Consideration of Comments

Consideration of Comments on Interpretation of CIP-002-1 – Cyber Security – Critical Cyber Asset Identification, Requirement R3 for Duke Energy Corporation Project 2010-05

The CIP Interpretation Drafting Team thanks all commenters who submitted comments on the initial draft of an interpretation of CIP-002-1 — Cyber Security – Critical Cyber Asset Identification, Requirement R3 for Duke Energy Corporation. This interpretation was posted for a 30-day public comment period from September 8, 2010 through October 8, 2010. The stakeholders were asked to provide feedback on the interpretation through a special Electronic Comment Form. There were 39 sets of comments, including comments from more than 85 different people from approximately 75 companies representing 9 of the 10 Industry Segments as shown in the table on the following pages.

All comments submitted may be reviewed in their original format on the standard's project page:

http://www.nerc.com/filez/standards/Interp2010-05_Interpretation_CIP-002-1%20_Duke.html

If you feel that your comment has been overlooked, please 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, you can contact the Vice President of Standards and Training, Herb Schrayshuen, at 404-446-2560 or at herb.schrayshuen@nerc.net. In addition, there is a NERC Reliability Standards Appeals Process.[1]

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[1] The appeals process is in the Reliability Standards Development Procedures: http://www.nerc.com/standards/newstandardsprocess.html.

Index to Questions, Comments, and Responses

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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

	Group/Individual	Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
1.	Group	Guy Zito	Northeast Power Coordinating Council										x

	Additional Member	Additional Organization	Region	Segment Selection
1.	Alan Adamson	New York State Reliability Council, LLC	NPCC	10
2.	Gregory Campoli	New York Independent System Operator	NPCC	2
3.	Kurtis Chong	Independent Electricity System Operator	NPCC	2
4.	Sylvain Clermont	Hydro-Quebec TransEnergie	NPCC	1

Group/Individual	Commenter	Organization	Registered Ballot Body Segment									
			1	2	3	4	5	6	7	8	9	10
5. Chris de Graffenried	Consolidated Edison Co. of New York, Inc.	NPCC 1										
6. Gerry Dunbar	Northeast Power Coordinating Council	NPCC 10										
7. Dean Ellis	Dynegy Generation	NPCC 5										
8. Brian Evans-Mongeon	Utility Services	NPCC 8										
9. Mike Garton	Dominion Resources Services, Inc.	NPCC 5										
10 Brian L. Gooder	Ontario Power Generation Incorporated	NPCC 5										
11 Kathleen Goodman	ISO - New England	NPCC 2										
12 Chantel Haswell	FPL Group, Inc.	NPCC 5										
13 David Kiguel	Hydro One Networks Inc.	NPCC 1										
14 Michael R. Lombardi	Northeast Utilities	NPCC 1										
15 Randy MacDonald	New Brunswick System Operator	NPCC 2										
16 Bruce Metruck	New York Power Authority	NPCC 6										
17 Lee Pedowicz	Northeast Power Coordinating Council	NPCC 10										
18 Robert Pellegrini	The United Illuminating Company	NPCC 1										
19 Si Truc Phan	Hydro-Quebec TransEnergie	NPCC 1										
20 Saurabh Saksena	National Grid	NPCC 1										
21 Michael Schiavone	National Grid	NPCC 1										
22 Peter Yost	Consolidated Edison Co. of New York, Inc.	NPCC 3										
			1	2	3	4	5	6	7	8	9	10

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Group/Individual	Commenter	Organization	Registered Ballot Body Segment									
			1	2	3	4	5	6	7	8	9	10
2. Individual	Christopher Kotting	Public Utilities Commission of Ohio Staff									x	

			1	2	3	4	5	6	7	8	9	10
3. Group	Terry L. Blackwell	Santee Cooper	x		x			x				

	Additional Member	Additional Organization	Region	Segment Selection
1	S. Tom Abrams	Santee Cooper	SERC	1
2	Rene' Free	Santee Cooper	SERC	1

			1	2	3	4	5	6	7	8	9	10
4. Group	Joe Doetzl	Kansas City Power & Light	x		x		x	x				

	Additional Member	Additional Organization	Region	Segment Selection
1	Michael Gammon	KCPL	SPP	1, 3, 5, 6

			1	2	3	4	5	6	7	8	9	10
5. Group	Denise Koehn	Bonneville Power Administration	x		x		x	x				

	Additional Member	Additional Organization	Region	Segment Selection
1	Curt Wilkins	BPA, Transmission System Operations	WECC	1
2	BPA NERC CIP Team	BPA	WECC	1, 3, 5, 6

			1	2	3	4	5	6	7	8	9	10
6. Group	Mike Garton	Electric Market Policy	x		x		x	x				

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Group/Individual	Commenter	Organization		Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
Additional Member	**Additional Organization**	**Region**	**Segment Selection**										
1.	Michael Gildea	Dominion Resources Services, Inc	SERC	3									
2.	Louis Slade	Dominion Resources Services, Inc.	SERC	6									
3.	John Calder	Dominion Virginia Power	SERC	1									
4.	Bruce Bingham	Dominion Resources Services, Inc.	SERC	5									
7. Group	Steve Rueckert	Western Electricity Coordinating Council											x
Additional Member	**Additional Organization**	**Region**	**Segment Selection**										
1.	Joshua Axelrod	WECC WECC	10										
2.	John Van Boxtel	WECC WECC	10										
8. Group	Carol Gerou	MRO's NERC Standards Review Subcommittee											x
Additional Member	**Additional Organization**	**Region**	**Segment Selection**										
1. Mahmood Safi	Omaha Public Utility District	MRO	1, 3, 5, 6										
2. Chuck Lawrence	American Transmission Company	MRO	1										
3. Tom Webb	WPS Corporation	MRO	3, 4, 5, 6										
4. Jason Marshall	Midwest ISO Inc.	MRO	2										

