

## Consideration of Comments

<b>Project Name:</b>	2020-04 Modifications to CIP-012   Draft 4
<b>Comment Period Start Date:</b>	9/19/2023
<b>Comment Period End Date:</b>	11/2/2023
<b>Associated Ballot(s):</b>	2020-04 Modifications to CIP-012 CIP-012-2 AB 4 ST 2020-04 Modifications to CIP-012 CIP-012-2 Non-Binding Poll AB 4 NB 2020-04 Modifications to CIP-012 Implementation Plan AB 4 OT

There were 63 sets of responses, including comments from approximately 147 different people from approximately 102 companies representing 10 of the Industry Segments as shown in the table on the following pages.

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

If you feel that your comment has been overlooked, let us know immediately. Our goal is to give every comment serious consideration in this process. If you feel there has been an error or omission, contact Vice President of Engineering and Standards, [Soo Jin Kim](#) (via email) or at (404) 446-9742.

## Questions

1. The standard drafting team (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 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.
5. The SDT reviewed the implementation plan and did not see any reasons to make any changes. 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.
6. Provide any additional comments for the SDT to consider, including the provided technical rationale and implementation guidance document, if desired.

**The Industry Segments are:**

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

Organization Name	Name	Segment(s)	Region	Group Name	Group Member Name	Group Member Organization	Group Member Segment(s)	Group Member Region
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
MRO	Anna Martinson	1,2,3,4,5,6	MRO	MRO Group	Shonda McCain	Omaha Public Power District (OPPD)	1,3,5,6	MRO
					Michael Brytowski	Great River Energy	1,3,5,6	MRO
					Jamison Cawley	Nebraska Public Power District	1,3,5	MRO
					Jay Sethi	Manitoba Hydro (MH)	1,3,5,6	MRO
					Jaimin Patal	Saskatchewan Power Corporation (SPC)	1	MRO
					Kimberly Bentley	Western Area Power Administration	1,6	MRO

					Marc Gomez	Southwestern Power Administration (SWPA)	1	MRO
					Fred Meyer	Algonquin Power Co.	3	MRO
					George Brown	Pattern Operators LP	5	MRO
					Larry Heckert	Alliant Energy (ALTE)	4	MRO
					Terry Harbour	MidAmerican Energy Company (MEC)	1,3	MRO
					Bryan Sherrow	Board Of Public Utilities (BPU)	1	MRO
					Seth Shoemaker	Muscatine Power & Water	1,3,5,6	MRO
					Bobbi Welch	Midcontinent ISO, Inc.	2	MRO
					Michael Ayotte	ITC Holdings	1	MRO
Tennessee Valley Authority	Brian Millard	1,3,5,6	SERC	TVA RBB	Ian Grant	Tennessee Valley Authority	3	SERC
					David Plumb	Tennessee Valley Authority	1	SERC
					Armando Rodriguez	Tennessee Valley Authority	6	SERC

					Nehtisha Rollis	Tennessee Valley Authority	5	SERC
Chris Carnesi	Chris Carnesi		WECC	NCPA	Marty Hostler	Northern California Power Agency	4	WECC
					Dennis Sismaet	Northern California Power Agency	6	WECC
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
					John Nierenberg	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
ACES Power Marketing	Jodirah Green	1,3,4,5,6	MRO,RF,SERC,Texas RE,WECC	ACES Collaborators	Bob Soloman	Hoosier Energy Electric Cooperative	1	RF

					Jennifer Bray	Arizona Electric Power Cooperative, Inc.	1	WECC
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
California ISO	Monika Montez	2	WECC	ISO/RTO Council Standards Review Committee (SRC)	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
					Kennedy Meier	Electric Reliability Council of Texas, Inc.	2	Texas RE
Southern Company - Southern Company Services, Inc.	Pamela Hunter	1,3,5,6	SERC	Southern Company	Matt Carden	Southern Company - Southern Company Services, Inc.	1	SERC
					Joel Dembowski	Southern Company - Alabama Power Company	3	SERC
					Ron Carlsen	Southern Company - Southern Company Generation	6	SERC
					Leslie Burke	Southern Company - Southern Company Generation	5	SERC



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
					Alain Mukama	Hydro One Networks, Inc.	1	NPCC
					Deidre Altobell	Con Edison	1	NPCC
					Jeffrey Streifling	NB Power Corporation	1	NPCC
					Michele Tondalo	United Illuminating Co.	1	NPCC
					Stephanie Ullah-Mazzuca	Orange and Rockland	1	NPCC
					Michael Ridolfino	Central Hudson Gas & Electric Corp.	1	NPCC
					Randy Buswell	Vermont Electric Power Company	1	NPCC
					James Grant	NYISO	2	NPCC
					John Pearson	ISO New England, Inc.	2	NPCC
Harishkumar Subramani Vijay Kumar	Independent Electricity System Operator	2	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
					Joshua London	Eversource Energy	1	NPCC
Western Electricity Coordinating Council	Steven Rueckert	10		WECC CIP	Steve Rueckert	WECC	10	WECC
					Morgan King	WECC	10	WECC
					Deb McEndaffer	WECC	10	WECC
					Tom Williams	WECC	10	WECC
Tim Kelley	Tim Kelley		WECC	SMUD and 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 standard drafting team (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.**

**James Keele - Entergy - 1,3,6**

**Answer** No

**Document Name**

**Comment**

Entergy proposes that the measure for requirement R1.1 concerning physical access control be changed to ‘Physical Access restrictions to in-scope, unencrypted portions of the network.’

Likes 0

Dislikes 0

**Response**

Thank you for your comment. The SDT believes that the measure on physical access is scoped correctly. Additionally, the measures are examples of how an entity could address compliance and are not required by the Standard.

**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 3. After reviewing the revised Standard draft and Technical Rationale revisions in conjunction with this Draft 4, BC Hydro offers the following comments.

BC Hydro's previous concerns raised on CIP-012-2 Draft 1, Draft 2 and Draft 3 appear to have not been materially addressed, and BC Hydro continues to believe still hold valid grounds.

The changes in Requirement R1 in Draft 4 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) or any other applicable MRS (e.g., IRO-010, TOP-003, TOP-001) within the Operations and Planning (O&P) domains.

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 3, BC Hydro suggests that the drafting team provide a clear definition of the term 'availability', and clarify 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
<b>Response</b>	
Thank you for your comment. The SDT was charged with addressing “availability” in FERC Order 866 and subsequently the SAR for this project. The SDT has provided additional clarity on the definition of “availability” on page two of the Implementation Guidance. The SDT also contends that concerns on redundancy and appropriateness of addressing the risk in CIP Standards has been addressed in the Technical Rationale, Implementation Guidance, and in responses to comments in previous draft versions.	
<b>Roger Fradenburgh - Roger Fradenburgh On Behalf of: Nick Lauriat, Network and Security Technologies, 1; - Roger Fradenburgh</b>	
<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	

NST believes there are three problems with the proposed wording of R1:

First, it fails to account for the fact "availability" is a distinctly different attribute of network and computing infrastructures and/or the data they create, store, and transmit than "confidentiality" and "integrity," and it is typically supported in distinctly different ways. Confidentiality and integrity protections for data "in transit," such as are required for data in transit between Control Centers by CIP-012-1, may be and often are manifested as technical cryptographic controls. In contrast, "Availability" protections for inter- Control Center communications could be, as noted in FERC's Order, a written service level agreement with a Responsible Entity's wide-area communications provider.

Second, adding a new component to an existing CIP Requirement would force Responsible Entities to rewrite existing plans for compliance with CIP-012-1 R1. NST believes most Entities would find it less burdensome to add new sections to existing CIP-012 documents than to create entirely new CIP-012 documents that address new availability requirements.

Third, it NST's opinion that as written, R1 does not adequately address Order 866 by virtue of the fact it says nothing about communication links between Control Centers, which should be the primary focus. NST understands that communication link availability does not, by itself, ensure data availability,\*\* but the scope of the Order is limited to "communication links and data communicated between bulk electric system Control Centers."

\*\* NST notes that the existing requirement to protect data confidentiality for data transmitted between Control Centers is intended to PREVENT data from being available (to, for example, eavesdroppers) while it's in transit.

Likes	1	Central Hudson Gas & Electric Corp., 1, Ridolfino Michael
Dislikes	0	

**Response**

Thank you for your comment. The SDT asserts it has addressed the concept of availability in FERC Order 866 as a cyber-related risk to the Bulk Electric System. Examples of methods addressing cyber related risks are well documented in the Measures section of the Standard and in the Implementation Guidance.

As stated above, FERC issued Order 866 to address the cyber risk of communication links being unavailable when needed. This Order required the SDT to address the new component. How an entity chooses to address compliance in their plans is out of scope of the SDT's

work. Additionally, the SDT has identified options in addressing flexibility of documentation. The SDT recognized that Responsible Entities may already have addressed these contingencies in their existing recovery and/or incident response plan(s). Relevant evidence arising out of these plans may be referenced to meet CIP-012 requirements, avoiding duplication of administrative efforts.

The SDT recognizes that specific language identified in the FERC Order wasn't included in Standard language verbatim. However, the SDT interpreted the Order, with guidance from FERC and NERC staff, that the intent of the Order could be met by mitigating the risk created by loss of the ability to communicate. Additionally, the SDT has referenced communication link concept through the Standard (e.g., R1.3), as well as the IG and TR.

**Richard Vendetti - NextEra Energy - 5**

<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	

NEE understands FERC order but is concerned with R1 P1.3 specific language and impacts with third-party service providers like telecommunications.

Redundancy and recovery plans may be outsourced and provided through service level agreements as the Entity does not own the services nor should be held accountable for availability when the vendor fails to meet defined service level. Recommending improvements to language and additional use case examples in the Technical Rational.

NEE is requesting the SDT clearly define "availability" and "loss of data" specifically for CIP-012-2 application. There are layer 2 and 3 network devices, some network devices not in scope for NERC CIP. Managing the availability of the RTA and RTM data traversing devices not in scope for NERC CIP and third-party communications services must be addressed in the standard clearly.



NEE supports NPCC comments:

As drafted, it is still unclear if Entities are required to implement mitigations to reduce the risk of losing communication links, losing the data itself during transit, and/or losing the ability to communicate the data that is in transit.

In addition, the introduction of "availability" language into the current R1 requirement seems misplaced. R1 currently addresses mitigating risks associated with unauthorized disclosure and unauthorized modification, which focuses on the cyber security priorities of protecting confidentiality and integrity. The introduction of the new language, i.e., "loss of availability of data used," pertains to a completely different cyber security priority (availability). This commingling of cyber security priorities can make it difficult to understand and meet the security and compliance obligations.

Furthermore, embedding the new requirement in the currently effective requirement will require Entities to fully re-write their current plans and re-train their staff causing undue administrative burden. This also makes it more difficult to modify future iterations of the standard language if multiple requirements are wrapped up in one paragraph and not clearly identified in sub-requirements.

NPCC's Recommendations:

First, NPCC RSC recommends that the SDT create a new R2 requirement to specifically address the SAR.

Second, NPCC RSC recommends the SDT assign "availability" of data to the availability of the communication links used to transmit the data and the ability to communicate the data when the communication links are unavailable and not the availability of the data itself.

R2. The Responsible Entity shall implement, except under CIP Exceptional Circumstances, one or more documented plan(s) to mitigate the risks posed by the loss of ability to communicate the RTA/RTM data due to the unavailability of the communication links used to transmit the Real-time Assessment and Real-time monitoring data between any applicable Control Centers as identified in R1.

Third, NPCC RSC recommends that the SDT consider developing subrequirements that express the required components needed for the mitigation plan in the form of processes and/or methods:

Plan components:

R2.1 Processes and/or methods to identify loss of the communication links,

R2.2 Processes and/or methods to initiate the recovery of the communication links,

R2.3 Alternative processes and/or methods to communicate the data when the communication links are unavailable such as use of backup communication capability.

Pending the clarification of the data loss vs communication link loss would impact us recommended R2 language. The proposed language above does not address the need for agreements with third parties/other responsible entities with control centers for the implementation of alternate processes.

Likes	0
Dislikes	0
<b>Response</b>	

Thank you for your comment. The SDT was charged with addressing “availability” in FERC Order 866 and subsequently the SAR for this project. The SDT has provided additional clarity on the definition of “availability” on page two of the Implementation Guidance.

Please see response to NPCC comments and recommendations.

**Ben Hammer - Western Area Power Administration - 1**

<b>Answer</b>	No
<b>Document Name</b>	

**Comment**

The standard mixes the requirements of CIP-009, CIP-012, TOP-003 and IRO-010. This effectively creates duplicate requirements stringed across multiple standards and separate orders. Requirement 1.3 should be removed from CIP-012 and placed into CIP-009 R1. There appears to be an opportunity for NERC to create efficiencies in Requirements for Control Center communications.

