

## Comment Report

**Project Name:** 2020-04 Modifications to CIP-012 | Draft 3  
**Comment Period Start Date:** 10/3/2022  
**Comment Period End Date:** 11/29/2022  
**Associated Ballots:** 2020-04 Modifications to CIP-012 CIP-012-2 AB 3 ST  
2020-04 Modifications to CIP-012 CIP-012-2 Non-Binding Poll AB 3 NB  
2020-04 Modifications to CIP-012 Implementation Plan AB 3 OT

There were 71 sets of responses, including comments from approximately 164 different people from approximately 110 companies representing 10 of the Industry Segments as shown in the table on the following pages.

## Questions

- 1. The SDT revised CIP-012-1 R1 to address the comments received during previous ballots and to meet the directives outlined in FERC Order No. 866 seeking to provide for the availability of Real-time Assessment and Real-time monitoring data while in transit between Control Centers. Do you agree that the proposed language in R1 addresses the mitigation of risk as identified in FERC Order No. 866? If not please provide comments and suggested requirement language.**
- 2. Does the language in R1.2 adequately reflect the need to mitigate the loss of the ability to transmit Real-time Assessment and Real-time monitoring data? If not please provide comments and suggested requirement language.**
- 3. Does the language in R1.4 provide Responsible Entities with clarity on the need to identify physically or logically where they have applied the methods required in R1.1 and R1.2? If not please provide comments and suggested requirement language.**
- 4. The SDT received multiple requests to provide more possible mitigation methods. Do you agree that the expanded measures section of the standard adequately demonstrates examples of methods that could be used to mitigate the risk posed by loss of Real-time assessment and Real-time monitoring data while in transit?**
- 5. The SDT proposes that the modifications in CIP-012-2 meet the FERC directives in a cost effective manner. Do you agree? If you do not agree, or if you agree but have suggestions for improvement to enable more cost effective approaches, please provide your recommendation and, if appropriate, technical or procedural justification.**
- 6. The last ballot showed industry approval of the proposed 24-month implementation plan. Do you still agree the proposed timeframe is appropriate in light of the proposed revisions to the standard language? If you think an alternate timeframe is needed, please propose an alternate implementation plan and time period, and provide a detailed explanation of actions planned to meet the implementation deadline.**
- 7. Provide any additional comments for the standard drafting team to consider, including the provided technical rationale and implementation guidance document, if desired.**

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
BC Hydro and Power Authority	Adrian Andreoiu	1	WECC	BC Hydro	Hootan Jarollahi	BC Hydro and Power Authority	3	WECC
					Helen Hamilton Harding	BC Hydro and Power Authority	5	WECC
					Adrian Andreoiu	BC Hydro and Power Authority	1	WECC
Chris Carnesi	Chris Carnesi		WECC	NCPA	Marty Hostler	Northern California Power Agency	4	WECC
					Dennis Sismaet	Northern California Power Agency	6	WECC
Santee Cooper	Chris Wagner	1		Santee Cooper	Christine Pope	Santee Cooper	1,3,5,6	SERC
					Rene' Free	Santee Cooper	1,3,5,6	SERC
WEC Energy Group, Inc.	Christine Kane	3		WEC Energy Group	Christine Kane	WEC Energy Group	3	RF
					Matthew Beilfuss	WEC Energy Group, Inc.	4	RF
					Clarice Zellmer	WEC Energy Group, Inc.	5	RF
					David Boeshaar	WEC Energy Group, Inc.	6	RF
Jennie Wike	Jennie Wike		WECC	Tacoma Power	Jennie Wike	Tacoma Public Utilities	1,3,4,5,6	WECC
					John Merrell	Tacoma Public Utilities (Tacoma, WA)	1	WECC
					Marc Donaldson	Tacoma Public Utilities (Tacoma, WA)	3	WECC
					Hien Ho	Tacoma Public Utilities (Tacoma, WA)	4	WECC
					Terry Gifford	Tacoma Public Utilities (Tacoma, WA)	6	WECC

					Ozan Ferrin	Tacoma Public Utilities (Tacoma, WA)	5	WECC
Eversource Energy	Joshua London	1		Eversource	Joshua London	Eversource Energy	1	NPCC
					Vicki O'Leary	Eversource Energy	3	NPCC
Public Utility District No. 1 of Chelan County	Joyce Gundry	3		CHPD	Meaghan Connell	Public Utility District No. 1 of Chelan County	5	WECC
					Glen Pruitt	Public Utility District No. 1 of Chelan County	6	WECC
					Joyce Gundry	Public Utility District No. 1 of Chelan County	3	WECC
					Diane Landry	Public Utility District No. 1 of Chelan County	1	WECC
DTE Energy - Detroit Edison Company	Karie Barczak	3		DTE Energy - DTE Electric	Adrian Raducea	DTE Energy - Detroit Edison Company	5	RF
					Patricia Ireland	DTE Energy - DTE Electric	4	RF
					Karie Barczak	DTE Energy - DTE Electric	3	RF
MRO	Kendra Buesgens	1,2,3,4,5,6,7	MRO	MRO NSRF	Bobbi Welch	Midcontinent ISO, Inc.	2	MRO
					Christopher Bills	City of Independence Power & Light	3,5	MRO
					Fred Meyer	Algonquin Power Co.	3	MRO
					Jamie Monette	Allete - Minnesota Power, Inc.	1	MRO
					Larry Heckert	Alliant Energy Corporation Services, Inc.	4	MRO
					Marc Gomez	Southwestern Power Administration	1	MRO

					Matthew Harward	Southwest Power Pool, Inc.	2	MRO
					LaTroy Brumfield	American Transmission Company, LLC	1	MRO
					Bryan Sherrow	Kansas City Board Of Public Utilities	1	MRO
					Terry Harbour	MidAmerican Energy	1,3	MRO
					Jamison Cawley	Nebraska Public Power	1,3,5	MRO
					Seth Shoemaker	Muscatine Power & Water	1,3,5,6	MRO
					Michael Brytowski	Great River Energy	1,3,5,6	MRO
					David Heins	Omaha Public Power District	1,3,5,6	MRO
					George Brown	Acciona Energy North America	5	MRO
					Jaimin Patel	Saskatchewan Power Corporation	1	MRO
					Kimberly Bentley	Western Area Power Administration	1,6	MRO
FirstEnergy - FirstEnergy Corporation	Mark Garza	4		FE Voter	Julie Severino	FirstEnergy - FirstEnergy Corporation	1	RF
					Aaron Ghodooshim	FirstEnergy - FirstEnergy Corporation	3	RF
					Robert Loy	FirstEnergy - FirstEnergy Solutions	5	RF
					Mark Garza	FirstEnergy-FirstEnergy	1,3,4,5,6	RF
					Stacey Sheehan	FirstEnergy - FirstEnergy Corporation	6	RF

Michael Johnson	Michael Johnson		WECC	PG&E All Segments	Marco Rios	Pacific Gas and Electric Company	1	WECC
					Sandra Ellis	Pacific Gas and Electric Company	3	WECC
					James Mearns	Pacific Gas and Electric Company	5	WECC
California ISO	Monika Montez	2	WECC	ISO/RTO Council Standards Review Committee (SRC) 2020-04 CIP-012-2v4	Monika Montez	CAISO	2	WECC
					Bobbi Welch	Midcontinent ISO, Inc.	2	RF
					Kathleen Goodman	ISO-NE	2	NPCC
					Gregory Campoli	New York Independent System Operator	2	NPCC
					Helen Lainis	IESO	2	NPCC
					Elizabeth Davis	PJM	2	RF
					Charles Yeung	Southwest Power Pool, Inc. (RTO)	2	MRO
Northeast Power Coordinating Council	Ruida Shu	1,2,3,4,5,6,7,8,9,10	NPCC	NPCC RSC	Gerry Dunbar	Northeast Power Coordinating Council	10	NPCC
					Sheraz Majid	Hydro One Networks, Inc.	1	NPCC
					Deidre Altobell	Con Edison	1	NPCC
					John Hastings	National Grid	1	NPCC
					Jeffrey Streifling	NB Power Corporation	1	NPCC
					Michele Tondalo	United Illuminating Co.	1	NPCC
					Chantal Mazza	Hydro Quebec	1	NPCC
					Stephanie Ullah-Mazzuca	Orange and Rockland	1	NPCC
					Quintin Lee	Eversource Energy	1	NPCC

Michael Ridolfino	Central Hudson Gas & Electric Corp.	1	NPCC
Dan Kopin	Vermont Electric Power Company	1	NPCC
James Grant	NYISO	2	NPCC
John Pearson	ISO New England, Inc.	2	NPCC
Harishkumar Subramani Vijay Kumar	Independent Electricity System Operator	2	NPCC
Nicolas Turcotte	Hydro-Québec TransEnergie	1	NPCC
Randy MacDonald	New Brunswick Power Corporation	2	NPCC
Dermot Smyth	Con Ed - Consolidated Edison Co. of New York	1	NPCC
Michael Jones	National Grid	3	NPCC
David Burke	Orange and Rockland	3	NPCC
Peter Yost	Con Ed - Consolidated Edison Co. of New York	3	NPCC
Salvatore Spagnolo	New York Power Authority	1	NPCC
Sean Bodkin	Dominion - Dominion Resources, Inc.	6	NPCC
David Kwan	Ontario Power Generation	4	NPCC
Silvia Mitchell	NextEra Energy - Florida Power and Light Co.	1	NPCC
Glen Smith	Entergy Services	4	NPCC

					Sean Cavote	PSEG	4	NPCC
					Jason Chandler	Con Edison	5	NPCC
					Tracy MacNicoll	Utility Services	5	NPCC
					Shivaz Chopra	New York Power Authority	6	NPCC
					Vijay Puran	New York State Department of Public Service	6	NPCC
					ALAN ADAMSON	New York State Reliability Council	10	NPCC
					David Kiguel	Independent	7	NPCC
					Joel Charlebois	AESI	7	NPCC
Tim Kelley	Tim Kelley		WECC	SMUD / BANC	Nicole Looney	Sacramento Municipal Utility District	3	WECC
					Charles Norton	Sacramento Municipal Utility District	6	WECC
					Wei Shao	Sacramento Municipal Utility District	1	WECC
					Foung Mua	Sacramento Municipal Utility District	4	WECC
					Nicole Goi	Sacramento Municipal Utility District	5	WECC
					Kevin Smith	Balancing Authority of Northern California	1	WECC



1. The SDT revised CIP-012-1 R1 to address the comments received during previous ballots and to meet the directives outlined in FERC Order No. 866 seeking to provide for the availability of Real-time Assessment and Real-time monitoring data while in transit between Control Centers. Do you agree that the proposed language in R1 addresses the mitigation of risk as identified in FERC Order No. 866? If not please provide comments and suggested requirement language.

Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Merrell, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Nierenberg, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; - Jennie Wike, Group Name Tacoma Power

Answer No

Document Name

Comment

As worded in CIP-012 Draft 3, it appears that R1 Part R1.2 is focused on a different security concern than FERC Order 866. FERC Order 866 is focused on the availability of data, while the proposed wording of R1 Part 1.2 is focused on the loss of data, which could be interpreted as data loss as a result of a breach, as opposed to the loss of data availability. Data Availability is a very different concern, with a very different impact and risk profile.

Suggested R1 Part 1.2 edit (emphasis added to denote change):

1.2. Identification of method(s) used to mitigate the risk(s) posed by loss **OF THE AVAILABILITY** of data used for Real-time Assessment and Real-time monitoring while such data is being transmitted between Control Centers

Likes 0

Dislikes 0

Response

Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro

Answer No

Document Name

Comment

BC Hydro appreciates the drafting team's efforts to address BC Hydro's previous comments on Draft 2. After reviewing the Standard and Technical Rationale revisions in conjunction with this Draft 3, BC Hydro offers the following comments.

Although the wording in Requirement R2 of Draft 3 of CIP-012-2 has been removed, it appears that the wording of the Requirement 2 from Draft 1 and Draft 2 has only been moved or merged into Requirement R1 of Draft 3. BC Hydro's previous concerns raised on CIP-012-2 Draft 1 and Draft 2 appear to have not been materially addressed, and BC Hydro continues to believe still hold valid grounds.

The changes in Requirement R1 in Draft 3 of CIP-012-2 still imply a possible reliance on redundancy, which does not align with the approach taken in the other existing CIP standards, particularly CIP-002-5.1a. As availability is the purview of operations, BC Hydro believes that it would be better suited to other Mandatory Reliability Standards (MRS) within the Operations and Planning (O&P) domains (e.g., IRO-010, TOP-003, TOP-001).

BC Hydro recommends removing the 'availability' requirement from CIP-012-2 and revising other MRS standards to address this need as appropriate.

Alternatively, similar to our comments on Draft 2, BC Hydro suggests that the drafting team provide a clear definition of the term 'availability', and clarity that it does not imply the use of redundant setups. For most of the entities, 'availability' of communication networks depends on third party telecommunication providers and, in the event of a line or telecommunication equipment failure, the entity is reliant on the third party telecommunication providers to fix the problems. BC Hydro suggests that SDT add an exemption for the links and equipment used by third party telecommunication providers, as changing or enhancing the third party telecommunication infrastructure to support 'availability' may not be feasible for many entities.

Likes 0

Dislikes 0

### Response

Justin Kuehne - AEP - 6

Answer

No

Document Name

Comment

While AEP agrees that the proposed language addresses the mitigation of risk identified in FERC Order No. 866, we believe the language is too vague and allows for different interpretations of the requirement. AEP recommends more prescriptive language of what is required to meet compliance for R1.

Additionally, AEP recommends more explicit reference to the CIA (Confidentiality, Integrity, and Availability) triad of information security in the requirement language. The current language only specifically refers to and preserves the "availability" portion of the triad. AEP believes the standard would benefit from including all three parts.

Furthermore, AEP recommends the addition of language referring to "data exchange capabilities" similar to TOP-001-5 R20 and R21 to bring consistency between Transmission Operations standard/requirement language and that of CIP-012.

As such, AEP recommends inclusions to the R1 language regarding the CIA triad and Transmission Operations standards. Suggested requirement language for R1 reads as follows:

***"R1. The Responsible Entity shall implement, except under CIP Exceptional Circumstances, one or more documented plan(s) to mitigate the risks to data exchange capabilities posed by loss of confidentiality, loss of integrity, and loss of availability of data used for Real time Assessment and Real-time monitoring while such data is being transmitted between any applicable Control Centers. The Responsible Entity is not required to include oral communications in its plan. The plan shall include: [Violation Risk Factor: Medium] [Time Horizon: Operations Planning]"***

***1.1. Identification of method(s) used to mitigate the risks to data exchange capabilities posed by loss of confidentiality and integrity of data used for Real-time Assessment and Real-time monitoring while such data is being transmitted between Control Centers;"***

Likes 0

Dislikes 0

### Response

Jack Stamper - Clark Public Utilities - 3 - WECC

Answer

No

Document Name

**Comment**

As worded in CIP-012 Draft 3, it appears that R1 Part R1.2 is focused on a different security concern than FERC Order 866. FERC Order 866 is focused on the availability of data, while the proposed wording of R1 Part 1.2 is focused on the loss of data, which could be interpreted as data loss as a result of a breach, as opposed to the loss of data availability. Data Availability is a very different concern, with a very different impact and risk profile.

Suggested R1 Part 1.2 edit (emphasis added to denote change):

1.2. Identification of method(s) used to mitigate the risk(s) posed by loss **OF THE AVAILABILITY** of data used for Real-time Assessment and Real-time monitoring while such data is being transmitted between Control Centers;

Likes 0

Dislikes 0

**Response**

**Devin Shines - PPL - Louisville Gas and Electric Co. - 1,3,5,6 - SERC,RF**

**Answer**

No

**Document Name**

**Comment**

PPL NERC Registered Affiliates do not support the proposed changes. Specifically, the proposed R1.3 is overly broad.

