Comment Report

Project Name:	2023-01 EOP-004 IBR Event Reporting | SAR
Comment Period Start Date:	2/7/2023
Comment Period End Date:	3/8/2023
Associated Ballots:	

There were 30 sets of responses, including comments from approximately 108 different people from approximately 84 companies representing 10 of the Industry Segments as shown in the table on the following pages.

Questions

1. Do you agree with the proposed scope as described in the SAR? If you do not agree, or if you agree but have comments or suggestions for the project scope, please provide your recommendation and explanation.

2. Provide any additional comments for the SAR drafting team to consider, if desired.

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
Tacoma Public Utilities (Tacoma, WA)	Jennie Wike	1,3,4,5,6	WECC	Tacoma Power	Jennie Wike	Tacoma Public Utilities	1,3,4,5,6	WECC
					John Merrell	Tacoma Public Utilities (Tacoma, WA)	1	WECC
					Marc Donaldson	Tacoma Public Utilities (Tacoma, WA)	3	WECC
					Hien Ho	Tacoma Public Utilities (Tacoma, WA)	4	WECC
					Terry Gifford	Tacoma Public Utilities (Tacoma, WA)	6	WECC
					Ozan Ferrin	Tacoma Public Utilities (Tacoma, WA)	5	WECC
MRO	Jou Yang	1,2,3,4,5,6	MRO	MRO NSRF	Bobbi Welch	Midcontinent ISO, Inc.	2	MRO
					Chris Bills	City of Independence, Power and Light Department	5	MRO
					Fred Meyer	Algonquin Power Co.	3	MRO
					Jamie Monette	Allete - Minnesota Power, Inc.	1	MRO
					Christopher Bills	City of Independence Power & Light	3,5	MRO
					Larry Heckert	Alliant Energy Corporation Services, Inc.	4	MRO
					Marc Gomez	Southwestern Power Administration	1	MRO
					Matthew Harward	Southwest Power Pool, Inc. (RTO)	2	MRO

					Bryan Sherrow	Board of Public Utilities	1	MRO
					Terry Harbour	Berkshire Hathaway Energy - MidAmerican Energy Co.	1	MRO
					Terry Harbour	MidAmerican Energy Company	1,3	MRO
					Jamison Cawley	Nebraska Public Power District	1,3,5	MRO
					Seth Shoemaker	Muscatine Power & Water	1,3,5,6	MRO
					Michael Brytowski	Great River Energy	1,3,5,6	MRO
					Shonda McCain	Omaha Public Power District	6	MRO
					George E Brown	Pattern Operators LP	5	MRO
					George Brown	Acciona Energy USA	5	MRO
					Jaimin Patel	Saskatchewan Power Cooperation	1	MRO
					Kimberly Bentley	Western Area Power Administration	1,6	MRO
					Jay Sethi	Manitoba Hydro	1,3,5,6	MRO
					Michael Ayotte	ITC Holdings	1	MRO
Entergy	Julie Hall	1,3,6		Entergy	Oliver Burke	Entergy - Entergy Services, Inc.	1	SERC
					Jamie Prater	Entergy	5	SERC
Electric Reliability Council of Texas, Inc.	Kennedy Meier	2		IRC SRC	Bobbi Welch	Midcontinent ISO, Inc.	2	NA - Not Applicable
					Darcy O'Connell	California ISO	2	WECC
					Gregory Campoli	New York Independent System Operator	2	NPCC

					Harishkumar Subramani Vijay Kumar	Independent Electricity System Operator	2	NPCC
					John Pearson	ISO New England, Inc.	2	NPCC
					Kennedy Meier	Electric Reliability Council of Texas, Inc.	2	Texas RE
					Matthew Harward	Southwest Power Pool, Inc. (RTO)	2	NA - Not Applicable
					Thomas Foster	PJM Interconnection, L.L.C.	2	RF
FirstEnergy - FirstEnergy Corporation	Mark Garza	1,3,4,5,6		FE Voter	Julie Severino	FirstEnergy - FirstEnergy Corporation	1	RF
					Aaron Ghodooshim	FirstEnergy - FirstEnergy Corporation	3	RF
					Robert Loy	FirstEnergy - FirstEnergy Solutions	5	RF
					Mark Garza	FirstEnergy- FirstEnergy	1,3,4,5,6	RF
					Stacey Sheehan	FirstEnergy - FirstEnergy Corporation	6	RF
Southern Company - Southern Company Services, Inc.	Pamela Frazier	1,3,5,7	MRO,RF,SERC,Texas RE,WECC	Southern Company	Matt Carden	Southern Company - Southern Company Services, Inc.	1	SERC
					Joel Dembowski	Southern Company - Alabama Power Company	3	SERC
					Jim Howell, Jr.	Southern Company - Southern Company Generation	5	SERC
					Ron Carlsen	Southern Company - Southern	6	SERC

