

Consideration of Comments

Project Name: 2021-01 Modifications to MOD-025 and PRC-019 | Standard Authorization Request

Comment Period Start Date: 5/28/2024

Comment Period End Date: 6/28/2024

There were 37 sets of responses, including comments from approximately 103 different people from approximately 65 companies representing 10 of the Industry Segments as shown in the table on the following pages.

All comments submitted can be reviewed in their original format on the [project page](#).

If you feel that your comment has been overlooked, let us know immediately. Our goal is to give every comment serious consideration in this process. If you feel there has been an error or omission, contact Manager of Standards Information, [Nasheema Santos](#) (via email) or at (404) 446-2564.

Questions

1. Are there any areas of concern that duplicative coverage or competing expectations would occur, if so, what are these areas the team should be aware of when drafting?
2. Provide any additional comments for the drafting team to consider, if desired.

The Industry Segments are:

- 1 — Transmission Owners
- 2 — RTOs, ISOs
- 3 — Load-serving Entities
- 4 — Transmission-dependent Utilities
- 5 — Electric Generators
- 6 — Electricity Brokers, Aggregators, and Marketers
- 7 — Large Electricity End Users
- 8 — Small Electricity End Users
- 9 — Federal, State, Provincial Regulatory or other Government Entities
- 10 — Regional Reliability Organizations, Regional Entities

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
Southwest Power Pool, Inc. (RTO)	Charles Yeung	2	MRO,SPP RE,WECC	SRC 2024	Charles Yeung	SPP	2	MRO
					Ali Miremadi	CAISO	1	WECC
					Helen Lainis	IESO	1	NPCC
					Bobbi Welch	Midcontinent ISO, Inc.	2	MRO
					Greg Campoli	NYISO	1	NPCC
					Elizabeth Davis	PJM	2	RF
					Kennedy Meier	Electric Reliability Council of Texas, Inc.	2	Texas RE
					Matt Goldberg	ISO New England	2	NPCC
Entergy	Julie Hall	1,3,6		Entergy	Oliver Burke	Entergy - Entergy Services, Inc.	1	SERC
					Jamie Prater	Entergy	5	SERC
FirstEnergy - FirstEnergy Corporation	Mark Garza	1,4,5,6		FE Voter	Julie Severino	FirstEnergy - FirstEnergy Corporation	1	RF
					Aaron Ghodooshim	FirstEnergy - FirstEnergy Corporation	3	RF

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Robert Loy	FirstEnergy - FirstEnergy Solutions	5	RF
					Mark Garza	FirstEnergy-FirstEnergy	1,3,4,5,6	RF
					Stacey Sheehan	FirstEnergy - FirstEnergy Corporation	6	RF
DTE Energy - Detroit Edison Company	Mohamad Elhousseini	3,5		DTE Energy	Mohamad Elhousseini	DTE Energy	5	RF
					Patricia Ireland	DTE Energy	4	RF
					Marvin Johnson	DTE Energy - Detroit Edison Company	3	RF
Black Hills Corporation	Rachel Schuldt	1,3,5,6		Black Hills Corporation - All Segments	Micah Runner	Black Hills Corporation	1	WECC
					Josh Combs	Black Hills Corporation	3	WECC
					Rachel Schuldt	Black Hills Corporation	6	WECC
					Carly Miller	Black Hills Corporation	5	WECC
					Sheila Suurmeier	Black Hills Corporation	5	WECC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
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
					Deidre Altobell	Con Edison	1	NPCC
					Michele Tondalo	United Illuminating Co.	1	NPCC
					Stephanie Ullah-Mazzuca	Orange and Rockland	1	NPCC
					Michael Ridolfino	Central Hudson Gas & Electric Corp.	1	NPCC
					Randy Buswell	Vermont Electric Power Company	1	NPCC
					James Grant	NYISO	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

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
						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
					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	6	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
						of Public Service		
					David Kiguel	Independent	7	NPCC
					Joel Charlebois	AESI	7	NPCC
					Joshua London	Eversource Energy	1	NPCC
					Emma Halilovic	Hydro One Networks, Inc.	1,2	NPCC
					Emma Halilovic	Hydro One Networks, Inc.	1,2	NPCC
					Chantal Mazza	Hydro Quebec	1,2	NPCC
					Emma Halilovic	Hydro One Networks, Inc.	1,2	NPCC
					Chantal Mazza	Hydro Quebec	1,2	NPCC
					Nicolas Turcotte	Hydro-Quebec (HQ)	1	NPCC
					Jeffrey Streifling	NB Power Corporation	1,4,10	NPCC
					Jeffrey Streifling	NB Power Corporation	1,4,10	NPCC
					Jeffrey Streifling	NB Power Corporation	1,4,10	NPCC
					Joel Charlebois	AESI	7	NPCC

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
Southwest Power Pool, Inc. (RTO)	Shannon Mickens	2	MRO,SPP RE,WECC	SPP RTO	Shannon Mickens	Southwest Power Pool Inc.	2	MRO
					Mia Wilson	Southwest Power Pool Inc.	2	MRO
					Eddie Watson	Southwest Power Pool Inc.	2	MRO
					Randy Cleland	Southwest Power Pool Inc.	2	MRO
					Jonathan Hayes	Southwest Power Pool Inc.	2	MRO
					Jeff McDiarmid	Southwest Power Pool Inc.	2	MRO
					Mason Favazza	Southwest Power Pool Inc.	2	MRO
					Tim Miller	Southwest Power Pool Inc.	2	MRO

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Heather Harris	Southwest Power Pool Inc.	2	MRO
					Scott Jordan	Southwest Power Pool Inc	2	MRO
					Lottie Jones	Southwest Power Pool Inc.	2	MRO
					Dee Edmondson	Southwest Power Pool Inc.	2	MRO
					Zach Sabey	Southwest Power Pool Inc	2	MRO
					Margaret Quispe	Southwest Power Pool Inc	2	MRO
					Will Tootle	Southwest Power Pool Inc.	2	MRO
					ashley Stringer	Southwest Power Pool Inc.	2	MRO

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
					Josh Pope	Southwest Power Pool Inc.	2	MRO

1. Are there any areas of concern that duplicative coverage or competing expectations would occur, if so, what are these areas the team should be aware of when drafting?	
Sharon Darwin - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC	
Answer	No
Document Name	
Comment	
Yet, Southern Company suspects it is difficult to determine what may be duplicative due to the scope of all the open projects that are being worked on simultaneously.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The DT revised the SAR to focus on system model validation with IBRs. To avoid any duplicative coverage or overlap with other open projects, this DT will coordinate and communicate with the other Milestone 3 DTs.	
Thomas Foltz - AEP - 3,5,6	
Answer	No
Document Name	
Comment	
Please see AEP's response to Question #2.	
Likes	0
Dislikes	0
Response	

Thank you for your comment.

David Jendras Sr - Ameren - Ameren Services - 1,3,6

Answer No

Document Name

Comment

None.

Likes 0

Dislikes 0

Response

Patricia Lynch - NRG - NRG Energy, Inc. - 5,6

Answer No

Document Name

Comment

Likes 0

Dislikes 0

Response

Jessica Cordero - Unisource - Tucson Electric Power Co. - 1

Answer No

Document Name

Comment

Likes 0	
Dislikes 0	
Response	
Nazra Gladu - Manitoba Hydro - 1,3,5,6	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Stephen Stafford - Georgia Transmission Corporation - 1 - SERC	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Richard Jackson - U.S. Bureau of Reclamation - 1,5	

Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Greg Sorenson - ReliabilityFirst - 10 - RF	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Israel Perez - Salt River Project - 1,3,5,6 - WECC	
Answer	No
Document Name	
Comment	
Likes 0	
Dislikes 0	

Response	
Mohamad Elhuseini - DTE Energy - Detroit Edison Company - 3,5, Group Name DTE Energy	
Answer	Yes
Document Name	
Comment	
<p>The detailed description section of this SAR does not “describe the proposed deliverables with sufficient detail for a DT to execute the project.” Since the SAR is so vague in what the proposed deliverable will be, it can be assumed that there will likely be overlap with any of the other SARs that are dealing with IBR models.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comment. The DT revised the SAR to focus on system model validation with IBRs. To avoid any duplicative coverage or overlap with other open projects, this DT will coordinate and communicate with the other Milestone 3 DTs.</p>	
Answer	Yes
Document Name	
Comment	
<p>Competing projects have made it very difficult to track in conjunction with FERC 901 and areas should be consolidated as much as possible</p> <p>Kimberly Turco on behalf of Constellation Segments 5 and 6</p>	
Likes	0
Dislikes	0
Response	