Likes 1	Central Hudson Gas & Electric Corp., 1, Ridolfino Michael
Dislikes 0	

**Response**

Thank you for your comment. The SDT has previously responded to the concerns identified in this comment. The SDT continues to assert that references to utilizing plans or procedures that were created to address other NERC Standards were only meant as an option to reduce administrative documents. As an example, if an entity chooses to create a single Standard Operating Procedure for “System Recovery,” they could use that procedure as evidence for their CIP-012 System recovery activities. They could also use that same document as evidence for their CIP-009 system recovery activities and corporate system recovery. The important aspect is that the procedure needs to address all parts of the Standard it is meant to be used as evidence for. Entities are still free to have multiple system recovery documents to address each Standard and or system separately. The TOP and IRO standards do address availability, but are focused on data exchange infrastructure within the primary control center and do not address data in motion between other Control Centers. The revisions to CIP-012 will address elements that TOP and IRO do not address.

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

<b>Answer</b>	No
<b>Document Name</b>	

**Comment**

SPP recommends language changes to Part 1.1 to clarify that the methods address the risks (i.e., preventive), not the effects of the risks (i.e., corrective). Specifically, this comment form’s own question uses the phrase “mitigation of”, but the language as drafted uses the phrase “mitigate the risk(s) posed by”. This phrase “risk(s) posed by” may lead to confusion and distract entities from satisfying the directives outlined in FERC Order No. 866. For example, a method used mitigate risk(s) posed by the unauthorized disclosure of data could include far reaching methods such as an entity’s hiring, discipline, and retention policies since the disclosure of data could result in employee termination. To avoid this confusion and focus efforts on the directives SPP recommends the changes below. The use of the phrase “risk(s) of [...] to data” focuses the method and mitigations specifically to the directives outlined in the FERC order.

Recommended language:

*Identification of method(s) used to mitigate the risk(s) of unauthorized disclosure or unauthorized modification to data used in Real-time Assessment and Real-time monitoring while such data is being transmitted between Control Centers;*

SPP estimates that the confusion caused by the as-drafted language could result in hundreds of staff hours annually, which will distract from meeting the intended directive.

Likes 0

Dislikes 0

**Response**

Thank you for your comment. While the SDT made some conforming changes to Part R1.1, the SAR has limited the purpose of changes to include the aspect of availability. With regards to the concerns about methods to address risk, the SDT provided guidance on how an entity could address risk on page three of the Implementation Guidance.

**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**

As drafted, it is still unclear if Entities are required to implement mitigations to reduce the risk of losing communication links, losing the data itself during transit, and/or losing the ability to communicate the data that is in transit.

In addition, the introduction of "availability" language into the current R1 requirement seems misplaced. R1 currently addresses mitigating risks associated with unauthorized disclosure and unauthorized modification, which focuses on the cyber security priorities of protecting confidentiality and integrity. The introduction of the new language, i.e., "loss of availability of data used," pertains to a completely different cyber security priority (availability). This commingling of cyber security priorities can make it difficult to understand and meet the security and compliance obligations.

Furthermore, embedding the new requirement in the currently effective requirement will require Entities to fully re-write their current plans and re-train their staff causing undo administrative burden. This also makes it more difficult to modify future iterations of the standard language if multiple requirements are wrapped up in one paragraph and not clearly identified in sub-requirements.

**Recommendations:**

First, NPCC RSC recommends that the SDT create a new R2 requirement to specifically address the SAR.

Second, NPCC RSC recommends the SDT assign "availability" of data to the availability of the communication links used to transmit the data and the ability to communicate the data when the communication links are unavailable and not the availability of the data itself.

R2. The Responsible Entity shall implement, except under CIP Exceptional Circumstances, one or more documented plan(s) to mitigate the risks posed by the loss of ability to communicate the RTA/RTM data due to the unavailability of the communication links used to transmit the Real-time Assessment and Real-time monitoring data between any applicable Control Centers as identified in R1.

Third, NPCC RSC recommends that the SDT consider developing subrequirements that express the required components needed for the mitigation plan in the form of processes and/or methods:

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Pending the clarification of the data loss vs communication link loss would impact us recommended R2 language. The proposed language above does not address the need for agreements with third parties/other responsible entities with control centers for the implementation of alternate processes.

Likes 0

Dislikes 0

### Response

Thank you for your comment. In the first posted draft of CIP-0012-2 the SDT had created a second requirement (R2) to address availability separate from confidentiality and integrity. The responses the SDT received from that first draft very clearly articulated that the industry did not support having a second requirement (R2) for availability and requested that it be included as part of Requirement R1.

The SDT asserts the Requirement Part R1.2 clearly identifies the risk to be mitigated is in the ability to send and receive data and that the population of data required for the data specification identified in TOP-003 and IRO-010.

**Nicolas Turcotte - Hydro-Quebec (HQ) - 1**

<b>Answer</b>	No
<b>Document Name</b>	

**Comment**

As drafted, it is still unclear if Entities are required to implement mitigations to reduce the risk of losing communication links, losing the data itself during transit, and/or losing the ability to communicate the data that is in transit.

In addition, the introduction of "availability" language into the current R1 requirement seems misplaced. R1 currently addresses mitigating risks associated with unauthorized disclosure and unauthorized modification, which focuses on the cyber security priorities of protecting confidentiality and integrity. The introduction of the new language, i.e., "loss of availability of data used," pertains to a completely different cyber security priority (availability). This commingling of cyber security priorities can make it difficult to understand and meet the security and compliance obligations.

Furthermore, embedding the new requirement in the currently effective requirement will require Entities to fully re-write their current plans and re-train their staff causing undo administrative burden. This also makes it more difficult to modify future iterations of the standard language if multiple requirements are wrapped up in one paragraph and not clearly identified in sub-requirements.

**Recommendations:**

First, NPCC RSC recommends that the SDT create a new R2 requirement to specifically address the SAR.

Second, NPCC RSC recommends the SDT assign "availability" of data to the availability of the communication links used to transmit the data and the ability to communicate the data when the communication links are unavailable and not the availability of the data itself.

R2. The Responsible Entity shall implement, except under CIP Exceptional Circumstances, one or more documented plan(s) to mitigate the risks posed by the loss of ability to communicate the RTA/RTM data due to the unavailability of the communication links used to transmit the Real-time Assessment and Real-time monitoring data between any applicable Control Centers as identified in R1.

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Likes	0
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Dislikes	0
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**Response**

Thank you for your comment. In the first posted draft of CIP-0012-2 the SDT had created a second requirement (R2) to address availability separate from confidentiality and integrity. The responses the SDT received from that first draft very clearly articulated that the industry did not support having a second requirement (R2) for availability and requested that it be included as part of Requirement R1.

The SDT asserts the Requirement Part R1.2 clearly identifies the risk to be mitigated is in the ability to send and receive data as identified in TOP-003 and IRO-010.

**Tracy MacNicoll - Utility Services, Inc. - 4**

Answer	No
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<b>Document Name</b>	
<b>Comment</b>	
USV Supports the comments of NPCC RSC	
Likes 0	
Dislikes 0	
<b>Response</b>	
Please see SDT response to NPCC RSC comments.	
<b>Constantin Chitescu - Ontario Power Generation Inc. - 5</b>	
<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
OPG supports the NPCC RSC's comments.	
Likes 0	
Dislikes 0	
<b>Response</b>	
Please see SDT response to NPCC RSC comments.	
<b>Alain Mukama - Hydro One Networks, Inc. - 1</b>	
<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	

Some clarification for part 1.3. There are Active/Active links and Active/Standby links, and they recovery automatically or with minimum manual intervention. For issue with ISP (Internet Service Provider) network, can only rely on ISP to resolve the issue according to the SLA.

Likes 0

Dislikes 0

**Response**

Thank you for your comment. SLAs have been included in the Measures section in M1.2 and M1.3, as well as in the Implementation Guidance where they provide examples of how an issue with ISP can be addressed. The SDT recommends that entities review the Measures and supporting documents for additional clarity in potential compliance approaches for designating/documenting responsibilities.

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

**Answer** Yes

**Document Name**

**Comment**

FirstEnergy has no issues with R1 or R1.1, which is about the methods to prevent unauthorized data modification as this Requirement speaks to the intent of the Standard.

Likes 0

Dislikes 0

**Response**

Thank you for your support.

**Lindsey Mannion - ReliabilityFirst - 10**

**Answer** Yes

**Document Name**

**Comment**

<p>The addition of “loss of availability” completes the CIA Triad and requires entities to create an information security strategy through policies, processes, or procedures to minimize threats of RTA and RTM data communications loss while in transit between Control Centers.</p>	
Likes	0
Dislikes	0
<b>Response</b>	
<p>Thank you for your support.</p>	
<b>Kimberly Turco - Constellation - 6</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
<p>The FERC Order also indicates that data at rest is out of scope. We suggest including “data at rest” along with the “oral communications” in the into paragraph for clarity.</p>	
<p>Kimberly Turco on behalf of Constellation Segments 5 and 6</p>	
Likes	0
Dislikes	0
<b>Response</b>	
<p>Thank you for your comment. The SDT has included “while such data is being transmitted between control centers” in Part R1.1. This addresses the concern of data at rest. Additionally, paragraph eleven of the FERC Order indicates that data at rest should already be protected by implementation of existing CIP Standards.</p>	
<b>Marcus Bortman - APS - Arizona Public Service Co. - 6</b>	
Answer	Yes

<b>Document Name</b>	
<b>Comment</b>	
AZPS agrees that the proposed language address the mitigation risks.	
Likes 0	
Dislikes 0	
<b>Response</b>	
Thank you for your support.	
<b>Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Southern Company agrees with EEI that the proposed language in R1 addresses the mitigation risk as identified in FERC Order 866.	
Likes 0	
Dislikes 0	
<b>Response</b>	
Please see SDT response to EEI comments.	
<b>Kinte Whitehead - Exelon - 3</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	

Exelon is in support of the comments submitted by EEI.	
Likes	0
Dislikes	0
<b>Response</b>	
Please see SDT response to EEI comments.	
<b>Kent Feliks - AEP - 3</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
The addition and recognition of the “loss of availability” makes the intent clear.	
Likes	0
Dislikes	0
<b>Response</b>	
Thanks for your support.	
<b>Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
The NAGF supports the proposed language for Requirement 1.	
Likes	0

Dislikes	0
<b>Response</b>	
Thank you for your support.	
<b>Gail Elliott - Gail Elliott On Behalf of: Michael Moltane, International Transmission Company Holdings Corporation, 1; - Gail Elliott</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
ITC supports the comments submitted by EEI	
Likes	0
Dislikes	0
<b>Response</b>	
Please see SDT response to EEI comments.	
<b>Alison MacKellar - Constellation - 5</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
The FERC Order also indicates that data at rest is out of scope. We suggest including “data at rest” along with the “oral communications” in the into paragraph for clarity.	
Alison Mackellar on behalf of Constellation Segments 5 and 6	
Likes	0
Dislikes	0

Response	
<p>Thank you for your comment. The SDT has included “while such data is being transmitted between control centers” in Part R1.1. This addresses the concern of data at rest. Additionally, paragraph eleven of the FERC Order indicates that data at rest should already be protected by implementation of existing CIP Standards.</p>	
<p><b>Clay Walker - Clay Walker On Behalf of: John Lindsey, Cleco Corporation, 6, 5, 1, 3; Maurice Paulk, Cleco Corporation, 6, 5, 1, 3; Robert Hirschak, Cleco Corporation, 6, 5, 1, 3; Stephanie Huffman, Cleco Corporation, 6, 5, 1, 3; Wayne Messina, LaGen, 4; - Clay Walker</b></p>	
Answer	Yes
Document Name	
Comment	
<p>Cleco agrees with EEI comments.</p>	
Likes	0
Dislikes	0
Response	
<p>Please see SDT response to EEI comments.</p>	
<p><b>Monika Montez - California ISO - 2 - WECC, Group Name ISO/RTO Council Standards Review Committee (SRC)</b></p>	
Answer	Yes
Document Name	
Comment	
<p>The ISO/RTO Council Standards Review Committee (SRC) supports broadening the term “security protection” to “method(s)” to provide entities with flexibility in meeting the standard. That said, the SRC requests the SDT validate that the proposed modifications to CIP-012 retain backwards compatibility with CIP-012-1.</p>	
Likes	0

Dislikes	0
<b>Response</b>	
Thank you for your support and comment. While the SDT cannot provide specific compliance positions, we believe that “methods used to mitigate the risk.” encompasses security protections.	
<b>Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
EEI agrees that the proposed language in R1 addresses the mitigation risk as identified in FERC Order 866.	
Likes	0
Dislikes	0
<b>Response</b>	
Thanks for your support.	
<b>Daniel Gacek - Exelon - 1</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Exelon is in support of the comments submitted by EEI	
Likes	0
Dislikes	0
<b>Response</b>	



Please see SDT response to EEI comments.	
<b>Hillary Creurer - Allete - Minnesota Power, Inc. - 1</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Minnesota Power aligns with the NERC Standards Review Forum (NSRF) and Edison Electric Institute (EEI) responses.	
Likes	0
Dislikes	0
<b>Response</b>	
Please see SDT response to EEI and MRO NSRF comments.	
<b>Ellese Murphy - Duke Energy - 1,3,5,6 - Texas RE,SERC,RF</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Duke Energy agrees that the proposed language in R1 is responsive to FERC Order No. 866.	
Likes	0
Dislikes	0
<b>Response</b>	
Thanks for your support.	
<b>Kennedy Meier - Electric Reliability Council of Texas, Inc. - 2</b>	
<b>Answer</b>	Yes