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Group/Individual	Commenter	Organization	Registered Ballot Body Segment									
			1	2	3	4	5	6	7	8	9	10
5. Jodi Jenson	Western Area Power Administration	MRO 1, 6										
6. Ken Goldsmith	Alliant Energy	MRO 4										
7. Alice Murdock	Xcel Energy	MRO 1, 3, 5, 6										
8. Dave Rudolph	Basin Electric Power Cooperative	MRO 1, 3, 5, 6										
9. Eric Ruskamp	Lincoln Electric System	MRO 1, 3, 5, 6										
10 Joseph Knight	Great River Energy	MRO 1, 3, 5, 6										
11 Joe DePoorter	Madison Gas & Electric	MRO 3, 4, 5, 6										
12 Scott Nickels	Rochester Public Utilties	MRO 4										
13 Terry Harbour	MidAmerican Energy Company	MRO 1, 3, 5, 6										
9. Individual	Candace Morakinyo	Wisconsin Electric Power Company			x	x	x	x				x
10. Individual	Brent Ingebrigtson	E.ON U.S.	x		x		x	x				
11. Individual	Annette Johnston	MidAmerican Energy Company	x				x					
12. Individual	David Batz	Edison Electric Institute	x				x					
13. Individual	Glen Hattrup	Kansas City Power & Light	x				x					
14. Individual	Warren Rust	Colorado Springs Utilities	x		x		x					
15. Individual	David Proebstel	PUD No.1 of Clallam County			x							
16. Individual	Martin Kaufman	ExxonMobil Research and Engineering	x				x		x			
17. Individual	Mark Simon	Encari, LLC	N/A									

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Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
18.	Individual	John Kutzer	John Kutzer	N/A									
19.	Individual	Jennifer Rosario	Progress Energy	x		x		x		x			
20.	Individual	Martin Bauer	US Bureau of Reclamation					x					
21.	Individual	Jonathan Appelbaum	United Illuminating	x									
22.	Individual	RoLynda Shumpert	South Carolina Electric and Gas	x		x		x	x				
23.	Individual	Darryl Curtis	Oncor Electric Delivery LLC	x									
24.	Individual	Eric Scott	Ameren	x		x		x	x				
25.	Individual	John Brockhan	CenterPoint Energy	x									
26.	Individual	Andrew Pusztai	American Transmission Company	x									
27.	Individual	Joylyn Faust	Consumers Energy			x	x	x					
28.	Individual	Greg Rowland	Duke Energy	x		x		x	x				
29.	Individual	Kathleen Goodman	ISO New Enlgand Inc.		x								
30.	Individual	Tony Kroskey	Brazos Electric Power Cooperative, Inc.	x				x					
31.	Individual	Matt Brewer	SDG&E	x		x		x					
32.	Individual	Kasia Mihalchuk	Manitoba Hydro	x		x		x					

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Group/Individual		Commenter	Organization	Registered Ballot Body Segment									
				1	2	3	4	5	6	7	8	9	10
33.	Individual	Christine Hasha	ERCOT		x								
34.	Individual	Thad Ness	American Electric Power	x		x		x	x				
35.	Individual	Jon Kapitz	Xcel Energy	x		x		x	x				
36.	Individual	Jason Marshall	Midwest ISO		x								
37.	Individual	Dan Rochester	Independent Electricity System Operator		x								
38.	Individual	Gregory Campoli	New York Independent System Operator		x								
39.	Individual	Paul Crist	Lincoln Electric System	x		x		x					

1. **The NERC Board of Trustees indicated that the interpretation process should not be used to address requests for a decision on "how" a reliability standard applies to a registered entity's particular facts and circumstances. Do you believe this request for an interpretation is asking for clarity on the meaning of a requirement or clarity on the application of a requirement?**

Summary Consideration:

The interpretation drafting team ("IDT") thanks all who commented during the last posting of the interpretation for their interest and feedback. Commenters from the last posting of the interpretation provided constructive comments and concerns.

The interpretation drafting team agreed with the majority of the comments concerning the original interpretation of Question #1 and slightly modified the language to add clarity. The phrase "is illustrative, not prescriptive" was added to the response.

Question #2 was more challenging and there were disagreements between commenters whether interpreting "essential to the operation of the Critical Asset" expanded on the requirements of the standard or if common definitions could be used to make the interpretation.

In response to the comments received and reflective of the team's revisions to the interpretation, the interpretation drafting team carefully considered each comment and have provided responses to each comment.

Most commenters to Question #1 of the comment form indicated that they likely would have voted differently for each of the two responses to the questions in the Request for Interpretation. The IDT agrees that commenters should be able to respond separately to each question, and notes that it has changed the comment form accompanying the interpretation.

Organization	Yes or No	Question 1 Comment
Northeastn Power Coordinating Council	The request is asking for clarity on the meaning of a requirement.	Duke's first question requests clarity on the meaning of the requirement. Duke's second question requests clarity on the application of the requirement. I would have liked to check both boxes, but the program would only accept one box checked.

Response: Thank you for your comment. The Interpretation Drafting Team agrees that Duke's first question is asking for clarity. The CIP interpretation Drafting Team modified the original response slightly by adding the phrase "is illustrative, not prescriptive."