						Company Generation		
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	NPCC RSC	Gerry Dunbar	Northeast Power Coordinating Council	10	NPCC
					Sheraz Majid	Hydro One Networks, Inc.	1	NPCC
					Deidre Altobell	Con Edison	1	NPCC
					Jeffrey Streifling	NB Power Corporation	1	NPCC
					Michele Tondalo	United Illuminating Co.	1	NPCC
					Chantal Mazza	Hydro Quebec	1	NPCC
					Stephanie Ullah-Mazzuca	Orange and Rockland	1	NPCC
					Quintin Lee	Eversource Energy	1	NPCC
					Michael Ridolfino	Central Hudson Gas & Electric Corp.	1	NPCC
					Dan Kopin	Vermont Electric Power Company	1	NPCC
					James Grant	NYISO	2	NPCC
					John Pearson	ISO New England, Inc.	2	NPCC
					Harishkumar Subramani Vijay Kumar	Independent Electricity System Operator	2	NPCC
					Nicolas Turcotte	Hydro-Qu?bec TransEnergie	1	NPCC
					Randy MacDonald	New Brunswick Power Corporation	2	NPCC
					Dermot Smyth	Con Ed - Consolidated Edison Co. of New York	1	NPCC
					David Burke	Orange and Rockland	3	NPCC
					Peter Yost	Con Ed - Consolidated	3	NPCC

						Edison Co. of New York		
					Salvatore Spagnolo	New York Power Authority	1	NPCC
					Sean Bodkin	Dominion - Dominion Resources, Inc.	6	NPCC
					David Kwan	Ontario Power Generation	4	NPCC
					Silvia Mitchell	NextEra Energy - Florida Power and Light Co.	1	NPCC
					Glen Smith	Entergy Services	4	NPCC
					Sean Cavote	PSEG	4	NPCC
					Jason Chandler	Con Edison	5	NPCC
					Tracy MacNicoll	Utility Services	5	NPCC
					Shivaz Chopra	New York Power Authority	6	NPCC
					Vijay Puran	New York State Department of Public Service	6	NPCC
					ALAN ADAMSON	New York State Reliability Council	10	NPCC
					David Kiguel	Independent	7	NPCC
					Joel Charlebois	AESI	7	NPCC
Southwest Power Pool, Inc. (RTO)	Shannon Mickens	2	MRO,SPP RE,WECC	SPP RTO	Shannon Mickens	Southwest Power Pool Inc.	2	MRO
					Bryan Wood	Southwest Power Pool Inc	2	MRO
					Brian Strickland	Southwest Power Pool Inc	2	MRO
					Derek Hawkins	Southwest Power Pool Inc.	2	MRO
					Margaret Quispe	Southwest Power Pool Inc.	2	MRO
					Mia Wilson	Southwest Power Pool Inc.	2	MRO

1. Do you agree with the proposed scope as described in the SAR? If you do not agree, or if you agree but have comments or suggestions for the project scope, please provide your recommendation and explanation.

Andy Fuhrman - Minnkota Power Cooperative Inc. - 1,5 - MRO

Answer	No
Document Name	

Comment

MPC supports comments submitted by the MRO NERC Standards Review Forum.

Likes 0	
Dislikes 0	

Response

Jou Yang - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer	No
Document Name	

Comment

The MRO NSRF believes the scope of the SAR should be limited to only the Bulk Electrical System (BES). Bulk power system (BPS) is not defined well and all references to BPS should be removed from the SAR. Both MVA (or MW) and voltage thresholds need to be applied for consistency and clarity in a zero-defect NERC standards environment.