<b>Document Name</b>	
<b>Comment</b>	
ERCOT joins the comments submitted by the ISO/RTO Council (IRC) Standards Review Committee (SRC) and adopts them as its own.	
Likes 0	
Dislikes 0	
<b>Response</b>	
Please see SDT response to the ISO RTO Council Standards Review Committee	
<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>	
Answer	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Wendy Kalidass - U.S. Bureau of Reclamation - 5</b>	
Answer	Yes
<b>Document Name</b>	
<b>Comment</b>	

Likes	0
Dislikes	0
<b>Response</b>	
<b>Amy Wesselkamper - PNM Resources - Public Service Company of New Mexico - 1,3</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Donna Wood - Tri-State G and T Association, Inc. - 1</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Brian Millard - Tennessee Valley Authority - 1,3,5,6 - SERC, Group Name TVA RBB</b>	

<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Gladys DeLaO - CPS Energy - 1</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Anna Martinson - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO Group</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	

Dislikes	0
<b>Response</b>	
Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
Sheila Suurmeier - Black Hills Corporation - 5	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
Rachel Schuldt - Rachel Schuldt On Behalf of: Josh Combs, Black Hills Corporation, 5, 6, 1, 3; - Rachel Schuldt	
Answer	Yes

<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Claudine Bates - 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>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	

Response	
<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 and BANC</b></p>	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
<p><b>Andy Fuhrman - Minnkota Power Cooperative Inc. - 1,5 - MRO</b></p>	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
<p><b>Martin Sidor - NRG - NRG Energy, Inc. - 6</b></p>	
Answer	Yes

<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Patricia Lynch - NRG - NRG Energy, Inc. - 5</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	



<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>Tristan Miller - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>James Baldwin - James Baldwin On Behalf of: Matt Lewis, Lower Colorado River Authority, 5, 1; - James Baldwin</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	

<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Jay Sethi - Manitoba Hydro - 1,3,5,6 - MRO</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>LaTroy Brumfield - American Transmission Company, LLC - 1</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	

<b>David Buchold - Southern Indiana Gas and Electric Co. - 6 - RF</b>	
Answer	Yes
Document Name	
<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>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Larry Heckert - Alliant Energy Corporation Services, Inc. - 4</b>	
Answer	Yes
Document Name	

<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC CIP</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Helen Lainis - Independent Electricity System Operator - 2</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	

<b>Teresa Krabe - Lower Colorado River Authority - 1,5</b>	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
<b>Casey Jones - Berkshire Hathaway - NV Energy - 5 - WECC</b>	
Answer	Yes
Document Name	
Comment	
Likes 0	
Dislikes 0	
Response	
<b>David Jendras Sr - Ameren - Ameren Services - 3</b>	
Answer	Yes
Document Name	
Comment	

Likes	0
Dislikes	0
<b>Response</b>	
<b>Dwanique Spiller - Berkshire Hathaway - NV Energy - 5</b>	
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, 1, 6, 5; Mathew Weber, Salt River Project, 3, 1, 6, 5; Sarah Blankenship, Salt River Project, 3, 1, 6, 5; - Israel Perez</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	

<b>Ronald Bauer - MGE Energy - Madison Gas and Electric Co. - 3</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, Group Name ACES Collaborators</b>	
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	
<b>Response</b>	



**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.**

**Constantin Chitescu - Ontario Power Generation Inc. - 5**

<b>Answer</b>	No
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<b>Document Name</b>	
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<b>Comment</b>
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OPG supports the NPCC RSC's comments.

Likes 0	
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Dislikes 0	
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<b>Response</b>
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Please see response to NPCC RSC's comments.

**Tracy MacNicoll - Utility Services, Inc. - 4**

<b>Answer</b>	No
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<b>Document Name</b>	
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<b>Comment</b>
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USV Supports the comments of NPCC RSC

Likes 0	
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Dislikes 0	
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<b>Response</b>
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Please see response to NPCC RSC's comments.

**Nicolas Turcotte - Hydro-Quebec (HQ) - 1**

**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, COM standards, and TOP Standards?

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

Request clarification of “availability of data” vs “loss of ability to communicate.” (R1 vs R1.2).

Likes 0

Dislikes 0

**Response**

Thank you for your comment. The SDT asserts that, as identified in M1, the Measures listed are examples of methods that entities could include in their plans. The SDT updated the Measures verbiage to include additional examples in response to comments received from industry during the previous posting. Measures are not enforceable.

The SDT has responded previously to the concerns identified in this comment. The SDT continues to assert that references to utilizing plans or procedures that were created to address other NERC Standards were only meant as an option to reduce administrative documents. As an example, if an entity chooses to create a single Standard Operating Procedure for “System Recovery,” they could use that procedure as evidence for their CIP-012 System recovery activities. They could also use that same document as evidence for their CIP-009 system recovery activities and corporate system recovery. The important aspect is that the procedure needs to address all parts of the Standard it is meant to be used as evidence for. Entities are still free to have multiple system recovery documents to address each Standard and or system separately.

The TOP and IRO standards do address availability, but are focused on data exchange infrastructure within the primary control center and do not address data in motion between other Control Centers. The revisions to CIP-012 will address elements that TOP and IRO do not address.

The Purpose section was updated to reflect the current scope of the project and the level of detail for that section is adequate.

The SDT used the term availability within Requirement R1 to directly address the FERC Order. The Parts 1.2 and 1.3 cover the two descriptors of availability required within Requirement R1 of the standard.

Loss of availability applies to both communicating data *and* communication links, and the R1 language covers both Parts 1.2 and 1.3. FERC Order 866 refers to "require protections regarding the availability of communication links and data communicated between" BES Control Centers.

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

<b>Answer</b>	No
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<b>Document Name</b>	
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<b>Comment</b>
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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, COM standards, and TOP Standards?

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

Request clarification of “availability of data” vs “loss of ability to communicate.” (R1 vs R1.2).

Likes 0

Dislikes 0

**Response**

Thank you for your comment. The SDT asserts that, as identified in M1, the Measures listed are examples of methods that entities could include in their plans. The SDT updated the Measures verbiage to include additional examples in response to comments received from industry during the previous posting. Measures are not enforceable.

The SDT has responded previously to the concerns identified in this comment. The SDT continues to assert that references to utilizing plans or procedures that were created to address other NERC Standards were only meant as an option to reduce administrative documents. As an example, if an entity chooses to create a single Standard Operating Procedure for “System Recovery,” they could use that procedure as evidence for their CIP-012 System recovery activities. They could also use that same document as evidence for their CIP-009 system recovery activities and corporate system recovery. The important aspect is that the procedure needs to address all parts of the Standard it is meant to be used as evidence for. Entities are still free to have multiple system recovery documents to address each Standard and or system separately.

The TOP and IRO standards do address availability, but are focused on data exchange infrastructure within the primary control center and do not address data in motion between other Control Centers. The revisions to CIP-012 will address elements that TOP and IRO do not address.

The Purpose section was updated to reflect the current scope of the project and the level of detail for that section is adequate.

The SDT used the term availability within Requirement R1 to directly address the FERC Order. The Parts 1.2 and 1.3 cover the two descriptors of availability required within Requirement R1 of the standard.

Loss of availability applies to both communicating data *and* communication links, and the R1 language covers both Parts 1.2 and 1.3. FERC Order 866 refers to "require protections regarding the availability of communication links and data communicated between" BES Control Centers.

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

<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
<p>SPP recommends language changes to Part 1.2 to clarify that the methods address the risks (i.e., preventive), not the effects of the risks (i.e., corrective). Specifically, this comment form’s own question uses the phrase “mitigation of”, but the language as drafted uses the phrase “mitigate the risk(s) posed by”. This phrase “risk(s) posed by” may lead to confusion and distract entities from satisfying the directives outlined in FERC Order No. 866. For example, a method used mitigate risk(s) posed by the loss of the ability to communicate data could include far-reaching methods, such as an entity’s Real-time assessment, communication plans, or load shed procedures since each of those processes deal with data and would experience effects in some situations. To avoid this confusion and focus efforts on the directives SPP recommends the changes below. The use of the phrase “to the ability” focuses the method and mitigations specifically to the directives outlined in the FERC order. To provide clarity, SPP recommends the following language change to Part 1.2:</p> <p><i>Identification of method(s) used to mitigate the risk(s) to the loss of the ability to communicate Real-time Assessment and Real-time monitoring data between Control Centers;</i></p> <p>SPP estimates that the confusion caused by the as-drafted language could result in hundreds of staff hours annually, which will distract from meeting the intended directive.</p>	
Likes	0
Dislikes	0
<b>Response</b>	
<p>Thank you for your comment. While the SDT made some conforming changes to Part R1.1, the SAR has limited the purpose of changes to include the aspect of availability. With regards to the concerns about methods to address risk, the SDT provided guidance on how an entity could address risk on page three of the Implementation Guidance.</p>	
<b>Richard Vendetti - NextEra Energy - 5</b>	
<b>Answer</b>	No
<b>Document Name</b>	

**Comment**

NEE supports NPCC comments:

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, COM standards, and TOP Standards?

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

Request clarification of “availability of data” vs “loss of ability to communicate.” (R1 vs R1.2).

Likes 0

Dislikes 0

**Response**

Please see the SDTs response to NPCC.

**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

<b>Document Name</b>	
<b>Comment</b>	
The 1.2 proposed language should use the word "transmit" instead of "communicate" to be consistent with the rest of the standard.	
Likes 0	
Dislikes 0	
<b>Response</b>	
Thank you for your comment. The SDT believes that communication is the appropriate term as it gives the responsible entity the flexibility to meet the standards within their own programs. Through the various orders and IG, communication links have been discussed in depth and communication encompasses the act of transmitting information.	
<b>Roger Fradenburgh - Roger Fradenburgh On Behalf of: Nick Lauriat, Network and Security Technologies, 1; - Roger Fradenburgh</b>	
<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
NST believes that as written, R1.2:	
<ul style="list-style-type: none"> <li>- Conflicts with the language of R1 (loss of data availability and loss of the ability to communicate are two different situations);</li> <li>- uses language not found in Order 866, and;</li> <li>- could be interpreted as applying not only to communications links between Control Centers, but also to sending and receiving Cyber Assets within Control Centers. An ICCP server's failure or misoperation could cause a loss of ability to communicate.</li> </ul>	
Likes 1	Central Hudson Gas & Electric Corp., 1, Ridolfino Michael
Dislikes 0	

**Response**

Thank you for your comment. The SDT was charged with addressing “availability” in FERC Order 866 and subsequently the SAR for this project. The SDT has provided additional clarity on the definition of “availability” on page two of the Implementation Guidance.

The SDT asserts that the verbiage between R1 and R1.2 do not conflict. R1.2 is intended to cover the additional request in the SAR. In addition, FERC Order 866 (pg. 20) states: “The intent of the Commission’s directive is for NERC to address the risks associated with the availability of communication links **and** data communicated between all bulk electric system Control Centers...”

R1 and its subparts are applicable to Control Centers, loss of functionality associated with BES Cyber Systems (i.e., “Cyber Assets within Control Centers”) is covered via other Standards (e.g., CIP-009). The SDT has continued to advise that CIP-009 programs could become leveraged/cross-referenced when implementing controls for R1.2, but the programs have differing and distinct applicability.

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

<b>Answer</b>	No
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<b>Document Name</b>	
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**Comment**

FirstEnergy believes R1.2 is about the methods to mitigate the risk of losing communications – this is redundant with TOP-001 R20, which requires us to demonstrate that we have diverse and redundant communications

Likes	0
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Dislikes	0
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**Response**

Thank you for your comment. The SDT asserts that language in TOP-001 R20 addresses communication components that reside within a Responsible Entities Primary Control Center (e.g., from server to firewall at demarcation point). CIP-012-2 addresses risks of not being able to communicate between Control Centers (e.g., from the firewall at a demarcation point at Control Center A to demarcation firewall at Control Center B).



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

**Answer** No

**Document Name**

**Comment**

The changes in Requirement R1 in Draft 4 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) or any other applicable MRS (e.g., IRO-010, TOP-003, TOP-001) within the Operations and Planning (O&P) domains.

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 3, 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**

Thank you for your comment. The SDT was charged with addressing “availability” in FERC Order 866 and subsequently the SAR for this project. The SDT has provided additional clarity on the definition of “availability” on page two of the Implementation Guidance. The SDT also contends that concerns on redundancy and appropriateness of addressing the risk in CIP Standards has been addressed in the Technical Rationale, Implementation Guidance, and in responses to comments in previous draft versions.

**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 and BANC**

<b>Answer</b>	No
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<b>Document Name</b>	
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**Comment**

The Standards Drafting Team should ensure the words “transmit” and “communicate” are being used consistently in the requirement and the requirement parts. Requirement R1 refers to mitigating the risk of the loss of availability of data used in Real-time Assessment and Real-time monitoring while such data is being “transmitted between applicable Control Centers.” Part 1.1 also refers to mitigating the unauthorized disclosure and unauthorized modification of Real-time Assessment and Real-time monitoring data that is being “transmitted between Control Centers.” Part 1.2 refers to mitigating the risk posed by the loss of the ability to “communicate” Real-time Assessment and Real-time monitoring data between control centers. The wording in Part 1.3 also uses the term “communication” links.