Duke's second question is primarily asking for clarity on language in Requirement 3, "essential to the operation of the Critical Asset." The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical

Organization	Yes or No	Question 1 Comment
Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets." The new comment form will provide two sets of boxes so you can provide a separate response to each question.		
ISO New Enlgand Inc.		Cannot select both options; but the answer is both...Duke's first question requests clarity on the meaning of the requirement. Duke's second question requests clarity on the application of the requirement.
Response: Thank you for your comment. The Interpretation Drafting Team ("IDT") agrees that Duke's first question is asking for clarity. The original response was modified slightly by adding the phrase "is illustrative, not prescriptive." Duke's second question is primarily asking for clarity on language in Requirement 3, "essential to the operation of the Critical Asset." The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset." Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets." The new comment form will provide two sets of boxes so you can provide a separate response to each interpretation response.		
Brazos Electric Power Cooperative, Inc.	The request is asking for clarity on the meaning of a requirement.	
SDG&E	The request is asking for clarity on the meaning of a requirement.	
Manitoba Hydro		Both. Question 1 seeks clarity of the examples in R3. Question 2 seeks clarity regarding the meaning of "essential to the operation of the Critical Asset", and seeks clarity on the application of R3 in a given situation.
Response: Thank you for your comment. The Interpretation Drafting Team ("IDT") agrees that Duke's first question is asking for clarity. The original		

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Organization	Yes or No	Question 1 Comment
response was modified slightly by adding the phrase "is illustrative, not prescriptive." Duke's second question is primarily asking for clarity on language in Requirement 3, "essential to the operation of the Critical Asset." The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset." Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."		
New York Independent System Operator	The request is asking for clarity on the meaning of a requirement.	Question #1 and #2 both seek to clarify the meaning of CIP-002-R3
Response: Thank you for your comment. The Interpretation Drafting Team ("IDT") agrees that Duke's first question is asking for clarity. The original response was modified slightly by adding the phrase "is illustrative, not prescriptive." Duke's second question is primarily asking for clarity on language in Requirement 3, "essential to the operation of the Critical Asset." The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset." Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."		
Lincoln Electric System	The request is asking for clarity on the meaning of a requirement.	
Electric Market Policy	The request is asking for clarity on the meaning of a requirement.	

Organization	Yes or No	Question 1 Comment
Western Electricity Coordinating Council	The request is asking for clarity on the meaning of a requirement.	
MRO's NERC Standards Review Subcommittee	The request is asking for clarity on the meaning of a requirement.	
Wisconsin Electric Power Company	The request is asking for clarity on the meaning of a requirement.	
MidAmerican Energy Company	The request is asking for clarity on the meaning of a requirement.	
Edison Electric Institute	The request is asking for clarity on the meaning of a requirement.	
Kansas City Power & Light	The request is asking for clarity on the meaning of a requirement.	
Colorado Springs Utilities	The request is asking for clarity on the meaning of a requirement.	
PUD No.1 of Clallam County	The request is asking for clarity on the application of a requirement.	
ExxonMobil Research and	The request is asking for	

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Organization	Yes or No	Question 1 Comment
Engineering	clarity on the meaning of a requirement.	
Encari, LLC	The request is asking for clarity on the application of a requirement.	
John Kutzer	The request is asking for clarity on the meaning of a requirement.	
Progress Energy	The request is asking for clarity on the meaning of a requirement.	
US Bureau of Reclamation	The request is asking for clarity on the meaning of a requirement.	
United Illuminating	The request is asking for clarity on the meaning of a requirement.	
South Carolina Electric and Gas	The request is asking for clarity on the meaning of a requirement.	
Oncor Electric Delivery LLC	The request is asking for clarity on the application of a requirement.	
Ameren	The request is asking for clarity on the meaning of	

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Organization	Yes or No	Question 1 Comment
	a requirement.	
CenterPoint Energy	The request is asking for clarity on the meaning of a requirement.	
American Transmission Company	The request is asking for clarity on the meaning of a requirement.	None
Duke Energy	The request is asking for clarity on the meaning of a requirement.	
ERCOT	The request is asking for clarity on the meaning of a requirement.	
American Electric Power	The request is asking for clarity on the meaning of a requirement.	
Midwest ISO	The request is asking for clarity on the meaning of a requirement.	
Independent Electricity System Operator	The request is asking for clarity on the meaning of a requirement.	
Public Utilities Commission of Ohio Staff	The request is asking for clarity on the meaning of a requirement.	

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Organization	Yes or No	Question 1 Comment
Santee Cooper	The request is asking for clarity on the application of a requirement.	
Kansas City Power & Light	The request is asking for clarity on the application of a requirement.	
Bonneville Power Administration	The request is asking for clarity on the meaning of a requirement.	
Response: Thank you for your comment.		

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2. **The NERC Board of Trustees indicated that in deciding whether or not to approve a proposed interpretation, it will use a standard of strict construction and not seek to expand the reach of the standard to correct a perceived gap or deficiency in the standard. Do you believe this interpretation expands the reach of the standard?**

Summary Consideration:

Many commenters expressed concern that the previously-posted interpretation, particularly the response to question #2 of the RFI, expanded or reduced the reach of the standard. In response, and after careful analysis and consideration of comments, the IDT has significantly changed the response to question #2 in a manner that it believes does not expand the reach of the requirement.

The second question from Duke Energy's RFI primarily asked for clarity on language in Requirement 3, "essential to the operation of the Critical Asset." The IDT prepared a new response to Duke Energy's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Organization	Yes or No	Question 2 Comment
Northeastn Power Coordinating Council	The request expands the reach of the standard.	The Interpretation expands the standard by referring to the human-to-machine interface. This interface is only a conduit to the CCA, it is not the CCA. It is assumed that the check boxes above refer to the interpretation, not the request.

Response: Thank you for your comment. The IDT has clarified the question on the new comment form. The Interpretation Drafting Team ("IDT") believes that Duke's first question is asking for clarity. The original response was modified slightly by adding the phrase "is illustrative, not prescriptive."