Likes 0	
Dislikes 0	

Response

Andy Thomas - Duke Energy - 1,3,5,6 - SERC,RF

Answer	No
Document Name	

Comment

Recommend: (1) An additional row related to inverter-based resource loss events be added to Attachment 1 with corresponding reporting requirements listed for differences in their performance compared with synchronous generation, and (2) A Total Generation reporting threshold value of, within (a) one minute, of (b) ≥ 1,000 MW in the Eastern and Western Interconnects.

Likes 0	

Dislikes 0	

Response

Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	No
Document Name	

Comment

The NAGF does not support the proposed project scope as written and provides the following comments for consideration:

a. The purpose of EOP-004-4 is "*To improve the reliability of the Bulk Electric System by requiring the reporting of events by Responsible Entities*." Therefore, recommend that the proposed SAR project scope language be revised to replace the term "inverter-based resources" with "BES inverter-based resources" to help clarify those inverter-based resources to be addressed under EOP-004-4 Attachment 1 modifications.

b. The NAGF recommends defining "loss" events for BES inverter-based resources to be focused on reductions in facility output for reporting rather than trying to determine the underlying cause (e.g., momentary cessation, delayed power recovery, and ramp rate interactions). The exact cause for facility reductions will not be available until in-depth analysis is performed and the event report can be amended with the additional information at a later date.

c. The NAGF believes that aggregating reductions in facility output by generation resource type and setting MW loss thresholds accordingly will eliminate the need to develop additional criteria based on the number of affected facilities for reporting.

d. The last sentence of the Project Scope section specifically references battery energy storage resources. Recommend that the sentence be revised as follows:

"*To ensure clarity, BAs should report "generation loss" events of applicable sizes that are inclusive of any abnormal resource losses by BES solar PV, wind, battery energy storage systems and hybrid plants."*

Likes 0	
Dislikes 0	

Response

David Jendras Sr - Ameren - Ameren Services - 1,3,6	
Answer	No
Document Name	

Comment

Ameren supports NAGF comments. Ameren agrees that there should be more clarity around wht IBRs are applicable under EOP-004. Ameren also agrees that it should be clear what a "loss"is for IBRS.

Likes 0	

Dislikes 0	

Response

Harishkumar Subramani Vijay Kumar - Independent Electricity System Operator - 2	
Answer	No
Document Name	

Comment
The IESO supports a separate line item for IBR loss events would be preferable. Given that RCs and BAs may not always be able to detect an event or determine whether an event meets the EOP-004 Attachment 1 thresholds within the EOP-004 reporting timeline, the IESO recommends that the SDT of this project coordinate with the SDT for Performance of IBRs and determine well defined reporting parameters for the RC, BA and IBR owner/operator. It may be that IBR owners/operators are best suited to provide this information to NERC. we support the IRC SRC comments.

Likes 0	
Dislikes 0	

Response

Lori Frisk - Allete - Minnesota Power, Inc. - 1 - MRO	
Answer	No
Document Name	

Comment
Minnesota Power supports MRO’s NERC Standards Review Forum’s (NSRF) comments.

Likes 0	
Dislikes 0	

Response

Marcus Sabo - International Transmission Company Holdings Corporation - NA - Not Applicable - MRO,RF	
Answer	No
Document Name	

Comment

ITC supports NSRF's comment form response.

Likes 0	
Dislikes 0	

Response

Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - MRO,WECC, Group Name SPP RTO

Answer	No
Document Name	

Comment

SPP RTO has a concern about the direction of the Standard Authorization Request (SAR) when it comes to reporting “generator loss” in reference to Inverter Base Resources (IBRs). The concern is focused around the proposed language suggesting that this type of reporting provides value to the BA in the process of maintaining the reliability of the grid. From our perspective, this language doesn’t provide sufficient additional reliability support to the BA when it comes to reporting the “generation loss” for an IBR in real-time. Additionally, our initial evaluation of the SAR has created another concern in reference to compliance risks for the BA via this process.

However, we understand that ERO needs the data to produce accurate disturbance reports when it comes to IBR events. In the case that IRPS feels that the IBR data collection is a pertinent step, we recommend that the IRPS considers structuring language suggesting that IBR events (regardless of the MW threshold) be reported on a quarterly basis comparable to the Disturbance Control Standard (DCS) reporting process.