PPL NERC Registered Affiliates propose the following revisions to R1.3: "Identification of method(s) used to recover in the recovery of Responsible Entity owned or operated communication links used to transmit Real-time Assessment and Real-time monitoring data between Control Centers;"

Likes 0

Dislikes 0

**Response**

**John Galloway - John Galloway On Behalf of: John Pearson, ISO New England, Inc., 2; - John Galloway**

**Answer**

No

**Document Name**

**Comment**

ISO-NE is in support of comments developed by ISO-RTO council and NPCC.

Likes 0

Dislikes 0

**Response**

**Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC RSC**

**Answer** No

**Document Name**

**Comment**

Request more specifics on what the elements of this plan must contain to assist the entity in meeting compliance obligation

Request a clearer definition of "availability"

Likes 0

Dislikes 0

**Response**

**Roger Fradenburgh - Roger Fradenburgh On Behalf of: Nicholas Lauriat, Network and Security Technologies, 1; - Roger Fradenburgh**

**Answer** No

**Document Name**

**Comment**

NST believes the latest proposed changes to CIP-012, as well as the latest proposed implementation guidance, fail to clarify the limits of a Responsible Entity's CIP-012 "availability" obligations. We believe the intent of FERC's Order was to focus on protecting the availability of inter- Control Center communications links. Doing so would, by extension, protect the availability of in-transit data. We do not believe FERC intended for CIP-012 revisions to add data availability requirements that extend to sending and receiving Cyber Assets, which in most if not all instances are BES Cyber Systems in Control Centers, and therefore subject to an array of requirements that support availability (including several CIP Standards and EOP-008-2 R1). This is something NERC made note of in its comments to FERC (June 24, 2019) and that FERC acknowledged in its CIP-012 NOPR and Order, even while disagreeing that existing Standards address the availability of communication links and data between Control Centers.

NST notes that R1's proposed language fails to directly address the availability of communication links while, at the same time, including a part (R1.3) that requires Responsible Entities to identify methods to recover them. This omission should be addressed.

NST believes requirements addressing the availability of in-transit data, which in this context, as explained above, is dependent on the availability of functioning communication links between Control Centers, should be set forth in a separate, top-level Requirement, as it was in the SDT's first draft of proposed CIP-012 revisions.

NST suggests a top-level availability Requirement that includes language similar to, "The Responsible Entity shall implement, except under CIP Exceptional Circumstances, one or more documented plan(s) to mitigate availability risks to communications links between Control Centers and, by extension, to in-transit Real-time Assessment and Real-time monitoring data communicated between Control Centers."

Likes 0

Dislikes 0

**Response**

**Jamie Monette - Allele - Minnesota Power, Inc. - 1**

**Answer** No

**Document Name**

**Comment**

MP believes the proposed revisions address the FERC Order, but doesn't feel that CIP-012 is the appropriate standard to address availability. CIP-012 should be focused on providing protection for the data and availability of the data defined in other Ops and Planning Standards.

Likes 0

Dislikes 0

**Response**

**Monika Montez - California ISO - 2 - WECC, Group Name ISO/RTO Council Standards Review Committee (SRC) 2020-04 CIP-012-2v4**

**Answer** No

**Document Name**

**Comment**

The SRC supports a risk-based approach to protecting the availability of data used for Real-time Assessment (RTA) and Real-time monitoring (RTM). That said, we propose a revision to the language in Part 1.2 to clarify and better align with the intent of FERC Order 866 by placing the emphasis on the desired action of "**mitigating the loss of data**" as opposed to "mitigating the [resultant] risks posed [to the BES]" following a loss of data which could be interpreted to be a much broader task.

**1.2.** Identification of method(s), ***tailored according to the risk posed***, used to mitigate the loss of data used for Real-time Assessment and Real-time monitoring while such data is being transmitted between Control Centers;

Likes 0

Dislikes 0

**Response**

**Israel Perez - Israel Perez On Behalf of: Jennifer Bennett, Salt River Project, 3, 5, 1, 6; Mathew Weber, Salt River Project, 3, 5, 1, 6; Sarah Blankenship, Salt River Project, 3, 5, 1, 6; - Israel Perez**

**Answer** No

**Document Name**

**Comment**

As worded in CIP-012 Draft 3, it appears that R1 Part R1.2 is focused on a different security concern than FERC Order 866. FERC Order 866 is focused on the availability of data, while the proposed wording of R1 Part 1.2 is focused on the loss of data, which could be interpreted as data loss as a result of a breach, as opposed to the loss of data availability. Data Availability is a very different concern, with a very different impact and risk profile.

Suggested R1 Part 1.2 edit (emphasis added to denote change):

1.2. Identification of method(s) used to mitigate the risk(s) posed by loss OF THE AVAILABILITY of data used for Real-time Assessment and Real-time monitoring while such data is being transmitted between Control Centers;

Likes 0

Dislikes 0

**Response**

**Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC**

**Answer**

No

**Document Name**

**Comment**

Southern Company proposes the following wording: Identification of method(s) used to mitigate the cyber security risk(s) posed by loss of ability to transmit data used for Real-time Assessment and Real-time monitoring while such data is being transmitted between Control Center;

Likes 0

Dislikes 0

**Response**

**Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF**

**Answer**

No

**Document Name**

**Comment**

Although the FERC order uses “availabilitiy” We suggest using “and loss of data used for ...” in R1. We feel by removing “availability”, it addresses the overall picture of availability without directly using availability and relieves the need to define it. The new measures describe what the requirement is aiming to mitigate, making it clearer for Regional Entities to construct their plans.

Likes 0

Dislikes 0

**Response**

**Deanna Carlson - Cowlitz County PUD - 5**

**Answer**

No

**Document Name**

**Comment**

Cowlitz PUD (District) has concern with poor word usage in part 1.1 which misdirects risk mitigation towards after-the-fact unauthorized disclosure and unauthorized modification of data used for Real-time Assessment/monitoring. Risk mitigation should be focused on preventive methods to reduce the risk of unauthorized access to the data. As written, the "methods" would include actions that must be taken to mitigate the impact of unauthorized disclosure. The focus of the requirement should be limited to prevention of unauthorized access. If the SDT desires action to be taken if unauthorized access to the data occurs, this must be limited to improvements on the protective measures upon discovery of the protective measures' failure.

Suggested R1 Part 1.1 edit (emphasis added to denote change):

Identification of method(s) used to mitigate the risks **posed by of** unauthorized disclosure and unauthorized modification of data used for Realtime Assessment and Real-time monitoring while such data is being transmitted between Control Centers.

Likes 0

Dislikes 0

**Response**

**Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1**

**Answer**

No

**Document Name**

**Comment**

AEPCO suggests changing the language to **"the unavailability of** instead of *loss of availability of data used for*" and adding **data** after Real-time monitoring to help clear up the confusion over the wording of "loss of availability of data":

R1. The Responsible Entity shall implement, except under CIP Exceptional Circumstances, one or more documented plan(s) to mitigate the risks posed by unauthorized disclosure , unauthorized modification, and **the unavailability of** Real-time Assessment and Real-time monitoring **data** while such data is being transmitted between any applicable Control Centers. The Responsible Entity is not required to include oral communications in its plan. The plan shall include: [Violation Risk Factor: Medium] [Time Horizon: Operations Planning]

Likes 0

Dislikes 0

**Response**

**Melanie Wong - Seminole Electric Cooperative, Inc. - 1,3,4,5,6**

**Answer**

No

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper**

**Answer** No

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Kendra Buesgens - MRO - 1,2,3,4,5,6,7 - MRO, Group Name MRO NSRF**

**Answer** No

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Michael Russell - Massachusetts Municipal Wholesale Electric Company - 5 - NPCC**

**Answer** No

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Michael Johnson - Michael Johnson On Behalf of: Frank Lee, Pacific Gas and Electric Company, 3, 1, 5; Marco Rios, Pacific Gas and Electric Company, 3, 1, 5; Sandra Ellis, Pacific Gas and Electric Company, 3, 1, 5; - Michael Johnson, Group Name PG&E All Segments**



<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
PG&E agrees the revised language of Requirement R1 meets the directives outlined in FERC Order 866 on providing the availability of Real-time Assessment and Real-time monitoring data while in transit between Control Centers.	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Tristan Miller - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
No comments	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Brian Lindsey - Entergy - 1</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
No Comment	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Marcus Bortman - APS - Arizona Public Service Co. - 6</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	

**Comment**

AZPS agrees that the proposed language in R1 addresses the mitigation of risk as identified in FERC Order No. 866.

Likes 0

Dislikes 0

**Response**

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

**Answer**

Yes

**Document Name**

**Comment**

The NAGF supports the proposed language for Requirement 1.

Likes 0

Dislikes 0

**Response**

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

**Answer**

Yes

**Document Name**

**Comment**

EI agrees the revised language in CIP-012-1, Requirement R1 meets the directives outlined in FERC Order No. 866 seeking to provide for the availability of Real-time Assessment and Real-time monitoring data while in transit between Control Centers.

Likes 0

Dislikes 0

**Response**

**Kinte Whitehead - Exelon - 3**

**Answer**

Yes

**Document Name**

**Comment**

Exelon has elected to align with EEI in response to this question.

Likes 0

Dislikes 0

**Response**

**Daniel Gacek - Exelon - 1**

**Answer**

Yes

**Document Name**

**Comment**

Exelon has elected to align with EEI in response to this question.

Likes 0

Dislikes 0

**Response**

**Kimberly Turco - Constellation - 6**

**Answer**

Yes

**Document Name**

**Comment**

Constellation aligns with Exelon Corporation in response to this question.

Kimberly Turco on behalf of Constellation Segments 5 and 6

Likes 0

Dislikes 0

**Response**

**Alison MacKellar - Constellation - 5**

**Answer**

Yes

**Document Name**

**Comment**

Constellation aligns with Exelon Corporation in response to this question.

Alison Mackellar on behalf of Constellation Segments 5 and 6.

Likes 0

Dislikes 0

**Response**

**Summer Esquerre - NextEra Energy - 5**

**Answer**

Yes

**Document Name**

**Comment**

please reference EEI's comments

Likes 0

Dislikes 0

**Response**

**Brian Millard - Tennessee Valley Authority - 1,3,5,6 - SERC**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Martin Sidor - NRG - NRG Energy, Inc. - 6**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

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

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Jay Sethi - Manitoba Hydro - 1,3,5,6 - MRO**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**John Daho - MEAG Power - 1,3 - SERC**

**Answer**

Yes

<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Mike Magruder - Avista - Avista Corporation - 1</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Glen Farmer - Avista - Avista Corporation - 5</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Robert Follini - Avista - Avista Corporation - 3</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	

<b>Response</b>	
<b>Steven Rueckert - Western Electricity Coordinating Council - 10</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes	0
Dislikes	0

<b>Response</b>	
<b>Joseph Gatten - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes	0
Dislikes	0

<b>Response</b>	
<b>Tim Kelley - Tim Kelley On Behalf of: Charles Norton, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Foung Mua, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Kevin Smith, Balancing Authority of Northern California, 1; Nicole Goi, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Nicole Looney, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; - Tim Kelley, Group Name SMUD / BANC</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes	0
Dislikes	0

<b>Response</b>	
<b>Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC</b>	
<b>Answer</b>	Yes

<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Jennifer Buckman - Southern Indiana Gas and Electric Co. - 3,5,6 - RF</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Ellese Murphy - Duke Energy - 1,3,5,6 - MRO,WECC,Texas RE,SERC,RF</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Joyce Gundry - Public Utility District No. 1 of Chelan County - 3, Group Name CHPD</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	



**Response**

**David Jendras Sr - Ameren - Ameren Services - 3**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Claudine Bates - Black Hills Corporation - 1,3,5,6**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Sheila Suurmeier - Black Hills Corporation - 5**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Josh Combs - Black Hills Corporation - 3**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response****Micah Runner - Black Hills Corporation - 1,3,5,6****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response****Jesus Sammy Alcaraz - Imperial Irrigation District - 1****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response****Lindsay Wickizer - Berkshire Hathaway - PacifiCorp - 6****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response**

**Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Erik Gustafson - PNM Resources - Public Service Company of New Mexico - 1,3 - WECC,Texas RE**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Christine Kane - WEC Energy Group, Inc. - 3, Group Name WEC Energy Group**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Mia Wilson - Southwest Power Pool, Inc. (RTO) - 2 - MRO,WECC**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Patricia Ireland - DTE Energy - 4**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Lindsey Mannion - ReliabilityFirst - 10**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

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

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Gail Elliott - Gail Elliott On Behalf of: Michael Moltane, International Transmission Company Holdings Corporation, 1; - Gail Elliott**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Joshua London - Eversource Energy - 1, Group Name Eversource**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Larry Brusseau - Corn Belt Power Cooperative - 1 - MRO**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**James Baldwin - Lower Colorado River Authority - 1**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Teresa Krabe - Lower Colorado River Authority - 1,5**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Chris Carnesi - Chris Carnesi On Behalf of: Dennis Sismaet, Northern California Power Agency, 4, 6, 3, 5; Jeremy Lawson, Northern California Power Agency, 4, 6, 3, 5; Marty Hostler, Northern California Power Agency, 4, 6, 3, 5; Michael Whitney, Northern California Power Agency, 4, 6, 3, 5; - Chris Carnesi, Group Name NCPA**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Dwanique Spiller - Berkshire Hathaway - NV Energy - 5**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Rachel Coyne - Texas Reliability Entity, Inc. - 10****Answer** Yes**Document Name****Comment**

Likes 0

Dislikes 0

**Response****Ronald Bauer - MGE Energy - Madison Gas and Electric Co. - 3 - MRO****Answer** Yes**Document Name****Comment**

Likes 0

Dislikes 0

**Response****Sheraz Majid - Hydro One Networks, Inc. - 1****Answer****Document Name****Comment**

Additional clarification and/or consistency is required between “loss of availability of data” used in R1, “loss of data” used in Part 1.2, and “loss of data transmission capability” used in the technical rationale.

Likes 0

Dislikes 0

**Response**

2. Does the language in R1.2 adequately reflect the need to mitigate the loss of the ability to transmit Real-time Assessment and Real-time monitoring data? If not please provide comments and suggested requirement language.

Ronald Bauer - MGE Energy - Madison Gas and Electric Co. - 3 - MRO

Answer No

Document Name

Comment

MGE supports the comments of the MRO NSRF.

Likes 0

Dislikes 0

Response

Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1

Answer No

Document Name

Comment

AEPCO suggests changing the language to "**the unavailability of** instead of *loss of availability of data used for*" and adding **data** after Real-time monitoring to help clear up the confusion over the wording of "loss of availability of data":

1.2. Identification of method(s) used to mitigate the risk(s) posed by **the unavailability of** Real-time Assessment and Real-time monitoring **data** while such data is being transmitted between Control Centers.

Likes 0

Dislikes 0

Response

Deanna Carlson - Cowlitz County PUD - 5

Answer No

Document Name

Comment

The District agrees with comment provided by Tacoma Power concerning Part 1.2. Again, the focus should not be on after-the-fact data leaks or loss. As written, the responsible entity must provide restoration of lost data; this is of no value since it would no longer be Real-time in nature.

Likes 0



Dislikes 0

**Response**

**Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC**

**Answer** No

**Document Name**

**Comment**

Southern Company proposes the following wording: Identification of method(s) used to mitigate the cyber security risk(s) posed by loss of ability to transmit data used for Real-time Assessment and Real-time monitoring while such data is being transmitted between Control Centers;

Likes 0

Dislikes 0

**Response**

**Israel Perez - Israel Perez On Behalf of: Jennifer Bennett, Salt River Project, 3, 5, 1, 6; Mathew Weber, Salt River Project, 3, 5, 1, 6; Sarah Blankenship, Salt River Project, 3, 5, 1, 6; - Israel Perez**

**Answer** No

**Document Name**

**Comment**

As worded in CIP-012 Draft 3, it appears that R1 Part R1.2 is focused on a different security concern than FERC Order 866. FERC Order 866 is focused on the availability of data, while the proposed wording of R1 Part 1.2 is focused on the loss of data, which could be interpreted as data loss as a result of a breach, as opposed to the loss of data availability. Data Availability is a very different concern, with a very different impact and risk profile.