Duke's second question is primarily asking for clarity on language in Requirement 3, "essential to the operation of the Critical Asset." The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber

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Organization	Yes or No	Question 2 Comment
Assets that are essential, inherent, or necessary to the operation of the Critical Assets." The new comment form will provide two sets of boxes so you can provide a separate response to each interpretation response.		
Public Utilities Commission of Ohio Staff	The request does not expand the reach of the standard.	As noted below, it is our opinion that the Interpretation reduces the reach of the standard.
Response: Thank you for your comment. The Interpretation Drafting Team ("IDT") believes that Duke's first question is asking for clarity. The original response was modified slightly by adding the phrase "is illustrative, not prescriptive." Duke's second question is primarily asking for clarity on language in Requirement 3, "essential to the operation of the Critical Asset." The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset." Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets.		
Electric Market Policy	The request does not expand the reach of the standard.	Dominion finds that the Response to Question 2 is both incomplete and confusing. To respond with " 'essential to the operation of the Critical Asset' means ... essential to the operation of the Critical Asset" does not answer the question. Specifically this response does not address the follow-on question about assets that "may" be used but are not "required". The second and third sentences of the response to Question 2 leave more questions than provide answers. We agree that an HMI is essential ("indispensable, vital, fundamental, and necessary") for "operator-assisted remote control". However, in most cases, the HMI is not essential to the operation of the CA, since most if not all CAs can be operated manually and/or via protective devices (e.g., relays) locally. Finally, this response does not address remote access.Dominion believes that when several (not to be confused with redundant) solutions exist (e.g., multiple HMI workstations), that no single solution is essential. In question 2 Duke puts a statement about remote access, and Dominion agrees with Duke that remote access is valuable to operations. We believe remote access is addressed by CIP-005 and as such should not be addressed by CIP-002.

Organization	Yes or No	Question 2 Comment
Response: Thank you for your comment. The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset." Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets." The application questions as to "how" the standard applies are beyond the scope of this Interpretation.		
Wisconsin Electric Power Company	The request expands the reach of the standard.	The interpretation attempts to clarify the phrase "essential to the operation of the Critical Asset" by introducing a new concept of "perform a function essential to the operation of a Critical Asset". We believe that this fails to provide clarity, and instead expands the reach of the standard. The interpretation should focus on clarifying what the term "essential" means. Moreover, we believe that it is inappropriate to attempt to define "essential to the operation of the Critical Asset" by using the term "essential" as this is a circular definition, and provides no new or useful information. We believe that "essential" cyber assets are those which are always required for operation of the Critical Asset; without which the primary mission (the qualities or attributes of an asset that causes it to be identified as 'Critical') of a Critical Asset cannot be performed.
Response: Thank you for your comment. The Interpretation Drafting Team ("IDT") believes that Duke's first question is asking for clarity. The original response was modified slightly by adding the phrase "is illustrative, not prescriptive." Duke's second question is primarily asking for clarity on language in Requirement 3, "essential to the operation of the Critical Asset." The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset." Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."		

Organization	Yes or No	Question 2 Comment
MidAmerican Energy Company	The request expands the reach of the standard.	The proposed interpretation does expand the reach of the standard. See question #3 comments.
Kansas City Power & Light	The request expands the reach of the standard.	Please see response in Question 3 comments. Concerns regarding the expansion of the standard are expressed there.

Response: Thank you for your comment. The Interpretation Drafting Team ("IDT") believes that Duke's first question is asking for clarity. The original response was modified slightly by adding the phrase "is illustrative, not prescriptive."

Duke's second question is primarily asking for clarity on language in Requirement 3, "essential to the operation of the Critical Asset." The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary."   The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations.   The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."

| Colorado Springs Utilities | The request expands the reach of the standard. | the second part of Q2's response infers without justification that "operator-assisted remote control" is an essential function. Will NERC supply a list of cyber functions they consider essential to the operation of critical assets, or will they accept industry participants' self-determined answer to that question? |

Response: Thank you for your comment.   The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary."   The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations.   The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber

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Organization	Yes or No	Question 2 Comment
		Assets that are essential, inherent, or necessary to the operation of the Critical Assets."
John Kutzer	The request expands the reach of the standard.	The response to Question 2 of the request for interpretation expands reach of the standards by not correctly identifying Critical Cyber Assets. The standard currently has two tests for an asset to be classified as a Critical Cyber Asset, the first being "essential to operation" (R3) and the second being the communication mechanism (R3.1, R3.2, & R3.3). The response to this question ignores the second criteria for identifying Critical Cyber Assets and as a result expands the reach of the standard.

Response: Thank you for your comment.   The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary."   The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations.   The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."

This interpretation singly addresses Duke's interpretation questions. The application discussion and applicability of the sub-requirements are beyond the scope of this interpretation.

Organization	Yes or No	Question 2 Comment
Progress Energy	The request expands the reach of the standard.	The sentence "For example, in a control center, a human-to-machine interface such as an operator console is used to perform the essential function of operator-assisted remote control" confuses the issue by describing the use of an operator console as "remote control". Most would consider human-to-machine interfaces or operator consoles in control centers as primary control, not remote control. The question in the request for interpretation asks about laptops used for remote access. This answer, using the word "remote" in a different context than it is used in the question confuses the issue. It implies (without saying it clearly) that the remote access laptop referred to in the question is essential to the operation of the control system, just as the human-to-machine interface is. The remote access laptop is not essential. It can be turned off and the control system will continue to function.

Response: Thank you for your comment.   The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the

Organization	Yes or No	Question 2 Comment
Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset." Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets." The application discussion is outside the scope of this interpretation.		
Ameren	The request expands the reach of the standard.	This interpretation does not clarify the phrase "essential to the operation of the Critical Asset" but introduces a new concept of "perform a function essential to the operation of a Critical Asset". This interpretation fails to provide clarity, and instead expands the reach of this requirement.

Response: Thank you for your comment. The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary."   The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations.   The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."

Organization	Yes or No	Question 2 Comment
American Transmission Company	The request expands the reach of the standard.	The interpretation attempts to clarify the phrase "essential to the operation of the Critical Asset" by introducing a new concept of "perform a function essential to the operation of a Critical Asset". ATC believes that this fails to provide clarity, and instead expands the reach of the standard. The interpretation should focus on clarifying what the term "essential" means. Moreover, ATC believes that it is inappropriate to attempt to define "essential to the operation of the Critical Asset" by using the term "essential" as this is a circular definition, and provides no new or useful information. Finally, ATC believes that "essential" cyber assets are those which are always required for operation of the Critical Asset; without which the primary mission (the qualities or attributes of an asset that causes it to be deemed 'Critical') of a Critical Asset cannot be performed.