Likes 0	
Dislikes 0	

Response

Kennedy Meier - Electric Reliability Council of Texas, Inc. - 2, Group Name IRC SRC

Answer	No
Document Name	2023-01_Unofficial_Comment_Form_SAR_IRC SRC_03-08-23_Final.pdf

Comment

The ISO/RTO Council's Standard Review Committee (SRC) suggests several enhancements for the “Project Scope” of the SAR (pages 2-3).

If EOP-004 is to be revised to require event reporting for inverter-based resource (IBR) losses, then the SRC disagrees with revising the “generation loss” Event Type row to include IBRs, as the first bullet in the project scope proposes as one option, since that row does not distinguish between generation types. The SRC agrees that a separate line item for IBR loss events would be preferable.

The project scope should also specify that the revisions to Attachment 1 for IBRs will clearly delineate how to measure whether a disturbance has occurred and the magnitude of the disturbance in megawatts, including whether the measurement should find the minimum point of the aggregation of

multiple facilities' SCADA measurements or find the minimum point on a per-facility basis before aggregating the measurements. The choice between these two approaches can significantly impact the results of the calculation of the total loss of generation in megawatts caused by an event.

The reporting obligations should also specify how to determine the calculation time frame to perform the aggregation calculations. Since SCADA systems only update every 4 – 10 seconds, the chosen methodology should also account for disturbances that occur within the span of 2 – 3 seconds or less. Some reductions may occur instantaneously as a natural response to the disturbance and recover within 1 – 2 seconds. Other disturbances result in reductions that do not recover for several seconds or multiple minutes. Properly defining the window of time will result in consistent application of EOP-004. NERC should recognize and account for the limitations of SCADA data; these limitations mean that RCs and BAs may not always be able to detect an event or determine whether an event meets the EOP-004 Attachment 1 thresholds within the EOP-004 reporting timeline, and should not be found non-compliant for revising the reported magnitude of an IBR loss event after performing additional analysis of the event, or for failing to report an event that is only detected by subsequent analysis of data that has a higher resolution than SCADA can provide.

The second bullet (on pages 2-3) in the project scope should also be removed or revised to ensure RCs and BAs are not required to provide information such as whether an IBR experienced "momentary cessation, delayed power recovery, [or] unexpected ramp rate interactions," as RCs and BAs would generally lack immediate access to that type of information within the defined reporting period. The IRC expects that this information would need to be provided by the relevant GO or GOP for the IBR as part of an event analysis. The SRC recommends that page 5 of the SAR include a reference to the work being done by the Project 2023-02 Performance of IBRs standards drafting team, as Project 2023-02 may develop reporting requirements for "momentary cessation, delayed power recovery, [or] unexpected ramp rate interactions."

The project scope should also specify that any new or revised reporting obligations relating to category 1j in the NERC Event Analysis Process will indicate whether they apply to DC tie imports or DC tie exports, since a DC tie effectively functions as a system load when it is exporting energy and as a generation resource when it is importing energy.

Likes 0	
Dislikes 0	

Response

Dennis Chastain - Tennessee Valley Authority - 1,3,5,6 - SERC

Answer	Yes
Document Name	

Comment

We suggest that language be added to the SAR to recognize and accommodate the continued use of the U.S. Department of Energy's (DOE) Form DOE-417, for entities that are required to submit it, for the dual purpose of meeting NERC's EOP-004 event reporting requirements. This could require coordination with the DOE to ensure the reporting forms stay aligned.

Likes 0	
Dislikes 0	

Response

Jennie Wike - Tacoma Public Utilities (Tacoma, WA) - 1,3,4,5,6 - WECC, Group Name Tacoma Power	
Answer	Yes
Document Name	
Comment	
Tacoma Power is concerned that depending on the how the EOP-004 reporting criteria for generation loss is written, it could significantly increase the reporting burden for all generation types, while simultaneously not collecting the data needed to address the concerns for IBR resources. Tacoma Power recommends that when drafting the EOP-004 revision, the SDT consider whether lowering the reporting threshold for all generation types is necessary.	
Likes 0	
Dislikes 0	
Response	
Thomas Foltz - AEP - 3,5,6	
Answer	Yes
Document Name	
Comment	
AEP supports the scope as proposed in the draft SAR but offers the following feedback and concerns regarding any obligations that would eventually be drafted. Any obligations to issue reports should be solely that of the Balancing Authority, and non-BA Functional Entities should not be held accountable (say, in providing data necessary for a report) unless there is a separate, explicit obligation(s) to do so. Similarly, those non-BA Functional Entities should not be held accountable to somehow provide any data that they do not possess. In addition, such obligations should be drafted from the perspective of the BA reaching out to their data sources as-needed, rather than the non-BA data sources somehow being proactively required to provide data to the BA.	
Likes 0	
Dislikes 0	
Response	
Julie Hall - Entergy - 1,3,6, Group Name Entergy	
Answer	Yes
Document Name	
Comment	
We agree with the scope but recommend that non-BES IBRs are not included.	

