current materiality, appeal, and exclusion request processes provided in Appendix 5A cannot apply as written as they are solely geared toward the review of BES Facilities and entities. PGR respectfully	Please see responses to United, Arevon, and AES above in Section 2(i) and (ii). As reflected in those responses and to ensure due process, the proposed revisions have been developed in accordance with the process in the ROP, if approved by the Board would be filed with FERC, and the ROP includes mechanisms such as the NERC-led Review Panel process to address claims of materiality notwithstanding application of Registry Criteria. Additional comments regarding the relationship between the categories of GOs/GOPs under NERC proposed revisions, as well as potential impacts under compliance monitoring and enforcement have been addressed through the improved organization reflected in the proposal as discussed in Section 1(i) above.

Entity	Summary of Stakeholder Comments	Response
	reiterates its request that that new and appropriately scoped materiality, appeal, and exclusion processes and criteria be developed using the new BPS designation that is being used to differentiate GO-IBRs and GOP-IBRs prior to submitting any revisions related to IBR registration. a) As an example, Appendix 5A should be revised to ensure that GO/GOP-IBRs have appropriate and similar due process rights, which must include the identification, development, and implementation of appropriate BPS-focused processes and materiality criteria. Example revisions to the materiality criteria are provided below for illustrative purposes, subject to: Will entity registration move from an entity basis to an asset basis? How does NERC intend to manage the considerable number of facilities/entities to be registered under this approach and the likely flurry of materiality determination requests?	
SEIA and ACP	Appendix 5A i) As discussed above, Appendix 5A shows GO-IBR and GOP-IBRs as subsets of the traditional GO/GOP registrations. However, this is not consistent with the definitions proposed in Appendix 2A, which clearly differentiates these registrations and excludes tradition GOs/GOPs from the GO-IBR and GOP-IBR registrations. For these reasons, SEIA and ACP recommend that the addition of these as subsets be corrected to properly reflect the mutually exclusive nature of these registrations. iii) While SEIA and ACP appreciate NERC making the existing processes available, it is focused on BES materiality and	Thank you for this comment. Please see responses in Sections 1 and 2 above. The revised approach better clarifies the nature of owners and operators of such materially impactful non-BES IBRs as a category of GO and GOP to avoid duplicative registrations. This structure is consistent with the model in the Registry Criteria.

Entity	Summary of Stakeholder Comments	Response
	more conventional GO and GOP entities and resources and is not, in its current form and content, a feasible or appropriate set of processes or criteria to determine materiality in this new "BPS" context. Because the current Material Impact Criteria in RoP is typically used to exclude BES assets and entities that would otherwise be required to register and comply with the applicable NERC reliability Standards, SEIA and ACP respectfully request that new and appropriately scoped processes and criteria must be developed using the new BPS designation that is being used to differentiate GO-IBRs and GOP-IBRs. vi) The new definitions for GO-IBR and GOP-IBR foretell a significant increase in the number of facilities/entities to be registered under this approach and the likely flurry of materiality determination requests. (1) How does NERC intend to manage the significant number of facilities/entities to be registered under this approach and the likely flurry of materiality determination requests? (2) How will these entities be equitably subject to compliance and enforcement processes when the existing risk definitions and CMEP processes and criteria are also geared toward BES criteria and materiality?	

3. NERC Rules of Procedure Appendix 5B – *Statement of Compliance Registry Criteria*

NERC proposes to revise the GO/GOP Registry Criteria to reflect registration of a new category of entity which: i) owns and maintains or ii) operates non-BES inverter-based generating resources. Consistent with the original proposal, such owners and operators are a type of GO/GOP (now referred to as Category 2 GOs/GOPs).

i. Appendix 5B – GO and GOP Registry Criteria

Entity	Summary of Stakeholder Comments	Response
Invenergy	As currently drafted, the two new functional roles, Generator Owner-IBR and Generator Operator-IBR, may lead to confusion among other IBR facilities that already meet the registration criteria under Inclusion I4. Invenergy recommends renaming the two new functional roles to something that more clearly identifies the smaller nature of this particular class of IBR.	Thank you for this comment. NERC has improved the organization of its proposed in response to comments as discussed above in Sections 1 and 2.
Hydro-Québec	Appendix 5 B – Statement of Compliance Registry Criteria: NERC cites the ERO Enterprise BPS Resource Trends Task Force, Analysis of the Changing Mix of Generating Resources on the BPS (Feb. 2023), available as Attachment 2 of NERC's work plan filing as a business case for adding GO-IBR and GOP-IBR as new functions to the Registry Criteria. These functions would address registration of the entity that i) owns and maintains or ii) operates non-BES inverter-based generating resources that have an aggregate nameplate capacity of greater than or equal to 20 MVA delivering such capacity to a common point of connection at a voltage greater than or equal to 60 kV. However, Attachment 2 of the NERC work plan filing indicates a threshold of 100 kV: Creation of a new Functional Registration under Section 500 and Appendices 5A and 5B of the NERC Rules of Procedure (ROP) identified as Generator Owner – Inverter-Based Resource (GO-IBR) to include the owners of the following:	NERC will continue to provide cross references to previously published technical justification/support for its proposals in addition to the White Paper as filed in Docket No. RD22-4 and other proceedings in any material submitted to Governmental Authorities. *See, e.g.*, the Table of Cited NERC IBR Resources posted in FERC Docket No. RM22-12. NERC has also posted materials providing further explanation for the proposed thresholds on the NERC website at its Registration page. https://www.nerc.com/pa/comp/Pages/Registration.aspx NERC did consider whether to use a lower voltage threshold as flagged in the original Work Plan in Docket No. RD22-4. However, upon consideration of stakeholder feedback throughout 2023 and additional analysis by the ERO Enterprise in response, NERC determined that a 60 kV threshold would be a more just and reasonable result. Please see NERC August Work Plan update in Docket No. RD22-4 for additional discussion. NERC has not identified justification for regional thresholds at this time and believes that a North American-wide

Entity	Summary of Stakeholder Comments	Response
	• an IBR whose aggregate total capacity (i.e., gross nameplate rating) is less than or equal to 75 MVA and greater than or equal to 20 MVA and interconnected at a voltage of greater than or equal to 100 kV, and • an IBR whose aggregate total capacity (i.e., gross nameplate rating) is greater than or equal to 20 MVA and interconnected at a voltage less than 100 kV. We suggest that NERC provide links to the assessments, event reports and studies in which the determination of the 60 kV threshold is justified. The WECC Base Case Review: Inverter-Based Resources NERC-WECC Joint Report (August 2020) recommends a 60 kV threshold or higher, specified in the WECC Data Preparation Manual. If indeed, the 60 kV was determined from the findings of this joint report, this rational should be documented in the Summary of Changes as well as a footnote in Appendix 5B Registry Criteria, section IV. Furthermore, we question whether NERC should consider a regional threshold to be used with the objective of obtaining a percentage of IBR's subject to Reliability Standards. For instance, in Québec, the Hydro-Québec Open Access Transmission Tariff defines a Transmission System is constituted of Elements operated at 44 kV or more. Anything under this threshold would be considered as DERs. With the proposed 60 kV threshold, generating resources connected between 44 kV and 60 kV, however negligible, would be out of scope of any DER Reliability Standards that are developed.	approach, consistent with other registered functions, would lead to a more just and reasonable approach.