SMUD and BANC recommend using the word “transmit” instead of “communicate” in Part 1.2 to provide clarity and consistency with the Purpose of the Standard and the Technical Rationale. The wording should also be changed in the Technical Rationale (pdf-page 9) where the Requirement R1, Part 1.2 language is listed.

Likes 1	Central Hudson Gas & Electric Corp., 1, Ridolfino Michael
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Dislikes 0	
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**Response**

Thank you for your comment. The SDT believes that communication is the appropriate term as it gives the responsible entity the flexibility to meet the standards within their own programs. Through the various orders and IG, communication links have been discussed in depth and communication encompasses the act of transmitting information.

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

<b>Answer</b>	Yes
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<b>Document Name</b>	
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**Comment**

Duke Energy agrees that the language in R1.2 reflects the need to mitigate the loss of the ability to transmit Real-time Assessment and Real-time monitoring data.	
Likes	0
Dislikes	0
<b>Response</b>	
Thank you for your support.	
<b>Hillary Creurer - Allete - Minnesota Power, Inc. - 1</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Minnesota Power aligns with the NERC Standards Review Forum (NSRF) and Edison Electric Institute (EEI) responses.	
Likes	0
Dislikes	0
<b>Response</b>	
Please see SDT response to EEI and MRO NSRF comments.	
<b>Daniel Gacek - Exelon - 1</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Exelon is in support of the comments submitted by EEI	

Likes	0
Dislikes	0
<b>Response</b>	
Please see SDT response to EEI comments	
<b>Mark Gray - Edison Electric Institute - NA - Not Applicable - NA - Not Applicable</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
EEI agrees that the language in 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.	
Likes	0
Dislikes	0
<b>Response</b>	
Thank you for your support.	
<b>Clay Walker - Clay Walker On Behalf of: John Lindsey, Cleco Corporation, 6, 5, 1, 3; Maurice Paulk, Cleco Corporation, 6, 5, 1, 3; Robert Hirschak, Cleco Corporation, 6, 5, 1, 3; Stephanie Huffman, Cleco Corporation, 6, 5, 1, 3; Wayne Messina, LaGen, 4; - Clay Walker</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Cleco agrees with EEI comments.	
Likes	0
Dislikes	0

<b>Response</b>	
Please see SDT response to EEI comments	
<b>Alison MacKellar - Constellation - 5</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Constellation does not have any additional comments.	
Alison Mackellar on behalf of Constellation Segments 5 and 6	
Likes	0
Dislikes	0
<b>Response</b>	
Thanks for your support.	
<b>Gail Elliott - Gail Elliott On Behalf of: Michael Moltane, International Transmission Company Holdings Corporation, 1; - Gail Elliott</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
ITC supports the comments submitted by EEI	
Likes	0
Dislikes	0
<b>Response</b>	
Please see SDT response to EEI comments	

<b>Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
The NAGF supports the proposed language for Requirement 1.2.	
Likes	0
Dislikes	0
<b>Response</b>	
Thank you for your support.	
<b>Kinte Whitehead - Exelon - 3</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Exelon is in support of the comments submitted by EEI.	
Likes	0
Dislikes	0
<b>Response</b>	
Please see SDT response to EEI comments	
<b>Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	

**Comment**

Southern Company agrees with EEI that the language in 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.

Likes 0

Dislikes 0

**Response**

Please see SDT response to EEI comments and thank you for your support

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

**Answer** Yes

**Document Name**

**Comment**

AZPS agrees the language in R1.2 adequately reflects the need to mitigate the loss of the ability to transmit RTA/RTM data.

Likes 0

Dislikes 0

**Response**

Thank you for your support

**Kimberly Turco - Constellation - 6**

**Answer** Yes

**Document Name**

**Comment**

Constellation has no comments.

Kimberly Turco on behalf of Constellation Segments 5 and 6

Likes 0

Dislikes 0

**Response**

**Lindsey Mannion - ReliabilityFirst - 10**

**Answer** Yes

**Document Name**

**Comment**

No comments from RF

Likes 0

Dislikes 0

**Response**

**James Baldwin - James Baldwin On Behalf of: Matt Lewis, Lower Colorado River Authority, 5, 1; - James Baldwin**

**Answer** Yes

**Document Name**

**Comment**



LCRA would like to verify that the bulleted items in the Measures section represent an “or”, and it will not be required to calculate availability to demonstrate compliance.

Likes 0

Dislikes 0

**Response**

Thank you for your comment. Measures are never enforceable and are meant to serve as examples.

**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**

Tacoma Power supports the change to R1.2, but recommends using the word “transmit” instead of “communicate”. This is a non-substantive change, but will align R1.2 with R1.3 and M1, which use the word “transmit”.

Likes 0

Dislikes 0

**Response**

Thank you for your support and comment. The SDT believes that communication is the appropriate term as it gives the responsible entity the flexibility to meet the standards within their own programs. Through the various orders and IG, communication links have been discussed in depth and communication encompasses the act of transmitting information.

**Alain Mukama - Hydro One Networks, Inc. - 1**

<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Kennedy Meier - Electric Reliability Council of Texas, Inc. - 2</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Collaborators</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	

Dislikes	0
<b>Response</b>	
Ronald Bauer - MGE Energy - Madison Gas and Electric Co. - 3	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
Monika Montez - California ISO - 2 - WECC, Group Name ISO/RTO Council Standards Review Committee (SRC)	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
Israel Perez - Israel Perez On Behalf of: Jennifer Bennett, Salt River Project, 3, 1, 6, 5; Mathew Weber, Salt River Project, 3, 1, 6, 5; Sarah Blankenship, Salt River Project, 3, 1, 6, 5; - Israel Perez	

<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Dwanique Spiller - Berkshire Hathaway - NV Energy - 5</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>David Jendras Sr - Ameren - Ameren Services - 3</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	

Dislikes	0
<b>Response</b>	
<b>Casey Jones - Berkshire Hathaway - NV Energy - 5 - WECC</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Teresa Krabe - Lower Colorado River Authority - 1,5</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Helen Lainis - Independent Electricity System Operator - 2</b>	
Answer	Yes

<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Kent Feliks - AEP - 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, Group Name WECC CIP</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	

<b>Response</b>	
<b>Larry Heckert - Alliant Energy Corporation Services, Inc. - 4</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>David Buchold - Southern Indiana Gas and Electric Co. - 6 - RF</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>LaTroy Brumfield - American Transmission Company, LLC - 1</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	

<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Jay Sethi - Manitoba Hydro - 1,3,5,6 - MRO</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Tristan Miller - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	



<b>James Keele - Entergy - 1,3,6</b>	
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>John Daho - MEAG Power - 1,3 - SERC</b>	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Patricia Lynch - NRG - NRG Energy, Inc. - 5</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Martin Sidor - NRG - NRG Energy, Inc. - 6</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	

<b>Andy Fuhrman - Minnkota Power Cooperative Inc. - 1,5 - MRO</b>	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
<b>Micah Runner - Black Hills Corporation - 1,3,5,6</b>	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
<b>Claudine Bates - Black Hills Corporation - 1,3,5,6</b>	
Answer	Yes
Document Name	
Comment	

Likes	0
Dislikes	0
<b>Response</b>	
<b>Rachel Schuldt - Rachel Schuldt On Behalf of: Josh Combs, Black Hills Corporation, 5, 6, 1, 3; - Rachel Schuldt</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Sheila Suurmeier - Black Hills Corporation - 5</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1</b>	

<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Anna Martinson - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO Group</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Gladys DeLaO - CPS Energy - 1</b>	
<b>Answer</b>	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, Group Name TVA RBB</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Donna Wood - Tri-State G and T Association, Inc. - 1</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Amy Wesselkamper - PNM Resources - Public Service Company of New Mexico - 1,3</b>	
Answer	Yes

<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Wendy Kalidass - U.S. Bureau of Reclamation - 5</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Rachel Coyne - Texas Reliability Entity, Inc. - 10</b>	
<b>Answer</b>	
<b>Document Name</b>	
<b>Comment</b>	
Texas RE understands the intent of Requirement Part 1.2 to mitigate the loss of the ability to transmit Real-time Assessment and Real-time monitoring data and interprets the language as such. However, the current language could also be read to apply solely to mitigating the risk	

posed by the loss of data communications. Texas RE recommends the drafting team clarify that CIP-012 applies to mitigating the loss of the ability to transmit Real-time Assessment and Real-time monitoring data. Texas Re recommends the following language:

Identification of method(s) used to mitigate the risk of the loss of the ability to communicate Real-time Assessment and Real-time monitoring data between Control Centers, including the transmission and receipt of data used for Real-time Assessment and Real-time monitoring.

Likes 0

Dislikes 0

### Response

Thank you for your comment. The SDT believes that communication is the appropriate term as it gives the responsible entity the flexibility to meet the standards within their own programs. Through the various orders and IG, communication links have been discussed in depth and communication encompasses the act of transmitting information.



**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.**

**Wendy Kalidass - U.S. Bureau of Reclamation - 5**

**Answer** No

**Document Name**

**Comment**

Reclamation recommends modifying the language.

From: **1.4.** Identification of where the Responsible Entity implemented method(s) as required in Parts 1.1 and 1.2; and

To: **1.4.** Identification of where, physically and/or logically, the Responsible Entity implemented method(s) as required in Parts 1.1 and 1.2; and

Likes 0

Dislikes 0

**Response**

Thank you for your comment. Please see the Implementation Guidance document. Below shows a snapshot to address this comment.

“A Responsible Entity should consider its environment when identifying where security and availability protections should be applied. One approach is to implement the protections within the Control Center itself to ensure that data confidentiality and integrity is protected throughout the transmission. The Responsible Entity can identify where security protection is applied using a logical or physical location. The application of security in accordance with CIP-012 requirements does not add additional assets to the scope of the CIP Reliability Standards. Locations of applied security protection may vary based on many factors such as impact levels of the Control Center, different technologies, or infrastructures. Where the operational obligations of an entire communication link, including both endpoints, belong to the Control Center of another Responsible Entity, the Responsible Entity without operational obligations for the communication link may demonstrate

compliance by ensuring the communications link endpoint is within its Control Center, which could be limited to including the communication link endpoint within a PSP or where other physical protection is applied.

Identification of where a Responsible Entity applies security and availability protections could be demonstrated with a list or a Control Center diagram showing physical or logical security controls and components used to provide availability protections. Physical diagrams may require visual confirmation of these controls. These diagrams or a list could be included within the plan developed for requirement R1. A Responsible Entity could also use labels to identify on-site devices where CIP-012 security and availability protections are applied.”

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

<b>Answer</b>	No
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<b>Document Name</b>	
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**Comment**

The changes in Requirement R1 in Draft 4 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) or any other applicable MRS (e.g., IRO-010, TOP-003, TOP-001) within the Operations and Planning (O&P) domains.

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 3, BC Hydro suggests that the drafting team provide a clear definition of the term 'availability', and clarify 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
<b>Response</b>	
<p>Thank you for your comment. The SDT was charged with addressing “availability” in FERC Order 866 and subsequently the SAR for this project. The SDT has provided additional clarity on the definition of “availability” on page two of the Implementation Guidance. The SDT also contends that concerns on redundancy and appropriateness of addressing the risk in CIP Standards has been addressed in the Technical Rationale, Implementation Guidance, and in responses to comments in previous draft versions.</p>	
<b>Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter</b>	
Answer	No
Document Name	
<b>Comment</b>	
<p>FirstEnergy believes R1.2 is about the methods to recover lost communications – this is already addressed in CIP-009, which defines our Recovery Plans for critical infrastructure.</p>	
Likes	0
Dislikes	0
<b>Response</b>	
<p>Thank you for your comment. The SDT asserts that recovery methods in CIP-009 address the recovery of BES Cyber Systems and their associated EACMS and PACS. While a communication link between applicable Control Centers would not specifically be covered by mitigating activities already identified in a CIP-009 Plan for restoration of a BES Cyber System, a Responsible Entity may choose to include additional restoration activities that address the loss of the ability to communicate between Control Centers in an updated CIP-009 Plan.</p>	
<b>Richard Vendetti - NextEra Energy - 5</b>	
Answer	No
Document Name	
<b>Comment</b>	

NEE supports NPCC's comments:

Request clarification of "availability" vs "loss of data."

Likes 0

Dislikes 0

**Response**

Please see response to NPCC's comments

**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**

Thank you for your comment. The SDT was charged with addressing "availability" in FERC Order 866 and subsequently the SAR for this project. The SDT has provided additional clarity on the definition of "availability" on page two of the Implementation Guidance.

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

**Answer** No

**Document Name**

**Comment**

The SRC requests that the language be revised to clarify that an entity can use different methods at different locations to comply with each of the Parts of Requirement R1, and that identification of a particular method used at a particular location does not automatically require the entity to implement that particular method at all other locations.

Additionally, the SRC notes that in the **clean** and the **redline to last posted** versions of CIP-012-2, Part 1.4 only references Parts 1.1 and 1.2, while Part 1.5 references Parts 1.1, 1.2, and 1.3; however, in the **redline to last approved** version of CIP-012-2, Part 1.4 references Parts 1.1, 1.2, and 1.3, while Part 1.5 only references Parts 1.1 and 1.2. The SRC requests that the drafting team clarify which parts are intended to be referenced in Part 1.4 and Part 1.5.