Response	
Thank you for your comment. The DT revised the SAR to focus on system model validation with IBRs. The other two Milestone 3 SARs are focused on different subjects.	
Answer	Yes
Document Name	
Comment	
Competing projects have made it very difficult to track in conjunction with FERC 901 and areas should be consolidated as much as possible.	
Alison Mackellar on behalf of Constellation Segments 5 and 6	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The DT revised the SAR to focus on system model validation with IBRs. The other two Milestone 3 SARs are focused on different subjects.	
Jennifer Weber - Tennessee Valley Authority - 1,3,5,6 - SERC	
Answer	Yes
Document Name	
Comment	
As noted in the project purpose statement and reinforced by the proposed project scope, there are concerns with duplicative coverage/expectations in MOD-025/026/027, PRC-019, and associated implementation plans. We request that this SAR be revised to combine with the previous SAR accepted by the Standards Committee on 12/15/2021. Two draft revisions of MOD-025-3 and PRC-019-3 have been balloted. This is not addressed in the new proposed SAR. It is confusing to industry to have multiple SARs open on the same standard and leaves the industry unclear on the path forward for this Project.	

Likes	0
Dislikes	0
Response	
<p>Thank you for your comment. The posted SAR was revised such that the FERC directives associated with plant model validation and system model validation were separated and put into separate SARs. Project 2020-06 Verifications of Models and Data for Generators was already focused on MOD-026/027 so adding MOD-025 and plant model validation was a logical fit. The work of the DT for Project 2021-01 Modifications to MOD-025 and PRC-019 is being put on hold until the directives of FERC Order 901 Milestone 3, Part 3 are completed. The DT will be supplemented with subject matter experts on system model validation and practices, and disturbance-based playback including event triggering and data capture. The DT will either revise MOD-033 or develop a a new Reliability Standard to require system model validation against actual system operational behavior during BPS disturbances.</p>	
Steven Rueckert - Western Electricity Coordinating Council - 10	
Answer	Yes
Document Name	
Comment	
<p>Mentioned in the related Standards but FAC-001 and FAC-002 should be carefully reviewed to ensure non-duplicative or contradicting model verifications do not occur.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comment. The DT will coordinate and communicate with other DTs covering related standards.</p>	
Marcus Bortman - APS - Arizona Public Service Co. - 1,3,5,6	
Answer	Yes
Document Name	
Comment	

AZPS supports the following comments that were submitted by EEI on behalf of their members:

EEI notes that of the three (3) identified tasks listed for this project, Items 2 & 3 provide unnecessary duplication.

Item 2: The task of removing IBRs from MOD-026-1 and MOD-027-1 is a minor task that does not merit coordination between this DT and the Project 2020-06 DT. We further note that this Project 2021-01 DT has a very small scope. Alternatively, consideration should be given to adding the removal of IBRs from MOD-026-1 and MOD-027-1 from Project 2020-06, alleviating one of the many tasks from that scope.

Item 3: EEI does not agree that this drafting team should be overseeing work done by other drafting teams. It is sufficient for this drafting team to coordinate with other drafting teams to ensure their work does not duplicate or otherwise overlap the work of other drafting teams. To address our concerns, we offer the following edits to Item 3:

The drafting team shall coordinate with other drafting teams that have overlapping work, particularly those working on Order 901 directives in order to ensure that new or modified Reliability Standards related to Milestone 3 of the Work Plan are aligned and do not create a reliability gap.

Likes 0

Dislikes 0

Response

Thank you for your comment. The posted SAR was revised such that the FERC directives associated with plant model validation and system model validation were separated and put into separate SARs. Having two explicit projects addressing different aspects of FERC Order 901 avoids duplication. The DT will coordinate and communicate with other Milestone 3 DTs as needed.

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

Answer

Yes

Document Name

Comment

Duke Energy agrees with and supports EEI comments.

Likes 0

Dislikes	0
Response	
Thank you for your comment. Please see the response to EEI's comments.	
Joseph Gatten - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Xcel Energy supports the comments of the EEI.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. Please see the response to EEI's comments.	
Dwanique Spiller - Berkshire Hathaway - NV Energy - 5	
Answer	Yes
Document Name	
Comment	
<p>NV Energy notes that of the three (3) identified tasks listed for this project, Items 2 & 3 provide unnecessary duplication.</p> <p>Item 2: The task of removing IBRs from MOD-026-1 and MOD-027-1 is a minor task that does not merit coordination between this DT and the Project 2020-06 DT. We further note that this Project 2021-01 DTs has a very small scope. Alternatively, consideration should be given to adding the removal of IBRs from MOD-026-1 and MOD-027-1 from Project 2020-06, alleviating one of the many tasks from that scope.</p>	

Item 3: NV Energy does not agree that this drafting team should be overseeing work done by other drafting teams. It is sufficient for this drafting team to coordinate with other drafting teams to ensure their work does not duplicate or otherwise overlap the work of other drafting teams. To address our concerns, we offer the following edits in boldface to Item 3:

The drafting team shall **coordinate with other drafting teams that have overlapping work, particularly those working on Order 901 directives to ensure that ensure that implementation plans for** new or modified Reliability Standards related to Milestone 3 of the Work Plan are aligned and do not create a reliability gap **during implementation.**

Likes 0

Dislikes 0

Response

Thank you for your comment. The posted SAR was revised such that the FERC directives associated with plant model validation and system model validation were separated and put into separate SARs. Having two explicit projects addressing different aspects of FERC Order 901 avoids duplication. The DT will coordinate and communicate with other Milestone 3 DTs as needed.

Julie Hall - Entergy - 1,3,6, Group Name Entergy

Answer

Yes

Document Name

Comment

There are so many projects and SARs in-flight regarding IBRs that it's become difficult to track which projects are involved and addressing other IBR needs and what would ultimately end in duplicative work. In addition, there has been a significant amount of work to include IBRs into standards such as PRC-019, MOD-025, MOD-026, and MOD-027.

Likes 0

Dislikes 0

Response

Thank you for your comment. The posted SAR was revised such that the FERC directives associated with plant model validation and system model validation were separated and put into separate SARs. Having two explicit projects addressing different aspects of FERC Order 901 avoids duplication. The DT will coordinate and communicate with other Milestone 3 DTs as needed.

Rachel Schuldt - Black Hills Corporation - 1,3,5,6, Group Name Black Hills Corporation - All Segments	
Answer	Yes
Document Name	
Comment	
<p>Black Hills Corporation agrees with both the NAGF & EEI as stated:</p> <p>NAGF finds it is very difficult to determine what may be duplicative due to the numerous open IBR projects that are being worked in parallel. In addition to all these open projects, it seems that NERC has changed their approach to only reference BES inverter-based resources in the Applicability – Facilities section of the proposed IBR standards as strategy for gaining industry approval with the intent to insert the approved IBR Glossary of Terms definitions at a later date. The NAGF is concerned that this “plug and play” approach may not be as seamless as envisioned and could lead to unintended duplication. Based on these concerns, NAGF does not feel that it is able to identify what efforts may be duplicative.</p> <p>EEI notes that of the three (3) identified tasks listed for this project, Items 2 & 3 provide unnecessary duplication.</p> <p>Item 2: The task of removing IBRs from MOD-026-1 and MOD-027-1 is a minor task that does not merit coordination between this DT and the Project 2020-06 DT. We further note that this Project 2021-01 DTs has a very small scope. Alternatively, consideration should be given to adding the removal of IBRs from MOD-026-1 and MOD-027-1 from Project 2020-06, alleviating one of the many tasks from that scope.</p> <p>Item 3: EEI does not agree that this drafting team should be overseeing work done by other drafting teams. It is sufficient for this drafting team to coordinate with other drafting teams to ensure their work does not duplicate or otherwise overlap the work of other drafting teams. To address our concerns, we offer the following edits in boldface to Item 3:</p> <p>The drafting team shall coordinate with other drafting teams that have overlapping work, particularly those working on Order 901 directives in order to ensure that <i>(remove: ensure that implementation plans for)</i> new or modified Reliability Standards related to Milestone 3 of the Work Plan are aligned and do not create a reliability gap <i>(remove: during implementation)</i>.</p>	
Likes	0
Dislikes	0
Response	

