

Comment Report

Project Name: 2020-05 Modifications to FAC-001-3 and FAC-002-2 | Standard Authorization Request
Comment Period Start Date: 11/12/2020
Comment Period End Date: 12/11/2020
Associated Ballots:

There were 26 sets of responses, including comments from approximately 89 different people from approximately 72 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
MRO	Dana Klem	1,2,3,4,5,6	MRO	MRO NSRF	Joseph DePoorter	Madison Gas & Electric	3,4,5,6	MRO
					Larry Heckert	Alliant Energy	4	MRO
					Michael Brytowski	Great River Energy	1,3,5,6	MRO
					Jodi Jensen	Western Area Power Administration	1,6	MRO
					Andy Crooks	SaskPower Corporation	1	MRO
					Bryan Sherrow	Kansas City Board of Public Utilities	1	MRO
					Bobbi Welch	Omaha Public Power District	1,3,5,6	MRO
					Jeremy Voll	Basin Electric Power Cooperative	1	MRO
					Bobbi Welch	Midcontinent ISO	2	MRO
					Douglas Webb	Kansas City Power & Light	1,3,5,6	MRO
					Fred Meyer	Algonquin Power Co.	1	MRO
					John Chang	Manitoba Hydro	1,3,6	MRO
					James Williams	Southwest Power Pool, Inc.	2	MRO
					Jamie Monette	Minnesota Power / ALLETE	1	MRO
					Jamison Cawley	Nebraska Public Power	1,3,5	MRO
Sing Tay	Oklahoma Gas & Electric	1,3,5,6	MRO					
Terry Harbour	MidAmerican Energy	1,3	MRO					

					Troy Brumfield	American Transmission Company	1	MRO
Entergy	Julie Hall	5,6		Entergy	Oliver Burke	Entergy - Entergy Services, Inc.	1	SERC
					Jamie Prater	Entergy	5	SERC
Duke Energy	Kim Thomas	1,3,5,6	FRCC,RF,SERC	Duke Energy	Laura Lee	Duke Energy	1	SERC
					Dale Goodwine	Duke Energy	5	SERC
					Greg Cecil	Duke Energy	6	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
					Ann Carey	FirstEnergy - FirstEnergy Solutions	6	RF
					Mark Garza	FirstEnergy-FirstEnergy	4	RF
Southern Company - Southern Company Services, Inc.	Marsha Morgan	1,3,5,6	SERC	Southern Company	Katherine Prewitt	Southern Company Services, Inc	1	SERC
					Jennifer Sykes	Southern Company Generation and Energy Marketing	6	SERC
					R Scott Moore	Alabama Power Company	3	SERC
					William Shultz	Southern Company Generation	5	SERC
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	NPCC Regional Standards Committee no HQ	Guy V. Zito	Northeast Power Coordinating Council	10	NPCC
					Randy MacDonald	New Brunswick Power	2	NPCC

Glen Smith	Entergy Services	4	NPCC
Alan Adamson	New York State Reliability Council	7	NPCC
David Burke	Orange & Rockland Utilities	3	NPCC
Michele Tondalo	UI	1	NPCC
Helen Lainis	IESO	2	NPCC
David Kiguel	Independent	7	NPCC
Paul Malozewski	Hydro One Networks, Inc.	3	NPCC
Nick Kowalczyk	Orange and Rockland	1	NPCC
Joel Charlebois	AESI - Acumen Engineered Solutions International Inc.	5	NPCC
Mike Cooke	Ontario Power Generation, Inc.	4	NPCC
Salvatore Spagnolo	New York Power Authority	1	NPCC
Shivaz Chopra	New York Power Authority	5	NPCC
Deidre Altobell	Con Ed - Consolidated Edison	4	NPCC
Dermot Smyth	Con Ed - Consolidated Edison Co. of New York	1	NPCC
Peter Yost	Con Ed - Consolidated Edison Co. of New York	3	NPCC
Cristhian Godoy	Con Ed - Consolidated	6	NPCC

	Edison Co. of New York		
Sean Bodkin	Dominion - Dominion Resources, Inc.	6	NPCC
Nurul Abser	NB Power Corporation	1	NPCC
Randy MacDonald	NB Power Corporation	2	NPCC
Michael Ridolfino	Central Hudson Gas and Electric	1	NPCC
Vijay Puran	NYSPS	6	NPCC
ALAN ADAMSON	New York State Reliability Council	10	NPCC
Sean Cavote	PSEG - Public Service Electric and Gas Co.	1	NPCC
Brian Robinson	Utility Services	5	NPCC
Quintin Lee	Eversource Energy	1	NPCC
Jim Grant	NYISO	2	NPCC
John Pearson	ISONE	2	NPCC
John Hastings	National Grid USA	1	NPCC
Michael Jones	National Grid USA	1	NPCC

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.

Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy

Answer No

Document Name

Comment

SAR proposed scope should be limited to changing the term "materially modifying". If this term is updated to effectively describe applicable changes, there is no need to consider the rest of the proposed scope as the rest of the standard requirements are sufficiently written as-is.

Likes 0

Dislikes 0

Response

Thomas Foltz - AEP - 3,5,6

Answer No

Document Name

Comment

While we appreciate the concerns expressed within the SAR, AEP recommends against pursuing any effort to develop a definition of material modification that is prescriptive, and which would prevent a Transmission Owner from making this determination for themselves. While AEP agrees that there may be a benefit in providing additional insight into what may or may-not be considered materially modified, we believe each Transmission Owner should continue to be allowed the discretion and flexibility to use proper engineering judgement in determining this for themselves. Regulatory rules and technology changes constantly, and flexibility in identifying which assets have been materially modified needs to remain in hands of the Transmission Owner who best understands the system, its configuration, and what any potential impacts might be. As just one example, system changes might impact a load delivery point, changing it from one-way to bi-directional flow. In such a case as this one, a prescriptive, inflexible definition of materially modified might result in a number of negative impacts. For example, such a definition it might not trigger the connected entity to engage the Transmission Owner. Or, if the connected entity does not engage the Transmission Owner, it could result in inaccurate models and assumptions being made in the design of assets and facilities. This could potentially result in misoperations, leading to improper investing, improper study results, customer outages or tripping due to poor communication, and possibly losing a circuit.

It needs to be recognized that Transmission Owners across the system have existing interconnection agreements with their interconnecting entities. In addition, the Interconnection Requirement document, posted on our company's website, specifies the exact meaning of "materially modified." Any potential prescriptive definition of material modification outside of interconnection agreements or requirements could unintentionally impact and jeopardize these existing interconnection agreements.

While AEP disagrees with pursuing a prescriptive definition of materially modified, we do recognize the importance of communicating the

importance that connecting entities learn and understand that Transmission Owners may have different definitions of what constitutes materially modified (within any Interconnection Agreement or Requirement) and to understand that changes on the connecting entity's side may need to be communicated to Transmission Owners. While obligations in this regard might be one possible strategy, a future Reliability Guideline could perhaps prove equally effective.

Likes 0

Dislikes 0

Response

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

Answer

No

Document Name

Comment

EEI offers the following suggested modifications to the proposed SAR:

SAR Type – To address the concerns related to the term “materially modifying”, the SAR should be modified to give enough latitude to the SDT to best determine how to address the ambiguity in the term by also including the SAR type “Add, Modify or Retire a Glossary Term.”

Purpose or Goal – The purpose of this SAR should be to remove existing ambiguity surrounding the use of the term “materially modifying” given its similarity to the defined FERC defined term “Material Modification”.

Project Scope – The project scope should not include a term that has been identified within that SAR as confusing. Additionally, EEI recommends that the project scope should be modified as follows:

- a. Consider ways **to more clearly define entity responsibilities within FAC-001 and FAC-002.**
- b. Consider requiring Facility owners to notify **responsible entities whenever changes are made to their facility that might impact the Reliable Operation of the BES.**
- c. Consider **the use of another term other than** “materially modifying” to avoid confusion with similar terminology that is used for a different purpose in the FERC Open Access Transmission Tariff **and whether that term should be formally defined.**
- d. Consider **other modifications to existing requirements within FAC-001 and FAC-002 that might better define when TOs and GOs are to notify responsible entities and/or other impacted registered entities as a result of facility modifications** to ensure new or modified Facilities on the Bulk Electric System (BES) are adequately accounted for to ensure **the Reliable Operation of the BES.**

Cost Impacts – While EEI agrees that exact cost impacts of the proposed changes are unknown, additional costs will be incurred by both TOs and GOs as a result of these changes. There may also be delays associated with these changes impacting any planned material modification to existing interconnected resources. EEI recommends these cost impacts be recognized.