Entity	Summary of Stakeholder Comments	Response
Duke Energy	Duke Energy proposes the following single review comment for Appendix 5B – Statement of Compliance Registry Criteria, Revision #1 (NERC 5B Revision Document): - **Modify proposed NERC language from "voltage greater than or equal to (60 kV)" to "voltage greater than or equal to 40 kV".** Duke Energy believes 40 kV is justified for the following reason b. **1. IMPACT ON BPS – REGARDLESS OF SIZE AND TRANSMISSION OR SUB-TRANSMISSION VOLTAGE** FERC filing titled "Inverter Based Resources Work Plan Progress Update", dated August 16, 2023, Docket No. RD22-4-001, narrowing criteria Number 2 – Capacity Connected at 60 kV and Above (page 6) states: "NERC acknowledges that instituting a 60 kV threshold would slightly reduce the overall percentage of unregistered IBRs that will meet GO-IBR criteria." As stated, the declaration inherently recognizes that generation assets not included at a voltage of 40 kV and above would impact the reliable operation of the BPS. Additionally, Attachment 1 – NERC Work Plan Progress Update, Section II, August 16, 2023 (page 3) of this document states: "As the Commission concludes, 'events and disturbances have shown that IBRs, regardless of size and transmission or sub-transmission voltage, have a material impact on Bulk-Power System reliability'…", clearly indicating an overwhelming rationale to include 40 kV and above generation assets. Note that sites > 20 MVA are	Thank you for this comment. Please see response to Hydro-Québec in Section 3(i).

Entity	Summary of Stakeholder Comments	Response
	more likely to have greater impact on local loads served from 40 kV and above than those served 60 kV and ab–ve - ultimately providing better reliability to the BPS loads the standards are intended to protect. **2. 44 KV TRANSMISSION SYSTEM FACILITIES** FERC filing titled "Inverter Based Resources Work Plan Progress Update", dated August 16, 2023, Docket No. RD22-4-001, narrowing criteria Number 2 – Capacity Connected at 60 kV and Above (page 6) states: "ERO Enterprise analysis determined that a 60 kV threshold was appropriate, because it would ensure that non-BES IBRs which are material to BES reliability are subject to registration while excluding IBRs that are a part of the distribution system ("IBR-DER")." As stated, the language is fundamentally flawed as it ignores the realization that many 40 kV and above voltage lines are utilized as transmission facilities b. **3. NERC RELIABILITY STANDARD IMPACT** NERC Reliability Standards will not be wholly impacted relative to the proposed 40 kV criterion b. **4. MISCELLANEOUS RELIABILITY BENEFITS** FERC filing titled "Inverter Based Resources Work Plan Progress Update" – Attachmen– 1 - NERC Work Plan Progress Update, Section I, dated August 16, 2023, Docket No. RD22-4-001 (page 2) indicates that IBR total generation resources increased by 73 GW during the 2017-2021 time-period and greatly outpaced conventional fossil-fired and	

Entity	Summary of Stakeholder Comments	Response
	nuclear resources. With an IBR robust growth rate expected to continue, the 40 kV criterion will provide substantive reliability benefits relative to data sharing, modeling, ride-through, performance, reliability, and facility interconnections.	
United	United recommends that the definitions added to ROP Appendix 2 should also be added to the table in Appendix 5B in boxes separate from the Generator Owner and Generator Operator to maintain consistency between the two documents. As currently structured, the new registration entities are defined in Appendix 2 but not in the Functional Entity table in Appendix 5B. A separate listing for these entities in the Functional Entity table will provide better clarity to the difference between the Generator Owner – Inverter Based Resources and Generator Owners. United proposes separating the GOP-IBR and GO-IBR discussion below the table. Separating the discussion of these two registration types makes the document easier to read and understand. In addition, we recommend moving the footnote related to meeting the registration criteria for both the GOP and GOP-IBR or GO and GO-IBR into the main body of the text. Many readers pass over footnotes and will miss this important information	Thank you for this comment. NERC is updating the proposal as noted above. Please also see responses in Section 2(ii) above with regard to the NERC-led Registration Review Panel process.
TAPS	1. To achieve NERC's intent and avoid undercutting the GO/GOP definitions, the proposed GO/GOP-IBR categories should instead be structured as *independent* categories with broad definitions set	Thank you for these comments. NERC has improved the organization of its proposal as discussed above. This better reflects the proposed new entrants as a category of GO/GOPs.

Entity	Summary of Stakeholder Comments	Response
	out in Section II and registration thresholds contained in Section IV. 2. TAPS suggests revisions to proposed Section IV of the Registry Criteria to reduce the risk of conflicting interpretations of the thresholds: "non-BES [IBRs] that have an aggregate nameplate capacity of greater than or equal to 20 MVA, *connected through a system designed primarily for* delivering such capacity to a common point of connection at a voltage greater than or equal to 60 kV." 3. TAPS suggest revisions to make more explicit what NERC's intent regarding aggregate capacity at connect point: (1) capacity is aggregated separately for each connection point, and (2) only non-BES capacity is included in the aggregation, i.e., any synchronous and/or BES capacity does not count towards the 20 MVA threshold. 4. TAPS proposes clarifications to footnote 9: (1) replaces "IBRs that meet the BES threshold" with "*BES IBRs*," to account for the fact that the BES status of generation can be changed via the BES exceptions process and (2) adding "non-BES IBRs *meeting the criteria in Sec. IV and BES generation* will be registered as…" to clarify that only the non-BES IBRs that meet the thresholds in Section IV need to register.	Any future Reliability Standards work (whether a Glossary alignment project, Standard by Standard revision, or some other approach) would take place under the Standards Process Manual in accordance with Appendix 3A of the ROP as described above. This project is only related to the ROP Registry Criteria. Stakeholders would be able to participate in any Standards projects consistent with NERC's processes. In addition, NERC has incorporated TAPs comments regarding aggregate capacity connected through a system designed primarily for delivering such capacity at a common point of connection. The revised language better reflects the intent of the draft proposal. Also, NERC confirms that the proposal intends to aggregate capacity at each point of interconnection.
PineGate	To address these issues and the potential for over-regulation as well as to ensure that the ROP revisions to incorporate IBRs pursuant to the FERC directive referenced	Thank you for this comment. Please see responses above in Section 1 and Section 2(ii). NERC believes that the improved organization within the GO/GOP Registry Criteria will ensure clearer registration, avoid duplicative