Likes 0

Dislikes 0

**Response**

Thank you for your comment. The SDT has written the Requirements to be objective based, allowing for a Responsible Entity to choose methods that work best for their individual environments. The SDT recognizes that a Responsible Entity may have multiple Control Centers requiring an approach that is unique to a Control Center. There is nothing in the Requirement language that would prevent a Responsible Entity from implementing methods unique to each Control Center.

The SDT updated the redline to last approved CIP-012 standard to align with the other posted standards.

**Nicolas Turcotte - Hydro-Quebec (HQ) - 1**

**Answer**

No

**Document Name**

**Comment**

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

Likes 0

Dislikes	0
<b>Response</b>	
Thank you for your comment. The SDT was charged with addressing “availability” in FERC Order 866 and subsequently the SAR for this project. The SDT has provided additional clarity on the definition of “availability” on page two of the Implementation Guidance.	
<b>Tracy MacNicoll - Utility Services, Inc. - 4</b>	
Answer	No
Document Name	
<b>Comment</b>	
USV Supports the comments of NPCC RSC	
Likes	0
Dislikes	0
<b>Response</b>	
Please see response to NPCC’s comments	
<b>Kennedy Meier - Electric Reliability Council of Texas, Inc. - 2</b>	
Answer	No
Document Name	
<b>Comment</b>	
ERCOT joins the comments submitted by the IRC SRC and adopts them as its own.	
Likes	0
Dislikes	0
<b>Response</b>	

Please see response to IRC SRC comments	
<b>Constantin Chitescu - Ontario Power Generation Inc. - 5</b>	
<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
OPG supports the NPCC RSC's comments.	
Likes 0	
Dislikes 0	
<b>Response</b>	
Please see response to NPCC's comments	
<b>Alain Mukama - Hydro One Networks, Inc. - 1</b>	
<b>Answer</b>	No
<b>Document Name</b>	
<b>Comment</b>	
Identifying where the method is applied for part 1.3 need some clarification. We can identify for Internal devices/links. For issues within ISP, we can only identify our demarcation point with ISP, and initiate the problem call/ticket with ISP.	
Likes 0	
Dislikes 0	
<b>Response</b>	
Thank you for your comment. The SDT recommends referencing the updated Measures section for M1.3 and M1.4, as well as the Implementation Guidance, which provide examples of how an issue with ISP can be addressed. The SDT recommends that entities review the Measures and supporting documents for additional clarity in potential compliance approaches for designating/documenting responsibilities.	

**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**

Tacoma Power supports the R1.4 language. However, the redline to last approved file does not match the clean version verbiage. For example, the redline to last approved for R1.4 states “required in Parts 1.1, 1.2, and 1.3”, when it should show “required in Parts **1.1 and 1.2**”.

Likes 0

Dislikes 0

**Response**

Thank you for your comment. The SDT updated the redline to last approved CIP-012 standard to align with the other posted standards.

**LaTroy Brumfield - American Transmission Company, LLC - 1**

**Answer** Yes

**Document Name**

**Comment**

ATC appreciates the SDT’s efforts. While we understand the language as written we believe it would be clearer to use the word “applied” instead of “implemented”. As a result, ATC offers this idea for the team’s consideration as a clarifying change, “Identification of where the methods are applied by the Responsible Entity as required in Parts 1.1, 1.2, and 1.3.”

Likes 0

Dislikes 0



**Response**

Thank you for your comment. The SDT updated the redline to last approved CIP-012 standard to align with the other posted standards.

**Lindsey Mannion - ReliabilityFirst - 10**

<b>Answer</b>	Yes
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<b>Document Name</b>	
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**Comment**

The expanded prose listed for Part 1.4 under Measures clarifies the need for entities to clearly identify where they have applied measures from R1.1 and R1.2.

Likes	0
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Dislikes	0
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**Response**

Thank you for your support.

**Kimberly Turco - Constellation - 6**

<b>Answer</b>	Yes
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<b>Document Name</b>	
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**Comment**

Constellation has no comments.

Kimberly Turco on behalf of Constellation Segments 5 and 6

Likes	0
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Dislikes	0
----------	---

**Response**

<b>Marcus Bortman - APS - Arizona Public Service Co. - 6</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
AZPS agrees the language in R1.4 provides clarity on the need to identify physically or logically where methods required in R1.1. and R1.2 have been applied.	
Likes	0
Dislikes	0
<b>Response</b>	
Thank you for your support.	
<b>Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC CIP</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
WECC suggests a revision to M1, bullet 2, as follows: "Physical access restrictions" (add) and monitoring of (remove) to "unencrypted portions of the network."	
Likes	0
Dislikes	0
<b>Response</b>	

Thank you for your comment. The SDT believes that the measure on physical access is scoped correctly. Additionally, the measures are examples of how an entity could address compliance and are not required by the Standard.

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

**Answer** Yes

**Document Name**

**Comment**

Southern Company agrees with EEI that the language in R1.4 provides sufficient 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**

Please see response to EEI comments and thank you for your support.

**Kinte Whitehead - Exelon - 3**

**Answer** Yes

**Document Name**

**Comment**

Exelon is in support of the comments submitted by EEI.

Likes 0

Dislikes 0

**Response**

Please see response to EEI comments and thank you for your support.

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

<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
The NAGF supports the proposed language for Requirement 1.4.	
Likes	0
Dislikes	0
<b>Response</b>	
Thank you for your support.	
<b>Gail Elliott - Gail Elliott On Behalf of: Michael Moltane, International Transmission Company Holdings Corporation, 1; - Gail Elliott</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
ITC supports the comments submitted by EEI	
Likes	0
Dislikes	0
<b>Response</b>	
Please see response to EEI comments and thank you for your support.	
<b>Alison MacKellar - Constellation - 5</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	

Constellation does not have any additional comments.

Alison Mackellar on behalf of Constellation Segments 5 and 6

Likes 0

Dislikes 0

**Response**

**Clay Walker - Clay Walker On Behalf of: John Lindsey, Cleco Corporation, 6, 5, 1, 3; Maurice Paulk, Cleco Corporation, 6, 5, 1, 3; Robert Hirschak, Cleco Corporation, 6, 5, 1, 3; Stephanie Huffman, Cleco Corporation, 6, 5, 1, 3; Wayne Messina, LaGen, 4; - Clay Walker**

**Answer** Yes

**Document Name**

**Comment**

Cleco agrees with EEI comments.

Likes 0

Dislikes 0

**Response**

Please see response to EEI comments and thank you for your support.

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

**Answer** Yes

**Document Name**

**Comment**

The language in R1.4 provides sufficient 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**

Thank you for your support.

**Daniel Gacek - Exelon - 1**

**Answer** Yes

**Document Name**

**Comment**

Exelon is in support of the comments submitted by EEI

Likes 0

Dislikes 0

**Response**

Please see response to EEI comments and thank you for your support.

**Hillary Creurer - Allete - Minnesota Power, Inc. - 1**

**Answer** Yes

**Document Name**

**Comment**

Minnesota Power aligns with the NERC Standards Review Forum (NSRF) and Edison Electric Institute (EEI) responses.

Likes	0
Dislikes	0
<b>Response</b>	
Please see response to EEI and MRO NSRF comments and thank you for your support.	
<b>Amy Wesselkamper - PNM Resources - Public Service Company of New Mexico - 1,3</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Donna Wood - Tri-State G and T Association, Inc. - 1</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Brian Millard - Tennessee Valley Authority - 1,3,5,6 - SERC, Group Name TVA RBB</b>	

<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Gladys DeLaO - CPS Energy - 1</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Anna Martinson - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO Group</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	



Dislikes	0
<b>Response</b>	
Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
Sheila Suurmeier - Black Hills Corporation - 5	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
Rachel Schuldt - Rachel Schuldt On Behalf of: Josh Combs, Black Hills Corporation, 5, 6, 1, 3; - Rachel Schuldt	
Answer	Yes

<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Claudine Bates - 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>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>	
<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 and BANC</b></p>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<p><b>Andy Fuhrman - Minnkota Power Cooperative Inc. - 1,5 - MRO</b></p>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<p><b>Martin Sidor - NRG - NRG Energy, Inc. - 6</b></p>	
Answer	Yes

<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Patricia Lynch - NRG - NRG Energy, Inc. - 5</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	

<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>James Keele - Entergy - 1,3,6</b>	
<b>Answer</b>	Yes
<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>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>James Baldwin - James Baldwin On Behalf of: Matt Lewis, Lower Colorado River Authority, 5, 1; - James Baldwin</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Jay Sethi - Manitoba Hydro - 1,3,5,6 - MRO</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	

<b>Roger Fradenburgh - Roger Fradenburgh On Behalf of: Nick Lauriat, Network and Security Technologies, 1; - Roger Fradenburgh</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>David Buchold - Southern Indiana Gas and Electric Co. - 6 - RF</b>	
Answer	Yes
Document Name	
<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>	
Answer	Yes
Document Name	

## Comment

Likes 0

Dislikes 0

## Response

Larry Heckert - Alliant Energy Corporation Services, Inc. - 4

Answer

Yes

Document Name

## Comment

Likes 0

Dislikes 0

## Response

Kent Feliks - AEP - 3

Answer

Yes

Document Name

## Comment

Likes 0

Dislikes 0

## Response



<b>Helen Lainis - Independent Electricity System Operator - 2</b>	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
<b>Teresa Krabe - Lower Colorado River Authority - 1,5</b>	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
<b>Casey Jones - Berkshire Hathaway - NV Energy - 5 - WECC</b>	
Answer	Yes
Document Name	
Comment	

Likes	0
Dislikes	0
<b>Response</b>	
<b>David Jendras Sr - Ameren - Ameren Services - 3</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Dwanique Spiller - Berkshire Hathaway - NV Energy - 5</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	

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

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

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

**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, Group Name ACES Collaborators**

**Answer** Yes

**Document Name**

**Comment**

Likes	0
Dislikes	0
<b>Response</b>	
<b>Rachel Coyne - Texas Reliability Entity, Inc. - 10</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Ellese Murphy - Duke Energy - 1,3,5,6 - Texas RE,SERC,RF</b>	
Answer	
Document Name	
<b>Comment</b>	
Duke Energy agrees that the language in R1.4 provides clarity on the need to identify where methods in R1.1 and R1.2 have been applied.	
Likes	0
Dislikes	0
<b>Response</b>	

Thank you for your support.

**4. 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.**

**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**

Thank you for your comment. The standard drafting team recommends entities consider the cost of implementation to be balanced against the cost of the risk of loss of availability.

**Roger Fradenburgh - Roger Fradenburgh On Behalf of: Nick 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 and the scope of its requirements, NST cannot comment on the cost-effectiveness of its latest proposed modifications.

Likes 1 Central Hudson Gas & Electric Corp., 1, Ridolfino Michael

Dislikes 0

**Response**

Thank you for your comment. The standard drafting team recommends entities consider the cost of implementation to be balanced against the cost of the risk of loss of availability.

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

**Answer** No

**Document Name**

**Comment**

Please see our response to Questions 2 and 3 - with uncertainty of responsibility, FirstEnergy cannot effectively answer this question.

Likes 0

Dislikes 0

**Response**

Please see responses to Q2 and Q3

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

**Answer** No

**Document Name**

**Comment**

Please refer to comments on Question #1. BC Hydro seeks clarifications on the queries raised in the response of Question #1, and BC Hydro is not in a position to identify the cost effectiveness of the Project 2020-04 CIP-012-2 changes at this stage.

Likes 0

Dislikes 0

**Response**

Please see response to BC Hydro comment for Q1

**Wendy Kalidass - U.S. Bureau of Reclamation - 5**

**Answer** No

**Document Name**

**Comment**

Prior to proposing additional modifications, Reclamation also recommends each SDT take additional time to completely identify the scope to account for future potential compliance issues. This will provide economic relief for entities by minimizing the costs associated with the planning and adjustments required to achieve compliance with frequently changing standard versions. NERC should foster a compliance environment that will allow entities to fully implement technical compliance with current standards before moving to subsequent versions.

Reclamation recommends the SDT take particular care to coordinate CIP-012 changes with existing drafting teams for existing related standards to ensure consistency and avoid duplication, specifically, Project 2016-02 and Project 2019-03. This will help to minimize churn among standard versions, reduce the risk that standards will conflict with one another, and better align the standards.

Likes 0

Dislikes 0

**Response**

Thank you for your comment. This SDT was formed to address FERC Order No. 866 and the request for this SDT to account for future potential compliance issues is outside the scope of this project. The SDT will pass along the proposed compliance environment suggestion to NERC management.

Based on where this project is in the standards development processes, the 2021-03 SDT will be able to verify that their proposed changes work with all CIP standards in development, currently approved, or future enforceable. An exclusion of TO Control Centers as defined by 2021-03 is outside the scope of Project 2020-04's SAR.

**Alison MacKellar - Constellation - 5**

**Answer** Yes



<b>Document Name</b>	
<b>Comment</b>	
Constellation does not have any additional comments.	
Alison Mackellar on behalf of Constellation Segments 5 and 6	
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>	
<b>Comment</b>	
AZPS agrees.	
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 has no comments.

Kimberly Turco on behalf of Constellation Segments 5 and 6

Likes 0

Dislikes 0

**Response**

**Lindsey Mannion - ReliabilityFirst - 10**

**Answer** Yes

**Document Name**

**Comment**

No comments from RF.