Likes 0	
Dislikes 0	

Response

Rachel Coyne - Texas Reliability Entity, Inc. - 10

Answer	Yes
Document Name	

Comment

Texas RE appreciates the IRPS proposal to revise EOP-004 and agrees with the scope of the SAR, given the two generation loss events in Odessa, Texas involving inverter-based resources.

Texas RE noticed the link to the IRPS whitepaper in footnote 3 does not appear to be working.

Texas RE recommends the drafting team consider the following in the Event Analysis process categorization as revises EOP-004:

- Adjust categorization of 1a, as it does not appear to account for inverter-based resources;
- Review Category 1g if the levels are decided for reporting in EOP-004 exceed or change the limits;
- Specifically note inverter-based resources in Category 5b, since they are specifically noted in Categories 3a and 4a; and
- Include clarifications on thresholds for events that occur across Adjacent Balancing Authorities in the scope.

Likes 0	
Dislikes 0	

Response

Carl Pineault - Hydro-Qu?bec Production - 1,5

Answer	Yes
Document Name	

Comment

No comments

Likes 0	
Dislikes 0	

Response	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 1,3,4,5,6, Group Name FE Voter	
Answer	Yes
Document Name	
Comment	
FirstEnergy supports EEI comments, which state: EEI does not object to modifying EOP-004-4, Attachment 1 to enhance IBR reporting. That said, the existing standard can reasonably be read to be inclusive of all generation losses in total, including IBRs.	
Likes 0	
Dislikes 0	
Response	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	Yes
Document Name	
Comment	
EEI does not object to modifying EOP-004-4, Attachment 1 to enhance IBR reporting. That said, the existing standard can reasonably be read to be inclusive of all generation losses in total, including IBRs.	
Likes 0	
Dislikes 0	
Response	
Anna Todd - Southern Indiana Gas and Electric Co. - 1,3,5,6 - RF	
Answer	Yes
Document Name	
Comment	
Southern Indiana Gas and Electric Company d/b/a CenterPoint Energy Indiana South (SIGE) would like to thank the SAR Standards Drafting Team for the opportunity to provide feedback on Project 2023-01 EOP-004 IBR Event Reporting. SIGE agrees with the proposed scope of the SAR and supports the comments submitted by the EEI.	
Likes 0	

Dislikes 0	
Response	
Alison MacKellar - Constellation - 5,6	
Answer	Yes
Document Name	
Comment	
Constellation Energy Generation (CEG) appreciates the need for collective generation resource loss reporting to improve BPS reliability. CEG agrees that the impacted entity should be the Balancing Authority (BA). Individual IBRs do not have visibility to other generation resources that may or may not have experienced loss of generation. Therefore, area wide accounting of generation losses is best determined and reported by the BA. Alison Mackellar on behalf of Constellation Segments 5 and 6	
Likes 0	
Dislikes 0	
Response	
Lindsey Mannion - ReliabilityFirst - 10	
Answer	Yes
Document Name	
Comment	
Comments have been provided in response to Question 2.	
Likes 0	
Dislikes 0	
Response	
Michelle Amarantos - APS - Arizona Public Service Co. - 1,3,5,6	
Answer	Yes
Document Name	
Comment	

APS does not object to modifying EOP-004-4, Attachment 1 to enhance IBR reporting, but we suggest that the current generator loss criteria is already inclusive of all generation losses in total, including IBRs.

However, we also recognize that IBRs, given their small size and propensity for undesirable performance when subjected to system disturbances that often do not affect non-IBR resources similarly, have resulted in under-reporting of events that if unchecked will result in greater impacts to BPS reliability over time. For this reason, we suggest a more targeted approach that addresses the current concern and ensure consistency with NERC Event Categories 1i and 1j. The proposed changes to the first bullet in the Project Scope section of the SAR are below. Additions are reflected in bold and removals are reflected in italics.