Organization	Yes or No	Question 2 Comment
Response: Thank you for your comment. The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset." Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."		
Consumers Energy	The request does not expand the reach of the standard.	The response to the second, is at best circular and poorly written. Sentence one of this response is simply non responsive by way of being circular. Sentence one reads: "The phrase "essential to the operation of the Critical Asset" means that the Critical Cyber Asset is used to perform a function essential to the operation of the Critical Asset." To state that something is essential to operation means that it is used to perform a function essential to operation is a tautology, not a useful response. The response to the second request goes on to not address the remaining points raised by Duke.
Response: Thank you for your comment. Duke's second question is primarily asking for clarity on language in Requirement 3, "essential to the operation of the Critical Asset." The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset." Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."		
Duke Energy	The request expands the reach of the standard.	The interpretation of the standard seems to go beyond the reach of the standard. Need more clarification on the "Essential" phrase in the standard.
ISO New Enlgand Inc.	The request expands the reach of the	The Interpretation expands the standard by referring to the human-to-machine interface. This interface is only a conduit to the CCA, it is not the CCA. It is assumed that the check boxes above refer to the interpretation, not the request.

Organization	Yes or No	Question 2 Comment
	standard.	

Response: Thank you for your comment.   The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary."   The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations.   The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."

The new comment form will provide two sets of boxes so you can provide a separate response to each interpretation response.

Organization	Yes or No	Question 2 Comment
SDG&E	The request expands the reach of the standard.	CIP002-R3 states "....the Responsible Entity shall develop a list of associated Critical Cyber Assets essential to the operation of the Critical Asset". An asset that is "essential to the operation of the Critical Asset" is not the same as "any Cyber Asset used to perform a function essential to the operation of the Critical Asset". There are many devices that could, in theory, be used to perform a function that would be considered essential to the operation of the Critical Asset that are not themselves essential to the operation of the Critical Asset. Essential should mean that an Entity is unable to operate the Critical Asset without that cyber asset (i.e. essential to the operation of the Critical Asset).

Response: Thank you for your comment. The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary."   The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations.   The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."

Organization	Yes or No	Question 2 Comment
American Electric Power	The request expands the reach of the standard.	The last sentence in the second interpretation "Similarly, any Cyber Asset, when used to perform a function essential to the operation of the Critical Asset, becomes a Critical Cyber Asset" needs to be removed or expanded to conform to the parameters of the requirement.

Consideration of Comments: Interpretation of CIP-002-1 R3 for Duke Energy (Project 2010-05)

Organization	Yes or No	Question 2 Comment
Response: Thank you for your comment. The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset." Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."		
Independent Electricity System Operator		It is not clear if this question is regarding the request or the response. In fact, the question "Do you believe this interpretation expands the reach of the standard?" conflicts with the two statements adjacent to the two checkboxes which refer to the 'request'.
Response: Thank you for your comment. The comment form will be revised.		
New York Independent System Operator	The request does not expand the reach of the standard.	The request for interpretation seeks clarification on the meaning of CIP-002-3. The request for interpretation does not expand the reach of the standard. However, the current interpretation does expand the reach of the standard.
Response: Thank you for your comment. The request for interpretation was for CIP-002-1. The same Requirement language is used in CIP-002 versions 1, 2 & 3. If approved, the interpretation will apply to all versions of CIP-002 in which the Requirement language for which the interpretation was requested persists. The Interpretation Drafting Team ("IDT") believes that Duke's first question is asking for clarity. The original response was modified slightly by adding the phrase "is illustrative, not prescriptive." Duke's second question is primarily asking for clarity on language in Requirement 3, "essential to the operation of the Critical Asset." The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset." Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber		

Consideration of Comments: Interpretation of CIP-002-1 R3 for Duke Energy (Project 2010-05)

Organization	Yes or No	Question 2 Comment
Assets that are essential, inherent, or necessary to the operation of the Critical Assets."		
Lincoln Electric System	The request does not expand the reach of the standard.	
Brazos Electric Power Cooperative, Inc.	The request does not expand the reach of the standard.	
Midwest ISO	The request expands the reach of the standard.	
Manitoba Hydro	The request does not expand the reach of the standard.	
ERCOT	The request does not expand the reach of the standard.	
US Bureau of Reclamation	The request	

Organization	Yes or No	Question 2 Comment
	does not expand the reach of the standard.	
United Illuminating	The request does not expand the reach of the standard.	
South Carolina Electric and Gas	The request does not expand the reach of the standard.	
Oncor Electric Delivery LLC	The request does not expand the reach of the standard.	
PUD No.1 of Clallam County	The request does not expand the reach of the standard.	
ExxonMobil Research and Engineering	The request does not expand the reach of the	

Consideration of Comments: Interpretation of CIP-002-1 R3 for Duke Energy (Project 2010-05)

Organization	Yes or No	Question 2 Comment
	standard.	
Encari, LLC	The request does not expand the reach of the standard.	
Edison Electric Institute	The request expands the reach of the standard.	
Western Electricity Coordinating Council	The request does not expand the reach of the standard.	
MRO's NERC Standards Review Subcommittee	The request expands the reach of the standard.	
Santee Cooper	The request does not expand the reach of the standard.	
Kansas City Power & Light	The request expands the reach of the	

Organization	Yes or No	Question 2 Comment
	standard.	
Bonneville Power Administration	The request does not expand the reach of the standard.	
Response: Thank you for your comment.		

Consideration of Comments: Interpretation of CIP-002-1 R3 for Duke Energy (Project 2010-05)

3. **Do you agree with this interpretation? If not, why not.**

Summary Consideration:

Most commenters agreed with the response to Question #1 of the RFI, but disagreed with the response to Question #2; thus, most disagreed with the interpretation.