Entity	Summary of Stakeholder Comments	Response
	above provide comparable due process, PGR propose the following: i) Amend/Revise the GO/GOP definitions as follows: (1) "Generator Operator" means the entity that operates and performs the functions of supplying energy and Interconnected Operations Services for BES genera□ng Facility(ies) or inverter-based resources connected at voltages greater than 60 MVA with a capacity greater than 20 MVA with a material impact on the reliability of the BES. (2) "Generator Owner" means an entity that owns and maintains BES generating Facility(ies) or inverter-based resources connected at voltages greater than 60 MVA with a capacity greater than 20 MVA. ii) Leave the current GO/GOP definitions as they are and engage a drafting team to explore the appropriate materiality criteria and modify the BES definition following identification of the materiality criteria. (1) At a minimum, the BES definition has specific criteria that begin with transmission elements at 100kV or above and are, then, amended with inclusions and exclusions. The definition of BPS appears to include BES facilities as a matter of course and, so, as proposed, the new GO-IBR and GOP-IBR registrations and the introduction of the BPS and "non-BES" terms is likely to create unnecessary confusion and ambiguity, especially where IBRs are aggregating to particular	registration, and also make eventual work on Reliability Standards revisions and subsequent compliance monitoring and enforcement activities clearer. In addition, NERC clarifies that it will handle compliance monitoring and enforcement for any new entrants the same way it does for other Registered Entities with multiple assets. NERC rules include several safeguards to avoid double jeopardy. For example, Section III.A.1.c of Appendix 5A of the ROP states that "An entity responsible for more than one function will use a single NERC ID." Further, the NERC Sanction Guidelines, found in Appendix 4B of the ROP, also documents ways to avoid potential double jeopardy concerns. The clarified structure reflected in the final posting and the existing provisions in NERC Sanction Guidelines should address any double jeopardy concerns.

Entity	Summary of Stakeholder Comments	Response
	Transmission Facilities, but are not mee□ng thresholds on their own characteristics, e.g., different ownership/opera□on. Leave the newly proposed GO/GOP definitions and engage a drafting team to develop the appropriate BPS criteria and definition as well as to develop the appropriate BPS materiality criteria and review processes. This is necessary to provide IBRs and IBR entities with a similar structure and consistency as the BES definition does to current registration efforts to the newly proposed registrations and use of BPS. Additionally, it is important to note that many of the new registrants and affected entities have not previously been subject to or engaged with NERC, the registration process, or standards development processes. Providing as much clarity as possible and removing ambiguity by providing these entities with the same level of information and processes as are afforded to far more experience BES entities would provide a level playing field, provide them with the opportunity to ramp up their knowledge, experience, and engagement, and ensure that the registration and any exception processes are focused and informed. The revisions to p. 3 and 4 of Appendix 5B create an overly broad applicability for registration that could reach far beyond IBRs or the currently proposed registration functions. The footnote does not appear sufficient to overcome the potential for conflict	

Entity	Summary of Stakeholder Comments	Response
	discussed herein and the revisions that present GO/GOP-IBRs as a subset of GO/GOP further illustrates the potential for confusion and risk discussed above, especially considering that the notes on p. 6 do not include the BPS criteria and may create inconsistencies between the definitions, and Appendices 5A and 5B. 2) The footnote additions to p. 6 give the appearance that entities that own both BES IBRs and non-BES IBRs will be subject to double jeopardy under both registrations if they ensure compliance through any enterprise-wide programs that would be applicable to IBRs as well as other resources this potential must be addressed.	
SEIA and ACP	Glossary of Terms iii) To address these issues and the potential for over-regulation as well as to ensure that the ROP revisions to incorporate IBRs pursuant to the FERC directive provide comparable due process, SEIA and ACP propose the following: (a) Amend/Revise the GO/GOP definitions as follows: (i) "Generator Operator" means the entity that operates and performs the functions of supplying energy and Interconnected Operations Services for BES generating Facility(ies) or inverter-based resources connected at voltages greater than 60 kV with a capacity greater than 20 MVA with a material impact on the reliability of the BES.	Thank you for this comment. Please see responses above in Sections 1(i), 2(ii), and 3(i).

Entity	Summary of Stakeholder Comments	Response
	(ii) "Generator Owner" means an entity that owns and maintains BES generating Facility(ies) or inverter-based resources connected at voltages greater than 60 kV with a capacity greater than 20 MVA. (b) Leave the current GO/GOP definitions as they are and engage a drafting team to explore the appropriate materiality criteria and modify the BES definition following identification of the materiality criteria. (i) At a minimum, the BES definition has specific criteria that begin with transmission elements at 100kV or above and are, then, amended with inclusions and exclusions. The definition of BPS appears to include BES facilities as a matter of course and, so, as proposed, the new GO-IBR and GOP-IBR registrations and the introduction of the BPS and "non-BES" terms is likely to create unnecessary confusion and ambiguity, especially where IBRs are aggregating to particular Transmission Facilities, but are not meeting thresholds on their own characteristics, e.g., different ownership/operation. (c) Leave the newly proposed GO/GOP definitions and engage a drafting team to develop the appropriate BPS criteria and definition as well as to develop the appropriate BPS materiality criteria and review processes. This is necessary to provide IBRs and IBR entities with a similar structure and consistency as the BES definition does to current registration efforts to the newly proposed registrations and use of BPS.	

Entity	Summary of Stakeholder Comments	Response
	Appendix 5B i) The revisions to p. 3 and 4 of Appendix 5B create a very broad applicability for registration that could reach far beyond IBRs or the currently proposed registration functions. The footnote does not appear sufficient to overcome the potential for conflict discussed herein and the revisions that present GO-IBR and GOP-IBR entities as a subset of GO/GOP further illustrates the potential for confusion and risk discussed above, especially considering that the notes on page 6 do not include the BPS criteria and may create inconsistencies between the definitions, and Appendices 5A and 5B. (ii) The footnote additions to page 6 give the appearance that entities that own both BES IBRs and non-BES IBRs will be subject to double jeopardy under both registrations if they ensure compliance through any enterprise-wide programs that would be applicable to IBRs as well as other resources this potential must be addressed.	

ii. Appendix 5B – Materiality

Entity	Summary of Stakeholder Comments	Response
NAGF	The registration criteria contemplate materiality impacts to the BPS while current standards apply to BES, with a few exceptions. It is not clear how the reduction in the interconnection voltage to 60kv and the reduction in the MW threshold (20MW) will not require a modification to the BES Definition. One approach would be to leave the current GO/GOP definitions as they are and engage a	Thank you for your comment. Please see responses above to Pine Gate, Arevon, AES, and SEIA / ACP in Section 2(ii) which also relate to availability of the NERC-led Registration Review Panel.

Entity	Summary of Stakeholder Comments	Response
	drafting team to explore the appropriate materiality criteria, in accordance with the FERC order, and modify the BES definition following the identification of the materiality criteria.	
AES	i) How will the modeling of these newly registered resources be reconciled with existing modeling practices – including the modeling of conventional resources within the same interconnection voltage level and with the same capacity? ii) How will the NERC team ensure that only those non-BES GO-IBR and GOP-IBR are considered for registration that have material impact to the BPS per the risk identified by NERC. Proposed revisions to Determination of Materiality: (1) Is the potential GO-IBR and/or GOP-IBR facility specifically identified in the emergency operation plans and/or restoration plans of an associated Reliability Coordinator, Balancing Authority, Generator Operator or Transmission Operator? (2) Will intentional or inadvertent removal of an Element owned or operated by the potential GO-IBR and/or GOP-IBR facility , operated as part of the facility, or a common mode failure of two Elements as identified in the Reliability Standards (for example, loss of two Elements as a result of a breaker failure), *cause an Adverse Reliability Impact, Consequential Load Loss, or declaration of a Balancing Contingency Event, Capacity Emergency, Disturbance, or BES Emergency on the interconnected entity or to the BES?*(such as a neighboring entity's Element	Please see responses above to Pine Gate, Arevon, AES, and SEIA / ACP in Section 2(i) and (ii), as well as responses to SEIA, ACP, and TAPS in Section 1(i) and 3(i) regarding Reliability Standards development. NERC notes that certain other comments here appear to pertain to a potential claim for lack of materiality which are outside the scope of this proceeding.