- Modify Attachment 1 to *either revise the "Generation loss"* **add a new event type** *row to be* **that requires the reporting of a non-consequential interruptions of** *inclusive for* inverter-based resources, **or a dc tie between two separate asynchronous systems** *or add an additional row related to inverter-based resource loss events and clarify the existing row* **loaded to or aggregated to levels of 500MW within the Eastern, Western, ERCOT or Quebec Interconnections**.

Likes 0	
Dislikes 0	

Response

Daniel Gacek - Exelon - 1,3

Answer	Yes
Document Name	

Comment

Exelon agrees with the comments submitted by the EEI.

Likes 0	
Dislikes 0	

Response

Kimberly Turco - Constellation - 5,6

Answer	Yes
Document Name	

Comment

Constellation Energy Generation (CEG) appreciates the need for collective generation resource loss reporting to improve BPS reliability. CEG agrees that the impacted entity should be the Balancing Authority (BA). Individual IBRs do not have visibility to other generation resources that may or may not have experienced loss of generation. Therefore, area wide accounting of generation losses is best determined and reported by the BA.

Kimberly Turco on behalf of Constellation Segments 5 and 6

Likes 0	
Dislikes 0	

Response

Pamela Frazier - Southern Company - Southern Company Services, Inc. - 1,3,5,7 - MRO,WECC,Texas RE,SERC,RF, Group Name Southern Company

Answer	Yes
Document Name	

Comment

Southern Company Supports EEI comments.

Likes 0	
Dislikes 0	

Response

Gul Khan - Oncor Electric Delivery - 1 - Texas RE

Answer	Yes
Document Name	

Comment

Likes 0	
Dislikes 0	

Response

Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC

Answer	Yes
Document Name	

Comment

Likes 0	
Dislikes 0	

Response

Casey Perry - PNM Resources - Public Service Company of New Mexico - 1,3 - WECC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC RSC	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Teresa Krabe - Lower Colorado River Authority - 1,5	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	

2. Provide any additional comments for the SAR drafting team to consider, if desired.

Kennedy Meier - Electric Reliability Council of Texas, Inc. - 2, Group Name IRC SRC	
Answer	
Document Name	

Comment

Any reporting obligations should be limited to data that is available via SCADA, as RCs and BAs do not typically have access to the higher-resolution data available to Generator Owners, and cannot obtain that data within the reporting timeframe established by EOP-004. Higher-resolution data is also not needed to accomplish the overall objective of the project, namely, timely alerting that an event has occurred so that information collection can begin as quickly as possible.

On page 5, the SAR asks: “Are there any related standards or SARs that should be assessed for impact as a result of this proposed project? If so, which standard(s) or project number(s)?” The SRC recommends the SAR drafting team expand the response to this question to include coordination of posting and voting timelines with the Project 2023-02 Performance of IBRs standards drafting team, as Project 2023-02 may develop reporting requirements for “momentary cessation, delayed power recovery, [or] unexpected ramp rate interactions” as envisioned in the 2nd bullet under Project Scope (on pages 2-3). The SAR drafting team should also consider whether it would be worthwhile to either consolidate this SAR with the Project 2023-02 SAR under a single project or appoint the same drafting team for both projects.

The SAR also references the work that SPIDERWG is performing relating to EOP-004 and Distributed Energy Resources (DERs). However, RCs and BAs often do not currently receive the telemetry data from DERs necessary for detection and EOP-004 reporting of events, and the high-resolution data needed for subsequent event analysis may not be collected or recorded by resource owners; consequently, work regarding DER telemetry and data collection and recording will need to be completed before DER-related EOP-004 reporting will be technically feasible. Even if telemetered output and status information for DERs becomes readily available, RCs and BAs often do not have the situational awareness of disturbances or faults occurring on the distribution system necessary for accurate detection, reporting, and analysis of DER-related events.

Likes 0	
Dislikes 0	

Response

Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - MRO,WECC, Group Name SPP RTO	
Answer	
Document Name	

Comment

SPP recommends that both EOP-004-4 drafting teams (IRPS and SPIDERWG) work together to help ensure that all issues are addressed in reference to IBRs and DERs event reporting.