Suggested R1 Part 1.2 edit (emphasis added to denote change):

1.2. Identification of method(s) used to mitigate the risk(s) posed by loss OF THE AVAILABILITY of data used for Real-time Assessment and Real-time monitoring while such data is being transmitted between Control Centers;

Likes 0

Dislikes 0

**Response**

**Chris Carnesi - Chris Carnesi On Behalf of: Dennis Sismaet, Northern California Power Agency, 4, 6, 3, 5; Jeremy Lawson, Northern California Power Agency, 4, 6, 3, 5; Marty Hostler, Northern California Power Agency, 4, 6, 3, 5; Michael Whitney, Northern California Power Agency, 4, 6, 3, 5; - Chris Carnesi, Group Name NCPA**

**Answer** No

**Document Name**

**Comment**

Data loss is too broad and does not specifically address availability as it relates to the FERC order. Wording should include mitigating loss of availability of data while being transmitted between applicable Control Centers and not just data loss.

Likes 0

Dislikes 0

**Response**

**Monika Montez - California ISO - 2 - WECC, Group Name** ISO/RTO Council Standards Review Committee (SRC) 2020-04 CIP-012-2v4

**Answer**

No

**Document Name**

**Comment**

As described in our response to Question 1, the SRC supports a risk-based and tailored approach to addressing protections for data availability. That said, we propose the below revision in Part 1.2 to better clarify this intent by placing the emphasis on the desired action of “**mitigating the loss of data**” as opposed to “mitigating the [resultant] risks posed [to the BES]” following a loss of data which could be interpreted to be a much broader task.

**1.2.** Identification of method(s), **tailored according to the risk posed**, used to mitigate the loss of data used for Real-time Assessment and Real-time monitoring while such data is being transmitted between Control Centers;

Likes 0

Dislikes 0

**Response**

**Teresa Krabe - Lower Colorado River Authority - 1,5**

**Answer**

No

**Document Name**

**Comment**

LCRA is concerned with what level of risk reduction will be deemed sufficient to meet compliance. This could lead to inconsistent auditing of the standard across the ERO.

Likes 0

Dislikes 0

**Response**

**James Baldwin - Lower Colorado River Authority - 1**

<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
LCRA is concerned with what level of risk reduction will be deemed sufficient to meet compliance. This could lead to inconsistent auditing of the standard across the ERO.	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Jamie Monette - Allete - Minnesota Power, Inc. - 1</b>	
<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
MP agrees with the NSRF's comments.	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Roger Fradenburgh - Roger Fradenburgh On Behalf of: Nicholas Lauriat, Network and Security Technologies, 1; - Roger Fradenburgh</b>	
<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
R1.2, which in NST's opinion should be a part of a separate top-level Requirement, should require Responsible Entities to identify the methods used to mitigate availability risks to communication links between Control Centers and, by extension, the in-transit data they are carrying.	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Larry Brusseau - Corn Belt Power Cooperative - 1 - MRO</b>	
<b>Answer</b>	No

**Document Name**

**Comment**

While the MRO NSRF acknowledges that FERC Order 866 directed NERC to modify CIP Standards to address availability, the proposed language in CIP-012-2 does not clearly demonstrate how the objectives of the Requirements are different from some other NERC Standard Requirements already in effect. Specifically, EOP-008-2 R1 appears to require addressing the same risks. Our concern is that a single incident could result in multiple violations. The MRO NSRF requests that the SDT provide greater clarity in the proposed CIP-012-2 Requirement language to demonstrate the differences between the cyber-focused Requirement and other operational requirements, such as EOP-008-2 R1. The MRO NSRF requests the SDT address the aforementioned concern in the technical rationale.

The MRO NSRF supports a risk-based approach to protecting the availability of data used for Real-time Assessment (RTA) and Real-time monitoring (RTM). That said, we propose a revision to the language in Part 1.2 to clarify and better align with the intent of FERC Order 866 by placing the emphasis on the desired action of **“mitigating the loss of data”** as opposed to “mitigating the [resultant] risks posed [to the BES]” following a loss of data which could be interpreted to be a much broader task.

**1.2.** Identification of method(s), tailored according to the risk posed, used to mitigate the risk(s) posed by loss of data used for Real-time Assessment and Real-time monitoring while such data is being transmitted between Control Centers;

Likes 0

Dislikes 0

**Response**

**Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC RSC**

**Answer**

No

**Document Name**

**Comment**

Request alignment between the Requirement and Measures. R1 requires a plan which is a strategic deliverable while the Measures focus on tactical deliverables. Measures should not be pseudo-requirements.

Request clarification of this question since Part 1.2 does not include the language “adequately reflect the need to mitigate the loss.”

How are IRO and TOP Standards deficient in mandating availability? Does CIP-012 create double jeopardy with IRO and TOP Standards?

Request that availability require the same level of detail as version 1’s confidentiality and integrity

Request clarification of “availability” vs “loss of data.”

Likes 0

Dislikes 0

**Response**

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

**Answer**

No

**Document Name**

**Comment**

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

Likes 0

Dislikes 0

**Response**

**John Galloway - John Galloway On Behalf of: John Pearson, ISO New England, Inc., 2; - John Galloway**

**Answer**

No

**Document Name**

**Comment**

ISO-NE is in support of comments developed by ISO-RTO council and NPCC.

Likes 0

Dislikes 0

**Response**

**Patricia Ireland - DTE Energy - 4**

**Answer**

No

**Document Name**

**Comment**

DTE Energy agrees with SOuthern Company's comment:

R1.2 currently is about mitigating the loss of data between control centers, and we think that is way too broad and will be suggesting that this wording change to get it back into the realm of communications and things like redundant circuits. So we'll be voting no and suggesting that it say "mitigate the loss of the ability to transmit data" which we believe does that. Otherwise, it can get into this being applied to processes WITHIN control centers that are producing the data, and that's really not the scope of CIP-012 – so we want the words around the risk to be mitigated to be tightened up.

Likes 0

Dislikes 0

### Response

**Mia Wilson - Southwest Power Pool, Inc. (RTO) - 2 - MRO,WECC**

**Answer**

No

**Document Name**

### Comment

The proposed language in CIP-012-2, Requirement R1, Part 1.2, would now require Responsible Entities to mitigate risk(s) posed by loss of data used for RTA and RTM while such data is being transmitted between Control Centers. What specific risk(s) is in scope? Per the current technical rationale for CIP-012-2, Requirement R1, Part 1.2, "the focus of CIP-012 remains cyber protections around maintaining availability". However, there appears to be a potential gap between the proposed language drafted and the intent of the proposed language. The proposed language in CIP-012-2, Requirement R1, Part 1.2, does not explicitly state "cyber security risk" or "cyber risk", so one could argue that an entity may be asked to show evidence of mitigating risks beyond cyber security, which does not appear to be the intent of the proposed language.

In addition, the language of CIP-012-2, Requirement R1, Part 1.2, leads to ambiguity in the intent. The change to the last phrase "such data is" results in a conflicting sentence requirement. Please notice the contradiction in this requirement. "Identification of method(s) used to mitigate the risk(s) posed by the loss of data [...] while such data is being transmitted" (i.e., the data is being transmitted and therefore has not been lost).

Recommend the following proposed language for CIP-012-2 Requirement R1, Part 1.2, to scope the risk(s) associated with CIP-012-2 to cyber security and remove the contradictory ambiguity:

*Identification of method(s) used to mitigate cyber security risk(s) to data transmission capability between Control Centers that is used for Real-time Assessment and Real-time monitoring;*

Likes 0

Dislikes 0

### Response

**Christine Kane - WEC Energy Group, Inc. - 3, Group Name WEC Energy Group**

**Answer**

No

**Document Name**

### Comment

WEC Energy Group supports the MRO-NSRF comments.

Likes 0

Dislikes 0

**Response**

**Erik Gustafson - PNM Resources - Public Service Company of New Mexico - 1,3 - WECC,Texas RE**

**Answer**

No

**Document Name**

**Comment**

PNMR agrees with the proposed language submitted by both Tacoma Power and SMUD for R1.2: "Identification of method(s) used to mitigate the risk(s) posed by loss **OF THE AVAILABILITY** of data used for Real-time Assessment and Real-time monitoring while such data is being transmitted between Control Centers." This more closely aligns with FERC Order 866, which is focused on the availability of data over the loss of data.

Likes 0

Dislikes 0

**Response**

**Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric**

**Answer**

No

**Document Name**

**Comment**

The scope needs more definition

Likes 0

Dislikes 0

**Response**

**Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper**

**Answer**

No

**Document Name**

**Comment**

Santee Cooper recommends rewording R1.2 to read as “1.2. Identification of method(s) used to mitigate the risk(s) posed by loss **OF THE AVAILABILITY** of data used for Real-time Assessment and Real-time monitoring while such data is being transmitted between Control Centers”. Order 866 focused on the availability of data, this is why we are requesting the wording “of the availability” be included.

Likes 0

Dislikes 0

### Response

#### Jesus Sammy Alcaraz - Imperial Irrigation District - 1

Answer

No

Document Name

Comment

The language as drafted in 1.2 focuses on the loss of data not the loss of the ability to transmit data. Proposed adding “of the availability” to 1.2 language.

Likes 0

Dislikes 0

### Response

#### Marcus Bortman - APS - Arizona Public Service Co. - 6

Answer

No

Document Name

Comment

AZPS does not believe the language in R1.2 is stated clearly. Does this include data at rest?

AZPS proposes using the language within Question 2:

**CURRENT:** “mitigate the risk(s) posed by loss of data used for Real-time Assessment and Real-time monitoring while such data is being transmitted between Control Centers.

**PROPOSED:** “mitigate the loss of the ability to transmit Real-time Assessment and Real-time monitoring data between Control Centers”

Does the language in R1.4 provide Responsible Entities with clarity on the need to identify physically or logically where they have applied the methods required in R1.1 and R1.2? If not please provide comments and suggested requirement language.

Likes 0

Dislikes 0

### Response



**Jack Stamper - Clark Public Utilities - 3 - WECC**

**Answer** No

**Document Name**

**Comment**

*As worded in CIP-012 Draft 3, it appears that R1 Part R1.2 is focused on a different security concern than FERC Order 866. FERC Order 866 is focused on the availability of data, while the proposed wording of R1 Part 1.2 is focused on the loss of data, which could be interpreted as data loss as a result of a breach, as opposed to the loss of data availability. Data Availability is a very different concern, with a very different impact and risk profile.*

*Suggested R1 Part 1.2 edit (emphasis added to denote change):*

*1.2. Identification of method(s) used to mitigate the risk(s) posed by loss **OF THE AVAILABILITY** of data used for Real-time Assessment and Real-time monitoring while such data is being transmitted between Control Centers;*

Likes 0

Dislikes 0

**Response**

**Justin Kuehne - AEP - 6**

**Answer** No

**Document Name**

**Comment**

While AEP agrees that the proposed language in R1.2 reflects the need to mitigate the risk of the loss of ability to transmit data, we have concerns similar to those mentioned in our comments on Question #1. AEP recommends more prescriptive language to ensure Responsible Entities are able to meet the sub-requirement.

Likes 0

Dislikes 0

**Response**

**Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro**

**Answer** No

**Document Name**

**Comment**

Although the wording in Requirement R2 of Draft 3 of CIP-012-2 is removed, it appears that the wording of the Requirement 2 from Draft 1 and Draft 2 has only been moved or merged into Requirement 1 of Draft 3. BC Hydro's previous concerns raised on CIP-012-2 Draft 1 and Draft 2 appear to have not been materially addressed, and BC Hydro continues to believe still hold valid grounds.

The changes in Requirement R1 in Draft 3 of CIP-012-2 still implies a possible reliance on redundancy, which does not align with the approach taken in the other existing CIP standards, particularly CIP-002-5.1a. As availability is the purview of operations, BC Hydro believes that it would be better suited to other Mandatory Reliability Standards (MRS) within the Operations and Planning (O&P) domains (e.g., IRO-010, TOP-003, TOP-001).

BC Hydro recommends removing the 'availability' requirement from CIP-012-2 and revising other MRS standards to address this need as appropriate.

Alternatively, similar to our comments on Draft 2, BC Hydro suggests that the drafting team provide a clear definition of the term 'availability', and clarity that it does not imply the use of redundant setups. For most of the entities, 'availability' of communication networks depends on third party telecommunication providers and, in the event of a line or telecommunication equipment failure, the entity is reliant on the third party telecommunication providers to fix the problems. BC Hydro suggests that SDT add an exemption for the links and equipment used by third party telecommunication providers, as changing or enhancing the third party telecommunication infrastructure to support 'availability' may not be feasible for many entities.

Likes 0

Dislikes 0

### Response

**Jennifer Buckman - Southern Indiana Gas and Electric Co. - 3,5,6 - RF**

**Answer**

No

**Document Name**

**Comment**

Southern Indiana Gas & Electric (SIGE) believes the phrase "risk(s) posed by **loss of data**" is not clear and may be misinterpreted to include a broader scope of data loss scenarios. SIGE believes the scope of R1.2 should clearly refer to the loss of data transmission capability (communication links). SIGE proposes the following revision to Requirement R1.2:

"Identification of method(s) used to mitigate the risk(s) **posed by a loss of data transmission capability** used for Real-time Assessment and Real-time monitoring while such data is being transmitted between Control Centers;"

Likes 0

Dislikes 0

### Response

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

**Answer**

No

**Document Name**

**Comment**

BPA feels that as currently written, R1.2 is about mitigating risks arising from loss of data, not mitigating loss of data transmission capabilities. Further, this risk is already required to be mitigated in standard EOP-008-2 R1.

The discussion of physical media breaks in current Technical Rationale further complicates the ability to interpret R1.2.

Likes 0

Dislikes 0

### Response

**Tim Kelley - Tim Kelley On Behalf of: Charles Norton, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Fong Mua, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Kevin Smith, Balancing Authority of Northern California, 1; Nicole Goi, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Nicole Looney, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; - Tim Kelley, Group Name SMUD / BANC**

Answer

No

Document Name

### Comment

SMUD and BANC do not feel that the existing language in CIP-012-2 Draft 3 changes the intent of the requirement part, or that the controls that would be put in place to mitigate the risk posed by loss of data or availability used for RTA and RTM would be any different; however, from a consistency perspective, we agree with Tacoma Power that the language should be changed to align with the following language used in R1:

"...one or more documented plan(s) to mitigate the risks posed by unauthorized disclosure , unauthorized modification, **and loss of availability of data** used for Real-time Assessment and Real-time monitoring while such data is being transmitted **between any applicable Control Centers.**"

SMUD and BANC propose the following new language for R1 Part R1.2:

1.2. Identification of method(s) used to mitigate the risk(s) posed by **loss of availability of data** used for Real-time Assessment and Real-time monitoring while such data is being transmitted between **any applicable** Control Centers;

Likes 1

Wike Jennie On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Merre

Dislikes 0

### Response

**Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Merrell, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Nierenberg, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; - Jennie Wike, Group Name Tacoma Power**

Answer

No

Document Name

**Comment**

As worded in CIP-012 Draft 3, it appears that R1 Part R1.2 is focused on a different security concern than FERC Order 866. FERC Order 866 is focused on the availability of data, while the proposed wording of R1 Part 1.2 is focused on the loss of data, which could be interpreted as data loss as a result of a breach, as opposed to the loss of data availability. Data Availability is a very different concern, with a very different impact and risk profile.