Thank you for your comment. Please see the responses to NAGF and EEI.	
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) supports comments submitted by the Edison Electric Institute (EEI).	
Likes	0
Dislikes	0
Response	
Thank you for your comment. Please see the response to EEI's comments.	
Chantal Mazza - Hydro-Quebec (HQ) - 1 - NPCC	
Answer	Yes
Document Name	
Comment	
We find it extremely difficult to determine what may be duplicative due to the numerous open IBR projects that are being worked in parallel. In addition to all these open projects, it seems that NERC has changed their approach to only reference BES inverter-based resources in the Applicability – Facilities section of the proposed IBR standards instead of referring to the BPS IBRs which was the initial intention. How and when does NERC plan on including the BPS IBRs in the various IBR projects?	
Likes	0
Dislikes	0
Response	

With regards to tracking the IBR standards projects and the potential for duplication, please see the [Standards Development Mapping](#) on the Reliability Standards Under Development page of the NERC website. Existing standards projects may be limited to BES IBR resources because of their SAR but all new standards projects addressing IBRs should deal with both BES and non-BES IBRs.

Hayden Maples - Evergy - 1,3,5,6 - MRO

Answer Yes

Document Name

Comment

Evergy supports and incorporates by reference the comments of the Edison Electric Institute (EEI) on question 1

Likes 0

Dislikes 0

Response

Thank you for your comment. Please see the response to EEI’s comments.

Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF

Answer Yes

Document Name

Comment

NAGF finds it is very difficult to determine what may be duplicative due to the numerous open IBR projects that are being worked in parallel. In addition to all these open projects, it seems that NERC has changed their approach to only reference BES inverter-based resources in the Applicability – Facilities section of the proposed IBR standards as strategy for gaining industry approval with the intent to insert the approved GOP Category 2 registration at a later date. The NAGF is concerned that this “plug and play” approach may not be as seamless as envisioned and could lead to unintended duplication. Based on these concerns, NAGF does not feel that it is able to identify what efforts may be duplicative.

Likes 0

Dislikes 0

Response	
<p>Thank you for your comment. With regards to tracking the IBR standards projects and the potential for duplication, please see the Standards Development Mapping on the Reliability Standards Under Development page of the NERC website. Existing standards projects maybe limited to BES IBR resources because of their SAR but all new standards projects addressing IBRs should deal with both BES and non-BES IBRs.</p>	
<p>Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - MRO,WECC, Group Name SPP RTO</p>	
Answer	Yes
Document Name	
Comment	
<p>SPP is concerned about potentially duplicative responsibility created from bullet 2 of the SAR’s Project Scope section. The language implies that the 2021-01 drafting team is responsible for the removal of inverter-based resources from the applicability of the MOD-026 project. This responsibility was assigned to Project 2020-06 in their SAR’s Project Scope section bullet 2.</p> <p>SPP recommends that revising the SAR language to reflect that the 2021-01 drafting team is only responsible for removal of proposed language from their project, and that they should coordinate with the 2020-06 drafting team as they consider their revisions.</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comment. The posted SAR was revised such that the FERC directives associated with plant model validation and system model validation were separated and put into separate SARs. Having two explicit projects addressing different aspects of FERC Order 901 avoids duplication. The DT will coordinate and communicate with other Milestone 3 DTs as needed.</p>	
<p>Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC RSC</p>	
Answer	Yes
Document Name	
Comment	

We find it extremely difficult to determine what may be duplicative due to the numerous open IBR projects that are being worked in parallel. In addition to all these open projects, it seems that NERC has changed their approach to only reference BES inverter-based resources in the Applicability – Facilities section of the proposed IBR standards instead of referring to the BPS IBRs which was the initial intention. How and when does NERC plan on including the BPS IBRs in the various IBR projects?

It is imperative that the standard drafting teams for this project and all other open IBR projects assure a coherent way of addressing the inclusion and exclusion of IBRs in current and upcoming standards.

Likes 0

Dislikes 0

Response

Thank you for your comment. With regards to tracking the IBR standards projects and the potential for duplication, please see the [Standards Development Mapping](#) on the Reliability Standards Under Development page of the NERC website. Existing standards projects may be limited to BES IBR resources because of their SAR but all new standards projects addressing IBRs should deal with both BES and non-BES IBRs.

Lori Frisk - Allete - Minnesota Power, Inc. - 1 - NA - Not Applicable

Answer

Yes

Document Name

Comment

Minnesota Power supports EEI's comments.

Likes 0

Dislikes 0

Response

Thank you for your comment. Please see the response to EEI's comments.

Junji Yamaguchi - Hydro-Quebec (HQ) - 1,5

Answer	Yes
Document Name	
Comment	
<p>We find it extremely difficult to determine what may be duplicative due to the numerous open IBR projects that are being worked in parallel. In addition to all these open projects, it seems that NERC has changed their approach to only reference BES inverter-based resources in the Applicability – Facilities section of the proposed IBR standards instead of referring to the BPS IBRs which was the initial intention. How and when does NERC plan on including the BPS IBRs in the various IBR projects?</p> <p>It is imperative that the standard drafting teams for this project and all other open IBR projects assure a coherent way of addressing the inclusion and exclusion of IBRs in current and upcoming standards.</p>	
Likes 0	
Dislikes 0	
Response	
<p>Thank you for your comment. With regards to tracking the IBR standards projects and the potential for duplication, please see the Standards Development Mapping on the Reliability Standards Under Development page of the NERC website. Existing standards projects may be limited to BES IBR resources because of their SAR but all new standards projects addressing IBRs should deal with both BES and non-BES IBRs.</p>	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 1,4,5,6, Group Name FE Voter	
Answer	Yes
Document Name	
Comment	
<p>FirstEnergy agrees with the related SARs mentioned in this review that should be assessed for impact.</p> <p>While FERC Order 901 will modify various modeling and validation requirements to include IBRs, FirstEnergy requests the DT ensure coordination and compatibility between these Project’s drafts but do not see a need for inclusion in the SAR.</p>	

Further, FirstEnergy requests/appreciates the continued opportunities to comment on the implementation of these Projects tasked with the different scopes of IBR planning, operations and coordination.

Likes 0

Dislikes 0

Response

Thank you for your comments.

Bobbi Welch - Midcontinent ISO, Inc. - 2

Answer

Yes

Document Name

Comment

MISO supports the comments of the ISO/RTO Council Standards Review Committee (SRC).

The ISO/RTO Council (IRC) Standards Review Committee (SRC) believes that Item 2 in the SAR scope is not appropriate for this project, as it directs that certain modifications be made to MOD-026 and MOD-027, which are currently being revised by the SDT in Project 2020-06 (which recently had a draft SAR posted for public comment). To the extent that revisions to MOD-026 and MOD-027 are necessary, such modifications should be addressed by a SAR assigned to Project 2020-06; however, the Project 2020-06 SDT should have the discretion to determine the best approach to address IBRs, including determining whether IBRs should be included or excluded from the applicability of MOD-026 and MOD-027.

Likes 0

Dislikes 0

Response

Thank you for your comment. Please see the response to SRC's comments.

Charles Yeung - Southwest Power Pool, Inc. (RTO) - 2 - MRO,WECC, Group Name SRC 2024

Answer

Yes

Document Name

Comment

The ISO/RTO Council (IRC) Standards Review Committee (SRC) believes that Item 2 in the SAR scope is not appropriate for this project, as it directs that certain modifications be made to MOD-026 and MOD-027, which are currently being revised by the SDT in Project No. 2020-06 (which recently had a draft SAR posted for public comment). To the extent that revisions to MOD-026 and MOD-027 are necessary, such modifications should be addressed by a SAR assigned to the Project No. 2020-06 SDT; however, the SDT in Project 2020-06 should have the discretion to determine the best approach to address IBRs, including determining whether IBRs should be included or excluded from the applicability of MOD-026 and MOD-027.