Furthermore, we recommend that the IRPS consider developing a white paper (similar to the System Planning Impacts from Distributed Energy Resources Working Group (SPIDERWG) Document). For clarity, the SPIDERWG white paper provides detailed findings pertaining to the review of NERC Reliability Standards and makes recommendations for actions that should be taken to address identified issues pertaining to DERs. Finally, we recommend that the drafting team work closely with NERC legal staff to remove the Functional Model term from the language of all SARs. The document is no longer relavent due to the NERC Standards Committee (SC) reducing it to a training document due to maintence concerns of the document. From our perspective, this creates confusion across the industry because the document is still mentioned in various NERC resourecs, however, the relevance of the document has changed.	
Likes 0	
Dislikes 0	
Response	
Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC RSC	
Answer	
Document Name	
Comment	
NPCC RSC supports the project.	
Likes 0	
Dislikes 0	
Response	
Pamela Frazier - Southern Company - Southern Company Services, Inc. - 1,3,5,7 - MRO,WECC,Texas RE,SERC,RF, Group Name Southern Company	
Answer	
Document Name	
Comment	
none	
Likes 0	
Dislikes 0	
Response	
Kimberly Turco - Constellation - 5,6	
Answer	

Document Name	
Comment	
Generation losses due to open breakers are immediately known and reported through BA reporting tools (eDART, CROW, etc.). Breaker open reporting also includes GADS designations for categorization (probably a better word than categorization). A large percentage of IBR facilities are unmanned and may not be aware of generation losses at levels that will be proposed as reportable by the SDT. Generation loss due to momentary losses, then followed by restoration of generation when the inverters/controllers recover may go undetected by the IBR facility without something prompting an analysis. The BA is better situated to be aware of wide are generation losses. Kimberly Turco on behalf of Constellation Segments 5 and 6	
Likes 0	
Dislikes 0	
Response	
Marcus Sabo - International Transmission Company Holdings Corporation - NA - Not Applicable - MRO,RF	
Answer	
Document Name	
Comment	
ITC supports NSRF's comment form response.	
Likes 0	
Dislikes 0	
Response	
Lori Frisk - Allete - Minnesota Power, Inc. - 1 - MRO	
Answer	
Document Name	
Comment	
Minnesota Power supports MRO’s NERC Standards Review Forum’s (NSRF) comments.	
Likes 0	
Dislikes 0	
Response	

Harishkumar Subramani Vijay Kumar - Independent Electricity System Operator - 2	
Answer	
Document Name	
Comment	

We recommend that NERC reconsider delaying this project until the development and implementation of the reliability standard for Performance of IBRs. This will allow IBR owners/operators to become experienced with identifying and analyzing and reporting on clearly defined events.

we support the IRC SRC comments.

Likes 0	
Dislikes 0	
Response	

Lindsey Mannion - ReliabilityFirst - 10	
Answer	
Document Name	
Comment	

Consideration should be given to ensuring events involving generation loss between multiple BAs are adequately identified and reported. Coordination may be required between the BAs, or perhaps the RC could assume some responsibility. Ideally, the aggregate amount of reduction across BAs should be used while evaluating MW thresholds.

It may also be beneficial to consider thresholds for reporting Generation loss beyond a MW value of reduction in output. Consideration could be given to the simultaneous (or within one minute) loss, momentary cessation, or unplanned reduction of generation and/or dispersed power producing resources that do not connect to a single BES bus, where “BES bus” is carries the same meaning as in PRC-002 Attachment 1 – “a single BES bus includes physical buses with breakers connected at the same voltage level within the same physical location sharing a common ground grid. These buses may be modeled or represented by a single node in fault studies. For example, ring bus or breaker-and-a-half bus configurations are considered to be a single bus.”

It may be most effective to create a new Event Type rather than attempting to expand the existing “Generator loss” Event Type to account for IBRs. IBR generation loss events may be more likely involve multiple BAs than events involving the loss of traditional synchronous generation. Explicit consideration may need to be given to generator type (synchronous or IBR) and possibly also location (IBR penetration levels) in revising EOP-004 Attachment 1.

Additionally, we note that if revisions or additions to Event Type names are made in Attachment 1, the Attachment 2 Event Reporting Form will need to be revised accordingly.