Suggested R1 Part 1.2 edit (emphasis added to denote change):

1.2. Identification of method(s) used to mitigate the risk(s) posed by loss **OF THE AVAILABILITY** of data used for Real-time Assessment and Real-time monitoring while such data is being transmitted between Control Centers

Likes 0

Dislikes 0

**Response**

**Tristan Miller - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE**

**Answer**

No

**Document Name**

**Comment**

CenterPoint Energy Houston Electric, LLC (CEHE) believes the phrase “risk(s) posed by **loss of data**” is not clear and may be misinterpreted to include a broader scope of data loss scenarios. CEHE believes the scope of R1.2 should clearly refer to the loss of data transmission capability (communication links). CEHE proposes the following revision to Requirement R1.2:

“Identification of method(s) used to mitigate the risk(s) **posed by a loss of data transmission capability** used for Real-time Assessment and Real-time monitoring while such data is being transmitted between Control Centers;”

Likes 0

Dislikes 0

**Response**

**Jay Sethi - Manitoba Hydro - 1,3,5,6 - MRO**

**Answer**

No

**Document Name**

**Comment**

The requirement specifically addresses: risk(s) posed by loss of data. To address the requirement the RE could list the risks, or negative outcomes that could occur, if there was a loss of data. The RE could then list mitigations to those negative outcomes. This does not involve an analysis of potential causes of data loss, for example the ability to transmit data. Although MH has no issue with the proposed wording for R1.2, the SDT could consider the

following wording to specifically address the ability to transmit: Identification of method(s) used to mitigate the risk(s) posed by the loss of data in transit or the loss of the primary method used to transmit or receive Real-time Assessment and Real-time monitoring data.

Likes 0

Dislikes 0

**Response**

**Brian Millard - Tennessee Valley Authority - 1,3,5,6 - SERC**

**Answer**

No

**Document Name**

**Comment**

Suggest revise language to focus on the risk of losing the data rather than the risk posed by the loss of data.

Likes 0

Dislikes 0

**Response**

**Michael Russell - Massachusetts Municipal Wholesale Electric Company - 5 - NPCC**

**Answer**

No

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Devin Shines - PPL - Louisville Gas and Electric Co. - 1,3,5,6 - SERC,RF**

**Answer**

No

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Melanie Wong - Seminole Electric Cooperative, Inc. - 1,3,4,5,6**

**Answer** No

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Kendra Buesgens - MRO - 1,2,3,4,5,6,7 - MRO, Group Name MRO NSRF**

**Answer** Yes

**Document Name** [MRO-NSRF\\_2020-04\\_UCF\\_Final\\_11-16-2022.docx](#)

**Comment**

Please see the attached file to view MRO NSRF response to this question.

Likes 0

Dislikes 0

**Response**

**Summer Esquerre - NextEra Energy - 5**

**Answer** Yes

**Document Name**

**Comment**

please reference EEI's comments

Likes 0

Dislikes 0

**Response**

**Alison MacKellar - Constellation - 5**

<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Constellation aligns with Exelon Corporation in response to this question. Alison Mackellar on behalf of Constellation Segments 5 and 6.	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Kimberly Turco - Constellation - 6</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Constellation aligns with Exelon Corporation in response to this question.  Kimberly Turco on behalf of Constellation Segments 5 and 6	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Daniel Gacek - Exelon - 1</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Exelon has elected to align with EEI in response to this question.	
Likes 0	
Dislikes 0	
<b>Response</b>	

**Kinte Whitehead - Exelon - 3**

**Answer** Yes

**Document Name**

**Comment**

Exelon has elected to align with EEI in response to this question.

Likes 0

Dislikes 0

**Response**

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

**Answer** Yes

**Document Name**

**Comment**

EEI agrees that Requirement R1, subpart 1.2 addresses the need to mitigate the loss of the ability to transmit Real-time Assessment and Real-time monitoring data, however, the technical rationale provides stronger language as to the intent of this requirement by including the phrase “transmission capability” to describe exactly what this requirement is intending to address. For this reason, consideration should be given to modifying subpart 1.2 as follows:

“Identification of method(s) used to mitigate the risk(s) posed by a loss of data **transmission capability** used for Real-time Assessment and Real-time monitoring while such data is being transmitted between Control Centers;”

Likes 0

Dislikes 0

**Response**

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

**Answer** Yes

**Document Name**

**Comment**

The NAGF supports the proposed language for Requirement 1.2.

Likes 0

Dislikes 0

**Response**



**Brian Lindsey - Entergy - 1**

**Answer** Yes

**Document Name**

**Comment**

No comment

Likes 0

Dislikes 0

**Response**

**Michael Johnson - Michael Johnson On Behalf of: Frank Lee, Pacific Gas and Electric Company, 3, 1, 5; Marco Rios, Pacific Gas and Electric Company, 3, 1, 5; Sandra Ellis, Pacific Gas and Electric Company, 3, 1, 5; - Michael Johnson, Group Name PG&E All Segments**

**Answer** Yes

**Document Name**

**Comment**

PG&E agrees that Requirement R1, Part 1.2 adequately reflects the need to mitigate the “loss of the ability to transmit Real-time Assessment and Real-time monitoring data”.

As noted in the EEI input for Q2, the Technical Rationale document provides stronger language on the intent of Requirement R1, Part 1.2 by the inclusion of “transmission capability” to describe exactly what the Requirement is intended to address. PG&E concurs with the EEI suggested modification of Part 1.2 to include this language in the Requirement. PG&E does not see this as a substantial modification, just a clarification.

Likes 0

Dislikes 0

**Response**

**Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Dwanique Spiller - Berkshire Hathaway - NV Energy - 5**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Joshua London - Eversource Energy - 1, Group Name Eversource**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Gail Elliott - Gail Elliott On Behalf of: Michael Moltane, International Transmission Company Holdings Corporation, 1; - Gail Elliott**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Lindsey Mannion - ReliabilityFirst - 10**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Lindsay Wickizer - Berkshire Hathaway - PacifiCorp - 6**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Micah Runner - Black Hills Corporation - 1,3,5,6**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Josh Combs - Black Hills Corporation - 3**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Sheila Suurmeier - Black Hills Corporation - 5**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Claudine Bates - Black Hills Corporation - 1,3,5,6**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**David Jendras Sr - Ameren - Ameren Services - 3**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Joyce Gundry - Public Utility District No. 1 of Chelan County - 3, Group Name CHPD**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Ellese Murphy - Duke Energy - 1,3,5,6 - MRO,WECC,Texas RE,SERC,RF**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

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

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Steven Rueckert - Western Electricity Coordinating Council - 10**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Robert Follini - Avista - Avista Corporation - 3**

<b>Answer</b>	Yes
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<b>Document Name</b>	
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<b>Comment</b>	
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Likes	0
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Dislikes	0
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<b>Response</b>	
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**Glen Farmer - Avista - Avista Corporation - 5**

<b>Answer</b>	Yes
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<b>Document Name</b>	
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<b>Comment</b>	
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Likes	0
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Dislikes	0
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<b>Response</b>	
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**Mike Magruder - Avista - Avista Corporation - 1**

<b>Answer</b>	Yes
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<b>Document Name</b>	
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<b>Comment</b>	
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Likes	0
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Dislikes	0
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<b>Response</b>	
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**John Daho - MEAG Power - 1,3 - SERC**

<b>Answer</b>	Yes
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<b>Document Name</b>	
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<b>Comment</b>	
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Likes 0

Dislikes 0

**Response**

**Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

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

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Martin Sidor - NRG - NRG Energy, Inc. - 6**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Rachel Coyne - Texas Reliability Entity, Inc. - 10**

<b>Answer</b>	
<b>Document Name</b>	
<b>Comment</b>	
	<p>Texas RE recommends revising the phrase “posed by” in Requirement R1.2 to “of”. This would more accurately reflect the need to mitigate the loss of the ability to transmit Real-time Assessment and Real-time monitoring data. As written, CIP-012 R1.2 applies to mitigating the risk posed by the loss of data communications, rather than the method used to mitigate the loss itself. An example of the risk posed by the loss of Real-time Assessment or Real-time monitoring data is not having up to date information used to perform reliability functions. An example of how to mitigate this risk is to create a set of procedures that would allow operators to make a “best guess” as to what actions they should take based on the most recently available Real-time Assessment or Real-time monitoring data.</p> <p>Texas RE also recommends in including “communication links” in the parent Requirement R1. Requirement R1 states the Responsible Entity shall implement, except under CIP Exceptional Circumstances, one or more documented plan(s) to mitigate the risks posed by unauthorized disclosure, unauthorized modification, and loss of availability of data...”. Requirement Part 1.1 refers to unauthorized disclosure, Requirement Part 1.2 refers to loss of data, and Requirement Part 1.4 refers to communication links. While unauthorized disclosure and loss of data are mentioned in the parent requirement, communication links are not. In order to ensure Parts 1.2 and 1.3 are both documented and implemented consistently; Texas RE recommends that R1 is modified to include the following, The Responsible Entity shall implement, except under CIP Exceptional Circumstances, one or more documented plan(s) to mitigate the risks posed by unauthorized disclosure, unauthorized modification, and loss of availability of data and communication links...”</p>
Likes	0
Dislikes	0
<b>Response</b>	



3. Does the language in R1.4 provide Responsible Entities with clarity on the need to identify physically or logically where they have applied the methods required in R1.1 and R1.2? If not please provide comments and suggested requirement language.

**Tristan Miller - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE**

**Answer** No

**Document Name**

**Comment**

The requirement itself does not provide clarity. It only becomes clear by reading the examples of evidence in the measures section. Additionally, it seems that R1.4 should not be needed since this would inherently be included in R1.1 and R1.2 by themselves. The measures in R1.1 include examples of where protections are applied, which is repetitive to R1.4.

Likes 0

Dislikes 0

**Response**

**Jennifer Buckman - Southern Indiana Gas and Electric Co. - 3,5,6 - RF**

**Answer** No

**Document Name**

**Comment**

The requirement itself does not provide clarity. It only becomes clear by reading the examples of evidence in the measures section. Additionally, it seems that R1.4 should not be needed since this would inherently be included in R1.1 and R1.2 by themselves. The measures in R1.1 include examples of where protections are applied, which is repetitive to R1.4.

Likes 0

Dislikes 0

**Response**

**Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro**

**Answer** No

**Document Name**

**Comment**

Although the wording in Requirement R2 of Draft 3 of CIP-012-2 is removed, it appears that the wording of the Requirement 2 from Draft 1 and Draft 2 has only been moved or merged into Requirement 1 of Draft 3. BC Hydro's previous concerns raised on CIP-012-2 Draft 1 and Draft 2 appear to have not been materially addressed, and BC Hydro continues to believe still hold valid grounds.

The changes in Requirement R1 in Draft 3 of CIP-012-2 still implies a possible reliance on redundancy, which does not align with the approach taken in the other existing CIP standards, particularly CIP-002-5.1a. As availability is the purview of operations, BC Hydro believes that it would be better suited to other Mandatory Reliability Standards (MRS) within the Operations and Planning (O&P) domains (e.g., IRO-010, TOP-003, TOP-001).

BC Hydro recommends removing the 'availability' requirement from CIP-012-2 and revising other MRS standards to address this need as appropriate.

Alternatively, similar to our comments on Draft 2, BC Hydro suggests that the drafting team provide a clear definition of the term 'availability', and clarity that it does not imply the use of redundant setups. For most of the entities, 'availability' of communication networks depends on third party telecommunication providers and, in the event of a line or telecommunication equipment failure, the entity is reliant on the third party telecommunication providers to fix the problems. BC Hydro suggests that SDT add an exemption for the links and equipment used by third party telecommunication providers, as changing or enhancing the third party telecommunication infrastructure to support 'availability' may not be feasible for many entities.

Likes 0

Dislikes 0

### Response

**David Jendras Sr - Ameren - Ameren Services - 3**

**Answer**

No

**Document Name**

**Comment**

Ameren believes that R1.4 doesn't include the terms physical or logical, so the need to identify physically or logically is not clear.

Likes 0

Dislikes 0

### Response

**John Galloway - John Galloway On Behalf of: John Pearson, ISO New England, Inc., 2; - John Galloway**

**Answer**

No

**Document Name**

**Comment**

ISO-NE is in support of comments developed by ISO-RTO council and NPCC.

Likes 0

Dislikes 0

### Response

**Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC RSC**

**Answer** No

**Document Name**

**Comment**

Request clarification of “availability” vs “loss of data.”

Likes 0

Dislikes 0

**Response**

**Roger Fradenburgh - Roger Fradenburgh On Behalf of: Nicholas Lauriat, Network and Security Technologies, 1; - Roger Fradenburgh**

**Answer** No

**Document Name**

**Comment**

NST believes it is neither practical nor necessary to compel Responsible Entities to identify the “where” of its availability protections, and we therefore recommend that it be removed from R1.4. We believe R1.2’s requirement to identify and describe availability protections is sufficient.

Likes 0

Dislikes 0

**Response**

**James Baldwin - Lower Colorado River Authority - 1**

**Answer** No

**Document Name**

**Comment**

R1.4 could be included in R1.1 and R1.2, which would make the standard read easier.

Likes 0

Dislikes 0

**Response**

**Teresa Krabe - Lower Colorado River Authority - 1,5**

**Answer** No

<b>Document Name</b>	
<b>Comment</b>	
R1.4 could be included in R1.1 and R1.2, which would make the standard read easier.	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Melanie Wong - Seminole Electric Cooperative, Inc. - 1,3,4,5,6</b>	
<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Devin Shines - PPL - Louisville Gas and Electric Co. - 1,3,5,6 - SERC,RF</b>	
<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Michael Russell - Massachusetts Municipal Wholesale Electric Company - 5 - NPCC</b>	
<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	

Dislikes 0

**Response**

**Michael Johnson - Michael Johnson On Behalf of: Frank Lee, Pacific Gas and Electric Company, 3, 1, 5; Marco Rios, Pacific Gas and Electric Company, 3, 1, 5; Sandra Ellis, Pacific Gas and Electric Company, 3, 1, 5; - Michael Johnson, Group Name PG&E All Segments**

**Answer**

Yes

**Document Name**

**Comment**

PG&E agrees that Requirement R1, Part 1.4 provides clarity along with the Measures for Requirement R1 on the need to identify the physical or logical methods applied for Requirement R1, Parts 1.1 and 1.2.

Likes 0

Dislikes 0

**Response**

**John Daho - MEAG Power - 1,3 - SERC**

**Answer**

Yes

**Document Name**

**Comment**

The newly updated Measures section includes examples of physical and logical evidence for R1.4

Likes 0

Dislikes 0

**Response**

**Steven Rueckert - Western Electricity Coordinating Council - 10**

**Answer**

Yes

**Document Name**

**Comment**

While it is clear for R1.1 and R1.2 to be included in R1.4, it is not clear why R1.3 would not also be included. Suggest adding R1.3 to the scope of R1.4 scope.

*Identification of where the Responsible Entity implemented method(s) as required in Parts 1.1, 1.2 and 1.3*

Likes 0

Dislikes 0

**Response**

**Brian Lindsey - Entergy - 1**

**Answer**

Yes

**Document Name**

**Comment**

No comment

Likes 0

Dislikes 0

**Response**

**Marcus Bortman - APS - Arizona Public Service Co. - 6**

**Answer**

Yes

**Document Name**

**Comment**

AZPS agrees that the language in R1.4 provides clarity on the need to identify physically or logically where they have applied the methods required in R1.1 and R1.2.

Likes 0

Dislikes 0

**Response**

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

**Answer**

Yes

**Document Name**

**Comment**

The NAGF supports the proposed language for Requirement 1.4.

Likes 0

Dislikes 0

**Response**

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

**Answer** Yes

**Document Name**

**Comment**

EEI agrees that R1.4 provides Responsible Entities with clarity on the need to identify physically or logically where they have applied the methods required in R1.1 and R1.2.

Likes 0

Dislikes 0

**Response**

**Kinte Whitehead - Exelon - 3**

**Answer** Yes

**Document Name**

**Comment**

Exelon has elected to align with EEI in response to this question.

Likes 0

Dislikes 0

**Response**

**Daniel Gacek - Exelon - 1**

**Answer** Yes

**Document Name**

**Comment**

Exelon has elected to align with EEI in response to this question.

Likes 0

Dislikes 0

**Response**

**Kimberly Turco - Constellation - 6**

**Answer** Yes

**Document Name**

**Comment**

Constellation aligns with Exelon Corporation in response to this question.

Kimberly Turco on behalf of Constellation Segments 5 and 6

Likes 0

Dislikes 0

**Response**

**Alison MacKellar - Constellation - 5**

**Answer** Yes

**Document Name**

**Comment**

Constellation aligns with Exelon Corporation in response to this question.