Likes 0

Dislikes 0

Response

Thank you for your comment. The posted SAR was revised such that the FERC directives associated with plant model validation and system model validation were separated and put into separate SARs. Having two explicit projects addressing different aspects of FERC Order 901 avoids duplication. The DT will coordinate and communicate with other Milestone 3 DTs as needed.

Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable

Answer

Yes

Document Name

Comment

EEl notes that of the three (3) identified tasks listed for this project, Items 2 & 3 provide unnecessary duplication.

Item 2: The task of removing IBRs from MOD-026-1 and MOD-027-1 is a minor task that does not merit coordination between this DT and the Project 2020-06 DT. We further note that this Project 2021-01 DTs has a very small scope. Alternatively, consideration should be given to adding the removal of IBRs from MOD-026-1 and MOD-027-1 from Project 2020-06, alleviating one of the many tasks from that scope.

Item 3: EEI does not agree that this drafting team should be overseeing work done by other drafting teams. It is sufficient for this drafting team to coordinate with other drafting teams to ensure their work does not duplicate or otherwise overlap the work of other drafting teams. To address our concerns, we offer the following edits in boldface to Item 3:

The drafting team shall **coordinate with other drafting teams that have overlapping work, particularly those working on Order 901 directives in order to ensure that** new or modified Reliability Standards related to Milestone 3 of the Work Plan are aligned and do not create a reliability gap.

Likes 0

Dislikes 0

Response

Thank you for your comment. The posted SAR was revised such that the FERC directives associated with plant model validation and system model validation were separated and put into separate SARs. Having two explicit projects addressing different aspects of FERC Order 901 avoids duplication. The DT will coordinate and communicate with other Milestone 3 DTs as needed.

Allie Gavin - International Transmission Company Holdings Corporation - 1 - MRO,RF

Answer

Yes

Document Name

Comment

Comments: ITC notes that of the three (3) identified tasks listed for this project, Items 2 & 3 provide some duplication.

Item 2: The task of removing IBRs from MOD-025, MOD-026-1, and MOD-027-1 should be coordinated along with their implementation plans. Both DT's from Project 2021-01 and Project 2020-06 need to identify if it would be better to complete their original scope of work while removing IBRs from the final standard or remove IBRs first from the original standards and then complete their remaining work.

Item 3: ITC does not agree that this drafting team should be overseeing work done by other drafting teams. It is sufficient for this drafting team to coordinate with other drafting teams to ensure their work does not duplicate or otherwise overlap the work of other drafting teams. To address our concerns, we offer the following edits in boldface to Item 3:

The drafting team shall **coordinate with other drafting teams that have overlapping work, particularly those working on Order 901 directives in order to ensure that** ~~ensure that implementation plans for~~ the new or modified Reliability Standards related to Milestone 3

of the Work Plan are aligned both in scope and implementation so as to not create a reliability gap during implementation.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The posted SAR was revised such that the FERC directives associated with plant model validation and system model validation were separated and put into separate SARs. Having two explicit projects addressing different aspects of FERC Order 901 avoids duplication. The DT will coordinate and communicate with other Milestone 3 DTs as needed.	
Kennedy Meier - Electric Reliability Council of Texas, Inc. - 2	
Answer	Yes
Document Name	
Comment	
ERCOT joins the comments submitted by the ISO/RTO Council (IRC) Standards Review Committee (SRC) and adopts them as its own.	
Likes	0
Dislikes	0
Response	
Thank you for your comment. Please see the response to SRC's comments.	

2. Provide any additional comments for the drafting team to consider, if desired.	
Allie Gavin - International Transmission Company Holdings Corporation - 1 - MRO,RF	
Answer	
Document Name	
Comment	
Answer: No	
Comments:	
What is the Risk to the BES? Section Comments: ITC believes there is a typo in paragraph 3 that states “This Standard Authorization Request addresses Milestone 3 – Part 4 of the Work Plan, related to modifying other Reliability Standards that involve model validation or verification for IBR to remove duplicative model validation requirements.” ITC notes that there is no Part 4 in Milestone 3.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Please see the response to EEI’s comments.	
Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable	
Answer	
Document Name	
Comment	
EEI offers the following additional comments for DT consideration:	
SAR Type Comment: EEI notes that the only task assigned to this project is to remove IBRs from MOD-025 & PRC-019. This is a very minor task for the DT, and we do not agree that this work justifies providing this project with the authority to develop a New Standard; Add,	

Modify or Retire a Glossary Term; or Withdraw/retire an existing Standard. Please change the SAR type for this project to Modify an existing Standard.

What is the Risk to the BES? Section Comments: EEI believes there is a typo in paragraph 3 that states “This Standard Authorization Request addresses **Milestone 3 – Part 4** of the Work Plan, related to modifying other Reliability Standards that involve model validation or verification for IBR to remove duplicative model validation requirements.” EEI notes that there is no Part 4 in Milestone 3.

EEI does not believe that there is sufficient justification contained in this section to move this SAR forward. While we do not dispute that minor changes are needed to MOD-25 and PRC-019 in support of Milestone 3 of FERC Order 901, the work still needs to be justified and simply stating that the project is “intended to compliment” work in other projects is insufficient. To address our concern, the SAR should be appropriately justified as modifying certain Reliability Standards to remove IBRs to satisfy certain Order 901 directives.

Purpose and Goal Section Comments: EEI does not agree that the following is sufficient to justify the approval of this project:

The purpose of this project is to ensure that obligations to conduct model validation (Project 2020-06) for IBR are not duplicative in nature or create competing expectations for IBR to conduct verification/validation of model data for IBR. This drafting team should collaborate as needed with the drafting team for **Federal Energy Regulatory Commission (FERC) Order No. 901 – Milestone 3, Part 2: IBR Model Validation** to assure no gaps are introduced.

This is more of a project management task rather than something allowed under the Standard Processes Manual. We note that Appendix 3a (Standard Processes Manual) provides direction for the following activities, but it does not envision overseeing work conducted by other DTs. See below:

- Process for Developing, Modifying, Withdrawing or Retiring a Reliability Standard
- Process for Developing a Defined Term
- Process for Conducting Field Tests
- Process for Developing an Interpretation
- Process for Appealing an Action or Inaction
- Process for Developing a Variance
- Processes for Developing a Reliability Standard Related to a Confidential Issue
- Process for Posting Supporting Technical Documents Alongside an Approved Reliability Standard
- Process for Correcting Errata

To address our concerns, we suggest modifying the Purpose and Goal Section of this Standard to more appropriately align with work normally conducted within a NERC standards development project.

Project Scope Comments: EEI notes that Item 1 is the only activity identified for this DT. We suggest either abandoning this SAR and moving the work related to MOD-026 and MOD-027 from Project 2020-06 to lighten the work on that project. Noting that Project 2020-06 has a significant amount of work that needs to be completed by the identified project deadline and any reduction in their workload would likely be beneficial.

Likes 0

Dislikes 0

Response

Thank you for your comment. The posted SAR was revised such that the FERC directives associated with plant model validation and system model validation were separated and put into separate SARs. Project 2020-06 Verifications of Models and Data for Generators was already focused on MOD-026/027 so adding MOD-025 and plant model validation was a logical fit. The work of the DT for Project 2021-01 Modifications to MOD-025 and PRC-019 is being put on hold until the directives of FERC Order 901 Milestone 3, Part 3 are completed. The DT will be supplemented with subject matter experts on system model validation and practices, and disturbance-based playback including event triggering and data capture. The DT will either revise MOD-033 or develop a new Reliability Standard to require system model validation against actual system operational behavior during BPS disturbances. The DT will coordinate and communicate with the other Milestone 3 DTs as needed to assure no gaps are introduced and avoid unintended duplication.