The CIP Interpretation Drafting Team agreed with the majority of the comments concerning the original interpretation of Question #1 and slightly modified the language to add clarity. The phrase "is illustrative, not prescriptive" was added to the response. Most commenters who did not agree with the interpretation did not agree with Question #2. The second question from Duke Energy's RFI primarily asked for clarity on language in Requirement 3, "essential to the operation of the Critical Asset." The IDT prepared a new response to Duke Energy's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations.   The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."

Several commenters asked for or provided observations concerning the application of the standard, and the drafting team responded that addressing "how" the standard should be applied was outside the scope of this interpretation.

Organization	Yes or No	Question 3 Comment
Northeastn Power Coordinating Council	No	We agree with the first response. We do not agree with the second response because: 1. It should not include an example.2. The response should use the same wording for Critical Cyber Assets as the approved Glossary of Terms.
Response: Thank you for your comment. The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."		

Consideration of Comments: Interpretation of CIP-002-1 R3 for Duke Energy (Project 2010-05)

Organization	Yes or No	Question 3 Comment
		Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."
Public Utilities Commission of Ohio Staff	No	The Interpretation focuses on the use of Critical Cyber Assets, rather than the capabilities of those assets. By doing so, while the Interpretation does not address a potential gap, it creates a potential gap.The definition of a Critical Asset describes systems that if "destroyed, degraded or compromised" may influence the ability to maintain reliable operation of the grid. Based on the interpretation (particularly the response to Question 2), categories of equipment that may be capable of exerting control (and thus, if compromised could affect reliable operation of the grid) would be excluded from CIP treatment if they are not currently used for that purpose. For example, a laptop computer that had the necessary hardware and software to control SCADA systems, but operates in a backup position, or has some other primary use, might not have a negative impact if destroyed or degraded, but would potentially have a negative impact if compromised.In order to preserve the original intent, the word "used" in the Response to Question 2 should be replaced with "configured and equipped". Duke is correct in its assertion that the issue of how CIP applies to portable hardware like laptop computers in the field clearly needs to be addressed, but this Interpretation is not the mechanism for doing so.

Response: Thank you for your comment. The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."

A discussion of applications of Critical Assets and Critical Cyber Assets is beyond the scope of this interpretation.

| Kansas City Power & Light | No | The proposed interpretation infers a scope broader than the requirement stipulates. The question relates to the meaning of "essential to the operation of the Critical Asset" and it recommended to address the question with the first sentence of the interpretation and stop there. Recommend the |

Organization	Yes or No	Question 3 Comment
		interpretation as the following: The phrase "essential to the operation of the Critical Asset" means that the Critical Cyber Asset is used to perform a function essential to the operation of the Critical Asset"

Response: Thank you for your comment. The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."

| Bonneville Power Administration | No | YES, we agree with the response to question 1, that the "Examples..." are just that, examples, and not a prescriptive list.NO, the response to question 2 is inadequate. The phrase in question is used to define the phrase in question: "essential to the operation of the Critical Asset" means the device is used to perform a function "essential to the operation of the Critical Asset." The example cited is good, but a definition of "essential," as requested, is still needed. |

Response: Thank you for your comment. The original response to Question 1 was modified slightly by adding the phrase "is illustrative, not prescriptive."

The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."

| Electric Market Policy | No | See comments in response to question 2. The interpretation is incomplete and in itself confusing and does not provide the clarity needed. |

Response: Thank you for your comment. The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the

Consideration of Comments: Interpretation of CIP-002-1 R3 for Duke Energy (Project 2010-05)

Organization	Yes or No	Question 3 Comment
		Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset." Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."
Western Electricity Coordinating Council	No	We agree that the first questions is answered adequatly and do not have any issues with the response provided. However, the the response to the second question used the word essential to try and define what is esential. It says that the phrase "essential to the operation of the Critical Asset" means it is used to perform a function "essential to the operation of the Critical Asset." We do not believe it is appropriate to use a term for which a definition is sought in the definition of the term.
Response: Thank you for your comment. The Interpretation Drafting Team ("IDT") has modified the response to Question #1 slightly and it added the phrase "is illustrative, not prescriptive" to improve clarity. The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset." Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."		
MRO's NERC Standards Review Subcommittee	No	We agree that the examples listed in CIP 002 R1 are not meant to be prescriptive. If they were prescriptive, all devices involved in "real-time inter-utility data exchange" would be considered Critical Cyber Assets (CCA), even if the data exchanged had no relevance to the operation of the BES.However, we believe that it is inappropriate to attempt to define "essential to the operation of the Critical Asset" by using the term "essential" as this is a circular definition, and provides no new or useful information. Also, this interpretation states that the Cyber Asset becomes a CCA "when used". This may imply that the Cyber Asset, capable of performing an essential function, is not a CCA when not presently being used to perform the essential function. For example, a relief desk

Organization	Yes or No	Question 3 Comment
		workstation, despite its present capability to execute controls on the BES would not be considered a CCA when not manned. Also, a standby EMS server would not be considered a CCA when not in use. Basing CCA classification on intermittent criteria such as "when used" may affect whether requirements, such as the need for a Recovery Plan, are also intermittent. We believe that "essential" cyber assets are those which are always required for operation of the Critical Asset; without which the primary mission (the qualities or attributes of an asset that causes it to be deemed 'Critical') of a Critical Asset cannot be performed.

Response: Thank you for your comment. The Interpretation Drafting Team ("IDT") has modified the response to Question #1 slightly and it added the phrase "is illustrative, not prescriptive" to improve clarity. The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary."   The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations.   The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."

Organization	Yes or No	Question 3 Comment
Wisconsin Electric Power Company	No	Reference response to Question 2

Response: Thank you for your comment.   The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary."   The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations.   The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."