Alison Mackellar on behalf of Constellation Segments 5 and 6.

Likes 0

Dislikes 0

**Response**

**Summer Esquerre - NextEra Energy - 5**

**Answer** Yes

**Document Name**

**Comment**

please reference EEI's comments

Likes 0



Dislikes 0

**Response**

**Brian Millard - Tennessee Valley Authority - 1,3,5,6 - SERC**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Martin Sidor - NRG - NRG Energy, Inc. - 6**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

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

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Jay Sethi - Manitoba Hydro - 1,3,5,6 - MRO**

**Answer** Yes

<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Mike Magruder - Avista - Avista Corporation - 1</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Glen Farmer - Avista - Avista Corporation - 5</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	

Response	
Robert Follini - Avista - Avista Corporation - 3	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0

Response	
Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Merrell, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Nierenberg, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; - Jennie Wike, Group Name Tacoma Power	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0

Response	
Joseph Gatten - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0

Response	
Tim Kelley - Tim Kelley On Behalf of: Charles Norton, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Foung Mua, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Kevin Smith, Balancing Authority of Northern California, 1; Nicole Goi, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Nicole Looney, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; - Tim Kelley, Group Name SMUD / BANC	

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
<b>Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC</b>	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
<b>Ellese Murphy - Duke Energy - 1,3,5,6 - MRO,WECC,Texas RE,SERC,RF</b>	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
<b>Joyce Gundry - Public Utility District No. 1 of Chelan County - 3, Group Name CHPD</b>	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0

**Response**

**Justin Kuehne - AEP - 6**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Jack Stamper - Clark Public Utilities - 3 - WECC**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Claudine Bates - Black Hills Corporation - 1,3,5,6**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Sheila Suurmeier - Black Hills Corporation - 5**

**Answer**

Yes

<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Josh Combs - Black Hills Corporation - 3</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Micah Runner - Black Hills Corporation - 1,3,5,6</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Jesus Sammy Alcaraz - Imperial Irrigation District - 1</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	

**Response**

**Chris Wagner - Santee Cooper - 1, Group Name** Santee Cooper

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Lindsay Wickizer - Berkshire Hathaway - PacifiCorp - 6**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name** DTE Energy - DTE Electric

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Erik Gustafson - PNM Resources - Public Service Company of New Mexico - 1,3 - WECC,Texas RE**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response****Christine Kane - WEC Energy Group, Inc. - 3, Group Name WEC Energy Group****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response****Mia Wilson - Southwest Power Pool, Inc. (RTO) - 2 - MRO,WECC****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response****Patricia Ireland - DTE Energy - 4****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response**



**Kendra Buesgens - MRO - 1,2,3,4,5,6,7 - MRO, Group Name MRO NSRF**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Lindsey Mannion - ReliabilityFirst - 10**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

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

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Gail Elliott - Gail Elliott On Behalf of: Michael Moltane, International Transmission Company Holdings Corporation, 1; - Gail Elliott**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Joshua London - Eversource Energy - 1, Group Name** Eversource

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Larry Brusseau - Corn Belt Power Cooperative - 1 - MRO**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Jamie Monette - Allete - Minnesota Power, Inc. - 1**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

<b>Monika Montez - California ISO - 2 - WECC, Group Name ISO/RTO Council Standards Review Committee (SRC) 2020-04 CIP-012-2v4</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Chris Carnesi - Chris Carnesi On Behalf of: Dennis Sismaet, Northern California Power Agency, 4, 6, 3, 5; Jeremy Lawson, Northern California Power Agency, 4, 6, 3, 5; Marty Hostler, Northern California Power Agency, 4, 6, 3, 5; Michael Whitney, Northern California Power Agency, 4, 6, 3, 5; - Chris Carnesi, Group Name NCPA</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Israel Perez - Israel Perez On Behalf of: Jennifer Bennett, Salt River Project, 3, 5, 1, 6; Mathew Weber, Salt River Project, 3, 5, 1, 6; Sarah Blankenship, Salt River Project, 3, 5, 1, 6; - Israel Perez</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	

**Comment**

Likes 0

Dislikes 0

**Response****Dwanique Spiller - Berkshire Hathaway - NV Energy - 5****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response****Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response****Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response**

**Ronald Bauer - MGE Energy - Madison Gas and Electric Co. - 3 - MRO**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Rachel Coyne - Texas Reliability Entity, Inc. - 10**

**Answer**

**Document Name**

**Comment**

Texas RE notes that Part 1.4, states the following, "Identification of where the Responsible Entity implemented method(s) as required in Parts 1.1 and 1.2; and". Texas RE seeks clarification on why Part 1.3 was not added as an applicable Part needed for "Identification". As where the Responsible Entity has implemented method(s) used to recover communication links is just as important from an availability and enforceable perspective.

Additionally, Texas RE seeks clarification on why Part 1.3 was not added as an applicable Part needed for "Identification" for Part 1.5. As where each Responsible Entity has implemented method(s) used to recover communication links is just as important from an coordination, availability, and enforceable perspective.

Likes 0

Dislikes 0

**Response**

4. The SDT received multiple requests to provide more possible mitigation methods. Do you agree that the expanded measures section of the standard adequately demonstrates examples of methods that could be used to mitigate the risk posed by loss of Real-time assessment and Real-time monitoring data while in transit?

**Monika Montez - California ISO - 2 - WECC, Group Name** ISO/RTO Council Standards Review Committee (SRC) 2020-04 CIP-012-2v4

**Answer** No

**Document Name**

**Comment**

The SRC appreciates the SDT's effort to modify Measure M1 to provide more examples of mitigation methods; however, we're uncertain how one example of evidence, M1, Part 1.2, bullet #3, may be shared with an auditor as CIP-013, R2 explicitly states:

*"the following issues are beyond the scope of Requirement R2: (1) the actual terms and conditions of a procurement contract; and (2) vendor performance and adherence to a contract."*

Therefore, the IRC SRC requests clarification on how an entity may demonstrate evidence of the measure below if it would violate an NDA that a Responsible Entity may have signed.

- service level agreements with carriers containing high availability provisions

Likes 0

Dislikes 0

**Response**

**Teresa Krabe - Lower Colorado River Authority - 1,5**

**Answer** No

**Document Name**

**Comment**

More clarity on what redundancy means and what level of contingency is required.

Likes 0

Dislikes 0

**Response**

**James Baldwin - Lower Colorado River Authority - 1**

**Answer** No

**Document Name**

**Comment**

More clarity on what redundancy means and what level of contingency is required.

Likes 0

Dislikes 0

**Response**

**Roger Fradenburgh - Roger Fradenburgh On Behalf of: Nicholas Lauriat, Network and Security Technologies, 1; - Roger Fradenburgh**

**Answer**

No

**Document Name**

**Comment**

NST believes the SDT's well-intentioned attempt to provide mitigation method examples has resulted in measures and guidance ideas that blur where an entity's CIP-012 obligations would begin and end. Examples include, "procedures explaining the use of alternative systems or methods for providing for the availability of the data," and "Methods for the recovery of links such as standard operating procedures, CIP-009 recovery plan(s), or similar technical recovery plans."

Likes 0

Dislikes 0

**Response**

**Joshua London - Eversource Energy - 1, Group Name Eversource**

**Answer**

No

**Document Name**

**Comment**

Understand that the SDT is providing flexibilities in terms of documentations for support responsibilities and restoration assignments – but we think clear prescriptive methods would help to avoid finger pointing.

Likes 0

Dislikes 0

**Response**

**Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC RSC**

**Answer**

No

**Document Name**

**Comment**

Do not agree these new Measures are consistent with a plan. Recommend the Requirements need to set clearer expectations. The Requirements want "methods." Request updates that address this feedback.

Request clarification on unavailable third-party infrastructure information.

What are the entity's responsibilities/expectations regarding third parties and their infrastructure?

Request clarification of how inadequate infrastructure availability impacts CIP-012 and the TOP-003-4/IRO-010-4 Standards. Because CIP-012 R1 mandates a plan.

Likes 0

Dislikes 0

### Response

**John Galloway - John Galloway On Behalf of: John Pearson, ISO New England, Inc., 2; - John Galloway**

**Answer**

No

**Document Name**

**Comment**

ISO-NE is in support of comments developed by ISO-RTO council and NPCC.

Likes 0

Dislikes 0

### Response

**Mia Wilson - Southwest Power Pool, Inc. (RTO) - 2 - MRO,WECC**

**Answer**

No

**Document Name**

**Comment**

The proposed language in CIP-012-2, Measure M1, Part 1.2, does not seem to meet the intent of the technical rationale or the SDT proposed language for CIP-012-2, Requirement R1, Part 1.2. For example, a report indicating uptime does not support mitigation of a risk that data might be lost due to the scenarios listed in the technical rationale.



Recommend the SDT review the proposed language for CIP-012-2 Requirement R1, Part 1.2; Measure M1, Part 1.2; and the technical rationale to ensure they are all consistent.

Likes 0

Dislikes 0

### Response

**Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro**

**Answer**

No

**Document Name**

**Comment**

Although the wording in Requirement R2 of Draft 3 of CIP-012-2 is removed, it appears that the wording of the Requirement 2 from Draft 1 and Draft 2 has only been moved or merged into Requirement 1 of Draft 3. BC Hydro's previous concerns raised on CIP-012-2 Draft 1 and Draft 2 appear to have not been materially addressed, and BC Hydro continues to believe still hold valid grounds.

The changes in Requirement R1 in Draft 3 of CIP-012-2 still implies a possible reliance on redundancy, which does not align with the approach taken in the other existing CIP standards, particularly CIP-002-5.1a. As availability is the purview of operations, BC Hydro believes that it would be better suited to other Mandatory Reliability Standards (MRS) within the Operations and Planning (O&P) domains (e.g., IRO-010, TOP-003, TOP-001).

BC Hydro recommends removing the 'availability' requirement from CIP-012-2 and revising other MRS standards to address this need as appropriate.

Alternatively, similar to our comments on Draft 2, BC Hydro suggests that the drafting team provide a clear definition of the term 'availability', and clarity that it does not imply the use of redundant setups. For most of the entities, 'availability' of communication networks depends on third party telecommunication providers and, in the event of a line or telecommunication equipment failure, the entity is reliant on the third party telecommunication providers to fix the problems. BC Hydro suggests that SDT add an exemption for the links and equipment used by third party telecommunication providers, as changing or enhancing the third party telecommunication infrastructure to support 'availability' may not be feasible for many entities.

Likes 0

Dislikes 0

### Response

**Michael Russell - Massachusetts Municipal Wholesale Electric Company - 5 - NPCC**

**Answer**

No

**Document Name**

**Comment**

Likes 0

Dislikes 0

### Response

**Devin Shines - PPL - Louisville Gas and Electric Co. - 1,3,5,6 - SERC,RF**

**Answer** No

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Melanie Wong - Seminole Electric Cooperative, Inc. - 1,3,4,5,6**

**Answer** No

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Summer Esquerre - NextEra Energy - 5**

**Answer** Yes

**Document Name**

**Comment**

please reference EEI's comments

Likes 0

Dislikes 0

**Response**

**Dwanique Spiller - Berkshire Hathaway - NV Energy - 5**

**Answer** Yes

**Document Name**

**Comment**

BHE recommends removing the measure “availability or uptime reports” as an applicable measure for P1.2. Reports detailing uptime or availability metrics are not applicable for the mitigation of risk posed by loss of data. The SDT should consider removing this measure in order to clarify that availability targets are not required by P1.2.

Likes 0

Dislikes 0

**Response****Alison MacKellar - Constellation - 5**

**Answer**

Yes

**Document Name**

**Comment**

Constellation aligns with Exelon Corporation in response to this question.

Alison Mackellar on behalf of Constellation Segments 5 and 6.

Likes 0

Dislikes 0

**Response****Kimberly Turco - Constellation - 6**

**Answer**

Yes

**Document Name**

**Comment**

Constellation aligns with Exelon Corporation in response to this question.

Kimberly Turco on behalf of Constellation Segments 5 and 6

Likes 0

Dislikes 0

**Response****Daniel Gacek - Exelon - 1**

<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Exelon has elected to align with EEI in response to this question.	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Kinte Whitehead - Exelon - 3</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Exelon has elected to align with EEI in response to this question.	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
EEI agrees that M1 provides adequate examples for entities for each subpart.	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Lindsay Wickizer - Berkshire Hathaway - PacifiCorp - 6</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	

**Comment**

BHE recommends removing the measure “availability or uptime reports” as an applicable measure for P1.2. Reports detailing uptime or availability metrics are not applicable for the mitigation of risk posed by loss of data. The SDT should consider removing this measure in order to clarify that availability targets are not required by P1.2.

Likes 0

Dislikes 0

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

**Answer**

Yes

**Document Name**

**Comment**

The NAGF supports the addition of examples of methods to mitigate risk posed by loss of Real-time assessment and monitoring data while in transit.

Likes 0

Dislikes 0

**Response****Marcus Bortman - APS - Arizona Public Service Co. - 6**

**Answer**

Yes

**Document Name**

**Comment**

AZPS agrees that the expanded measures section of the standard adequately demonstrates examples of methods that could be used to mitigate the risk posed by loss of Real-time assessment and Real-time monitoring data while in transit

Likes 0

Dislikes 0

**Response****Micah Runner - Black Hills Corporation - 1,3,5,6**

**Answer**

Yes

**Document Name**

**Comment**

Black Hills Corporation (BHP) agrees and supports EEI comments.

Likes 0

Dislikes 0

**Response****Josh Combs - Black Hills Corporation - 3**

**Answer**

Yes

**Document Name**

**Comment**

Black Hills Corporation (BHP) agrees and supports EEI comments.

Likes 0

Dislikes 0

**Response****Sheila Suurmeier - Black Hills Corporation - 5**

**Answer**

Yes

**Document Name**

**Comment**

Black Hills Corporation (BHP) agrees and supports EEI comments.

Likes 0

Dislikes 0

**Response****Claudine Bates - Black Hills Corporation - 1,3,5,6**

**Answer**

Yes

**Document Name**

**Comment**

Black Hills Corporation (BHP) agrees and supports EEI comments.

Likes 0

Dislikes 0

**Response**

**Brian Lindsey - Entergy - 1**

**Answer**

Yes

**Document Name**

**Comment**

No comment

Likes 0

Dislikes 0

**Response**

**Steven Rueckert - Western Electricity Coordinating Council - 10**

**Answer**

Yes

**Document Name**

**Comment**

There is still confusion related to acceptable controls "other than encryption" to meet the security objectives. While each measure may not meet the security objective in and of itself, could collectively be considered a measure to mitigate the risk and should be included.