Israel Perez - Salt River Project - 1,3,5,6 - WECC

Answer

Document Name

Comment

SRP recommends that to the extent possible the SDT align to the industry approved term for IBR and avoid reference to "IBR Unit"

Likes 0

Dislikes 0

Response	
Thank you for your comment. The revised SAR does not use the term “IBR Unit”.	
Mark Garza - FirstEnergy - FirstEnergy Corporation - 1,4,5,6, Group Name FE Voter	
Answer	
Document Name	
Comment	
N/A	
Likes 0	
Dislikes 0	
Response	
Lori Frisk - Allete - Minnesota Power, Inc. - 1 - NA - Not Applicable	
Answer	
Document Name	
Comment	
The list of Functional Entities on page 4 contains a duplicate of “Reliability Coordinator.”	
Minnesota Power supports EEI’s comments.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The list of Functional Entities has been revised. Please see the response to EEI’s comments.	
Shannon Mickens - Southwest Power Pool, Inc. (RTO) - 2 - MRO,WECC, Group Name SPP RTO	

Answer	
Document Name	
Comment	
<p>The “What is the risk to the Bulk Electric System” section includes the following language.</p> <p>Milestone 3 of the work plan covers the development of data provisioning, parameters, and estimation requirements for IBRs. FERC Order No. 901 directives address three categories of IBR: (1) registered IBR, including sub-Bulk Electric System IBRs to be registered under NERC’s revised Compliance Registry criteria; (2) unregistered IBR; and (3) IBR-DER, to distinguish registered bulk connected IBRs from unregistered bulk connected IBRs as well as the transmission connected IBRs from distribution-connected IBRs.</p> <p>It would reduce confusion for industry if the statement was prefaced with a reference that “Project #####-## will address FERC order 901 directives associated with three categories of IBR: ...” or remove statement about the three categories of IBR as this SAR is not addressing those aspects of the workplan for Milestone 3.</p>	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. That language is boiler plate for all three SARs associated with Milestone 3.	
Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF	
Answer	
Document Name	
Comment	
<p>SAR Type section, page 1 - The NAGF does not agree with the boxes checked in the SAR Type section. This SAR is solely limited to removing IBR language from standards, there is no reason for this SAR to authorize the creation of a new standard; the addition, modification, or retirement of a Glossary term; or to withdraw/retire an existing standard. The SAR type should be strictly tied to the desired actions\purpose of the SAR and not allow for “catch-all” utilization.</p>	

Purpose Section, second paragraph, page 2 – the NAGF requests clarity on the specific models being referred to in this paragraph.

Likes 0

Dislikes 0

Response

Thank you for your comment. The posted SAR was revised such that the FERC directives associated with plant model validation and system model validation were separated and put into separate SARs. Project 2020-06 Verifications of Models and Data for Generators was already focused on MOD-026/027 so adding MOD-025 and plant model validation was a logical fit. The work of the DT for Project 2021-01 Modifications to MOD-025 and PRC-019 is being put on hold until the directives of FERC Order 901 Milestone 3, Part 3 are completed. The DT will be supplemented with subject matter experts on system model validation and practices, and disturbance-based playback including event triggering and data capture. The DT will either revise MOD-033 or develop a new Reliability Standard to require system model validation against actual system operational behavior during BPS disturbances. The DT will coordinate and communicate with the other Milestone 3 DTs as needed to assure no gaps are introduced and avoid unintended duplication.

Hayden Maples - Evergy - 1,3,5,6 - MRO

Answer

Document Name

Comment

Evergy supports and incorporates by reference the comments of the Edison Electric Institute (EEI) on question 2

Likes 0

Dislikes 0

Response

Thank you for your comment. Please see the response to EEI’s comments.

Chantal Mazza - Hydro-Quebec (HQ) - 1 - NPCC

Answer

Document Name

Comment

It is imperative that the standard drafting teams for this project and all other open IBR projects assure a coherent way of addressing the inclusion and exclusion of IBRs in current and upcoming standards.

Likes 0

Dislikes 0

Response

Thank you for your comment. The posted SAR was revised such that the FERC directives associated with plant model validation and system model validation were separated and put into separate SARs. Project 2020-06 Verifications of Models and Data for Generators was already focused on MOD-026/027 so adding MOD-025 and plant model validation was a logical fit. The work of the DT for Project 2021-01 Modifications to MOD-025 and PRC-019 is being put on hold until the directives of FERC Order 901 Milestone 3, Part 3 are completed. The DT will be supplemented with subject matter experts on system model validation and practices, and disturbance-based playback including event triggering and data capture. The DT will either revise MOD-033 or develop a new Reliability Standard to require system model validation against actual system operational behavior during BPS disturbances. The DT will coordinate and communicate with the other Milestone 3 DTs as needed to assure no gaps are introduced and avoid unintended duplication.

Greg Sorenson - ReliabilityFirst - 10 - RF

Answer

Document Name

Comment

RF appreciates the efforts of the drafting team on this project.

Likes 0

Dislikes 0

Response

Thank you for your comment.

Cain Braveheart - Bonneville Power Administration - 1,3,5,6 - WECC

Answer	
Document Name	
Comment	
BPA believes the industry will still need IBR model data if IBR applicability is removed from MOD-025/026/027 and PRC-019. BPA recommends a new suite of standards be created for IBR model verification.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The posted SAR was revised such that the FERC directives associated with plant model validation and system model validation were separated and put into separate SARs. Project 2020-06 Verifications of Models and Data for Generators was already focused on MOD-026/027 so adding MOD-025 and plant model validation was a logical fit. The work of the DT for Project 2021-01 Modifications to MOD-025 and PRC-019 is being put on hold until the directives of FERC Order 901 Milestone 3, Part 3 are completed. The DT will be supplemented with subject matter experts on system model validation and practices, and disturbance-based playback including event triggering and data capture. The DT will either revise MOD-033 or develop a new Reliability Standard to require system model validation against actual system operational behavior during BPS disturbances. The DT will coordinate and communicate with the other Milestone 3 DTs as needed to assure no gaps are introduced and avoid unintended duplication.	
Anna Todd - Southern Indiana Gas and Electric Co. - 1,3,5,6 - RF	
Answer	
Document Name	
Comment	
Southern Indiana Gas and Electric Company d/b/a CenterPoint Energy Indiana South (SIGE) supports comments submitted by the Edison Electric Institute (EEI).	
Likes 0	
Dislikes 0	

Response	
Thank you for your comment. Please see the response to EEI's comments.	
David Jendras Sr - Ameren - Ameren Services - 1,3,6	
Answer	
Document Name	
Comment	
Since IBR's are being taken out of these standards, Ameren is looking for clarity on whether a new standard for IBRs will be created.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. The posted SAR was revised such that the FERC directives associated with plant model validation and system model validation were separated and put into separate SARs. Project 2020-06 Verifications of Models and Data for Generators was already focused on MOD-026/027 so adding MOD-025 and plant model validation was a logical fit. The work of the DT for Project 2021-01 Modifications to MOD-025 and PRC-019 is being put on hold until the directives of FERC Order 901 Milestone 3, Part 3 are completed. The DT will be supplemented with subject matter experts on system model validation and practices, and disturbance-based playback including event triggering and data capture. The DT will either revise MOD-033 or develop a new Reliability Standard to require system model validation against actual system operational behavior during BPS disturbances. The DT will coordinate and communicate with the other Milestone 3 DTs as needed to assure no gaps are introduced and avoid unintended duplication.	
Rachel Schuldt - Black Hills Corporation - 1,3,5,6, Group Name Black Hills Corporation - All Segments	
Answer	
Document Name	
Comment	
Black Hills Corporation agrees with both the NAGF & EEI in that they state:	

NAGF states: SAR Type section, page 1 - The NAGF does not agree with the boxes checked in the SAR Type section. This SAR is solely limited to removing IBR language from standards, there is no reason for this SAR to authorize the creation of a new standard; the addition, modification, or retirement of a Glossary term; or to withdraw/retire an existing standard. The SAR type should be strictly tied to the desired actions\purpose of the SAR and not allow for “catch-all” utilization.

Purpose Section, second paragraph, page 2 – the NAGF requests clarity on the specific models being referred to in this paragraph.

EI notes that the only task assigned to this project is to remove IBRs from MOD-025 & PRC-019. This is a very minor task for the DT, and we do not agree that this work justifies providing this project with the authority to develop a New Standard; Add, Modify or Retire a Glossary Term; or Withdraw/retire an existing Standard. Please change the SAR type for this project to Modify an existing Standard.

What is the Risk to the BES? Section Comments: EI believes there is a typo in paragraph 3 that states “This Standard Authorization Request addresses **Milestone 3 – Part 4** of the Work Plan, related to modifying other Reliability Standards that involve model validation or verification for IBR to remove duplicative model validation requirements.” EI notes that there is no Part 4 in Milestone 3.