Entity	Summary of Stakeholder Comments	Response
	exceeding an applicable rating, or loss of non-consequential load due to a single contingency)? Conversely, will such contingencies on a neighboring entity's system result in issues for Reliability Standards compliance on the system of the entity in question? (3) Can the misoperation or malicious use of the potential GO-IBR and/or GOP-IBR facility cyber assets *cause an Adverse Reliability Impact, Consequential Load Loss, or declaration of a Balancing Contingency Event, Capacity Emergency, Disturbance, or BES Emergency on or by* an associated Balancing Authority, Generator Operator or Transmission Operator? (4) Can the misoperation or malicious use of potential GO-IBR and/or GOP-IBR facility/entity's Protection Systems (including UFLS, UVLS, Special Protection System, Remedial Action Schemes and other Protection Systems protecting BES Facilities) cause a*n Adverse Reliability Impact, Consequential Load Loss, or declaration of a Balancing Contingency Event, Capacity Emergency, Disturbance, or BES Emergency on or by* an associated BES facilities operated by Balancing Authority, Generator Operator or Transmission Operator, or the automatic load shedding programs of a PC or TP (UFLS, UVLS)?	
Arevon	NERC's analysis indicates that unregistered non-BES IBRs in aggregate of 20MVA or higher and connected at 60kv or higher will materially impact the reliability of the BPS – however, is this based on any technical studies, criteria, or input from RCs, BAs, TOPs, or TPs? A simple brightline criteria (20 MW and connected to 60kv or higher) may not necessarily imply that those facilities will materially impact	Please see responses above to Pine Gate, Arevon, AES, and SEIA / ACP in Section 2(i) and (ii). In addition, please see response above to Hydro-Québec regarding the interconnection threshold in Section 3(i).

Entity	Summary of Stakeholder Comments	Response
	the BPS. A more objective approach would be to consider the following (these are examples only, and do not preclude all such criteria): • Is the potential GO-IBR facility part of an emergency operation plan or restoration plan of a RC, BA, TOP? • Does the removal or outage of the potential GO-IBR facility cause an operating condition that requires immediate or emergent action? • Would it result in a Capacity Emergency, BES Emergency etc.? Is the facility part of a solutions that alleviates a specific operating condition, such as a transmission constraint, IROL violation, etc.?	
PineGate	PGR respectfully requests that NERC reconsider the establishment of bright-line criteria to define materiality. The FERC directive required that IBRs that are determined to be material should be registered. The act of interconnecting a single IBR between 20 and 75 MVA to the BPS alone does not connote the potential for a material, aggregate impact. Several other, important considerations must be evaluated, e.g., IBR penetration within the balancing authority area, demonstrated performance of essential reliability services, dispatchability, electrical location, anticipated contribution to reliability entity processes or operating plans, etc. For these reasons, the application of bright line criteria is unlikely to achieve the reliability and security objectives identified by FERC. Moreover, such application will assign additional costs to IBRs that skew their competitiveness in both market and non-market areas. a)	Please see responses above to Pine Gate, Arevon, AES, and SEIA / ACP in Section 2(i) and (ii), as well as the response to Hydro-Québec in Section 3(i). As discussed above, NERC's proposal is consistent with FERC directives in Docket No. RD22-4, and reflects the ERO Enterprise determination of the level of non-BES, BPS connected, IBRs which in aggregate could materially affect reliability of the BES. The matters raised here appear to pertain to a potential request for review of materiality in a NERC-led Registration Review Panel.

Entity	Summary of Stakeholder Comments	Response
SEIA and ACP	Appendix 5A iv) We are highly concerned that NERC's proposal to register all IBR generators in the 20-75 MVA range, instead of only registering resources that have an aggregate, material impact on the reliable operation of the BPS, is counter to FERC's directive in the November 17 Order and reiterated in the May 18 Order.6 In particular, FERC's May 18 Order states that "Therefore, as NERC continues to refine its proposal through its stakeholder process, we expect NERC to consider and address outstanding issues concerning whether the proposed registration threshold reflects the Commission's directive to register IBRs that 'in the aggregate, have a material impact on the reliable operation of the Bulk Power System.'" 1) NERC's Work Plan bases its proposal to register all IBRs in the 20-75 MVA range based on the claim that "these resources and their owners have a material aggregate impact on reliability of the BES." While it may be true that some BPS connected IBRs have a material aggregate impact on reliability of the BES, it is also clear that not all IBRs have or can have a material aggregate impact on reliability of the BES. For example, in a region with little installed capacity of IBRs, it is extremely unlikely that those resources could have a material aggregate impact on reliability of the BES. The Commission made this clear in its November 17 Order, which notes that reliability concerns from IBRs only exist in certain parts of the grid: "in certain areas of the Bulk-Power System the IBR saturation is significant enough that their	Thank you for this comment. Please see response to PineGate above in Section 3(ii) cross referencing responses above to Pine Gate, Arevon, AES, and SEIA / ACP in Section 2(i) and (ii), as well as the response to Hydro-Québec in Section 3(i) .

Entity	Summary of Stakeholder Comments	Response
	operations can materially impact Bulk-Power System reliability." Similarly, most new IBR resources now use equipment and settings that ensure that they ride through grid disturbances and avoid reliability concerns that were observed in past events. However, NERC's Work Plan would register all of those resources, even though some of them clearly do not and cannot have a material aggregate impact on reliability. (2) Giving NERC 24 months from approval of the Work Plan to complete the identification task confirms that FERC intended for NERC to conduct in-depth analysis to identify which unregistered IBRs have an aggregate material impact on reliability. FERC would not have given NERC 24 months after approval of the Work Plan to complete a task that NERC's Work Plan already completed[8] by simply proposing to register all BPS-connected IBR resources. (3) We offer some thoughts on potential methods for making the determination of which unregistered IBR resources can have an aggregate material impact on reliability. A region's aggregate capacity of IBRs that are likely to concurrently fail to ride through a grid disturbance due to common control equipment and settings is likely the main determinant of their material impact on reliability, as any uncorrelated behavior of these smaller resources would likely be too small to materially affect reliability. A reasonable criteria for "material impact" would be if the aggregate impact from the loss of IBR resources that are unlikely to successfully	