Likes 0

Dislikes 0

**Response**

**Alain Mukama - Hydro One Networks, Inc. - 1**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes	0
<b>Response</b>	
Ellese Murphy - Duke Energy - 1,3,5,6 - Texas RE,SERC,RF	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
Hillary Creurer - Allete - Minnesota Power, Inc. - 1	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Collaborators	
Answer	Yes

<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Ronald Bauer - MGE Energy - Madison Gas and Electric Co. - 3</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, 1, 6, 5; Mathew Weber, Salt River Project, 3, 1, 6, 5; Sarah Blankenship, Salt River Project, 3, 1, 6, 5; - Israel Perez</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	

Dislikes	0
<b>Response</b>	
<b>Dwanique Spiller - Berkshire Hathaway - NV Energy - 5</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Clay Walker - Clay Walker On Behalf of: John Lindsey, Cleco Corporation, 6, 5, 1, 3; Maurice Paulk, Cleco Corporation, 6, 5, 1, 3; Robert Hirschak, Cleco Corporation, 6, 5, 1, 3; Stephanie Huffman, Cleco Corporation, 6, 5, 1, 3; Wayne Messina, LaGen, 4; - Clay Walker</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Casey Jones - Berkshire Hathaway - NV Energy - 5 - WECC</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>Helen Lainis - Independent Electricity System Operator - 2</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	

Dislikes	0
<b>Response</b>	
Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC CIP	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
Larry Heckert - Alliant Energy Corporation Services, Inc. - 4	
Answer	Yes

<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</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>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
LaTroy Brumfield - American Transmission Company, LLC - 1	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	



Dislikes	0
<b>Response</b>	
<b>Jay Sethi - Manitoba Hydro - 1,3,5,6 - MRO</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>James Baldwin - James Baldwin On Behalf of: Matt Lewis, Lower Colorado River Authority, 5, 1; - James Baldwin</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>James Keele - Entergy - 1,3,6</b>	
Answer	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>John Daho - MEAG Power - 1,3 - SERC</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	

<b>Response</b>	
<b>Patricia Lynch - NRG - NRG Energy, Inc. - 5</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Martin Sidor - NRG - NRG Energy, Inc. - 6</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Andy Fuhrman - Minnkota Power Cooperative Inc. - 1,5 - MRO</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; 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 and BANC</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0

<b>Response</b>	
<b>Anna Martinson - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO Group</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Gladys DeLaO - CPS Energy - 1</b>	
<b>Answer</b>	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, Group Name TVA RBB</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	

<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Donna Wood - Tri-State G and T Association, Inc. - 1</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Amy Wesselkamper - PNM Resources - Public Service Company of New Mexico - 1,3</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	

<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>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Gail Elliott - Gail Elliott On Behalf of: Michael Moltane, International Transmission Company Holdings Corporation, 1; - Gail Elliott</b>	
<b>Answer</b>	
<b>Document Name</b>	
<b>Comment</b>	
ITC supports the comments submitted by EEI	
Likes	0
Dislikes	0
<b>Response</b>	
Please see response to EEI comment	
<b>Micah Runner - Black Hills Corporation - 1,3,5,6</b>	

<b>Answer</b>	
<b>Document Name</b>	
<b>Comment</b>	
Black Hills Corporation will not comment on cost effectiveness.	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Claudine Bates - Black Hills Corporation - 1,3,5,6</b>	
<b>Answer</b>	
<b>Document Name</b>	
<b>Comment</b>	
Black Hills Corporation will not comment on cost effectiveness.	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Rachel Schuldt - Rachel Schuldt On Behalf of: Josh Combs, Black Hills Corporation, 5, 6, 1, 3; - Rachel Schuldt</b>	
<b>Answer</b>	
<b>Document Name</b>	
<b>Comment</b>	



Black Hills Corporation will not comment on cost effectiveness.

Likes 0

Dislikes 0

### Response

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

**Answer**

**Document Name**

**Comment**

Black Hills Corporation will not comment on cost effectiveness.

Likes 0

Dislikes 0

### Response

**5. The SDT reviewed the implementation plan and did not see any reasons to make any changes. 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.**

**James Keele - Entergy - 1,3,6**

**Answer** No

**Document Name**

**Comment**

Entergy believes that clarified requirement language should be agreed upon before the standard is approved. The physical access restriction measure should be clarified before an implementation window is opened.

Likes 0

Dislikes 0

**Response**

Thank you for your comment. The standard has been drafted in accordance with the ROP and the process laid out for the development of Reliability Standards.

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

**Answer** No

**Document Name**

**Comment**

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	
<b>Response</b>		
Thank you for your comment. The vast majority of industry has been in support of the implementation plan.		
<b>Roger Fradenburgh - Roger Fradenburgh On Behalf of: Nick Lauriat, Network and Security Technologies, 1; - Roger Fradenburgh</b>		
Answer	No	
Document Name		
<b>Comment</b>		
Absent clarity about what CIP-012-2 would require a Responsible Entity to do and the scope of its requirements, NST cannot comment on an implementation timetable.		
Likes	1	Central Hudson Gas & Electric Corp., 1, Ridolfino Michael
Dislikes	0	
<b>Response</b>		
Thank you for your comment.		
<b>Richard Vendetti - NextEra Energy - 5</b>		
Answer	No	
Document Name		
<b>Comment</b>		
Until the language changes clarify R1 and R2 with measures the implementation plan cannot be considered.		
Likes	0	
Dislikes	0	
<b>Response</b>		

Thank you for your comment.	
<b>Mark Garza - FirstEnergy - FirstEnergy Corporation - 4, Group Name FE Voter</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
FirstEnergy has no objection to the implementation plan.	
Likes	0
Dislikes	0
<b>Response</b>	
Thank you for your support.	
<b>Lindsey Mannion - ReliabilityFirst - 10</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
No comments from RF.	
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 has no comments.	
Kimberly Turco on behalf of Constellation Segments 5 and 6	
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>	
<b>Comment</b>	
AZPS still agrees the proposed timeframe is appropriate.	
Likes	0
Dislikes	0
<b>Response</b>	
Thank you for your support.	
<b>Pamela Hunter - Southern Company - Southern Company Services, Inc. - 1,3,5,6 - SERC, Group Name Southern Company</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	

Southern Company agrees with that the proposed Implementation Plan is sufficient as proposed.	
Likes	0
Dislikes	0
<b>Response</b>	
Thank you for your support.	
<b>Kinte Whitehead - Exelon - 3</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Exelon is in support of the comments submitted by EEI.	
Likes	0
Dislikes	0
<b>Response</b>	
Thank you for your support.	
<b>Wayne Sipperly - North American Generator Forum - 5 - MRO,WECC,Texas RE,NPCC,SERC,RF</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
The NAGF supports the proposed 24-month implementation plan.	
Likes	0

Dislikes	0
<b>Response</b>	
Thank you for your support.	
<b>Gail Elliott - Gail Elliott On Behalf of: Michael Moltane, International Transmission Company Holdings Corporation, 1; - Gail Elliott</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
ITC supports the comments submitted by EEI	
Likes	0
Dislikes	0
<b>Response</b>	
Please see SDT response to EEI comment	
<b>Alison MacKellar - Constellation - 5</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Constellation does not have any additional comments.	
Alison Mackellar on behalf of Constellation Segments 5 and 6	
Likes	0
Dislikes	0
<b>Response</b>	

<b>Clay Walker - Clay Walker On Behalf of: John Lindsey, Cleco Corporation, 6, 5, 1, 3; Maurice Paulk, Cleco Corporation, 6, 5, 1, 3; Robert Hirschak, Cleco Corporation, 6, 5, 1, 3; Stephanie Huffman, Cleco Corporation, 6, 5, 1, 3; Wayne Messina, LaGen, 4; - Clay Walker</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Cleco agrees with EEI comments.	
Likes	0
Dislikes	0
<b>Response</b>	
Please see SDT response to EEI comment	
<b>Ruida Shu - Northeast Power Coordinating Council - 1,2,3,4,5,6,7,8,9,10 - NPCC, Group Name NPCC RSC</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
The implementation plan timeline would be impacted by the scoping or determination of its availability from an infrastructure standpoint/network capability or a data loss/data protection ruling.	
Likes	0
Dislikes	0
<b>Response</b>	
Thank you for your comment.	
<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 the proposed Implementation Plan is sufficient as proposed.	
Likes 0	
Dislikes 0	
<b>Response</b>	
Thank you for your support	
<b>Nicolas Turcotte - Hydro-Quebec (HQ) - 1</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
The implementation plan timeline would be impacted by the scoping or determination of its availability from an infrastructure standpoint/network capability or a data loss/data protection ruling.	
Likes 0	
Dislikes 0	
<b>Response</b>	
Thank you for your comment.	
<b>Hillary Creurer - Allele - Minnesota Power, Inc. - 1</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	

**Comment**

Minnesota Power aligns with the NERC Standards Review Forum (NSRF) and Edison Electric Institute (EEI) responses.

Likes 0

Dislikes 0

**Response**

Please see SDT response to EEI and MRO NSRF comments and thank you for your support

**Daniel Gacek - Exelon - 1**

**Answer** Yes

**Document Name**

**Comment**

Exelon is in support of the comments submitted by EEI

Likes 0

Dislikes 0

**Response**

Please see SDT response to EEI comment

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

**Answer** Yes

**Document Name**

**Comment**

Duke Energy agrees that the timeframe is appropriate.

Likes	0
Dislikes	0
<b>Response</b>	
Thank you for your support	
<b>Tracy MacNicoll - Utility Services, Inc. - 4</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
USV Supports the comments of NPCC RSC	
Likes	0
Dislikes	0
<b>Response</b>	
See SDT response to NPCC RSC comment	
<b>Constantin Chitescu - Ontario Power Generation Inc. - 5</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
OPG supports the NPCC RSC's comments.	
Likes	0
Dislikes	0
<b>Response</b>	

See SDT response to NPCC RSC comment

**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**

**Wendy Kalidass - U.S. Bureau of Reclamation - 5**

**Answer** Yes

**Document Name**

**Comment**

Likes 0

Dislikes 0

**Response**

**Amy Wesselkamper - PNM Resources - Public Service Company of New Mexico - 1,3**

**Answer** Yes

**Document Name**

## Comment

Likes 0

Dislikes 0

## Response

**Donna Wood - Tri-State G and T Association, Inc. - 1**

Answer

Yes

Document Name

## Comment

Likes 0

Dislikes 0

## Response

**Brian Millard - Tennessee Valley Authority - 1,3,5,6 - SERC, Group Name TVA RBB**

Answer

Yes

Document Name

## Comment

Likes 0

Dislikes 0

## Response

<b>Gladys DeLaO - CPS Energy - 1</b>	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
<b>Anna Martinson - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO Group</b>	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
<b>Jennifer Bray - Arizona Electric Power Cooperative, Inc. - 1</b>	
Answer	Yes
Document Name	
Comment	

Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Sheila Suurmeier - Black Hills Corporation - 5</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Rachel Schuldt - Rachel Schuldt On Behalf of: Josh Combs, Black Hills Corporation, 5, 6, 1, 3; - Rachel Schuldt</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	

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



Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Andy Fuhrman - Minnkota Power Cooperative Inc. - 1,5 - MRO</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Martin Sidor - NRG - NRG Energy, Inc. - 6</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	

<b>Patricia Lynch - NRG - NRG Energy, Inc. - 5</b>	
Answer	Yes
Document Name	
Comment	
Likes	0
Dislikes	0
Response	
<b>John Daho - MEAG Power - 1,3 - SERC</b>	
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
<b>Response</b>	
<b>Tristan Miller - CenterPoint Energy Houston Electric, LLC - 1 - Texas RE</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>James Baldwin - James Baldwin On Behalf of: Matt Lewis, Lower Colorado River Authority, 5, 1; - James Baldwin</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Jay Sethi - Manitoba Hydro - 1,3,5,6 - MRO</b>	

<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>LaTroy Brumfield - American Transmission Company, LLC - 1</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>David Buchold - Southern Indiana Gas and Electric Co. - 6 - RF</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	

Dislikes	0
<b>Response</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	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
Larry Heckert - Alliant Energy Corporation Services, Inc. - 4	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC CIP	

<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Kent Feliks - AEP - 3</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Helen Lainis - Independent Electricity System Operator - 2</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>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Casey Jones - Berkshire Hathaway - NV Energy - 5 - WECC</b>	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
<b>Dwanique Spiller - Berkshire Hathaway - NV Energy - 5</b>	
Answer	Yes

<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>David Jendras Sr - Ameren - Ameren Services - 3</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, 1, 6, 5; Mathew Weber, Salt River Project, 3, 1, 6, 5; Sarah Blankenship, Salt River Project, 3, 1, 6, 5; - Israel Perez</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	



Dislikes	0
<b>Response</b>	
Monika Montez - California ISO - 2 - WECC, Group Name ISO/RTO Council Standards Review Committee (SRC)	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
Ronald Bauer - MGE Energy - Madison Gas and Electric Co. - 3	
Answer	Yes
Document Name	
<b>Comment</b>	
Likes	0
Dislikes	0
<b>Response</b>	
Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Collaborators	
Answer	Yes

<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Kennedy Meier - Electric Reliability Council of Texas, Inc. - 2</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	
<b>Response</b>	
<b>Alain Mukama - Hydro One Networks, Inc. - 1</b>	
<b>Answer</b>	Yes
<b>Document Name</b>	
<b>Comment</b>	
Likes 0	
Dislikes 0	

## Response

**6. Provide any additional comments for the SDT to consider, including the provided technical rationale and implementation guidance document, if desired.**

**Alain Mukama - Hydro One Networks, Inc. - 1**

**Answer**

**Document Name**

**Comment**

None

Likes 0

Dislikes 0

**Response**

**Kennedy Meier - Electric Reliability Council of Texas, Inc. - 2**

**Answer**

**Document Name**

**Comment**

ERCOT joins the comments submitted by the IRC SRC and adopts them as its own.