EI does not believe that there is sufficient justification contained in this section to move this SAR forward. While we do not dispute that minor changes are needed to MOD-25 and PRC-019 in support of Milestone 3 of FERC Order 901, the work still needs to be justified and simply stating that the project is “intended to compliment” work in other projects is insufficient. To address our concern, the SAR should be appropriately justified as modifying certain Reliability Standards to remove IBRs to satisfy certain Order 901 directives.

Purpose and Goal Section Comments: EI does not agree that the following is sufficient to justify the approval of this project:

The purpose of this project is to ensure that obligations to conduct model validation (Project 2020-06) for IBR are not duplicative in nature or create competing expectations for IBR to conduct verification/validation of model data for IBR. This drafting team should collaborate as needed with the drafting team for **Federal Energy Regulatory Commission (FERC) Order No. 901 – Milestone 3, Part 2: IBR Model Validation** to assure no gaps are introduced.

This is more of a project management task rather than something allowed under the Standard Processes Manual. We note that Appendix 3a (Standard Processes Manual) provides direction for the following activities, but it does not envision overseeing work conducted by other DTs. See below:

- Process for Developing, Modifying, Withdrawing or Retiring a Reliability Standard
- Process for Developing a Defined Term

- Process for Conducting Field Tests
- Process for Developing an Interpretation
- Process for Appealing an Action or Inaction
- Process for Developing a Variance
- Processes for Developing a Reliability Standard Related to a Confidential Issue
- Process for Posting Supporting Technical Documents Alongside an Approved Reliability Standard
- Process for Correcting Errata

To address our concerns, we suggest modifying the Purpose and Goal Section of this Standard to more appropriately align with work normally conducted within a NERC standards development project.

Project Scope Comments: EEI notes that Item 1 is the only activity identified for this DT. We suggest either abandoning this SAR and moving the work related to MOD-026 and MOD-027 from Project 2020-06 to lighten the work on that project. Noting that Project 2020-06 has a significant amount of work that needs to be completed by the identified project deadline and any reduction in their workload would likely be beneficial.

Likes 0

Dislikes 0

Response

Thank you for your comment. Please see the responses to NAGF and EEI.

Julie Hall - Entergy - 1,3,6, Group Name Entergy

Answer

Document Name

Comment

If the intent is to remove IBRs from all standards to create new IBR-specific standards, then there will need to be a very close working relationship between all of the affected standards and the new standard drafting team(s).

Likes 0

Dislikes 0

Response

Thank you for your comment. The posted SAR was revised such that the FERC directives associated with plant model validation and system model validation were separated and put into separate SARs. Project 2020-06 Verifications of Models and Data for Generators was already focused on MOD-026/027 so adding MOD-025 and plant model validation was a logical fit. The work of the DT for Project 2021-01 Modifications to MOD-025 and PRC-019 is being put on hold until the directives of FERC Order 901 Milestone 3, Part 3 are completed. The DT will be supplemented with subject matter experts on system model validation and practices, and disturbance-based playback including event triggering and data capture. The DT will either revise MOD-033 or develop a new Reliability Standard to require system model validation against actual system operational behavior during BPS disturbances. The DT will coordinate and communicate with the other Milestone 3 DTs as needed to assure no gaps are introduced and avoid unintended duplication.

Dwanique Spiller - Berkshire Hathaway - NV Energy - 5

Answer

Document Name

Comment

NV Energy offers the following additional comments for DT consideration:

SAR Type Comment: NV Energy notes that the only task assigned to this project is to remove IBRs from MOD-025 & PRC-019. This is a very minor task for the DT, and we do not agree that this work justifies providing this project with the authority to develop a New Standard; Add, Modify or Retire a Glossary Term; or Withdraw/retire an existing Standard. Please change the SAR type for this project to Modify an existing Standard.

What is the Risk to the BES? Section Comments: NV Energy believes there is a typo in paragraph 3 that states “This Standard Authorization Request addresses **Milestone 3 – Part 4** of the Work Plan, related to modifying other Reliability Standards that involve

model validation or verification for IBR to remove duplicative model validation requirements.” NV Energy notes that there is no Part 4 in Milestone 3.

NV Energy does not believe that there is sufficient justification contained in this section to move this SAR forward. While we do not dispute that minor changes are needed to MOD-25 and PRC-019 in support of Milestone 3 of FERC Order 901, the work still needs to be justified and simply stating that the project is “intended to compliment” work in other projects is insufficient. To address our concern, the SAR should be appropriately justified as modifying certain Reliability Standards to remove IBRs to satisfy certain Order 901 directives.

Purpose and Goal Section Comments: NV Energy does not agree that the following is sufficient to justify the approval of this project:

The purpose of this project is to ensure that obligations to conduct model validation (Project 2020-06) for IBR are not duplicative in nature or create competing expectations for IBR to conduct verification/validation of model data for IBR. This drafting team should collaborate as needed with the drafting team for **Federal Energy Regulatory Commission (FERC) Order No. 901 – Milestone 3, Part 2: IBR Model Validation** to assure no gaps are introduced.

This is more of a project management task rather than something allowed under the Standard Processes Manual. We note that Appendix 3a (Standard Processes Manual) provides direction for the following activities, but it does not envision overseeing work conducted by other DTs. See below:

- {C}· Process for Developing, Modifying, Withdrawing or Retiring a Reliability Standard
- {C}· Process for Developing a Defined Term
- {C}· Process for Conducting Field Tests
- {C}· Process for Developing an Interpretation
- {C}· Process for Appealing an Action or Inaction
- {C}· Process for Developing a Variance
- {C}· Processes for Developing a Reliability Standard Related to a Confidential Issue
- {C}· Process for Posting Supporting Technical Documents Alongside an Approved Reliability Standard

{C}- Process for Correcting Errata

To address our concerns, we suggest modifying the Purpose and Goal Section of this Standard to more appropriately align with work normally conducted within a NERC standards development project.

Project Scope Comments: NV Energy notes that Item 1 is the only activity identified for this DT. We suggest either abandoning this SAR and moving the work related to MOD-026 and MOD-027 from Project 2020-06 to lighten the work on that project. Noting that Project 2020-06 has a significant amount of work that needs to be completed by the identified project deadline and any reduction in their workload would likely be beneficial.

Likes 0

Dislikes 0

Response

Thank you for your comment. The posted SAR was revised such that the FERC directives associated with plant model validation and system model validation were separated and put into separate SARs. Project 2020-06 Verifications of Models and Data for Generators was already focused on MOD-026/027 so adding MOD-025 and plant model validation was a logical fit. The work of the DT for Project 2021-01 Modifications to MOD-025 and PRC-019 is being put on hold until the directives of FERC Order 901 Milestone 3, Part 3 are completed. The DT will be supplemented with subject matter experts on system model validation and practices, and disturbance-based playback including event triggering and data capture. The DT will either revise MOD-033 or develop a new Reliability Standard to require system model validation against actual system operational behavior during BPS disturbances. The DT will coordinate and communicate with the other Milestone 3 DTs as needed to assure no gaps are introduced and avoid unintended duplication.

Joseph Gatten - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC

Answer

Document Name

Comment

Xcel Energy supports the comments of the EEI.