Lastly, it appears this SAR intends Project 2023-01 to work within the existing BES definition and registration criteria. However, coordination may be required between any Project 2023-01 Standard Drafting Team and the Electric Reliability Organization’s efforts in response to FERC’s Order under Docket RD22-4-000, which directed NERC to develop a work plan to identify and register owners and operators of IBRs connected to the BPS that are not currently included in the BES definition but have an aggregate, material impact on the reliability operation of the BPS.

Likes 0	
Dislikes 0	
Response	
Alison MacKellar - Constellation - 5,6	
Answer	
Document Name	
Comment	
Generation losses due to open breakers are immediately known and reported through BA reporting tools (eDART, CROW, etc.). Breaker open reporting also includes GADS designations for categorization (probably a better word than categorization). A large percentage of IBR facilities are unmanned and may not be aware of generation losses at levels that will be proposed as reportable by the SDT. Generation loss due to momentary losses, then followed by restoration of generation when the inverters/controllers recover may go undetected by the IBR facility without something prompting an analysis. The BA is better situated to be aware of wide are generation losses. Alison Mackellar on behalf of Constellation Segments 5 and 6	
Likes 0	
Dislikes 0	
Response	
Anna Todd - Southern Indiana Gas and Electric Co. - 1,3,5,6 - RF	
Answer	
Document Name	
Comment	
N/A	
Likes 0	
Dislikes 0	
Response	
Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	
Document Name	
Comment	

The NAGF provides the following comments for consideration:

a. General Comments:

i. The NAGF supports aligning EOP-004 revisions with the NERC Event Analysis Process and working with the U.S. Department of Energy regarding updates to the DOE-417 forum.

ii. The NAGF recommends that NERC consider consolidating the EOP-004 Event Reporting and NERC Event Analysis Process to simplify reporting requirements for registered entities.

iii. The NAGF recommends that the draft SAR include provisions for a Phase 2 to address reporting of newly registered IBR assets in response to the FERC Order E-1-RD22-4000: Registration of Inverter-Based Resources

b. Detailed Description section: the NAGF recommends that the following sentence be deleted:

"Number of affected facilities may be a useful indicator of possible systemic reliability issues and may provide faint signals to larger reliability issues that could occur in the future if not mitigated."

This statement is very vague and apparently unlikely as it contemplates some issue which is characterized by "possible" if indicated by "faint" signals which are not certain ("could") to occur. Speculative futuristic conditions should not be the basis for developing/modifying reliability standards. Definite, real world, facts should be the basis for standard development projects.

c. Cost Impact Assessment section: the NAGF believes that there could be a significant cost impact to GOs/GOPs if additional data requested by the BA or RC includes items that are not accessible through existing disturbance monitoring/IBR equipment. The cost to install disturbance monitoring equipment or modify existing equipment to have such data available would be significant (per the IRPTF PRC-002 SAR, the cost of a disturbance monitoring hardware is approximately $50k - $100k per installation). The NAGF recommends that 2023-01 project team coordinate closely with the Project 2021-04 SDT to ensure data requested by BA/RC shall only be applicable to those IBR sites that are identified under the planned PRC-002 changes.

Likes 0	
Dislikes 0	

Response

Mark Garza - FirstEnergy - FirstEnergy Corporation - 1,3,4,5,6, Group Name FE Voter

Answer	
Document Name	

Comment

N/A

Likes 0	
Dislikes 0	

Response

Andy Thomas - Duke Energy - 1,3,5,6 - SERC,RF	
Answer	
Document Name	
Comment	
Clarify that: (1) Inverter-based resource loss events for BES sites only will be included in the aggregate total generation loss, and (2) That 75 MVA or greater generation sites will be included in the aggregate total generation loss.	
Likes 0	
Dislikes 0	
Response	
Carl Pineault - Hydro-Qu?bec Production - 1,5	
Answer	
Document Name	
Comment	
No comments	
Likes 0	
Dislikes 0	
Response	
Andy Fuhrman - Minnkota Power Cooperative Inc. - 1,5 - MRO	
Answer	
Document Name	
Comment	
MPC supports comments submitted by the MRO NERC Standards Review Forum.	
Likes 0	
Dislikes 0	
Response	
Jou Yang - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF	
Answer	

Document Name	Additional.PNG
Comment	
See attachment for comments	
Likes 0	
Dislikes 0	
Response	