Likes 0

Dislikes 0

**Response**

See SDT response to IRC RSC comment

<b>Constantin Chitescu - Ontario Power Generation Inc. - 5</b>	
<b>Answer</b>	
<b>Document Name</b>	
<b>Comment</b>	
OPG supports the NPCC RSC's comments.	
Likes 0	
Dislikes 0	
<b>Response</b>	
See SDT response to NPCC RSC comment	
<b>Tracy MacNicoll - Utility Services, Inc. - 4</b>	
<b>Answer</b>	
<b>Document Name</b>	
<b>Comment</b>	
USV Supports the comments of NPCC RSC	
Likes 0	
Dislikes 0	
<b>Response</b>	
See SDT response to NPCC RSC comment	
<b>Ellese Murphy - Duke Energy - 1,3,5,6 - Texas RE,SERC,RF</b>	
<b>Answer</b>	
<b>Document Name</b>	

**Comment**

Duke Energy thanks the 2020-04 Standard Drafting Team for all the work to address FERC Order No. 866.

Likes 0

Dislikes 0

**Response**

Thank you for your support

**Daniel Gacek - Exelon - 1**

**Answer**

**Document Name**

**Comment**

Exelon is in support of the comments submitted by EEI

Likes 0

Dislikes 0

**Response**

Please see SDT response to EEI comments

**Hillary Creurer - Allete - Minnesota Power, Inc. - 1**

**Answer**

**Document Name**

**Comment**

Minnesota Power agrees with the NSRF's comments.

Likes	0
Dislikes	0
<b>Response</b>	
Please see SDT response to MRO NSRF comments	
<b>Nicolas Turcotte - Hydro-Quebec (HQ) - 1</b>	
<b>Answer</b>	
<b>Document Name</b>	
<b>Comment</b>	
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.	
Likes	0
Dislikes	0
<b>Response</b>	
Thank you for your comment. Please see the updated Measures section within the Standard, Implementation Guidance, and the Technical Rationale regarding examples of evidence that may be used to meet the mitigation objectives of CIP-012 and components of the required plan or plans.	
The SDT asserts that the Requirement language sets clear expectations to develop and implement a plan to mitigate the risks posed by unauthorized disclosure or modification of real-time assessment and monitoring data, and inability to communicate that data. This is additionally supported by the updated measures, Implementation Guidance, and Technical Rationale.	
<b>Jodirah Green - ACES Power Marketing - 1,3,4,5,6 - MRO,WECC,Texas RE,SERC,RF, Group Name ACES Collaborators</b>	
<b>Answer</b>	
<b>Document Name</b>	
<b>Comment</b>	

ACES would like to thank the SDT’s hard work to better clarify this draft. ACES still has the concern because this has the potential to conflict with other NERC reliability standards. Further, the Cyber Assets this impacts directly could and for most entities be Cyber Assets completely outside of any ESP and PSP. Thus the reason we have continued to suggest this belongs as a part of an O&P standard.

Likes 0

Dislikes 0

**Response**

Thank you for your comment. The SDT asserts it has addressed the concept of availability in FERC Order 866 as a cyber-related risk to the Bulk Electric System. Examples of methods addressing cyber related risks are well documented in the Measures section of the Standard and in the Implementation Guidance.

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

Answer

Document Name

**Comment**

MGE thanks the SDT for their efforts, and supports the comments of the MRO NSRF.

Likes 0

Dislikes 0

**Response**

Thanks for your support. Please see the SDTs response to MRO NSRF.

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

Answer

Document Name



**Comment**

**Backwards Compatibility** – As noted in our response to Question 1, the SRC supports broadening the term “security protection” to “method(s)” to provide entities with flexibility in meeting the standard. That said, the SRC requests the SDT validate that the proposed modifications to CIP-012 retain backwards compatibility with CIP-012-1.

**Not subject to EOP-008 or IRO-002 drills/tests** - As FERC in its Order 866 and the SDT have clarified on repeated occasions in response to industry comments that CIP-012 does not overlap with or duplicate provisions under any other NERC standard, including EOP-008 or IRO-002, the SRC requests the SDT clarify that CIP-012-2, R1 method(s) are not subject to:

- **EOP-008, R7** tests or drills, as the test required under R7 is limited to a test of the ability to failover to backup functionality in the event that primary Control Center functionality is lost (pursuant to EOP-008, R1, Part 1.2.2).
- **IRO-002-7, R3**, as the test required under R3 is limited to testing the redundant and diversely routed data exchange infrastructure *within* the Reliability Coordinator's primary Control Center for redundant functionality (pursuant to IRO-002-7, R2).

The SRC requests the SDT update the Technical Rationale for CIP-012 to reflect the above understanding.

Likes 0

Dislikes 0

**Response**

Thank you for your support and comment. While the SDT cannot provide specific compliance positions, we believe that “methods used to mitigate the risk.” encompasses security protections.

The SDT thanks you for acknowledging our attempts to clarify the distinction between CIP-012 and any other NERC Standard. Beyond that and as stated above, the SDT cannot provide specific compliance positions or guidance. Regarding the concern about “subject to,” each Standard has templated “Applicability” sections that should clarify the scoping (i.e., what your Entity is subject to).

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

**Answer**

**Document Name**

**Comment**

The Technical Rationale for Part 1.5 includes the statement, “Having a clear understanding of where each side of a link each entity’s responsibilities begin and end facilitates *timely* restoration when there is a problem with the transmission of the data.”

Please provide clarity around the language “timely” in this statement.

Likes 0

Dislikes 0

**Response**

Thank you for your comment. The SDT removed the word “timely” from the TR.

**Ben Hammer - Western Area Power Administration - 1**

**Answer**

**Document Name**

**Comment**

The standard mixes the requirements of CIP-009, CIP-012, TOP-003 and IRO-010. This effectively creates duplicate requirements stringed across multiple standards and separate orders. Requirement 1.3 should be removed from CIP-012 and placed into CIP-009 R1. There appears to be an opportunity for NERC to create efficiencies in Requirements for Control Center communications.

Likes 0

Dislikes 0

**Response**

Thank you for your comment. The SDT continues to assert that references to utilizing plans or procedures that were created to address other NERC Standards were only meant as an option to reduce administrative documents. As an example, if an entity chooses to create a single Standard Operating Procedure for system recovery, they could use that procedure as evidence for their CIP-012 system recovery activities. They could also use that same document as evidence for their CIP-009 system recovery activities and corporate system recovery. The important aspect is that the procedure needs to address all parts of the Standard it is meant to be used as evidence. Entities as still free to

have multiple system recovery documents to address each Standard and or system separately. The TOP and IRO standards do address availability, but are focused on data exchange infrastructure within the primary control center and do not address data in motion between other Control Centers. The revisions to CIP-012 will address elements that TOP and IRO do not address. While the SDT believes there is no overlap in CIP-012-2 with other reliability standards, the identification of efficiencies in the Standards are always welcomed. The SDT would encourage commenters to submit a SAR identifying where they have identified opportunities for efficiencies where the SAR can scope the work to that effect.

**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.

Likes 0

Dislikes 0

**Response**

Thank you for your comment. Please see the updated Measures section within the Standard, Implementation Guidance, and the Technical Rationale regarding examples of evidence that may be used to meet the mitigation objectives of CIP-012 and components of the required plan or plans.

The SDT asserts that the Requirement language sets clear expectations to develop and implement a plan to mitigate the risks posed by unauthorized disclosure or modification of real-time assessment and monitoring data, and inability to communicate that data. This is additionally supported by the updated measures, Implementation Guidance, and Technical Rationale.

**Richard Vendetti - NextEra Energy - 5**

**Answer**

**Document Name**

**Comment**

Redundancy and service level agreements are primary methods available to many of the communications methods for Real-time communications. The loss of data is expected in the technology methods currently available. Redundancy elements within a site and in multiple locations are often part of the implementation required under other NERC standards. The language matters and must clearly define the risks, objects and measures for evaluation. Currently CIP-012-2 language appears to put Entities at risk of non-compliance.

More use cases and options should be provided to enable entities and auditors to clearly understand how the requirements may be applied and met based upon available and industry implemented technologies.

Likes 0

Dislikes 0

**Response**

Thank you for your comment. The SDT was charged with addressing “availability” in FERC Order 866 and subsequently the SAR for this project. The SDT has provided additional clarity on the definition of “availability” on page two of the Implementation Guidance.

**Alison MacKellar - Constellation - 5**

**Answer**

**Document Name**

**Comment**

Constellation does not have any additional comments.

Alison Mackellar on behalf of Constellation Segments 5 and 6

Likes 0

Dislikes 0

**Response**

Thank you for your support.

**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**

Thank you for your support.

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

**Answer**

**Document Name**

**Comment**

LCRA appreciates the SDT’s effort and thoughtfulness in responding to industry comment and concerns. Project 2021-03 changes the definition of Control Center to include TOs with the capability to electronically control 2 or more locations. LCRA believes that this has the potential to drastically expand the scope of CIP-012 and does not address the original intent of the SAR.

TOPs are already receiving data from their TOs field devices. They may choose to send this data to their TO as a courtesy. By implementing additional compliance obligations around this data the new definition may have inadvertent consequences resulting in less sharing of data.

LCRA recommends that CIP-012-2 carve out an exclusion to not include TO Control Centers as defined in the proposed CIP-002 project. Alternatively, scoping Real-time Assessment and Real-time monitoring data to only be applicable if that data is used for making Real-time decisions may alleviate concerns.

Likes 0

Dislikes 0

**Response**

Thank you for your comment. Based on where this project is in the standards development processes, the 2021-03 SDT will be able to verify that their proposed changes work with all CIP standards in development, currently approved, or future enforceable. An exclusion of TO Control Centers as defined by 2021-03 is outside the scope of Project 2020-04's SAR.

**Kent Feliks - AEP - 3**

**Answer**

**Document Name**

**Comment**

These comments represent AEP as a whole, participating in Segments 1,3,5,6.

Likes 0

Dislikes 0

**Response**

Thank you for your support.

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

**Answer**

**Document Name**

**Comment**

No additional comments.

Likes 0

Dislikes 0

**Response**

Thank you for your support.

**Steven Rueckert - Western Electricity Coordinating Council - 10, Group Name WECC CIP**

**Answer**

**Document Name**

**Comment**

It appears that the language in R1 of the standard does not match the R1 language in the Implementation Guidance. The standard states "mitigate the risks", while the Implementation Guidance states "mitigate the cyber security risks."

Likes 0

Dislikes 0

**Response**

Thank you for your comment. The SDT updated the Implementation Guidance to reflect Requirement R1.

**Larry Heckert - Alliant Energy Corporation Services, Inc. - 4**

**Answer**

**Document Name**

**Comment**

Alliant Energy supports the comments submitted by the MRO NSRF.

Likes	0
Dislikes	0
<b>Response</b>	
Please see the SDTs response to MRO NSRF.	
<b>Marcus Bortman - APS - Arizona Public Service Co. - 6</b>	
<b>Answer</b>	
<b>Document Name</b>	
<b>Comment</b>	
AZPS has no additional comments.	
Likes	0
Dislikes	0
<b>Response</b>	
Thank you for your support.	
<b>Kimberly Turco - Constellation - 6</b>	
<b>Answer</b>	
<b>Document Name</b>	
<b>Comment</b>	
Constellation has no additional comments.	
Kimberly Turco on behalf of Constellation Segments 5 and 6	
Likes	0
Dislikes	0



**Response**

Thank you for your support.

**Lindsey Mannion - ReliabilityFirst - 10**

**Answer**

**Document Name**

**Comment**

While the SDT has achieved their goals with the protection of Control Center to Control Center communications in CIP-012-1 and with the upcoming changes in CIP-012-2, there should be additional discussion around R1.5 to remove or modify the Measure regarding “*meeting minutes.*” At a minimum, the SDT should bolster the Measure for R1.5 to highlight or emphasize a need for clear and well-defined responsibilities of each party be included, and identified, within the meeting minutes. Lack of clarity or substance in meeting minutes regarding identification of demarcations, or use of old meeting minutes that are not updated to reflect changes in either parties’ environment may not meet the compliance obligations of R1.5.

Further, there is direct reference to “*communication links*” in R1.3 but no reference to this within R1. For consistency R1 should reflect this reference and RF recommends, “*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, loss of availability, and loss of communication links, of data used in Real-time Assessment and Real-time monitoring while such data is being transmitted between any applicable Control Centers.*”

Likes 0

Dislikes 0

**Response**

Thank you for your comment.

Meeting minutes are one example of what you can use as evidence, but not limited to the ways an organization can demonstrate compliance.