Likes 0

Dislikes 0

Response	
Thank you for your comment. Please see the response to EEI’s comments.	
Kyle Thomas - Elevate Energy Consulting - NA - Not Applicable - NA - Not Applicable	
Answer	
Document Name	
Comment	
<p>The SAR appears open-ended in terms of proposed revisions, detailed descriptions, and overlap with the other two modeling SARs (Milestone 3 Part 1 SAR and Part 2 SAR) – which are primarily text extracted from FERC Order 901. NERC, the NERC RSTC, the NERC Standards Committee, and industry have tended to avoid creating new standards projects with open-ended SARs as this shows insufficient supporting evidence and background to help a small SDT accomplish its mission. This seems particularly relevant given the massive scale, depth, and breadth of these proposed changes and do not believe this is the most effective/efficient SAR definition to address the directives and reliability risks, as it is unclear what the SARs are actually addressing from a reliability perspective. It also appears there are some FERC directives that are linked to a reliability risk that needs to be mitigated, but between this SAR and the other two it is unclear if they are being addressed or not – these risks should be mitigated between these SARs.</p> <p>In the Purpose or Goal section, it is unclear why this dedicated SAR/project is being proposed when the SAR specifically says to collaborate with the Milestone 3, Part 2: IBR Model Validation SDT. It seems the scope of this SAR could be incorporated into the Part 2 SAR to reduce separate efforts, increase efficiency, and reduce burden/logistics.</p> <p>It seems there has been insufficient attention given to the cost-benefit analysis for this SAR. NERC has simply stated “currently unknown” and did not provide any additional analysis or consideration for costs and how to minimize such costs across all registered entities involved, except for one mention of if fewer reoccurring staged tests are performed, which is fairly vague. The vast proposed revisions of these three SARs will significantly increase costs to registered entities, affecting business operations and costs to consumers. Therefore, more due diligence and consideration should be given to cost across all the proposed standards projects.</p> <p>We recommend that the SAR drafting team extend the comment period on this SAR and the other two modeling related SARs until after the July 10 NERC Webinar that will inform the industry further about these three SARs and have a question-and-answer period for attendees. This webinar seems like it will be very informative and helpful to the industry in understanding these three SARs, which would further support the comment period and balloting process for getting the SARs approved.</p>	

There should be a much clearer linkage to the EMT-related NERC projects and EMT modeling requirements in general, which are the best models and studies to evaluated IBR ride-through and other technical performance criteria. While FERC did not call out EMT requirements in Order 901, it did recommend continuing to pursue efforts and those efforts should be closely aligned with this SAR.

Likes 0

Dislikes 0

Response

Thank you for your comment. The posted SAR was revised such that the FERC directives associated with plant model validation and system model validation were separated and put into separate SARs. Project 2020-06 Verifications of Models and Data for Generators was already focused on MOD-026/027 so adding MOD-025 and plant model validation was a logical fit. The work of the DT for Project 2021-01 Modifications to MOD-025 and PRC-019 is being put on hold until the directives of FERC Order 901 Milestone 3, Part 3 are completed. The DT will be supplemented with subject matter experts on system model validation and practices, and disturbance-based playback including event triggering and data capture. The DT will either revise MOD-033 or develop a new Reliability Standard to require system model validation against actual system operational behavior during BPS disturbances. The DT will coordinate and communicate with the other Milestone 3 DTs as needed to assure no gaps are introduced and avoid unintended duplication.

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

Answer

Document Name

Comment

Duke Energy agrees with and supports EEI comments except as noted below:

(1) EEI Risk Section Response: For the EEI statement “EEI does not believe that there is sufficient justification contained in this section to move this SAR forward”, Duke Energy does not agree with EEI as changes are needed to MOD-025 and PRC-019 for IBRs and synchronous generators.

(2) EEI Purpose and Goal Section Response: For the EEI statement “suggest modifying the Purpose and Goal Section of this Standard to more appropriately align with work normally conducted within a NERC standards development project.”, Duke Energy does not agree with EEI as changes are needed to MOD-025 and PRC-019 for IBRs and synchronous generators.

(3) EEI Project Scope Section Response: For the EEI statement “suggest either abandoning this SAR and moving the work related to MOD-026 and MOD-027 from Project 2020-06 to lighten the work on that project.”, Duke Energy suggest an alternative approach. Duke Energy’s recommendation is to query NERC Project 2020-06 and NERC Project 2021-01 SDTs to determine if they have the charter and bandwidth for this work and to determine if their work is exclusively focused on IBRs prior to reassigning work.

Likes 0

Dislikes 0

Response

Thank you for your comment. Please see the response to EEI’s comments.

Thomas Foltz - AEP - 3,5,6

Answer

Document Name

Comment

AEP does not support this proposed SAR and recommends that it be withdrawn and not pursued in any way. We also recommend allowing the current efforts of Project 2021-01 and Project 2020-06 to proceed as originally planned. Extracting IBRs from the scope of each project mentioned in the SAR would seriously disrupt the efforts made to-date by each team, and with no perceived benefit.

The proposed SAR implies that there is a need for a coordination of efforts between the standard drafting team for Project 2021-01 and the standard drafting team for Project 2020-06 model verification (MOD-026-2), however this is not the case. Project 2020-06 is focused on dynamic model verification whereas Project 2021-01 involves verification and reporting of active and reactive capability (steady-state modeling) and coordination of generation controls and protection, which is lacking in the case of IBRs. MOD-026-2 is strictly focused on model verification, as it’s not concerned with whether there is miscoordination within an IBR plant or bad performance of the IBR itself. As a result, we see no risk of duplication or overlap between these different efforts.

Likes 0

Dislikes 0

Response

Thank you for your comment. The posted SAR was revised such that the FERC directives associated with plant model validation and system model validation were separated and put into separate SARs. Project 2020-06 Verifications of Models and Data for Generators was already focused on MOD-026/027 so adding MOD-025 and plant model validation was a logical fit. The work of the DT for Project 2021-01 Modifications to MOD-025 and PRC-019 is being put on hold until the directives of FERC Order 901 Milestone 3, Part 3 are completed. The DT will be supplemented with subject matter experts on system model validation and practices, and disturbance-based playback including event triggering and data capture. The DT will either revise MOD-033 or develop a new Reliability Standard to require system model validation against actual system operational behavior during BPS disturbances. The DT will coordinate and communicate with the other Milestone 3 DTs as needed to assure no gaps are introduced and avoid unintended duplication.

Marcus Bortman - APS - Arizona Public Service Co. - 1,3,5,6

Answer

Document Name

Comment

AZPS supports the following comments that were submitted by EEI on behalf of their members:

SAR Type Comment: EEI notes that the only task assigned to this project is to remove IBRs from MOD-025 & PRC-019. This is a very minor task for the DT, and we do not agree that this work justifies providing this project with the authority to develop a New Standard; Add, Modify or Retire a Glossary Term; or Withdraw/retire an existing Standard. Please change the SAR type for this project to Modify an existing Standard.

What is the Risk to the BES? Section Comments: EEI does not believe that there is sufficient justification contained in this section to move this SAR forward. While we do not dispute that minor changes are needed to MOD-25 and PRC-019 in support of Milestone 3 of FERC Order 901, the work still needs to be justified and simply stating that the project is “intended to compliment” work in other projects is insufficient. To address our concern, the SAR should be appropriately justified as modifying certain Reliability Standards to remove IBRs to satisfy certain Order 901 directives.

Purpose and Goal Section Comments: EEI does not agree that the following is sufficient to justify the approval of this project:

The purpose of this project is to ensure that obligations to conduct model validation (Project 2020-06) for IBR are not duplicative in nature or create competing expectations for IBR to conduct verification/validation of model data for IBR. This drafting team should

collaborate as needed with the drafting team for Federal Energy Regulatory Commission (FERC) Order No. 901 – Milestone 3, Part 2: IBR Model Validation to assure no gaps are introduced.

This is more of a project management task rather than something allowed under the Standard Processes Manual. We note that Appendix 3a (Standard Processes Manual) provides direction for the following activities, but it does not envision overseeing work conducted by other DTs. See below:

Process for Developing, Modifying, Withdrawing or Retiring a Reliability Standard

Process for Developing a Defined Term

Process for Conducting Field Tests

Process for Developing an Interpretation

Process for Appealing an Action or Inaction

Process for Developing a Variance

Processes for Developing a Reliability Standard Related to a Confidential Issue

Process for Posting Supporting Technical Documents Alongside an Approved Reliability Standard

Process for Correcting Errata

To address our concerns, we suggest modifying the Purpose and Goal Section of this Standard to more appropriately align with work normally conducted within a NERC standards development project.

Project Scope Comments: EEI notes that Item 1 is the only activity identified for this DT. We suggest either abandoning this SAR and moving the work related to MOD-026 and MOD-027 from Project 2020-06 to lighten the work on that project. Noting that Project 2020-06 has a significant amount of work that needs to be completed by the identified project deadline and any reduction in their workload would likely be beneficial.