Likes 0

Dislikes 0

Response

Marsha Morgan - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company

Answer No

Document Name

Comment

Southern Company supports the suggested modifications to the proposed SAR offered by EEI:

SAR Type – To address the concerns related to the term “materially modifying”, the SAR should be modified to give enough latitude to the SDT to best determine how to address the ambiguity in the term by also including the SAR type “Add, Modify or Retire a Glossary Term.”

Purpose or Goal – The purpose of this SAR should be to remove existing ambiguity surrounding the use of the term “materially modifying” and not to clarify the meaning of the term given its similarity to the defined FERC defined term “Material Modification”.

Project Scope – The project scope should not include a term that has been identified within that SAR as confusing. Additionally, EEI recommends that the project scope should be modified as follows:

- a. Consider ways **to more clearly define entity responsibilities within FAC-001 and FAC-002.**
- *b. Consider requiring Facility owners to notify **responsible entities whenever changes are made to their facility that modifies the physical operating characteristics.**
- c. Consider **the use of another term other than** “materially modifying” to avoid confusion with similar terminology that is used for a different purpose in the FERC Open Access Transmission Tariff **and whether that term should be formally defined.**
- d. Consider **other modifications to existing requirements within FAC-001 and FAC-002 that might better define when TOs and GOs are to notify responsible entities and/or other impacted registered entities as a result of facility modifications** to ensure new or modified Facilities on the Bulk Electric System (BES) are adequately accounted for to ensure **the Reliable Operation of the BES.**

*e. With any modifications or additions to FAC-001 and FAC-002, be mindful of **other standards to avoid duplication or conflict with existing requirements**

Cost Impacts – While EEI agrees that exact cost impacts of the proposed changes are unknown, additional costs will be incurred by both TOs and GOs as a result of these changes. There may also be delays associated with these changes impacting any planned material modification to existing interconnected resources. EEI recommends these cost impacts be recognized.

Likes 0

Dislikes 0

Response

John Allen - City Utilities of Springfield, Missouri - 1,3,4

Answer Yes

Document Name

Comment

City Utilities agrees with the scope and purpose of the SAR, but would like to know if consideration was given to incorporating with the TPL-001 standard and making necessary updates. It appears that TPL-001 already requires the models to include *New planned Facilities and changes to existing Facilities* to determine the impact on the BES. Therefore, would it not be redundant or unnecessary to keep FAC-002 as a separate standard? If FAC-002 is addressing a different reliability risk, then please let us know. If it's for business/tariff or conceptual purposes, then we question the applicability or need as a Reliability Standard.

Likes 0

Dislikes 0

Response

Richard Jackson - U.S. Bureau of Reclamation - 1,5

Answer Yes

Document Name

Comment

Reclamation recommends the scope of this project include updating the NERC Glossary of Terms to contain the definition(s) of "materially modified," "material modification," and any other new terms as appropriate.

Likes 0

Dislikes 0

Response

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

Answer Yes

Document Name

Comment

BPA believes that the gaps have been identified. BPA agrees with the premise that the term "materially modified" is a little vague and it would be helpful to understand exactly what is meant by this terminology.

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 Regional Standards Committee no HQ

Answer Yes

Document Name

Comment

We suggest revising the project scope to be more definitive, instead of having several “consider” statements. In addition, we suggest revising the SAR to allow the drafting team to Add, Modify, or Retire a Glossary Term if the drafting team decides a Glossary Term is needed for resolving ambiguity involving material modifications.

Likes 0

Dislikes 0

Response**Bobbi Welch - Midcontinent ISO, Inc. - 2****Answer**

Yes

Document Name**Comment**

MISO is supportive of the SAR as written and is responding on behalf of its registered functions under FAC-002-2 only.