Entity	Summary of Stakeholder Comments	Response
	ride-through a disturbance (based on factors including those resources' historical performance and information about their control technology and settings) is expected to be greater than the single largest contingency planned for in transmission planning and operating reserve practices. (4) NERC's approach to identifying and registering resources should distinguish between IBR resources that are likely to ride through a grid disturbance and those that are not based on their control equipment and settings, and only include the latter if their aggregate size in a region is large enough to have a material impact on reliability. A voluntary data collection effort for unregistered IBRs could play an important role in informing NERC's identification of resources that can have an aggregate material impact on reliability. While NERC may have limited authority to require data collection from unregistered IBRs, many owners and operators of those resources would likely be willing to voluntarily provide NERC with information that demonstrates they will ride through grid disturbances, particularly if providing that information enables them to avoid the costly and burdensome requirements associated with NERC registration and compliance. (5) A voluntary data collection process could also incentivize resources that have not yet updated control settings to ride through grid disturbances to do so, consistent with the recommendations in multiple NERC reports and guidelines. Data collected by NERC, as well as the real-world performance of	

Entity	Summary of Stakeholder Comments	Response
	IBR resources during grid disturbances, show that many IBR resources have equipment and settings that allow them to successfully ride through disturbances. A smaller share have equipment that can be set to allow those resources to ride through disturbances, but those settings are not yet correctly enabled. A voluntary data collection process that informs which resources would be subject to NERC registration and compliance requirements would provide a powerful incentive for those resources to update their settings. Only a small share of resources have older equipment with control settings that cannot be readily updated, and in many cases that equipment would need to be replaced to enable ride through. As noted below, enabling ride-through at those plants by replacing that equipment is likely to be cost-prohibitive and not necessary to ensure reliability. NERC's Level 2 Alert requesting extensive data from IBR solar and storage generators about their installed inverter equipment and its settings.[9] While that Alert only applies to solar and storage resources that are part of the BES and thus are already registered with NERC, a similar voluntary data collection effort could be targeted at unregistered IBRs. Responses to NERC's Alert were due by June 30, 2023. NERC should use the information it received from the responses to that Alert to inform estimates of the size of the aggregation of IBR resources in each region that are likely to fail to ride-through and thus could have a material impact on reliability, and incorporate that	

Entity	Summary of Stakeholder Comments	Response
	into its identification and registration plan. That data on registered IBR resources will likely reveal that in many regions, the aggregation of all IBR resources (including both registered and unregistered IBRs) for which performance is either unknown or known to be problematic is not large enough to pose a material risk to reliability. Being able to exclude all 20-75 MVA IBR resources in those regions from NERC registration and compliance would save considerable effort that, per that demonstration, would have no material benefit for reliability. v) the FERC directive required that IBRs that are determined to be material should be registered. However, NERC's proposal hews to the current BES materiality process and does not apply a materiality threshold consistent with these assets and entities being defined as "BPS" or "non-BES." Appendix 5A should be revised to ensure that GO-IBR and GOP-IBR entities have appropriate and similar due process rights as current registrations and BES Facilities and have their materiality determination applied on the appropriate criteria and level. Some proposed criteria are provided below for illustrative purposes, subject to the identification, development, and implementation of appropriate BPS-focused processes: (1) Is the entity or, relative to an IBR, the facility specifically identified in the emergency operation plans and/or restoration plans of an associated Reliability Coordinator, Balancing Authority, Generator Operator or Transmission Operator? (2) Will intentional or inadvertent removal of an Element owned or operated by the entity or, relative to an IBR,	

Entity	Summary of Stakeholder Comments	Response
	operated as part of the facility, or a common mode failure of two Elements as identified in the Reliability Standards (for example, loss of two Elements as a result of a breaker failure), lead to an Adverse Reliability Impact, Consequential Load Loss, or declaration of a Balancing Contingency Event, Capacity Emergency, Disturbance, or BES Emergency on the interconnected entity or another entity's system? (such as a neighboring entity's Element exceeding an applicable rating, or loss of nonconsequential load due to a single contingency)? Conversely, will such contingencies on a neighboring entity's system result in issues for Reliability Standards compliance on the system of the entity in question? (3) Can the misoperation or malicious use of the entity's or, relative to an IBR, the facility's cyber assets lead to an Adverse Reliability Impact, Consequential Load Loss, or declaration of a Balancing Contingency Event, Capacity Emergency, Disturbance, or BES Emergency on or by an associated Balancing Authority, Generator Operator or Transmission Operator? (4) Can the misoperation or malicious use of the entity's or, relative to an IBR, the facility's Protection Systems (including UFLS, UVLS, Special Protection System, Remedial Action Schemes and other Protection Systems protecting BES Facilities) an Adverse Reliability Impact, Consequential Load Loss, or declaration of a Balancing Contingency Event, Capacity Emergency, Disturbance, or BES Emergency on or by an associated Balancing Authority, Generator Operator or Transmission Operator, or the automatic load shedding programs of a PC or TP (UFLS, UVLS)?	

4. Other Comments –

i. Governance

Entity	Summary of Stakeholder Comments	Response
United	United is concerned that NERC has not recommended one or more new voting segments for the NERC Ballot Body. While United recognizes that the GO-IBR and GOP-IBR entities qualify for the Generator segment as currently structured, it seems these entities may be significantly different than the existing GO and GOP entities. These differences are likely similar to the differences seen in the existing segments Transmission Owners (Segment 1), Regional Transmission Organizations (RTOs) and Independent System Operators (ISOs) (Segment 2), and Transmission Dependent Utilities (TDUs) (Segment 4). With the creation of the new registration entities, United recommends that NERC add Segment 11 – Non-BES Inverter Based Resources to the voting structure. This would allow NERC and its Standard Drafting Teams to better identify the specific issues of concern related to proposed standards being raised by the non-BES generators. Without the separation from BES Generators, there is a potential that one group of Generators will have issues that are not adequately identified during the drafting team efforts due to the number of comments provided by other entities. Currently, the Generator voting segment is the second largest number of voters, just 7 members less than the largest segment. With the new registration types, it is conceivable that the voting segment could increase significantly. In order for Standard Drafting Teams to identify issues that differ between large generators to small	This comment is outside the scope of revisions to the Registry Criteria, however, NERC appreciates these comments and has shared this feedback. NERC plans to continue engaging and informing candidates for registration under the proposed Registry Criteria to support their transition and participation in the NERC Standards Development Process.

Entity	Summary of Stakeholder Comments	Response
	generators, the non-BES IBR generation entities must be separated in the ballot process.	
AES	AES recommends creating a new Segment for GO-IBR and GOP-IBR in the Registered Ballot Body to encourage commenting and balloting on new Standards that will be specifically written for IBRs. This will also allow a fairer process in the development of new or revised Standards specifically addressing IBRs.	See response to United above in Section 4(i).
Averon	Currently, there aren't enough IBR stakeholders who are participating within the NERC stakeholder process, yet the RoP changes, as well as all other IBR-related initiatives have implications for all those unregistered non-BES IBRs. While there is the opportunity for commenting on Reliability Standards in development for the industry, it might be a moot point if IBRs are looped in the same segment as other generating facilities, simply because those other generating facilities may not care about IBR-related revisions to Reliability Standards. It seems logical that NERC create a separate segment in the Standards and Balloting System (SBS) for IBRs to ensure appropriate entities review and vote on IBR-related Standards under development. Along the same lines, NERC should review and revise the current Members Representative Committee (MRC) structure to ensure IBRs have a separate sector, which will enable NERC and NERC Board of Trustees (BOT) to hear concerns and perspectives from the IBR community. It appears MRC currently has sub-teams that are working on assessing and potentially revising MRC structure, yet there is no consideration given to either creating a new sector or	See response to United above in Section 4(i).