Organization	Yes or No	Question 3 Comment
E.ON U.S.	No	The SDT interpretation of the phrase "essential to the operation of the Critical Asset" means that a "Critical Cyber Asset" is a cyber asset "used to perform a function essential to the operation of the Critical Assets".E.ON U.S. does not believe that the proposed interpretation clarifies the standard. The issue posed by the request for interpretation is whether cyber assets used for remote support, such as laptops, would be considered "essential to the operation" of a Critical Asset, thus requiring

Organization	Yes or No	Question 3 Comment
		application of CIP-006 physical controls to a laptop. Despite the obvious impracticality of applying CIP-006 controls to laptops, the interpretation leaves this question unanswered. As a result, the interpretation severely restricts the ability of entities to remotely support operations essential to the reliability of the BES. As a result, the reliability of the BES is eroded.The interpretation does nothing to address the questions posed. Recent guidance documents published by NERC concerning remote access are similarly unhelpful.

Response: Thank you for your comment. The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary."   The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations.   The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."

Addressing application questions is beyond the scope of this interpretation.

Organization	Yes or No	Question 3 Comment
MidAmerican Energy Company	No	We agree with the interpretation for Duke Energy's Question #1.We do not agree with the interpretation for Duke Energy's Question #2. The interpretation provided is circular, provides no new useful information, and potentially expands the reach of the standard which is not allowed for an interpretation. MidAmerican suggests the interpretation clarify "essential" in this context as cyber assets which "are always required" for the operation of the critical asset.

Response: Thank you for your comment. The original response to Question 1 was modified slightly by adding the phrase "is illustrative, not prescriptive."

The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary."   The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations.   The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."

![NERC]

Organization	Yes or No	Question 3 Comment
Edison Electric Institute	No	For the Response to question 2, The interpretation attempts to clarify the phrase "essential to the operation of the Critical Asset" by introducing a new concept of "perform a function essential to the operation of a Critical Asset". We believe that this fails to provide clarity, and instead expands the reach of the standard. The interpretation should focus on clarifying what the term "essential" means. Moreover, we believe that it is inappropriate to attempt to define "essential to the operation of the Critical Asset" by using the term "essential" as this is a circular definition, and provides no new or useful information. We believe that "essential" cyber assets are those which are always required for operation of the Critical Asset; without which the primary mission (the qualities or attributes of an asset that causes it to be deemed 'Critical') of a Critical Asset cannot be performed.

Response: Thank you for your comment. The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary."   The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations.   The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."

| Kansas City Power & Light | No | The Response to Question 1 is acceptable and matches what I believe is the common interpretation. The Response to Question 2 is not acceptable and dramatically extends the reach of the Requirement and Standard. There are a number of problems with the second Response, including: "essential" has not been clarified or defined; the proposed answer dramatically increases the scope of equipment that must now be classified as Critical Cyber Assets; and there is a viral effect to the proposed answer that will place an unwarranted burden upon Responsible Entities. The initial issue with the response is that the word in question is used to explain its definition. Defining "essential" as "is used to perform a function essential" does not clarify the intent of the word. It is understandably difficult, if not impossible, to generate a prescriptive list of "essential" elements of Critical Assets due to the variances in the utility industry. Clarification regarding the intent of the requirement is still possible. Regrettably, this definition does nothing to reduce the subjectivity of the original Requirement. A Response that encouraged the Responsible Entity to outline a method or generate a set of characteristics in order to define "essential" for their operations would have been appropriate. While not auditable, it would provide clarity and |

Organization	Yes or No	Question 3 Comment
		guidance during the selection process. The proposed definition dramatically increases the scope of equipment and components that must now be considered as critical. The phrase "is used to perform a function" shifts the focus from the essential component to the tool being used to support the essential component. This shift is further reinforced by the last sentence of the proposed Response.For example, let's consider Load Flow or Contingency Analysis to be critical or essential for the operation of an EMS. By the proposed Response, when the Transmission Planner accesses the EMS to perform a flow calculation or analysis, the workstation he uses to "perform the function essential to the operation of the" Critical Asset is now considered a Critical Cyber Asset. Previously, only the application server that hosted Load Flow or Contingency Analysis would have needed to be considered a CCA.This slope becomes quite slippery as we consider another example. Many modern EMS's utilize commercial operating systems and / or relational databases. These systems host critical portions of the EMS application and are rightfully considered as Critical Cyber Assets. These systems also require a variety of ongoing maintenance which requires an administrator to manually perform some task. The reliable operation of the systems would be jeopardized if the maintenance tasks were not performed and can therefore be considered critical or essential functions. As in the previous example, the proposed Response now makes the System Administrators' workstations Critical Cyber Assets.This expansion of scope leads to the final problem with the proposed Response. The viral aspect of the last sentence in the proposed Response will have disastrous consequences for the Responsible Entities and their access to Critical Assets. The sentence "Similarly any Cyber Asset, when used to perform..., becomes a Critical Cyber Asset" effectively draws in any system used to operate or maintain an essential function of the Critical Asset. This sentence validates the previous two examples and the workstations in question becoming Critical Cyber Assets. Failure to limit the scope by considering control of BES assets or security pivot points opens any connecting system into consideration.We may attempt to mitigate this concern by placing workstations within the ESP, designating them as CCAs, and utilize them for maintenance or to perform other essential functions. However, the administrator or engineer must be physically at the workstation in order to perform their duties. Requiring physical presence will adversely affect overall BES reliability as critical personnel must travel to a particular physical location in order to perform their work. This will create delays that may allow operational problems to accelerate out of control.Remote access to these workstations would not be allowed because access from any other workstation would make the accessing workstation a Critical Cyber Asset as it again falls into the category of "any Cyber Asset, when used ... becomes a Critical Cyber Asset." The accessing workstation is essential to access the CCA maintenance workstation,