WECC suggests:

Consider adding the following additional Measures to Part 1.1

- Own, operate, and manage the communication link
- Monitor, detect, alert and response

Likes 0

Dislikes 0

**Response**

**Tristan Miller - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE**

**Answer**

Yes

<b>Document Name</b>	
<b>Comment</b>	
No comments	
Likes 0	
Dislikes 0	
<b>Response</b>	
<p><b>Michael Johnson - Michael Johnson On Behalf of: Frank Lee, Pacific Gas and Electric Company, 3, 1, 5; Marco Rios, Pacific Gas and Electric Company, 3, 1, 5; Sandra Ellis, Pacific Gas and Electric Company, 3, 1, 5; - Michael Johnson, Group Name PG&amp;E All Segments</b></p>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
<p>PG&amp;E agrees that the Requirement R1 Measures (M1) provide adequate examples on the mitigation of risks posed by the loss of Read-time assessment and Real-time monitoring data while in transit..</p> <p>PG&amp;E also agrees with the EEI suggestion that the text “Examples of evidence may include, but are not limited to the following examples (by subpart):” be added above the actual examples.</p>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<p><b>Ronald Bauer - MGE Energy - Madison Gas and Electric Co. - 3 - MRO</b></p>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<p><b>Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1</b></p>	



Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
<b>Rachel Coyne - Texas Reliability Entity, Inc. - 10</b>	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
<b>Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF</b>	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
<b>Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC</b>	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0

**Response**

**Israel Perez - Israel Perez On Behalf of: Jennifer Bennett, Salt River Project, 3, 5, 1, 6; Mathew Weber, Salt River Project, 3, 5, 1, 6; Sarah Blankenship, Salt River Project, 3, 5, 1, 6; - Israel Perez**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Chris Carnesi - Chris Carnesi On Behalf of: Dennis Sismaet, Northern California Power Agency, 4, 6, 3, 5; Jeremy Lawson, Northern California Power Agency, 4, 6, 3, 5; Marty Hostler, Northern California Power Agency, 4, 6, 3, 5; Michael Whitney, Northern California Power Agency, 4, 6, 3, 5; - Chris Carnesi, Group Name NCPA**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Jamie Monette - Allete - Minnesota Power, Inc. - 1**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Larry Brusseau - Corn Belt Power Cooperative - 1 - MRO**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Gail Elliott - Gail Elliott On Behalf of: Michael Moltane, International Transmission Company Holdings Corporation, 1; - Gail Elliott**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

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

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Lindsey Mannion - ReliabilityFirst - 10**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Kendra Buesgens - MRO - 1,2,3,4,5,6,7 - MRO, Group Name MRO NSRF**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Patricia Ireland - DTE Energy - 4**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Christine Kane - WEC Energy Group, Inc. - 3, Group Name WEC Energy Group**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Erik Gustafson - PNM Resources - Public Service Company of New Mexico - 1,3 - WECC,Texas RE**

Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
Jesus Sammy Alcaraz - Imperial Irrigation District - 1	
Answer	Yes
Document Name	
Comment	
Likes 0	

Dislikes 0

**Response**

**Jack Stamper - Clark Public Utilities - 3 - WECC**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**David Jendras Sr - Ameren - Ameren Services - 3**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Justin Kuehne - AEP - 6**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Joyce Gundry - Public Utility District No. 1 of Chelan County - 3, Group Name CHPD**

**Answer**

Yes

<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Ellese Murphy - Duke Energy - 1,3,5,6 - MRO,WECC,Texas RE,SERC,RF</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Jennifer Buckman - Southern Indiana Gas and Electric Co. - 3,5,6 - RF</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	

<b>Response</b>	
<p><b>Tim Kelley - Tim Kelley On Behalf of: Charles Norton, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Fong Mua, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Kevin Smith, Balancing Authority of Northern California, 1; Nicole Goi, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Nicole Looney, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; - Tim Kelley, Group Name SMUD / BANC</b></p>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<p><b>Joseph Gatten - Xcel Energy, Inc. - 1,3,5,6 - MRO,WECC</b></p>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<p><b>Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Merrell, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Nierenberg, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; - Jennie Wike, Group Name Tacoma Power</b></p>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<p><b>Robert Follini - Avista - Avista Corporation - 3</b></p>	



<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Glen Farmer - Avista - Avista Corporation - 5</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Mike Magruder - Avista - Avista Corporation - 1</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>John Daho - MEAG Power - 1,3 - SERC</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	

Dislikes 0

**Response**

**Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Jay Sethi - Manitoba Hydro - 1,3,5,6 - MRO**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

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

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Martin Sidor - NRG - NRG Energy, Inc. - 6**

**Answer** Yes

<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Brian Millard - Tennessee Valley Authority - 1,3,5,6 - SERC</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Sheraz Majid - Hydro One Networks, Inc. - 1</b>	
<b>Answer</b>	
<b>Document Name</b>	
<b>Comment</b>	
It is unclear how fourth bullet in the measures of Part 1.2 related to availability/uptime reports would be beneficial in demonstrating compliance. Suggest to remove.	
Likes 0	
Dislikes 0	
<b>Response</b>	

5. The SDT proposes that the modifications in CIP-012-2 meet the FERC directives in a cost effective manner. Do you agree? If you do not agree, or if you agree but have suggestions for improvement to enable more cost effective approaches, please provide your recommendation and, if appropriate, technical or procedural justification.

**Michael Johnson - Michael Johnson On Behalf of: Frank Lee, Pacific Gas and Electric Company, 3, 1, 5; Marco Rios, Pacific Gas and Electric Company, 3, 1, 5; Sandra Ellis, Pacific Gas and Electric Company, 3, 1, 5; - Michael Johnson, Group Name PG&E All Segments**

**Answer** No

**Document Name**

**Comment**

PG&E cannot determine if the proposed modifications meet the FERC directive in a cost effective manner until the Standard has been approved and then determine the actual impact on our operations.

Likes 0

Dislikes 0

**Response**

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

**Answer** No

**Document Name**

**Comment**

Implementation and maintenance of redundant links to all facilities within scope of the CIP-012-2 standard would be extremely costly. Dedicated equipment and personnel would be required to maintain and preserve the integrity of the links to comply with the standard.

Likes 0

Dislikes 0

**Response**

**Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro**

**Answer** No

**Document Name**

**Comment**

Please refer to BC Hydro comments in response to Question #1. BC Hydro has not yet implemented a solution for CIP-012-1, therefore it is not in a position to identify the additional costs related to the Project 2020-04 CIP-012-2 changes.

Likes 0

Dislikes 0

**Response**

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

**Answer** No

**Document Name**

**Comment**

GO/GOPs will need more information to adequately assess the cost effectiveness of the proposed approach.

Likes 0

Dislikes 0

**Response**

**Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper**

**Answer** No

**Document Name**

**Comment**

See comments on question 2.

Likes 0

Dislikes 0

**Response**

**Mia Wilson - Southwest Power Pool, Inc. (RTO) - 2 - MRO,WECC**

**Answer** No

**Document Name**

**Comment**

An expectation from the ERO to comply with this new Standard, which would drive Responsible Entities to increase SLA levels, could result in cost-prohibitive roadblocks to implementation

Likes 0

Dislikes 0

**Response**

**Roger Fradenburgh - Roger Fradenburgh On Behalf of: Nicholas Lauriat, Network and Security Technologies, 1; - Roger Fradenburgh**

**Answer** No

**Document Name**

**Comment**

Absent clarity about what CIP-012-2 would require a Responsible Entity to do, NST cannot comment on the cost-effectiveness of its latest proposed modifications.

Likes 0

Dislikes 0

**Response**

**James Baldwin - Lower Colorado River Authority - 1**

**Answer** No

**Document Name**

**Comment**

It is uncertain the cost to implement due to the SLAs with Internet Service Providers (ISPs) to achieve adequate risk mitigation.

Likes 0

Dislikes 0

**Response**

**Teresa Krabe - Lower Colorado River Authority - 1,5**

**Answer** No

**Document Name**

**Comment**

It is uncertain the cost to implement due to the SLAs with Internet Service Providers (ISPs) to achieve adequate risk mitigation.

Likes 0

Dislikes 0

**Response**

**Summer Esquerre - NextEra Energy - 5**

<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
NextEra Energy does not provide feedback on cost-effectiveness.	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Melanie Wong - Seminole Electric Cooperative, Inc. - 1,3,4,5,6</b>	
<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Devin Shines - PPL - Louisville Gas and Electric Co. - 1,3,5,6 - SERC,RF</b>	
<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Tristan Miller - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	

No comments

Likes 0

Dislikes 0

**Response**

**Brian Lindsey - Entergy - 1**

**Answer**

Yes

**Document Name**

**Comment**

No comment

Likes 0

Dislikes 0

**Response**

**Marcus Bortman - APS - Arizona Public Service Co. - 6**

**Answer**

Yes

**Document Name**

**Comment**

AZPS agrees that the proposed modifications in CIP-012-2 meet the FERC directives in a cost-effective manner.

Likes 0

Dislikes 0

**Response**

**Dwanique Spiller - Berkshire Hathaway - NV Energy - 5**

**Answer**

Yes

**Document Name**

**Comment**

BHE feels the question is difficult to answer due to the inherent dependency of inter-entity coordination as prescribed by this standard. Costs incurred by one entity may be unviable compared to the associated costs conferred upon another entity. Entities which have elected to participate in a common



data exchange hosted by a separate entity (such as an ISO) become dependent on the preferred availability solution of the hosting entity and those associated costs.

Likes 0

Dislikes 0

**Response**

**Brian Millard - Tennessee Valley Authority - 1,3,5,6 - SERC**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Martin Sidor - NRG - NRG Energy, Inc. - 6**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

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

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Jay Sethi - Manitoba Hydro - 1,3,5,6 - MRO**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**John Daho - MEAG Power - 1,3 - SERC**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Mike Magruder - Avista - Avista Corporation - 1**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Glen Farmer - Avista - Avista Corporation - 5**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Robert Follini - Avista - Avista Corporation - 3**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Merrell, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Nierenberg, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; - Jennie Wike, Group Name Tacoma Power**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

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

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Tim Kelley - Tim Kelley On Behalf of: Charles Norton, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Foug Mua, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Kevin Smith, Balancing Authority of Northern California, 1; Nicole Goi, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Nicole Looney, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; - Tim Kelley, Group Name SMUD / BANC**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Jennifer Buckman - Southern Indiana Gas and Electric Co. - 3,5,6 - RF**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Ellese Murphy - Duke Energy - 1,3,5,6 - MRO,WECC,Texas RE,SERC,RF**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response****Joyce Gundry - Public Utility District No. 1 of Chelan County - 3, Group Name CHPD****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response****Justin Kuehne - AEP - 6****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response****Jack Stamper - Clark Public Utilities - 3 - WECC****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response**

**Jesus Sammy Alcaraz - Imperial Irrigation District - 1**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Erik Gustafson - PNM Resources - Public Service Company of New Mexico - 1,3 - WECC,Texas RE**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Christine Kane - WEC Energy Group, Inc. - 3, Group Name WEC Energy Group**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Patricia Ireland - DTE Energy - 4**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Kendra Buesgens - MRO - 1,2,3,4,5,6,7 - MRO, Group Name MRO NSRF**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Lindsey Mannion - ReliabilityFirst - 10**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

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

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Gail Elliott - Gail Elliott On Behalf of: Michael Moltane, International Transmission Company Holdings Corporation, 1; - Gail Elliott**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Joshua London - Eversource Energy - 1, Group Name Eversource**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Larry Brusseau - Corn Belt Power Cooperative - 1 - MRO**

**Answer** Yes

**Document Name**

**Comment**



Likes 0

Dislikes 0

**Response**

**Jamie Monette - Allete - Minnesota Power, Inc. - 1**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Chris Carnesi - Chris Carnesi On Behalf of: Dennis Sismaet, Northern California Power Agency, 4, 6, 3, 5; Jeremy Lawson, Northern California Power Agency, 4, 6, 3, 5; Marty Hostler, Northern California Power Agency, 4, 6, 3, 5; Michael Whitney, Northern California Power Agency, 4, 6, 3, 5; - Chris Carnesi, Group Name NCPA**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Israel Perez - Israel Perez On Behalf of: Jennifer Bennett, Salt River Project, 3, 5, 1, 6; Mathew Weber, Salt River Project, 3, 5, 1, 6; Sarah Blankenship, Salt River Project, 3, 5, 1, 6; - Israel Perez**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Ronald Bauer - MGE Energy - Madison Gas and Electric Co. - 3 - MRO**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Steven Rueckert - Western Electricity Coordinating Council - 10**

**Answer**

**Document Name**

**Comment**

No comment

Likes 0

Dislikes 0

**Response**

**David Jendras Sr - Ameren - Ameren Services - 3**

**Answer**

**Document Name**

**Comment**

No Comment

Likes 0

Dislikes 0

**Response**

**Claudine Bates - Black Hills Corporation - 1,3,5,6**

**Answer**

**Document Name**

**Comment**

Black Hills Corporation (BHP) will not provide a response to the cost effectiveness question.

Likes 0

Dislikes 0

**Response**

**Sheila Suurmeier - Black Hills Corporation - 5**

**Answer**

**Document Name**

**Comment**

Black Hills Corporation (BHP) will not provide a response to the cost effectiveness question.

Likes 0

Dislikes 0

**Response**

**Josh Combs - Black Hills Corporation - 3**

**Answer**

**Document Name**

**Comment**

Black Hills Corporation (BHP) will not provide a response to the cost effectiveness question.

Likes 0

Dislikes 0

**Response**

**Micah Runner - Black Hills Corporation - 1,3,5,6**

**Answer**

**Document Name**

**Comment**

Black Hills Corporation (BHP) will not provide a response to the cost effectiveness question.

Likes 0

Dislikes 0

**Response**

**Lindsay Wickizer - Berkshire Hathaway - PacifiCorp - 6**

**Answer**

**Document Name**

**Comment**

BHE feels the question is difficult to answer due to the inherent dependency of inter-entity coordination as prescribed by this standard. Costs incurred by one entity may be unviable compared to the associated costs conferred upon another entity. Entities which have elected to participate in a common data exchange hosted by a separate entity (such as an ISO) become dependent on the preferred availability solution of the hosting entity and those associated costs.

Likes 0

Dislikes 0

**Response**

**Kinte Whitehead - Exelon - 3**

**Answer**

**Document Name**

**Comment**

Exelon has elected to align with EEI in response to this question.

Likes 0

Dislikes 0

**Response**

**Daniel Gacek - Exelon - 1**

**Answer**

**Document Name**

**Comment**

Exelon has elected to align with EEI in response to this question.

Likes 0

Dislikes 0

**Response**

**Rachel Coyne - Texas Reliability Entity, Inc. - 10**

**Answer**

**Document Name**

**Comment**

Texas RE does not have comments.

Likes 0

Dislikes 0

**Response**

6. The last ballot showed industry approval of the proposed 24-month implementation plan. Do you still agree the proposed timeframe is appropriate in light of the proposed revisions to the standard language? If you think an alternate timeframe is needed, please propose an alternate implementation plan and time period, and provide a detailed explanation of actions planned to meet the implementation deadline.

**Chris Carnesi - Chris Carnesi On Behalf of: Dennis Sismaet, Northern California Power Agency, 4, 6, 3, 5; Jeremy Lawson, Northern California Power Agency, 4, 6, 3, 5; Marty Hostler, Northern California Power Agency, 4, 6, 3, 5; Michael Whitney, Northern California Power Agency, 4, 6, 3, 5; - Chris Carnesi, Group Name NCPA**

**Answer** No

**Document Name**

**Comment**

Answer is based on current supply chain lead times. It has taken us over 18 months working with AT&T to install a simple circuit and receive equipment, some other sites even longer. This leaves the utility little time for other testing, implementing configuration changes, scheduling outages and placing new circuits into production.

Likes 0

Dislikes 0

**Response**

**Monika Montez - California ISO - 2 - WECC, Group Name ISO/RTO Council Standards Review Committee (SRC) 2020-04 CIP-012-2v4**

**Answer** No

**Document Name**

**Comment**

The SRC believes a 24-month implementation plan is inadequate. More time is needed to accommodate annual budget planning cycles required for capital expenditures and the lead-time required for supply chain considerations, which can be up to two years. Depending upon when the standard is approved, the annual budget planning cycle for some entities may have just ended. In addition, there is currently a one-year lead-time when placing orders for new equipment. Therefore, we propose an implementation time period of 36 months.

Likes 0

Dislikes 0

**Response**

**Roger Fradenburgh - Roger Fradenburgh On Behalf of: Nicholas Lauriat, Network and Security Technologies, 1; - Roger Fradenburgh**

**Answer** No

**Document Name**

**Comment**

Absent clarity about what CIP-012-2 would require a Responsible Entity to do, NST cannot comment on an implementation timetable.

Likes 0

Dislikes 0

### Response

**Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro**

**Answer**

No

**Document Name**

**Comment**

As identified in BC Hydro's answers to Questions 1 to 4 and 5, at this time BC Hydro does not have sufficient information to affirm whether 24 months will be adequate to implement the solutions to comply with the changes proposed in Project 2020-04 for CIP-012.

Likes 0

Dislikes 0

### Response

**Robert Follini - Avista - Avista Corporation - 3**

**Answer**

No

**Document Name**

**Comment**

Avista's experience with ATT contracts folks, supply chain delays, etc, delayed completion of our CIP-012 project by several months past effective date. If entities have to work with ATT for further improvements to mitigate loss, then we might need some additional time than we had for the initial CIP-012-1 implementation plan.