Entity	Summary of Stakeholder Comments	Response
	ensuring in some other way that IBRs can objectively participate within the MRC. It is also crucial for NERC to bring in inverter manufacturers to the table because most often IBR owners and operators are at the mercy of inverter manufacturers to make necessary modifications either for compliance or operational purposes. Having a separate sector dedicated to IBRs is one way to bring inverter manufacturers to the table.	
PineGate	PGR remains concerned about ensuring that there is adequate representation and stakeholder input in this RoP revision and promulgation process as well as future standards and committee processes. In particular, PGR is concerned that the significant impacts and changes that are going to result from these RoP revisions and future standards development processes would result from the findings of forums in which GO/GOP-IBR entities currently have little to no dedicated representation and limited opportunity to participate. Many of the entities that would become subject to registration and future reliability standards are not currently NERC members and may not follow NERC-related developments and postings. For these reasons, PGR suggests that NERC redouble its efforts to ensure that clean energy industry representation within its processes is commensurate with the new focus on and registration of IBRs	See response to United above in Section 4(i).

ii. Impact on Reliability Standards

Entity	Summary of Stakeholder Comments	Response
SPP	We recommend that NERC legal staff coordinates with the NERC Standards Development team to structure language to ensure that the proposed terms be included NERC Glossary of Terms. Again, from our perspective, this effort will help with the consistency of the alignment of both documents in reference to the proposed definitions.	Thank you for this comment. As discussed above with regard to future Reliability Standards work, NERC legal will coordinate with the Reliability Standards team.
AES	a. How will new IBRs be differentiated in the current set of reliability standards? Will there be one big standards revision effort to adjust the applicability sec□on of each proposed standard? b. How does NERC plan to address varying technical capabilities of legacy IBRs that may not be able to be retrofitted or for which retrofitting would be prohibitively expensive? c. Considering the size of GO-IBR and GOP-IBR, some of the current NERC Standard expectations could be difficult to comply with for these resources. How does NERC plan on addressing these challenges? AES recommends that all NERC Standard related changes are discussed with appropriate industry stakeholder group who are associated with IBRs.	NERC legal has shared these comments and looks forward to working with stakeholders on initiatives to update Reliability Standards to further address needs associated with IBRs.
NAGF	Need to consider how the new IBR registrations will be differentiated when standards apply to both GO/GOP and GO-IBR/GOP-IBR registrations. If an entity is both GO and GO-IBR, need to address the potential for "double jeopardy" under both registrations, especially for entities that register each particular asset as its own NCR#.	Thank you for this comment. Please see responses above to Pine Gate, Arevon, AES, and SEIA / ACP in Section 2(ii), as well as in response to Pine Gate in Section 3(i) regarding compliance monitoring and enforcement.

Entity	Summary of Stakeholder Comments	Response
Arevon	How will these new entities be equitably subject to compliance and enforcement when all existing risk based CMEP processes are based on risk to the BES. For example, how will a RE conduct an Inherent Risk Assessment of a potential GO-IBR who has one 26MVA IBR connected at 66kv and issue a Compliance Oversight Plan (COP) specific to that entity? It appears that NERC has already made the risk assessment as high because this entity will materially impact the reliability of the BPS. What kind of audit schedule would these potential new entities be on, given current GO and GOP registrations are on a 5 or 6-year schedule depending on which RE they are in. Has NERC considered an implementation plan for the newly registered entities as such entities may not even be aware of this effort, let alone having relevant staff to handle compliance with applicable Reliability Standards. How would NERC and REs ensure that entities that own both BES IBRs and non-BES IBRs will not be subject to a potential double-jeopardy in the enforcement process when entities may use same processes, procedures, and internal controls to manage both their BES IBRs and non-BES IBRs?	Please see responses above to Pine Gate, Arevon, AES, and SEIA / ACP in Section 2(ii), as well as the response to Pine Gate in Section 3(i) regarding compliance monitoring and enforcement.
PineGate	1) Given that: (a) the Glossary of Terms Used in NERC Reliability Standards (Glossary) and Appendix 2 typically mirror each other, (b) the Glossary is the definitional reference guide for the Reliability Standards generally, and (c) there are revisions to the reliability standards contemplated in FERC Order 901, PGR requests that NERC	Thank you for this comment. See response to Arevon immediately above in this Section 4(ii). Please also see response to Pine Gate in Section 3(i) regarding compliance monitoring and enforcement. Finally, NERC confirms that it is updating its software to support integration of new entrants if the proposed Registry Criteria are approved.

Entity	Summary of Stakeholder Comments	Response
	to clarify whether attendant/consistent revisions to the Glossary will also be undertaken. 2) Giving due consideration to the foundational aspects that Appendix 2 and the Glossary add to the RoP and reliability standards, PGR is concerned that, as proposed, there is not a clear definition of what qualifies as an inverter-based resource and that the newly defined terms for Generator Owner-IBRs (GO-IBR) and Generator Operator – IBRs (GOP-IBR) may create ambiguity and confusion in the registration, compliance, and enforcement processes. In particular, we provide the following comments regarding the newly proposed definitions for GOP-IBR and GO-IBR: a) PGR suggests that NERC also propose/add a definition of "inverter-based resource." WE understand that certain projects are proposing new definitions concurrent with those standards, but PGR suggests that the need for a definition goes beyond individual standards' efforts. To address this concern, PGR suggests the following as a possible definition: A generating facility that have a power electronic device, e.g., an inverter, between the ac grid and the source of electricity. PGR observes potential implementation concerns regarding the newly proposed registrations where an entity has assets that are 75 MVA or greater and that are within the 20 to 75 MVA criteria. a) How will new IBR registrations be differentiated in practice, process, and the existing ERO tools, e.g.,	

Entity	Summary of Stakeholder Comments	Response
	CORES, ALIGN, etc., where standards apply to both GO/GOP and GO-IBR/GOP-IBR (by facility? By entity?)? How will these entities be equitably subject to compliance and enforcement processes when the existing risk definitions and CMEP processes and criteria are also geared toward BES criteria and materiality? The footnote additions to page 6 give the appearance that entities that own both BES IBRs and non-BES IBRs will be subject to double jeopardy under both registrations if they ensure compliance through any enterprise-wide programs that would be applicable to IBRs as well as other resources this potential must be addressed	
SEIA and ACP	vi) (2) Appendix 5A ii) In addition, as indicated in our initial set of comments, the creation of these new registrations that are not subsets of the existing registrations creates a high potential for confusion and ambiguity. SEIA and ACP request that NERC provide the following clarifications. (1) How will new IBR registrations be differentiated where standards apply to both GO/GOP and GO-IBR/GOP-IBR (by facility? by entity?), especially during the compliance and enforcement processes where there is a potential for "double jeopardy," e.g., in a	Please see response to Averon above in Section 4(ii).