Likes 0

Dislikes 0

Response**Daniela Atanasovski - APS - Arizona Public Service Co. - 1,3,5,6****Answer**

Yes

Document Name**Comment**

APS agrees with the proposed scope of the SAR as it will provide clarification of what is considered materially modifying for all applicable entities and will identify the functional entities responsible for declaring such modifications to the applicable functional entities. The example described within IRPTF’s White paper, specific to wind turbine generator modifications, poses impacts/changes to the electrical characteristics. APS agrees clarifying the term “materially modified” would remove ambiguity and identifies what is considered materially modified. APS recommends identifying the modification or changes that impact electrical characteristics, such as impedance changes to step up transformers, changes to frequency response, or new inverters (list not all inclusive).

Likes 0

Dislikes 0

Response**Daniel Gacek - Exelon - 1,3,5,6**

Answer	Yes
Document Name	
Comment	
Exelon agrees with the proposed scope, and also supports the EEI comments to improve the language of the SAR to provide additional latitude to the SDT.	
Likes 0	
Dislikes 0	
Response	
Constantin Chitescu - Ontario Power Generation Inc. - 5	
Answer	Yes
Document Name	
Comment	
OPG supports the comments from NPCC Regional Standards Committee no HQ.	
Likes 0	
Dislikes 0	
Response	
Anthony Jablonski - ReliabilityFirst - 10	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Laura Nelson - IDACORP - Idaho Power Company - 1	
Answer	Yes
Document Name	

Comment

Likes 0

Dislikes 0

Response**Kjersti Drott - Tri-State G and T Association, Inc. - 1,3,5****Answer**

Yes

Document Name**Comment**

Likes 0

Dislikes 0

Response**Karen Weaver - Tallahassee Electric (City of Tallahassee, FL) - 1,3,5****Answer**

Yes

Document Name**Comment**

Likes 0

Dislikes 0

Response**Scott Langston - Tallahassee Electric (City of Tallahassee, FL) - 1,3,5****Answer**

Yes

Document Name**Comment**

Likes 0

Dislikes 0

Response

Leonard Kula - Independent Electricity System Operator - 2

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Colleen Campbell - AES - Indianapolis Power and Light Co. - 3

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Bruce Reimer - Manitoba Hydro - 1,3,5,6

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Dana Klem - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Jennie Wike - Tacoma Public Utilities (Tacoma, WA) - 1,3,4,5,6 - WECC

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Julie Hall - Entergy - 5,6, Group Name Entergy

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

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

Answer

Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Teresa Cantwell - Lower Colorado River Authority - 1,5

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

James Baldwin - 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.

Constantin Chitescu - Ontario Power Generation Inc. - 5

Answer

Document Name

Comment

OPG supports the comments from NPCC Regional Standards Committee no HQ.

Likes 0

Dislikes 0

Response

Daniela Atanasovski - APS - Arizona Public Service Co. - 1,3,5,6

Answer

Document Name

Comment

APS offers the following proposals for the SAR drafting team to consider:

- Specifying criteria for what is considered “Materially Modifying” for a Generator Operator and Transmission Operator
- Specify criteria that would identify when it is required for a Generator Operator to inform/declare changes to the Transmission Operator.
- As there are multiple scenarios that could be considered “materially modifying”, a proposal would be that the Transmission Operator shall have the final decision to determine if changes are applicable
- Consider including the Generator Operator and Transmission Operator within SDT to determine what each role considers “materially modifying”.

Likes 0

Dislikes 0

Response

Bobbi Welch - Midcontinent ISO, Inc. - 2

Answer

Document Name

Comment

MISO agrees with comments submitted by the MRO NSRF in support of a Results-Based Standards approach.

Likes 0

Dislikes 0

Response

Teresa Cantwell - Lower Colorado River Authority - 1,5

Answer

Document Name

Comment

LCRA believes that the term “materially modified” should be defined at a regional level. This would give the Planning Coordinators and Transmission Planners the ability to define the boundaries of what modifications could impact the reliability of their portion of the BES.

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 Regional Standards Committee no HQ

Answer

Document Name

Comment

Please update the SAR regarding references to FAC-002-2. FAC-002-3 was approved by FERC as part of the Standards Alignment with Registration Project (Project 2017-07).