Likes 0

Dislikes 0

### Response

**Glen Farmer - Avista - Avista Corporation - 5**

**Answer**

No

**Document Name**

**Comment**



Avista's experience with ATT contracts folks, supply chain delays, etc, delayed completion of our CIP-012 project by several months past effective date. If entities have to work with ATT for further improvements to mitigate loss, then we might need some additional time than we had for the initial CIP-012-1 implementation plan.

Likes 0

Dislikes 0

**Response**

**Mike Magruder - Avista - Avista Corporation - 1**

**Answer**

No

**Document Name**

**Comment**

Avista's experience with ATT contracts folks, supply chain delays, etc, delayed completion of our CIP-012 project by several months past the effective date. If entities have to work with ATT for further improvements to mitigate loss, then we may need more time than we had for the initial CIP-012-1 implementation plan.

Likes 0

Dislikes 0

**Response**

**Devin Shines - PPL - Louisville Gas and Electric Co. - 1,3,5,6 - SERC,RF**

**Answer**

No

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Melanie Wong - Seminole Electric Cooperative, Inc. - 1,3,4,5,6**

**Answer**

No

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Summer Esquerre - NextEra Energy - 5**

**Answer**

Yes

**Document Name**

**Comment**

please reference EEI's comments

Likes 0

Dislikes 0

**Response**

**Dwanique Spiller - Berkshire Hathaway - NV Energy - 5**

**Answer**

Yes

**Document Name**

**Comment**

Implementation in many cases is dependent on the availability of additional hardware to add any additional functionality to meet the standard. Additionally, data connections which may be hosted by a common entity between several other entities may be dependent on hardware provided by the hosting entity. BHE feels flexibility in implementation for entities who can establish circumstances outside their control for failure to implement on time is highly desirable.

Likes 0

Dislikes 0

**Response**

**Kimberly Turco - Constellation - 6**

**Answer**

Yes

**Document Name**

**Comment**

Constellation aligns with Exelon Corporation in response to this question.

Kimberly Turco on behalf of Constellation Segments 5 and 6

Likes 0

Dislikes 0

**Response**

**Alison MacKellar - Constellation - 5**

**Answer**

Yes

**Document Name**

**Comment**

Constellation aligns with Exelon Corporation in response to this question.

Alison Mackellar on behalf of Constellation Segments 5 and 6.

Likes 0

Dislikes 0

**Response**

**Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC RSC**

**Answer**

Yes

**Document Name**

**Comment**

We support a 24-month implementation plan pending the scope of availability.

Likes 0

Dislikes 0

**Response**

**John Galloway - John Galloway On Behalf of: John Pearson, ISO New England, Inc., 2; - John Galloway**

**Answer**

Yes

**Document Name**

**Comment**

ISO-NE is in support of comments developed by ISO-RTO council and NPCC.

Likes 0

Dislikes 0

**Response**

**Daniel Gacek - Exelon - 1**

**Answer**

Yes

**Document Name**

**Comment**

Exelon has elected to align with EEI in response to this question.

Likes 0

Dislikes 0

**Response**

**Kinte Whitehead - Exelon - 3**

**Answer**

Yes

**Document Name**

**Comment**

Exelon has elected to align with EEI in response to this question.

Likes 0

Dislikes 0

**Response**

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

**Answer**

Yes

**Document Name**

**Comment**

EEI supports a 24 month implementation plan.

Likes 0

Dislikes 0

**Response**

**Lindsay Wickizer - Berkshire Hathaway - PacifiCorp - 6**

**Answer** Yes

**Document Name**

**Comment**

Implementation in many cases is dependent on the availability of additional hardware to add any additional functionality to meet the standard. Additionally, data connections which may be hosted by a common entity between several other entities may be dependent on hardware provided by the hosting entity. BHE feels flexibility in implementation for entities who can establish circumstances outside their control for failure to implement on time is highly desirable.

Likes 0

Dislikes 0

**Response**

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

**Answer** Yes

**Document Name**

**Comment**

The NAGF supports the proposed 24-month implementation plan.

Likes 0

Dislikes 0

**Response**

**Marcus Bortman - APS - Arizona Public Service Co. - 6**

**Answer** Yes

**Document Name**

**Comment**

AZPS still agrees with the proposed implementation timeframe.

Likes 0

Dislikes 0

**Response**

**Brian Lindsey - Entergy - 1**

**Answer** Yes

**Document Name**

**Comment**

No comment

Likes 0

Dislikes 0

**Response**

**Tristan Miller - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE**

**Answer** Yes

**Document Name**

**Comment**

No comments

Likes 0

Dislikes 0

**Response**

**Michael Johnson - Michael Johnson On Behalf of: Frank Lee, Pacific Gas and Electric Company, 3, 1, 5; Marco Rios, Pacific Gas and Electric Company, 3, 1, 5; Sandra Ellis, Pacific Gas and Electric Company, 3, 1, 5; - Michael Johnson, Group Name PG&E All Segments**

**Answer** Yes

**Document Name**

**Comment**

PG&E supports the 24-month Implementation Plan.

Likes 0

Dislikes 0

**Response**

**Ronald Bauer - MGE Energy - Madison Gas and Electric Co. - 3 - MRO**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC**

**Answer** Yes

**Document Name**

<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Israel Perez - Israel Perez On Behalf of: Jennifer Bennett, Salt River Project, 3, 5, 1, 6; Mathew Weber, Salt River Project, 3, 5, 1, 6; Sarah Blankenship, Salt River Project, 3, 5, 1, 6; - Israel Perez</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Teresa Krabe - Lower Colorado River Authority - 1,5</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>James Baldwin - Lower Colorado River Authority - 1</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	



**Response**

**Jamie Monette - Allete - Minnesota Power, Inc. - 1**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Michael Russell - Massachusetts Municipal Wholesale Electric Company - 5 - NPCC**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Larry Brusseau - Corn Belt Power Cooperative - 1 - MRO**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Joshua London - Eversource Energy - 1, Group Name Eversource**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response****Gail Elliott - Gail Elliott On Behalf of: Michael Moltane, International Transmission Company Holdings Corporation, 1; - Gail Elliott****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

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

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response****Lindsey Mannion - ReliabilityFirst - 10****Answer**

Yes

**Document Name****Comment**

Likes 0

Dislikes 0

**Response**

**Kendra Buesgens - MRO - 1,2,3,4,5,6,7 - MRO, Group Name MRO NSRF**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Patricia Ireland - DTE Energy - 4**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Christine Kane - WEC Energy Group, Inc. - 3, Group Name WEC Energy Group**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Erik Gustafson - PNM Resources - Public Service Company of New Mexico - 1,3 - WECC,Texas RE**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Karie Barczak - DTE Energy - Detroit Edison Company - 3, Group Name DTE Energy - DTE Electric**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Chris Wagner - Santee Cooper - 1, Group Name Santee Cooper**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Jesus Sammy Alcaraz - Imperial Irrigation District - 1**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Micah Runner - Black Hills Corporation - 1,3,5,6**

<b>Answer</b>	Yes
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<b>Document Name</b>	
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<b>Comment</b>
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Likes 0
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Dislikes 0
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<b>Response</b>
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**Josh Combs - Black Hills Corporation - 3**

<b>Answer</b>	Yes
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<b>Document Name</b>	
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<b>Comment</b>
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Likes 0
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Dislikes 0
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<b>Response</b>
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**Sheila Suurmeier - Black Hills Corporation - 5**

<b>Answer</b>	Yes
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<b>Document Name</b>	
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<b>Comment</b>
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Likes 0
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Dislikes 0
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<b>Response</b>
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**Claudine Bates - Black Hills Corporation - 1,3,5,6**

<b>Answer</b>	Yes
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<b>Document Name</b>	
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<b>Comment</b>
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Likes 0

Dislikes 0

**Response**

**Jack Stamper - Clark Public Utilities - 3 - WECC**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**David Jendras Sr - Ameren - Ameren Services - 3**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Justin Kuehne - AEP - 6**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Joyce Gundry - Public Utility District No. 1 of Chelan County - 3, Group Name CHPD**

<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Ellese Murphy - Duke Energy - 1,3,5,6 - MRO,WECC,Texas RE,SERC,RF</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Jennifer Buckman - Southern Indiana Gas and Electric Co. - 3,5,6 - RF</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	

Dislikes 0

**Response**

**Tim Kelley - Tim Kelley On Behalf of: Charles Norton, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Fong Mua, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Kevin Smith, Balancing Authority of Northern California, 1; Nicole Goi, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; Nicole Looney, Sacramento Municipal Utility District, 3, 6, 4, 1, 5; - Tim Kelley, Group Name SMUD / BANC**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

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

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Steven Rueckert - Western Electricity Coordinating Council - 10**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**



Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Merrell, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Nierenberg, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; - Jennie Wike, Group Name Tacoma Power

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

John Daho - MEAG Power - 1,3 - SERC

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

Response

Jay Sethi - Manitoba Hydro - 1,3,5,6 - MRO

Answer Yes

Document Name

Comment

Likes 0

Dislikes 0

**Response**

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

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Martin Sidor - NRG - NRG Energy, Inc. - 6**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Brian Millard - Tennessee Valley Authority - 1,3,5,6 - SERC**

**Answer**

Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Rachel Coyne - Texas Reliability Entity, Inc. - 10**

**Answer**

**Document Name**

**Comment**

Texas RE does not have comments.

Likes 0

Dislikes 0

**Response**

7. Provide any additional comments for the standard drafting team to consider, including the provided technical rationale and implementation guidance document, if desired.

**Brian Millard - Tennessee Valley Authority - 1,3,5,6 - SERC**

**Answer**

**Document Name**

**Comment**

With the advent of CIP-012 including controls for communications between Control Centers, consider retiring CIP-006 R1.10 for better alignment within the CIP standards.

Likes 0

Dislikes 0

**Response**

**Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter**

**Answer**

**Document Name**

**Comment**

FirstEnergy feels the Implementation Guidance were very helpful

Likes 0

Dislikes 0

**Response**

**Michael Johnson - Michael Johnson On Behalf of: Frank Lee, Pacific Gas and Electric Company, 3, 1, 5; Marco Rios, Pacific Gas and Electric Company, 3, 1, 5; Sandra Ellis, Pacific Gas and Electric Company, 3, 1, 5; - Michael Johnson, Group Name PG&E All Segments**

**Answer**

**Document Name**

**Comment**

PG&E thanks the SDT for the effort in working with the industry in completing these modifications.

Likes 0

Dislikes 0

**Response**

**Tristan Miller - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE**

**Answer**

**Document Name**

**Comment**

The Implementation Guidance and Technical Rationale documents for CIP-012-2 reference the use of incident response plans (CIP-008) and recovery plans (CIP-009) as supporting evidence for CIP-012-2, Requirement R1.3. Requirement R1.3 speaks to recovery plans and the measures only refer to CIP-009 recovery plans. It appears that CIP-008 incident response plans would not be relevant for R1.3. CEHE seeks clarification on the use of CIP-008 incident response plans to satisfy R1.3.

Likes 0

Dislikes 0

**Response**

**Jennie Wike - Jennie Wike On Behalf of: Hien Ho, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Merrell, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; John Nierenberg, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Ozan Ferrin, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; Terry Gifford, Tacoma Public Utilities (Tacoma, WA), 1, 4, 5, 6, 3; - Jennie Wike, Group Name Tacoma Power**

**Answer**

**Document Name**

**Comment**

The measures in M1 Part 1.2 provide example evidence for loss of availability of data, and not loss of data. The SDT should consider updating the R1 Part 1.2 Requirement language to "loss of the availability of data", as suggested in Tacoma Power's responses to Q1 and Q2. The suggested change to R1 Part 1.2 will align the examples provided in M1 with the Requirement language.

Likes 0

Dislikes 0

**Response**

**Steven Rueckert - Western Electricity Coordinating Council - 10**

**Answer**

**Document Name**

**Comment**

No additional comments

Likes 0

Dislikes 0

**Response**

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

**Answer**

**Document Name**

**Comment**

Xcel Energy believes that updates to the Technical Rationale and Implementation Guidance should be made to provide better clarity on the difference between the cybersecurity-related requirements of CIP-012-2 R1.2 and the operational requirements in EOP-008-2 R1.2. If Responsible Entities and ERO auditors cannot clearly distinguish between the two NERC Requirements, then the possibility of double jeopardy may exist.

Likes 0

Dislikes 0

**Response**

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

**Answer**

**Document Name**

**Comment**

While the SDT has removed the term “availability” from the Requirements and sub-parts, the term remains in the Purpose and Measures. BPA suggests removing the term throughout the standard.CIP-012 focuses on using physical and technical means to secure data while in-transit.

Securing data while in transit requires either physical hardware encryption devices or software based encryption and integrity checks. Physical encryption is not cost effective and impacts the timely manner of data received over links that are slow. The cost of redesign of the architecture of systems to implement physical encryption is also high. Logical encryption such as SSL/TLS which uses certificate based encryption cannot be supported end to end with certain devices and impacts the real-time data that is needed instantly. Maintaining these certificates also poses additional challenges as CC to CC is not always owned by the same entity.

Likes 0

Dislikes 0

**Response**

**Jennifer Buckman - Southern Indiana Gas and Electric Co. - 3,5,6 - RF**

**Answer**

**Document Name**

**Comment**

The Implementation Guidance and Technical Rationale documents for CIP-012-2 reference the use of incident response plans (CIP-008) and recovery plans (CIP-009) as supporting evidence for CIP-012-2, Requirement R1.3. Requirement R1.3 speaks to recovery plans and the measures only refer to CIP-009 recovery plans. It appears that CIP-008 incident response plans would not be relevant for R1.3. SIGE seeks clarification on the use of CIP-008 incident response plans to satisfy R1.3.

Likes 0

Dislikes 0

### Response

**Ellese Murphy - Duke Energy - 1,3,5,6 - MRO,WECC,Texas RE,SERC,RF**

**Answer**

**Document Name**

**Comment**

We recommend that the SDT be consistent and use either “risks” or “risk(s)” in R1., parts 1.1., and 1.2. We would prefer the parenthetical version. We appreciate the diligent work of the drafting team to incorporate industry feedback in this draft.

Likes 0

Dislikes 0

### Response

**Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name BC Hydro**

**Answer**

**Document Name**

**Comment**

BC Hydro suggests adding more clarity to the term 'availability' by providing a more detailed definition.

Although the SDT has proposed the use of the NIST definition of "Ensuring timely and reliable access to and use of information" for defining the term 'availability' in the Technical Rationale document, a more detailed and specific definition concerning the application and use, specifically at entities to which this standard applies, will help improve a clear understanding and easier implementation. BC Hydro also suggests including some pertinent use cases and examples.

Likes 0

Dislikes 0

### Response

**Justin Kuehne - AEP - 6**

<b>Answer</b>	
<b>Document Name</b>	
<b>Comment</b>	
AEP appreciates the efforts of the SDT on this revision. No further comments at this time.	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>David Jendras Sr - Ameren - Ameren Services - 3</b>	
<b>Answer</b>	
<b>Document Name</b>	
<b>Comment</b>	
No Comment	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Brian Lindsey - Entergy - 1</b>	
<b>Answer</b>	
<b>Document Name</b>	
<b>Comment</b>	
No comment	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Jack Stamper - Clark Public Utilities - 3 - WECC</b>	
<b>Answer</b>	
<b>Document Name</b>	



**Comment**

*The measures in M1 Part 1.2 provide example evidence for loss of availability of data, and not loss of data. The SDT should consider updating the R1 Part 1.2 Requirement language to "loss of the availability of data", as suggested in Tacoma Power's responses to Q1 and Q2. The suggested change to R1 Part 1.2 will align the examples provided in M1 with the Requirement language.*

Likes 0

Dislikes 0

**Response****Marcus Bortman - APS - Arizona Public Service Co. - 6****Answer****Document Name****Comment**

AZPS has no additional comments at this time.