Entity	Summary of Stakeholder Comments	Response
	common program for multiple facilities for an entity that is both registration types? (2) How will entities with both registration types (GO/GOP and GO-IBR/GOPIBR) be managed from a registration perspective, e.g., will CORES, etc. be updated to "select" the new registration type? If an entity was already a GO/GOP, will it need to add the GO-IBR for smaller facilities, or will they just fall under your existing registration? (3) Will entity registration move from a true entity basis to an asset basis?	

iii. Coordination

Entity	Summary of Stakeholder Comments	Response
NAGF	Industry stakeholder input and participation from entities that own/operate non-BES IBR facilities is key to the success of the NERC IBR workplan. The NAGF is available to partner with NERC to reach out to potential new GO/GOP-IBR entities and work with them to develop their compliance program for the applicable NERC Reliability Standards.	NERC appreciates the support and will work with the NAGF to identify and register candidates.
SEIA and ACP	Appendix 5B iii) SEIA and ACP reiterate our concerns regarding adequate representation and stakeholder input from the new registration and urges NERC to ensure that its ancillary and supporting processes are appropriately reviewed and revised to incorporate the new registration.	NERC plans to continue engaging and informing candidates for registration under the proposed Registry Criteria on NERC processes and how to get involved in the Registered Ballot Body and Reliability Standards Development Process.

iv. BES

Entity	Summary of Stakeholder Comments	Response
AES	The Bulk Electric System (BES) definition has specific criteria that begin with transmission elements at 100kV or above and are, then, amended with inclusions and exclusions. Inclusions I2and I4 are both still dependent upon a connection at 100kV or above. Exclusion 1 would also seem to be applicable to certain IBRs intended for inclusion. It is unclear how the reduction in the interconnection voltage and the reduction in overall MW threshold will not require a modification to the BES definition? Another example includes, in the GO-IBR and GOP-IBR RoP redline, there is a focus on 20 MVA or above generation at the common point of connection. Currently, any generation below 20MVA has a potential to aggregate to 20 MVA at the interconnecting substation. The GOs and GOPs may not have visibility if this generation is aggregating to 20 MVA or above at TO's substation as owners of GO-IBR and GOP-IBR do not have visibility into voltage/bus configuration at TO's substation. It is not clear if this generation will be considered as GO-IBR and GOP-IBR.	As discussed above, BES modification is not within the scope of this project, however, any such considerations would be part of Reliability Standards work. In addition, NERC is revising the redlines with suggested language from TAPS to clarify that nameplate capacity is aggregated separately for each connection point in the same manner that nameplate capacity is aggregated for purposes of BES status under Inclusion I4.

v. Guidance

Entity	Summary of Stakeholder Comments	Response
NAGF	Consider publishing guidance, similar to the NERC BES Definition Reference Document, that would provide figures depicting diagram examples guidance to support consistent application and interpretation of GO-IBR & GOP-IBR definitions where it pertains to aggregation and addresses	NERC plans to develop guidance to address technical aspects of the updated Registry Criteria for GOs/GOPs.

Entity	Summary of Stakeholder Comments	Response
	how these definitions apply where the IBR sites are owned by different registered entities.	

vi. Impact on Legacy IBRs

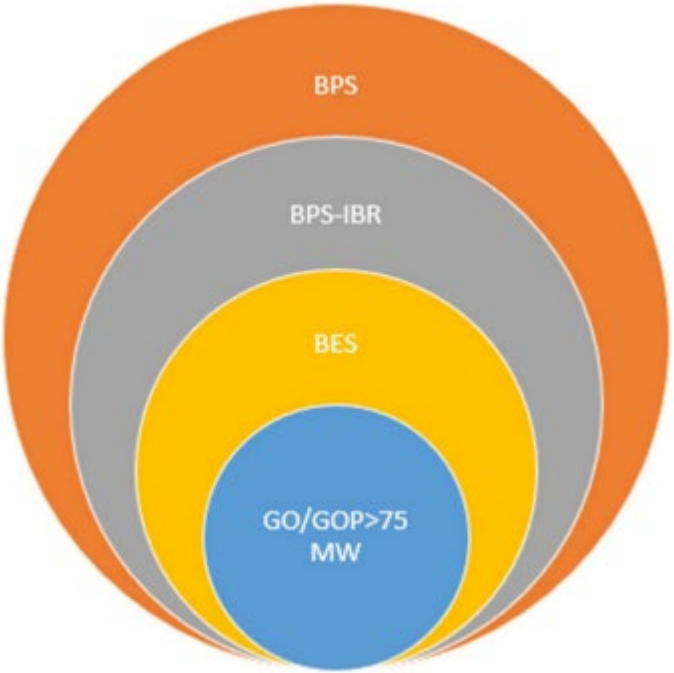
Entity	Summary of Stakeholder Comments	Response
PineGate	PGR respectfully requests that NERC consider how it intends to address the potential stranding of legacy IBR assets that cannot meet certain new requirements. IBRs are typically anticipated to have a 40-year life and IBRs have already been interconnected for some me now. Older assets may contain older technology that limits its ability to be enhanced or modified as new reliability standards and requirements become applicable. Also, the costs of such additions or modifications may also limit smaller assets or entities' ability to comply with newly applicable reliability standards or requirements. Where such limitations exist, the asset may be "stranded." Given the resource adequacy concerns that have been identified in different areas of the BES across the different seasons, the stranding of IBR assets may result in a "swap" of one reliability concern for another. For these reasons, PGR suggests that NERC consider limiting the stranding of IBR assets through the introduction of a Technical Feasibility Exception-like process in addition to a cost recovery model such as is suggested above.	These comments are outside the scope of this proceeding. NERC reiterates its recommendation that potential new entrants participate in the Reliability Standards Development process, which is where concerns about specific equipment would be addressed by subject matter experts.
SEIA and ACP	Appendix 5A vii) There may be a significant likelihood for the stranding of legacy IBR assets that cannot meet certain new requirements. As well, significant, additional compliance and equipment-related costs on small assets would	Thank you for this comment. Please see response to PineGate above in Section 4(vi).

Entity	Summary of Stakeholder Comments	Response
	exacerbate this likelihood by expanding its applicability further. (1) How is NERC considering that and the potential for impact of stranded IBR assets due to reduced competitiveness to the overall retirement and reduced capacity trends being seen across the interconnections? How will exclusions or TFE type reviews be conducted when processes have not been updated to address materiality from the BOS perspective? viii) How does NERC plan to address varying technical capabilities and legacy IBRs that may not be able to be retrofitted or for which retrofitting would be prohibitively expensive? SEIA and ACP suggest a TFE-like exception process.	

vii. Anti-competitive/ discrimination

Entity	Summary of Stakeholder Comments	Response
PineGate	FERC's directive does not preclude NERC from exercising its discretion to propose and request approval of new registrations that are fuel/ resource neutral so long as those also address the registration of IBRs. Our review of Energy Informa□on Administra□on (EIA) data reveals that conventional resources with Nameplate between 20 MVA and 75 MVA exceed IBRs three-to-one in both number and aggregate capacity. Thus, the new definitions, as proposed, create resource/fuel neutrality and competition concerns for IBR entities. To address both the reliability of grid operations and the inequitable market burden on IBRs, we recommend that NERC pursue a regulatory framework and registration strategy that would address all	Thank you for this comment. The FERC Order directs NERC to address the risk posed by unregistered IBRs in expediated fashion. Conventional resources are outside the scope of FERC's directive and this effort, however, conventional resources meeting Inclusion I2 of the BES definition will continue to be the subject of NERC Reliability Standards. NERC will continue to consider the impact of all resources on the reliability to the BPS as it continues to account for the evolution of the resource mix.