While we appreciate focusing on ensuring that new technologies are adequately addressed in standards FAC-001 and FAC-002. We recommend against pursuing any effort to develop a prescriptive definition of material modification or assign the responsibility of making materiality modification determination to any other entities beyond those that already are assigned in FERC-approved Open Access Transmission Tariffs (OATTs). The processes of materiality modification determination are well defined in the OATTs and account for regional differences as it relates to the entities performing such determinations. These processes provide adequate flexibility necessary to incorporate and thoroughly study any new or existing technology. Moreover, the OATTs and their supplemental documents (manuals, guidelines, etc.) clearly identify the roles and responsibilities of the entities involved in the materiality modification determinations.

We recommend that NERC may want to change the title of this project since there is now an approved FAC-002-3 (SAR project 2017-07). Maybe they need to call it “Project 2020-05 Modifications to FAC-001-3 and FAC-002-3”.

Likes 0

Dislikes 0

Response

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

Answer

Document Name

Comment

Please consider changing the SAR reference from FAC-002-2 to FAC-002-3. While FAC-002-2 is the currently enforceable Reliability Standard, Project 2017-07 (Standards Alignment with Registration) modified this Reliability Standard to align it with current NERC registration practices. Additionally, NERC petitioned FERC to approve this modification (et. al.) through Docket No. RD20-04-000, which was subsequently approved by FERC through a Letter Order dated October 30, 2020.

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

Julie Hall - Entergy - 5,6, Group Name Entergy

Answer

Document Name

Comment

Following are two questions for the SDT's consideration:

1. Will GOs have access to updated dynamic models for the proposed changes to either synchronous or inverter-based resources prior to actual implementation and MOD-026/027 testing of these changes? The updated dynamic models reflecting the proposed changes may be needed by the TP or PC to assess the impact of the changes for Material Modification determinations.

2. Would Material Modification determinations be limited to a change in generator facility equipment? It seems that routine MOD-025/026/027 testing for which changes in modeling parameters occur (due to age for example) would not constitute a Material Modification.

Likes 0

Dislikes 0

Response

Dana Klem - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO NSRF

Answer

Document Name

Comment

For these Standards not to be reviewed again in the future (based on new technologies) the NSRF requests that the Requirements be Results-Based by stating a clear objective within all Requirements. Results-Based Standards clearly set an objective that all applicable Entities can understand what the "materially modified" term (or future term) means to support system reliability.

Likes 0

Dislikes 0

Response

Bruce Reimer - Manitoba Hydro - 1,3,5,6

Answer

Document Name

Comment

In Manitoba Hydro Transmission Service Interconnection Requirement, the material modifications (which is referred as "Substantial Modifications") are defined as modifications to a Generator facility(ies) as determined by Manitoba Hydro, results in a change in:

- Real power output greater than 1.0 MW, or
- Reactive power output greater than 1.0 Mvar, or
- The steady state, transient and sub-transient reactance of the Generator or the Generator Interconnection Facilities by more than 10% of the as-built values, or
- The inertia of the Generator by more than 10% of the as-built values, or
- The protection system of the GENERATOR FACILITY(IES) or GENERATOR

INTERCONNECTION FACILITY(IES), or

- The generator voltage, frequency, rotor angle and field current dynamic response by more than 10% of the as-build values following a step change in frequency set-point or voltage set-point.
- A modification to a GENERATOR FACILITY(IES) resulting from the addition of facilities or the interconnection of a third party GENERATOR FACILITY(IES) to the GENERATOR OWNER'S existing GENERATOR FACILITY(IES) or GENERATOR INTERCONNECTION FACILITY(IES).

Please follow the link below to access the currently effective Manitoba Hydro Transmission System Interconnection Requirements document.

http://www.oasis.oati.com/woa/docs/MHEB/MHEBdocs/MH_transmission_interconnection_requirements_July2016-final.pdf

Likes 0

Dislikes 0

Response

Colleen Campbell - AES - Indianapolis Power and Light Co. - 3

Answer

Document Name

Comment

No additional comments

Likes 0

Dislikes 0

Response

Richard Jackson - U.S. Bureau of Reclamation - 1,5

Answer

Document Name

Comment

None

Likes 0

Dislikes 0

Response

Kim Thomas - Duke Energy - 1,3,5,6 - SERC,RF, Group Name Duke Energy

Answer

Document Name

Comment

None.

Likes 0

Dislikes 0

Response