Likes 0

Dislikes 0

**Response****Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF****Answer****Document Name****Comment**

The NAGF has no additional comments.

Likes 0

Dislikes 0

**Response****Melanie Wong - Seminole Electric Cooperative, Inc. - 1,3,4,5,6****Answer****Document Name****Comment**

1. Implementation Guidance

- i. On pages 2-3 of the Implementation Guidance, the STD has a section titled “Mitigate Risks Associated with Unauthorized Disclosure and Modification”. In reviewing this section, the SDT appears to comingle “preventative” measures with mitigating measures. For example, physical security of data cabling is more of a preventive measure, and does not mitigate the impact of the disclosure of the data or modification of the data once it has occurred. The SDT should review this section and specify whether they are looking for preventive or mitigating measures.
- ii. On page 3 of the redline version of the Implementation Guidance, the SDT struct different “protocol” and modified the language to different “systems”, and the examples were changed from DNP3 and ICCP to primary and secondary. Is the SDT confirming that the same type of system, e.g., two ICCP circuits, can be used as long as the paths are diverse?
- iii. On page 8 of the redlined Implementation Guidance, the SDT states “Entity Alpha then physically protects the cabling and connections over which the data travels until it is within the Control Center.” In looking at Figure 3, the SDT has indicated that “Entity Alpha’s CIP-012 physical security protection applied” includes communication cabling “inside” the Control Center’s PSP, and not just the cabling and router outside of the PSP. We believe the SDT needs to update the Figure to only show a need for CIP-012 physical protection outside of the Control Center PSP.
- iv. On page 10 of the Implementation Guidance, in Figure 2, the SDT has indicated one communication link from the Primary Control Center. To be compliant, does not Entity Alpha have to indicate additional communication links to its back-up Control Center along with a secondary communication link to Entity Beta’s Control Center? The SDT should modify the Figure as it does not coincide well with Figure 1 provided by the SDT.

1. Technical Rationale

- i. On page v of the technical rationale, if your Control Center connects to a GOP that is owned by a separate entity, how are you supposed to verify whether the GOP is an applicable Control Center?
- ii. On page vii of the technical rationale, the SDT states “but the potential situation exists where there are substation with an HMI or protective relay that “operating personnel” within the substation could use to impact an adjacent substation.” This language is confusing because the language of Control Center is “monitor and control”, if entities are supposed to look at “impact”, then multiple relays at different locations could be involved, including GOPs and TOPs. The SDT should revise this language and specifically note that “impact” is not to be evaluated, but only direct control.
- iii. For Figure 4 in the technical rationale, if the control room operator at Entity B location 1 provides TOP-003 data to Entity A TOP for both Location 1 and Location 2 via a manual entry messaging system directly from Entity B Location 1 to Entity A TOP Control Center, e.g., outage information, then that specific data link would be included in CIP-012, correct?

Likes 0

Dislikes 0

**Response**

**Devin Shines - PPL - Louisville Gas and Electric Co. - 1,3,5,6 - SERC,RF**

**Answer**

**Document Name**

**Comment**

PPL NERC Registered Affiliates do not support the proposed changes. Specifically, the proposed R1.3 is overly broad.

PPL NERC Registered Affiliates propose the following revisions to R1.3: "Identification of method(s) used to recover in the recovery of Responsible Entity owned or operated communication links used to transmit Real-time Assessment and Real-time monitoring data between Control Centers;"

Likes 0

Dislikes 0

**Response**

**Silvia Mitchell - NextEra Energy - Florida Power and Light Co. - 1**

**Answer**

**Document Name**

**Comment**

NextEra Energy supports EEI's comments

Likes 0

Dislikes 0

**Response**

**Kinte Whitehead - Exelon - 3**

**Answer**

**Document Name**

**Comment**

Exelon has elected to align with EEI in response to this question.

Likes 0

Dislikes 0

**Response**

**Christine Kane - WEC Energy Group, Inc. - 3, Group Name WEC Energy Group**

**Answer**

**Document Name**

**Comment**

WEC Energy Group supports the MRO-NSRF comments.

Additionally, the NIST definition of Availability listed in the Implementation Guidance and the Technical Rational differs. Request the SDT to align the definitions.

Likes 0

Dislikes 0

### Response

**Daniel Gacek - Exelon - 1**

**Answer**

**Document Name**

**Comment**

Exelon has elected to align with EEI in response to this question.

Likes 0

Dislikes 0

### Response

**Mia Wilson - Southwest Power Pool, Inc. (RTO) - 2 - MRO,WECC**

**Answer**

**Document Name**

**Comment**

SPP Supports all the comments filed by the NSRF.

In addition, the proposed language introduces three concepts that introduce confusion:

First, the entity becomes responsible for a documented plan to mitigate situations where data becomes unavailable without scoping that risk. Is this risk to the other party, the sending party, the receiving party, or all parties? Is it risk to the reliable operation of the BES, risk to the exchange of data, or risk to the corruption or theft of the data?

Second, a data-providing entity now bears responsibility to document a plan of action to mitigate the risk to operations at another entity when that entity loses access to data for any reason in any way. The methods used by parties to fulfill the responsibility of a RTA or RTM are varied and far-reaching. Expecting all parties in the network of exchanged data to understand the implications of lost data and to keep up with the changes to those implications is excessively burdensome when the sending party has no opportunity or ability to assist the receiving party. The responsibility of a party providing data to another, under current NERC Standards, ends at the point at which the other party receives the data. This language would expand that scope and cause entities to cover risks that (i) are already mitigated, and (ii) the responsibility of other entities.

Third, the language overlaps in Measure and evidence with existing NERC Standards that cover RTA, RTM, and data exchange agreements. If an entity, as indicated by members of the SDT, can simply point to the evidence already submitted for these existing NERC Standards, there is only added confusion instead of value.

Finally, the SDT should clarify the extent to which an entity is responsible for mitigating the risk of data loss when that data is transmitted by a third-party. For instance, if a Transmission Operator's data is consumed by a Balancing Authority that in turn shares that Transmission Operator's data with a neighboring Reliability Coordinator, would Part 1.1 now become the responsibility of the Transmission Operator to mitigate for the risk of the Reliability Coordinator losing access to the data that is provided over the Balancing Authority's network infrastructure?

Likes 0

Dislikes 0

### Response

**John Galloway - John Galloway On Behalf of: John Pearson, ISO New England, Inc., 2; - John Galloway**

**Answer**

**Document Name**

**Comment**

ISO-NE is in support of comments developed by ISO-RTO council and NPCC.

Likes 0

Dislikes 0

### Response

**Kendra Buesgens - MRO - 1,2,3,4,5,6,7 - MRO, Group Name MRO NSRF**

**Answer**

**Document Name**

**Comment**

On the SDT webinar on October 24, 2022, mention was made of how existing plans for other standards can be leveraged as evidence of compliance with CIP-012-2, in order to minimize resources spent on documentation. The MRO NSRF requests the SDT further clarify the differences required in CIP-012-2 versus EOP-008-2, IRO-010-3 & TOP-003-3 in supplemental documentation and how a responsible entity can leverage such as evidence of compliance.

Likes 0

Dislikes 0

### Response

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

**Answer**

**Document Name**

**Comment**

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

Likes 0

Dislikes 0

**Response**

**Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC RSC**

**Answer****Document Name****Comment**

CIP-012 R1 includes all security such as information protection, location, asset inventory, confidentiality, integrity, and availability.

Recommend CIP-012 provide greater specifications of this plan.

R1 indicates “..to mitigate the risks posed by unauthorized disclosure and, unauthorized modification of, and loss of availability of data used for Real-time Assessment and Real-time monitoring data while such data is being transmitted between any applicable Control Centers.” While R1.1, R1.2, and R1.3 indicate “...between Control Centers” and R1.5 indicates “if the Control Centers..” . We suggest adding the wording “applicable” to R1.1, R1.2, R.1.3, and R1.5.

Likes 0

Dislikes 0

**Response**

**Larry Brusseau - Corn Belt Power Cooperative - 1 - MRO**

**Answer****Document Name****Comment**

On the SDT webinar on October 24, 2022, mention was made of how existing plans for other standards can be leveraged as evidence of compliance with CIP-012-2, in order to minimize resources spent on documentation. The MRO NSRF requests the SDT further clarify the differences required in CIP-012-2 versus EOP-008-2, IRO-010-3 & TOP-003-3 in supplemental documentation and how a responsible entity can leverage such as evidence of compliance.

Likes 0

Dislikes 0

**Response**

**Alison MacKellar - Constellation - 5**

**Answer**

**Document Name**

**Comment**

Constellation aligns with Exelon Corporation in response to this question.

Alison Mackellar on behalf of Constellation Segments 5 and 6.

Likes 0

Dislikes 0

**Response**

**Kimberly Turco - Constellation - 6**

**Answer**

**Document Name**

**Comment**

Constellation aligns with Exelon Corporation in response to this question.

Kimberly Turco on behalf of Constellation Segments 5 and 6

Likes 0

Dislikes 0

**Response**

**Michael Russell - Massachusetts Municipal Wholesale Electric Company - 5 - NPCC**

**Answer**

**Document Name**

**Comment**

CIP-012 R1 includes all security such as information protection, location, asset inventory, confidentiality, integrity, and availability. Recommend CIP-012 provide greater specifications of this plan.

R1 indicates "...to mitigate the risks posed by unauthorized disclosure and, unauthorized modification of, and loss of availability of data used for Real-time Assessment and Real-time monitoring data while such data is being transmitted between any applicable Control Centers." While R1.1, R1.2, and R1.3 indicate "...between Control Centers" and R1.5 indicates "if the Control Centers.." . We suggest adding the wording "applicable" to R1.1, R1.2, R.1.3, and R1.5.

Likes 0

Dislikes 0

### Response

**Roger Fradenburgh - Roger Fradenburgh On Behalf of: Nicholas Lauriat, Network and Security Technologies, 1; - Roger Fradenburgh**

**Answer**

**Document Name**

**Comment**

As noted in our responses to Questions 1-6, NST believes the proposed changes to CIP-012 implementation guidance reduce rather than add clarity about what a Responsible Entity must or might do to address new availability requirements. We find suggestions to the effect that an Entity might rely on its CIP-008 and CIP-009 plans to address parts of CIP-012 to be of particular concern, for reasons including the fact such guidance creates at least the potential for "double jeopardy" situations in compliance audits. FERC wrote Order 866 precisely because the Commission believes CIP-002 through CIP-011 do NOT address protection and recovery of communication links between Control Centers, so in NST's opinion, the SDT should refrain from suggesting that perhaps they do and should therefore be considered for inclusion in an Entity's CIP-012 compliance narratives.

NST also believes the SDT should refrain from making suggestions such as, on page 4, " Another method would be to use multiple systems that can aid availability in that one software solution providing data can fail independently of the other while data continues to flow via the alternate software/protocol stack. This can also be demonstrated utilizing network or system diagrams that identify the method(s) by which the protections are afforded by the solution." To repeat, it is NST's opinion that FERC did not intend for CIP-012 revisions to add data availability requirements that include sending and receiving Cyber Assets that are within, as opposed to between, Control Centers.

Likes 0

Dislikes 0

### Response

**Jamie Monette - Allete - Minnesota Power, Inc. - 1**

**Answer**

**Document Name**

**Comment**

MP agrees with the NSRF's comments.

Likes 0

Dislikes 0



Response	
<p><b>James Baldwin - Lower Colorado River Authority - 1</b></p>	
<b>Answer</b>	
<b>Document Name</b>	
Comment	
<p>LCRA is worried about the number of connections the standard is starting to include. Recent guidance by NERC and Regional Entities suggests an expansion in scope of the CIP-012 standard to include connections with other entities that do not fit the definition of Control Center. These entities forward data to their RC, BA, or TOP and it has been suggested that the entire connection is applicable to CIP-012. This may yield inconsistent application of the standard across the ERO. Specifically, in the CIP-012-2 Implementation Guidance it is stated that "Entity Alpha does not need to consider whether Entity Beta further share its data with another Entity. That is the responsibility of Entity Beta and is outside of Entity Alpha's purview." LCRA would recommend more guidance on applicability of the standard.</p> <p>Furthermore, the increased scope of the standard is bringing communication networks into scope that were previously excluded under exemption 4.2.3.2. Utilizing CIP-009 as a method for achieving compliance with out-of-scope systems provides additional compliance risk.</p> <p>LCRA has found that the use of "Real-time Assessment and Real-time monitoring" being used in each Requirement Part adds to the complexity of the standard. LCRA proposes the use of "data" in parentheses following the first use of the term (e.g., ... and loss of availability of data used for Real-time Assessment and Real-time monitoring (data)).</p>	
Likes	0
Dislikes	0
Response	
<p><b>Teresa Krabe - Lower Colorado River Authority - 1,5</b></p>	
<b>Answer</b>	
<b>Document Name</b>	
Comment	
<p>LCRA is worried about the number of connections the standard is starting to include. Recent guidance by NERC and Regional Entities suggests an expansion in scope of the CIP-012 standard to include connections with other entities that do not fit the definition of Control Center. These entities forward data to their RC, BA, or TOP and it has been suggested that the entire connection is applicable to CIP-012. This may yield inconsistent application of the standard across the ERO. Specifically, in the CIP-012-2 Implementation Guidance it is stated that "Entity Alpha does not need to consider whether Entity Beta further share its data with another Entity. That is the responsibility of Entity Beta and is outside of Entity Alpha's purview." LCRA would recommend more guidance on applicability of the standard.</p> <p>Furthermore, the increased scope of the standard is bringing communication networks into scope that were previously excluded under exemption 4.2.3.2. Utilizing CIP-009 as a method for achieving compliance with out-of-scope systems provides additional compliance risk.</p> <p>LCRA has found that the use of "Real-time Assessment and Real-time monitoring" being used in each Requirement Part adds to the complexity of the standard. LCRA proposes the use of "data" in parentheses following the first use of the term (e.g., ... and loss of availability of data used for Real-time Assessment and Real-time monitoring (data)).</p>	

Likes 0

Dislikes 0

**Response**

**Israel Perez - Israel Perez On Behalf of: Jennifer Bennett, Salt River Project, 3, 5, 1, 6; Mathew Weber, Salt River Project, 3, 5, 1, 6; Sarah Blankenship, Salt River Project, 3, 5, 1, 6; - Israel Perez**

**Answer**

**Document Name**

**Comment**

The measures in M1 Part 1.2 provide example evidence for loss of availability of data, and not loss of data. The SDT should consider updating the R1 Part 1.2 Requirement language to "loss of the availability of data", as suggested in Tacoma Power's responses to Q1 and Q2. The suggested change to R1 Part 1.2 will align the examples provided in M1 with the Requirement language.

Likes 0

Dislikes 0

**Response**

**Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC**

**Answer**

**Document Name**

**Comment**

Southern Company proposes 1.5 should include parts 1.1 through 1.3

Southern Company proposed Language for 1.5 - If the Control Centers are owned or operated by different Responsible Entities, **document the agreement** of identification of the responsibilities of each Responsible Entity for implementing method(s) as required in Parts 1.1 and 1.2.

Likes 0

Dislikes 0

**Response**

**Dwanique Spiller - Berkshire Hathaway - NV Energy - 5**

**Answer**

**Document Name**

**Comment**

None at this time.

Likes 0

Dislikes 0

**Response**

**Summer Esquerre - NextEra Energy - 5**

**Answer**

**Document Name**

**Comment**

please reference EEI's comments

Likes 0

Dislikes 0

**Response**

**Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF**

**Answer**

**Document Name**

**Comment**

We would like to thank the SDT for continuing to listen to industry feedback to meet the FERC order and not create overly burdensome requirements.

Likes 0

Dislikes 0

**Response**

**Rachel Coyne - Texas Reliability Entity, Inc. - 10**

**Answer**

**Document Name**

**Comment**

Texas RE does not have comments.

Likes 0

Dislikes 0

**Response**

**Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1**

**Answer**

**Document Name**

**Comment**

We would like to thank the SDT for allowing feedback to meet the FERC order.

Likes 0

Dislikes 0

**Response**