Entity	Summary of Stakeholder Comments	Response
	resources within the target 20 MVA and 75MVA range. I) Differentiating IBRs from more traditional resources increases costs for IBRs significantly, introducing the potential for reduced competitiveness between comparably-sized. If the determination by NERC is to proceed with the current, proposed registration, then PGR suggests that they include in their filing a recommendation that the Commission address the potential anti-competitive effects through a proposal that would allow IBRs to be compensated for their additional costs. A model that could be used is the ISO-NE's IROL-CIP compensation recovery model (OATT Schedule 17). Similar to the newly identified IBRs: (1) The Facility has no control or influence over the designation. (2) Compliance is not optional. (3) Other non-BES fuel sources of comparable size do not have to meet NERC compliance requirements. (4) Prior FERC orders have confirmed that market participants should have a viable path to cost recovery for mandated costs. (a) *See* FERC Order 672, paragraph 259. (i) "Pursuant to section 1241 of EPAct, the Commission will allow recovery of all costs prudently incurred to comply with the Reliability Standards." (b) No such path currently exists for the newly designated IBRs.	Please see also NERC ROP Section 303 to see how NERC is required to approach market structures. NERC will continue to comport with the rules reflected therein.
SEIA and ACP	Glossary of Terms ii) To illustrate this, below, is a representation of how the categories or registrations, as proposed, may interact.	Thank you for this comment. Please see response to PineGate immediately above in Section 4(vi), as well as responses regarding the thresholds established in accordance with ERO Enterprise research and stakeholder feedback as discussed in Sections 2 and 3 above.

Entity	Summary of Stakeholder Comments	Response
	 Based on this analysis, there appears to be the potential that BPS-IBRs could be subject to even greater regulation than BES-IBRs or BES traditional generation. As well, this classification system appears to provide significant opportunity for the additional "inclusion" of IBRs at levels below the those identified in Appendix 5B without materiality criteria or evaluation processes that are consistent with the system size being applied, e.g., BPS v. BES. This affects not only the current processes, but the appropriate recognition of IBR entities' due process rights. Due process rights for materiality reviews and exclusion requests currently afforded to BES generation is based on the definition being applied to those assets and Facilities.	

Entity	Summary of Stakeholder Comments	Response
	IBR entities should have properly designed and structured due process frameworks that are consistent with the definition being applied to their assets and facilities. As there is not an associated, established BPS criteria nor is there an established inclusion/exclusion process for IBR entities proposed, the definitions for GO-IBR and GOP-IBR should not be promulgated as proposed. iv) The new definitions, as proposed, create resource/fuel neutrality and competition concerns for IBR entities. The "FERC Order IBR Registration-Redacted Public Version.pdf" presentation seems to acknowledge that the number of IBR resources in the target range is still dwarfed by the number of conventional resources. Our review of Energy Information Administration (EIA) data reveals that, between 20 MW and 75 MW, there are 3,894 generating resources with an aggregate capacity of approximately 168,335 MW. Of those, 2,924 are conventional generation with an aggregate capacity of approximately 127,806 MW and 945 are IBRs with an aggregate capacity of approximately 39,618 MW. Based on this data, conventional resources with nameplate capacity between 20 MW and 75 MW exceed IBRs three-to-one in both number and aggregate capacity. Given the small number of IBRs generally and in comparison to conventional resources within the same MW range, SEIA and ACP recommend that NERC pursue a regulatory framework and registration strategy that would address all resources within the target MW range. This is critical as differentiating IBRs within a particular set of criteria from more traditional resources increases costs for IBRs significantly, introducing the potential for reduced	

Entity	Summary of Stakeholder Comments	Response
	competitiveness between comparably-sized conventional generation and IBRs within the MW target range. SEIA and ACP request that NERC address how the proposal respects the Market Interface Principles including that no market participant should be given an unfair competitive advantage. Appendix 5A vii) (2) The cost-effectiveness analysis process (CEAP) seems to have been reduced to a single SAR question and a single ballot question. Given the outsized impact several new requirements and registration will have on IBRs for which financial modeling and analysis did not include these additional costs/expenditures, it is suggested that the CEAP be revamped to ensure that a more thorough assessment is conducted relative to this registration initiative and the requirement identification process. Does NERC intend to enhance CEAP to address these impacts to IBRs, the potential for IBR asset stranding, potential anti-competitive impacts to IBRs, and "right-sizing" standard applicability?	

viii. Support for the proposed ROP revisions

Entity	Summary of Stakeholder Comments	Response
FirstEnergy	FE has no concerns with the proposed language with what we have reviewed of this version. FirstEnergy expects that if there are any changes to the definitions, we will be offered the opportunity to comment.	Thank you for your feedback.
AEP	AEP supports the proposed revision to Appendices 2, 5A, and 5B of the NERC Rules of Procedure (ROP) to create the	Thank you for your feedback and support.

Entity	Summary of Stakeholder Comments	Response
	new registration types of Generator Owner—Inverter Based Resource (GO-IBR) and Generator Operator—Inverter Based Resource (GOP-IBR). This allows for certain requirements to be developed that are specific to IBRs versus synchronous generation. Additionally, NERC set the attributes (> 20 MVA at >60kV) of GO-IBR and GOP-IBR at a level that will allow for the inclusion of IBR generation at a level similar to traditional synchronous generation. As such, AEP supports the proposed changes to the ROP.	
BPA	BPA thanks NERC for the opportunity to comment and supports the proposed revisions.	Thank you for your feedback and support.
NRECA	The Cooperative Sector appreciates the opportunity to review and provide comments on the proposed changes to the NERC Rules of Procedure (RoP). Cooperatives support the proposed changes to the NERC RoP. Specifically, regarding the proposed revisions associated with Inverter Based Resources, Cooperatives believe this is the first step in the process to capture/register those Generator Owners and Operators that meet the proposed criteria. The implementation of the registration is going to be onerous for NERC and the Regional Entities. Knowing this, Cooperatives are eager and willing to engage with the ERO in developing a manageable process to identify the applicable Generator Owners and Operators. Please feel free to reach out to me on behalf of the Cooperative Sector if you have any questions or need my help in soliciting Cooperative volunteers to support the	Thank you for your feedback and support. NERC looks forward to continuing to work with the Cooperative Sector to integrate potential new registrants.

Entity	Summary of Stakeholder Comments	Response
	next steps in the identification or implementation of the IBR Registration activities.	

NERC
NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION

Exhibit E

Comments and Consideration of Comments