The reference to the communication links being added to the parent requirement, the SDT asserts that the loss of communication link is covered by the loss of availability. Per FERC Order 866: "require protections regarding the availability of communication links and data communicated between" BES Control Centers.

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

**Answer**

**Document Name**

**Comment**

NST notes that although Requirement R1 Part 1.3 requires, "Identification of method(s) used to initiate the recovery of communication links used to transmit Real-time Assessment and Real-time monitoring data between Control Centers," top-level Requirement R1 does not establish a requirement to have one or more plans to recover communications links. This oversight should be corrected.

NST offers the following observations about proposed CIP-012 Measures:

R1 Part 1.2:

Regarding, "Procedures explaining the use of alternative systems or methods for providing for the availability of the data," the SDT should clarify what is meant by "alternative systems." The extent of systems supporting CIP-012 needs to be defined and clearly articulated to understand the potential impacts of supporting availability.

Regarding, "Availability or uptime reports for equipment supporting the transmission of Real-time Assessment and Real-time monitoring data," NST notes that such reports are backward-looking and would therefore be, in our opinion, weak evidence that a Responsible Entity has controls designed to mitigate the loss of a communications link between two Control Centers. It is our opinion that real-time link monitoring and alerting would be a better approach than historical records. NST also believes the types of equipment supporting data transmission should be addressed, especially the demarcation points between the equipment of a Responsible Entity and its carriers.

R1 Part 1.3:

Regarding, "Contract, memorandum of understanding, meeting minutes, agreement or other information outlining the methods used for recovery," it is NST's opinion that meeting minutes would hardly qualify as strong evidence a Responsible Entity has adequately addressed the referenced Requirement Part.

Regarding, "Methods for the recovery of links such as standard operating procedures, applicable sections of CIP-009 recovery plan(s), or similar technical recovery plans," NST believes it is inappropriate to suggest that CIP-009 recovery plans might address any requirement to recover inter- Control Center communications links. CIP-009 is not applicable to communications links outside of Control Centers.

Regarding, "Documentation of the process to restore assets and systems that provide communications," NST believes the SDT should clarify what "assets and systems" might be in scope here.

R1 Part 1.4:

Regarding, "Identification of points within the infrastructure where the implemented methods reside," NST recommends "...within the inter-Control Center communications infrastructure..." to keep the scope of the Standard to the links specified by FERC.

R1 Part 1.5:

Regarding, "Contract, memorandum of understanding, meeting minutes, agreement or other documentation outlining the responsibilities of each entity," it is NST's opinion that, as with R1 Part 1.3, meeting minutes would hardly qualify as strong evidence a Responsible Entity has adequately addressed the referenced Requirement Part.

NST offers the following observations about proposed updates to CIP-012 Implementation Guidance:

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 none of the current CIP Standards address protection and recovery of communication links between Control Centers. It is 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. The guidance should reaffirm that the focus is on the communications links between Control Centers.

Likes 1	Central Hudson Gas & Electric Corp., 1, Ridolfino Michael
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Dislikes 0	
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**Response**

Thank you for your comment.

The reference to the communication links being added to the parent requirement, the SDT asserts that the loss of communication link is covered by the loss of availability. Per FERC Order 866: "require protections regarding the availability of communication links and data communicated between" BES Control Centers.

Measures are examples of evidence that may be used, but are not limited to what an entity can use. Based on other comments, the SDT finds that the current measures are sufficient. In addition, meeting minutes are one example of what you can use as evidence, but not limited to the ways an organization can demonstrate compliance.

The SDT continues to assert that references to utilizing plans or procedures that were created to address other NERC Standards were only meant as an option to reduce administrative documents. As an example, if an entity chooses to create a single Standard Operating Procedure for system recovery, they could use that procedure as evidence for their CIP-012 system recovery activities. They could also use that same document as evidence for their CIP-009 system recovery activities and corporate system recovery. The important aspect is that the procedure needs to address all parts of the Standard it is meant to be used as evidence. Entities are still free to have multiple system recovery documents to address each Standard and or system separately. The TOP and IRO standards do address availability, but are focused on data exchange infrastructure within the primary control center and do not address data in motion between other Control Centers.

Regarding documentation of process of "assets and systems", this should be defined by the entity.

Part 1.4 covers the scope from FERC Order 866.

In summation, measures are examples that entities can use from the standard, but are not limited to what was drafted.

The SDT asserts it has addressed the concept of availability in FERC Order 866 as a cyber-related risk to the Bulk Electric System. Examples of methods addressing cyber related risks are well documented in the Measures section of the Standard and in the Implementation Guidance.

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

Answer

Document Name

**Comment**

Manitoba Hydro appreciates the SDT efforts to add increased clarification to this most recent draft of CIP-012-2. Manitoba Hydro has identified similarities among the Standards addressing various facets of Real Time monitoring and Real Time Assessment data (ex. IRO-010, TOP-003, TOP-001, CIP-012). There appears to be an opportunity for NERC to create efficiencies in requirements for Control Center communications.

Likes 0

Dislikes 0

**Response**

Thank you for your comment. The SDT would encourage commenters to submit a SAR identifying where they have identified opportunities for efficiencies where the SAR can scope the work to that effect.

**James Baldwin - James Baldwin On Behalf of: Matt Lewis, Lower Colorado River Authority, 5, 1; - James Baldwin**

Answer

Document Name

**Comment**

LCRA appreciates the SDT’s effort and thoughtfulness in responding to industry comment and concerns. Project 2021-03 changes the definition of Control Center to include TOs with the capability to electronically control 2 or more locations. LCRA believes that this has the potential to drastically expand the scope of CIP-012 and does not address the original intent of the SAR.

TOPs are already receiving data from their TOs field devices. They may choose to send this data to their TO as a courtesy. By implementing additional compliance obligations around this data the new definition may have inadvertent consequences resulting in less sharing of data.

LCRA recommends that CIP-012-2 carve out an exclusion to not include TO Control Centers as defined in the proposed CIP-002 project. Alternatively, scoping Real-time Assessment and Real-time monitoring data to only be applicable if that data is used for making Real-time decisions may alleviate concerns.

Likes 0

Dislikes 0

**Response**

Thank you for your comment. Based on where this project is in the standards development processes, the 2021-03 SDT will be able to verify that their proposed changes work with all CIP standards in development, currently approved, or future enforceable. An exclusion of TO Control Centers as defined by 2021-03 is outside the scope of Project 2020-04’s SAR.

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

**Answer**

**Document Name**

**Comment**

Please see our response to Question 2 and 3.

Likes 0

Dislikes 0

Response	
Please see the SDT’s response to your questions 2 and 3.	
<b>Adrian Andreoiu - BC Hydro and Power Authority - 1, Group Name</b> BC Hydro	
<b>Answer</b>	
<b>Document Name</b>	
Comment	
<p>BC Hydro suggests adding more clarity to the term 'availability' by providing a more detailed definition.</p> <p>Although the SDT has altered the NIST definition of "Providing timely and reliable access to 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.</p>	
Likes	0
Dislikes	0
Response	
Thank you for your comment. The SDT updated Requirement R1 Part 1.2 by removing the term availability and replaced it with “the loss of the ability to communicate Real-time Assessment and Real-time monitoring data.” It was not within the SDTs scope to create a NERC defined term. The SDT encourages you to reach out to your respective Regional Entity regarding the term “availability” within your region.	
<b>Andrea Jessup - Bonneville Power Administration - 1,3,5,6 - WECC</b>	
<b>Answer</b>	
<b>Document Name</b>	
Comment	

CIP-009 specifically addresses the backup and recovery for systems. It does not mention communication paths nor methods of data transport. CIP-009 should be modified to include this requirement; as it stands, there is a mismatch between standards, putting additional burden on implementation and maintenance of CIP-012.

BPA asks that the Standards Drafting Team clarify how mitigations/methods of protections (i.e., data masking and VPN/protocol encryption and the physical access restrictions) are different than CIP-005 and CIP-006 standards that are currently implemented.

BPA believes that there is too much bleed over into other standards such as CIP-005, -006 and -009 that has the potential to cause implementation errors and added burden/cost to maintaining multiple standards that cover like scenarios.

Likes 0

Dislikes 0

**Response**

Thank you for your comment. The SDT continues to assert that references to utilizing plans or procedures that were created to address other NERC Standards were only meant as an option to reduce administrative documents. As an example, if an entity chooses to create a single Standard Operating Procedure for system recovery, they could use that procedure as evidence for their CIP-012 system recovery activities. They could also use that same document as evidence for their CIP-009 system recovery activities and corporate system recovery. The important aspect is that the procedure needs to address all parts of the Standard it is meant to be used as evidence. Entities are still free to have multiple system recovery documents to address each Standard and or system separately. There could be scenarios that certain Cyber Assets (e.g., VPN routers) are used in CIP-012, but are not part of any of the Entity’s inventories BES Cyber Systems.

CIP-005 and CIP-006 are applicable to BES Cyber Systems and CIP-012 is applicable to Control Centers. With regards to the concern about burden, each Standard has templated “Applicability” sections that should clarify the scoping (i.e., what your Entity is subject to), and the SDT has retained applicability of CIP-012 to Control Centers as in the currently enforceable version of the Standard.

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

**Answer**

**Document Name**



**Comment**

The terms "transmit" and "communicate" should be used consistently in requirements, requirement parts, measures, technical rationale, etc. For example, Parts 1.1, 1.2 and 1.3 use both "transmit" and "communicate" terms, but it is recommended that the term "transmit" be used rather than "communicate".

Likes 0

Dislikes 0

**Response**

Thank you for your comment. The SDT believes that communication is the appropriate term as it gives the responsible entity the flexibility to meet the standards within their own programs. Through the various orders and IG, communication links have been discussed in depth and communication encompasses the act of transmitting information.

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

**Answer**

**Document Name**

**Comment**

AEPC has signed on to ACES comments below:

ACES would like to thank the SDT's hard work to better clarify this draft. ACES still has the concern because this has the potential to conflict with other NERC reliability standards. Further, the Cyber Assets this impacts directly could and for most entities be Cyber Assets completely outside of any ESP and PSP. Thus the reason we have continued to suggest this belongs as a part of an O&P standard.

Likes 0

Dislikes 0

**Response**

Please see response to ACES comments.

<b>Anna Martinson - MRO - 1,2,3,4,5,6 - MRO, Group Name MRO Group</b>	
<b>Answer</b>	
<b>Document Name</b>	
<b>Comment</b>	
<p>The MRO NSRF appreciates the SDT efforts to add increased clarification to this most recent draft of CIP-012-2. The MRO NSRF has identified similarities among the Standards addressing various facets of Real Time monitoring and Real Time Assessment data (ex. IRO-010, TOP-003, TOP-001, CIP-012). While the MRO NSRF understands the differences in the scopes of the different Standards, there appears to be an opportunity for NERC to create efficiencies in Requirements for Control Center communications.</p>	
Likes	0
Dislikes	0
<b>Response</b>	
<p>Thank you for your comment. While the SDT believes there is no overlap in CIP-012-2 with other reliability Standards, the identification of efficiencies in the Standards are always welcomed. The SDT would encourage commenters to submit a SAR identifying where they have identified opportunities for efficiencies where the SAR can scope the work to that effect.</p>	
<b>Donna Wood - Tri-State G and T Association, Inc. - 1</b>	
<b>Answer</b>	
<b>Document Name</b>	
<b>Comment</b>	
NA	
Likes	0
Dislikes	0
<b>Response</b>	

Thank you for your support.	
<b>Amy Wesselkamper - PNM Resources - Public Service Company of New Mexico - 1,3</b>	
<b>Answer</b>	
<b>Document Name</b>	
<b>Comment</b>	
<p>Regarding R1.5:</p> <p>R1.1 and R1.2 do not require “Implementing methods”, but rather Identification of methods.</p> <p>R1.5 Should read:</p> <p>If the Control Centers are owned or operated by different Responsible Entities, identification of the responsibilities of each Responsible Entity for implementing method(s) as <b>identified</b> in Parts 1.1 and 1.2.</p>	
Likes	0
Dislikes	0
<b>Response</b>	
<p>Thank you for your comment. Requirement R1 requires: “The Responsible Entity shall implement, except under CIP Exceptional Circumstances, one or more documented plan(s) to mitigate the risks posed...” Therefore, identified is covered throughout the Parts.</p>	
<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>	
<b>Document Name</b>	
<b>Comment</b>	

Tacoma Power supports the R1.5 language. However, the redline to last approved file does not match the CIP-012-2 clean version verbiage. For example, the redline to last approved for R1.5 states “required in Parts 1.1 and 1.2”, when it should show “required in Parts 1.1, **1.2, and 1.3.**”

For the last bullet in the measures for R1.3, Tacoma Power recommends changing “vendor” to “provider”. It doesn’t necessarily need to be a vendor who maintains the communication link, so provider is a better choice for the measure. This is a non-substantive change. Recommended change: “Process or procedure to contact a communications link **provider** to initiate and or verify restoration of service.”

Likes	0
Dislikes	0

### Response

Thank you for your comment. The SDT updated the redline to last approved CIP-012 standard to align with the other posted standards.

The SDT updated the measures within Requirement R1 Part 1.3 to reflect “provider” in place of “vendor.”