Likes	0
Dislikes	0

Response	
Thank you for your comment. Please see the response to EEI's comments.	
Steven Rueckert - Western Electricity Coordinating Council - 10	
Answer	
Document Name	
Comment	
<p>The SAR titled Federal Energy Regulatory Commission (FERC) Order No. 901- Milestone 3, Part 2 IBR Model Validation (Project 2020-06) includes the possibility (see Phase 2 Objectives of SAR) of using actual performance data to validate model quality during the interconnection process. Removal of IBR applicability from MOD-026 and PRC-019 should avoid duplication of effort regarding performance data use for IBRs. Are efforts to continue improving PRC-019 and MOD-025 based on comments received in June 2023 continuing? WECC can appreciate the idea of a separate SAR and balloting process to remove the IBR applicability but the Implementation Plan for such a change should be immediately upon approval to avoid extending efforts to improve MOD-025 and PRC-019.</p>	
Likes 0	
Dislikes 0	
Response	
<p>Thank you for your comment. The posted SAR was revised such that the FERC directives associated with plant model validation and system model validation were separated and put into separate SARs. Project 2020-06 Verifications of Models and Data for Generators was already focused on MOD-026/027 so adding MOD-025 and plant model validation was a logical fit. The work of the DT for Project 2021-01 Modifications to MOD-025 and PRC-019 is being put on hold until the directives of FERC Order 901 Milestone 3, Part 3 are completed. The DT will be supplemented with subject matter experts on system model validation and practices, and disturbance-based playback including event triggering and data capture. The DT will either revise MOD-033 or develop a new Reliability Standard to require system model validation against actual system operational behavior during BPS disturbances. The DT will coordinate and communicate with the other Milestone 3 DTs as needed to assure no gaps are introduced and avoid unintended duplication.</p>	
Richard Jackson - U.S. Bureau of Reclamation - 1,5	
Answer	

Document Name	
Comment	
Reclamation supports the separation of Inverter Based Resources into their own standards.	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment.	
Alison MacKellar - Constellation - 5,6	
Answer	
Document Name	
Comment	
Constellation supports NAGF comments.	
Alison Mackellar on behalf of Constellation Segments 5 and 6	
Likes 0	
Dislikes 0	
Response	
Thank you for your comment. Please see the response to NAGF.	
Sharon Darwin - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC	
Answer	
Document Name	
Comment	

Southern Company is of the opinion that the SAR draft copy contains an excess of words. The content should be limited to the direct actions to be taken by a standard drafting team, which is the information found in the **Project Details** section. Very limited background and contextual information should be included. Limit those sections to 2-3 short sentences in order not to cloud the focus of the purpose of this SAR with the excessive “research paper” history.

Southern Company notes that the list of references in the consensus building section of the SAR is not representative of the entities which are to be subject to the regulations of this SAR; therefore, it is not accurate to claim that those activities were consensus built with respect to the likelihood of achieving consensus on the proposed regulation. This statement applies to all three SARs which have been simultaneously posted at this time.

Likes	0
Dislikes	0
Response	
Thank you for your comment. The SAR has been revised per your suggestion.	
Kimberly Turco - Constellation - 5,6	
Answer	
Document Name	
Comment	
Constellation supports NAGF comments.	
Kimberly Turco on behalf of Constellation Segments 5 and 6	
Likes	0
Dislikes	0
Response	
Thank you for your comment. Please see the response to NAGF.	
Mohamad Elhousseini - DTE Energy - Detroit Edison Company - 3,5, Group Name DTE Energy	

Answer	
Document Name	
Comment	
<p>Other than noting that IBRs should be removed from MOD-025/026/027 and PRC-019, the SAR does not provide guidance as to where these requirements will go or if a new Standard or requirements will be developed. Seems the SAR does not provide specific guidance to a SDT to be successful in developing a new or modified Standard or requirement.</p> <p>If the intention of this SAR is strictly to remove IBRs from the above mentions reliability standards, then why can this SAR not be cancelled and the scope be included in the IBR Model Validation SAR as a deliverable?</p>	
Likes	0
Dislikes	0
Response	
<p>Thank you for your comment. The posted SAR was revised such that the FERC directives associated with plant model validation and system model validation were separated and put into separate SARs. Project 2020-06 Verifications of Models and Data for Generators was already focused on MOD-026/027 so adding MOD-025 and plant model validation was a logical fit. The work of the DT for Project 2021-01 Modifications to MOD-025 and PRC-019 is being put on hold until the directives of FERC Order 901 Milestone 3, Part 3 are completed. The DT will be supplemented with subject matter experts on system model validation and practices, and disturbance-based playback including event triggering and data capture. The DT will either revise MOD-033 or develop a new Reliability Standard to require system model validation against actual system operational behavior during BPS disturbances. The DT will coordinate and communicate with the other Milestone 3 DTs as needed to assure no gaps are introduced and avoid unintended duplication.</p>	
Patricia Lynch - NRG - NRG Energy, Inc. - 5,6	
Answer	
Document Name	
Comment	
None	

Likes 0	
Dislikes 0	
Response	

Comments Received from Jason Eruneo

1. Are there any areas of concern that duplicative coverage or competing expectations would occur, if so, what are these areas the team should be aware of when drafting?

- Yes
- No

Comments:

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

- Yes
- No

Comments:

The following comments are from Jason Eruneo, chair of the NERC PRC-019 Standard Drafting Team:

FERC Order 901 does not instruct us to remove inverter-based resources from PRC-019. The order focuses on modeling standards in reference to changes with inverter-based resources. PRC-019 is not a modeling standard; it is a protection and control coordination standard. It appears that NERC is drastically exceeding its boundaries by ordering the SDT, through a SAR, to perform a task under the guise that FERC has directed this through order 901. This is a dangerous precedent to set. This would allow NERC to create or modify standards with no justification or through manipulating the industry.

NERC has always instructed the industry that we are not supposed to provide directives or orders within a SAR. We are also not supposed to provide solutions in the SAR. The SAR is supposed to introduce gaps and provide technical background. The standard drafting team (SDT) is then supposed to take this information and determine if a change is needed. If the SDT deems a change is

needed, then the SDT will come up with a solution and modify the standard. This SAR completely violates the norms and rules we have always used as an industry.

This is arguably the laziest SAR that has ever been created. The SAR does not even quote the language from FERC order 901 that instructs us to make these modifications. At the minimum it could reference the sections of the order that provides the directive to make these modifications. NERC has not provided any technical justification for this SAR. A technical justification is always provided with a SAR. This may be provided directly in the SAR or in the form of a white paper that is provided in conjunction with the SAR. This SAR has neither for the SDT to work with. If NERC actually went through an engineering analysis to come to this conclusion, then it would greatly benefit the industry and SDT if they shared that analysis so we can try to understand the underlying engineering reasoning for these decisions.

This SAR essentially admits in an indirect manner that NERC made a mistake of adding these resources to these standards in the past. In hindsight, this mistake emanates from rushing the process and not fully understanding the ramifications of modifications to standards. It appears that NERC is making the same mistake with the response to FERC order 901. The response and plan seem rushed and appears to be a panicked response to FERC. If history teaches us anything, we should slow down and go through the engineering process in a thorough manner. This will allow us to better understand the decisions we are making and their ramifications on the industry and on reliability.

If NERC wants to remove inverter-based resources from PRC-019, then there is no reason to issue orders through a SAR. There is no reason to have a SDT for this since the team will not have to perform any engineering or technical analysis. There is nothing for the SDT to work with within this SAR for PRC-019 since there are no identified gaps or technical justifications. NERC can just remove inverter-based resources from the standard themselves if this is what they really want to do.

This SAR essentially invalidates the NERC System Protection and Control Subcommittee's (SPCS) SAR without any technical reasoning or justification. NERC should have coordinated with the NERC SPCS and the existing standard drafting team before making this rushed decision. They should have coordinated with these groups to determine if the initial reliability gaps that were identified by the NERC SPCS would be addressed with this additional SAR. By making this decision in a vacuum, NERC is leaving themselves susceptible to reliability gaps.

Based on general principle alone, the SAR should be rejected. If NERC wants to remove inverter-based resources from PRC-019, then the SAR should be re-written and technical justification should be provided in the same manner that the industry must write a SAR. Also, NERC should consider slowing down the inverter-based resource standards development and focus more on working with the

industry (e.g. IEEE, etc.) to gain a better understanding of the technology. We have seen in the past that rushing the development of inverter-based resource standards has resulted in flawed standards that do not have a meaningful impact on system reliability.

Response

Thank you for your comments.

End of Report