Organization	Yes or No	Question 3 Comment
		therefore the accessing workstation is now a CCA as well. This illustrates the never-ending cycle of inclusion that has been created by the proposed Response.Assuming that prohibiting remote access is an acceptable outcome, there are other situations that may adversely affect the cyber security of the Critical Asset. Operating System security patches are frequently hosted on an external server. Having and delivering the security patch is essential for the reliable operation of the (operating) system. Does that external system (a cyber asset) now become a Critical Cyber Asset? Does the external asset that creates portable media containing the patches become Critical? It is not clear where the final line is drawn or if it can be. Auditing this expanded scope will be exceptionally difficult. The auditor will not be able to determine if all newly covered systems have been included in the compliance program. The Responsible Entity will likewise find enforcement exceptionally onerous or impossible. Extreme contortions will be required of otherwise normal, secure operational principles in order to comply.The proposed Response to Question 2 is unacceptable because it significantly increases the scope of the Requirement. In addition, as written, the proposed Response represents an enormous increase in compliance costs without a corresponding benefit for the Responsible Entity.Here is a suggested, alternative Response to Question 2.Any multi-component Critical Asset can be assumed to have two broad categories of components. There are components that are critical, or essential, to the operation of the asset and those that are optional. An essential component (or asset) of a Critical Asset may be defined as a component that would prevent the Critical Asset from operating as required by the Responsible Entity. Due to the wide variance within the industry, it is not possible for the Standard to prescriptively list what is essential or not. The Responsible Entity may find it beneficial to outline what would make a component essential or optional for their environment. Components supporting compliance with the Operational Standards for BES assets may be a good starting point for this outline.The Responsible Entity should seek to identify the core set of components required to operate the Critical Asset. This need not be an exhaustive list as one core component may have a cascade effect and force others to become critical by association. Capability of operation does not necessarily define a component as essential. Availability of other components capable of operation, intent, and / or operational precedence (primary, secondary components) should also be considered.
Response: Thank you for your comment. The original response to Question 1 was modified slightly by adding the phrase "is illustrative, not prescriptive." The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability		

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Organization	Yes or No	Question 3 Comment
		Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset." Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets." The discussion concerning application of the standard and examples of CAs and CCAs are beyond the scope of this interpretation.
Colorado Springs Utilities	No	The Response to the RFI Q1 is appropriate & reasonable. The Response to Q2 (in short, "'essential to the operation of the Critical Asset' means '"essential to the operation of the Critical Asset'") is circular and unhelpful. Additionally, the second part of Q2's response infers without justification that "operator-assisted remote control" is an essential function. Will NERC supply a list of cyber functions they consider essential to the operation of critical assets, or will they accept industry participants' self-determined answer to that question?

Response: Thank you for your comment. The original response to Question 1 was modified slightly by adding the phrase "is illustrative, not prescriptive."

The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary."   The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations.   The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."

The question concerning NERC providing a list is beyond the scope of this interpretation.

| PUD No.1 of Clallam County | Yes | The interpretation seems consistent and as long as the phrase "facilities utilized in monitoring and control" implies that both functions (monitoring and controlling) need to be utilized in order for the "systems and facilities" to be classed as a critical cyber asset. In other words, if the asset only monitors (and does not control) then it should fail the implied test. |

Response: Thank you for your comment. The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to"

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Organization	Yes or No	Question 3 Comment
		or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset." Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."
ExxonMobil Research and Engineering	No	The response to question two does not clarify the meaning of the word 'essential' in the phrase 'essential to the operation of the critical asset'. The use of the word 'essential' in the interpretation's definition of 'essential to the operation of the Critical Asset' makes it difficult to understand the interpretation's author's explanation. In the example provided in the interpretaion, the critical asset can not be controlled or monitored (i.e. function properly) when an operator console's Human Machine Interface is no longer operational. The example provided in the request for interpretation, remote access terminals (laptops), are not necessary for the operation for the critical asset, but they may be used to interface with the critical asset. The interpretation does not provide sufficient detail in the definition of 'essential to the operation of the Critical Asset' to determine if one or both of these examples qualify as cyber critical assets. The interpretation could better serve the industry by clarifying the definition of essential. Does 'essential' describe a piece of equipment that must function in order for the critical asset to properly operate or does essential describe a piece of equipment that may be used to operate the critical asset but it is not required for the proper operation of the critical asset?
Response: Thank you for your comment. The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset." Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."		
Encari, LLC	No	We disagree strongly with the Interpretation to Question #2.With respect to Question #2, the Interpretation provided is insufficient. By limiting critical cyber assets to those cyber assets that "perform a function essential to the operation of the Critical Asset...", the interpretation excludes the possibility that "information" could constitute a critical cyber asset. Information, in and of

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Organization	Yes or No	Question 3 Comment
		itself, does not perform an essential function. Rather, information may support an essential operation or function of a critical asset. For example, if a critical asset is configured such that it cannot operate and support the reliability and operability of the Bulk-Power System without a real-time stream of data, that data fits the definition of a critical cyber asset, and should be protected. [Order 706, par. 271]In the CIP NOPR, the Federal Entergy Regulatory Commission (hereafter "FERC" or the "Commission") noted that NERC's definition of "cyber assets" includes "data." The Commission stated that "marketing or other data essential to the proper operation of a critical asset, and possibly the computer systems that produce or process the data, would be considered critical cyber assets" subject to the CIP Reliability Standards. [CIP NOPR at P 114]Also, the Interpretation places an undue emphasis on the use of the word "perform." Critical cyber assets do not always perform essential functions necessary to the operation of critical assets. Rather, they may control essential functions. For example, to the extent a critical cyber asset is involved in monitoring the grid through remote sensors, sounding alarms when grid conditions warrant, and operating equipment in field locations, that asset may not be performing an essential function necessary to the operation of the critical asset, but may rather be controlling an essential function. Thus, the phrase "perform or control" should be substituted for the word "perform."

Response: Thank you for your comment. The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary."   The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations.   The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."

The IDT's interpretation response to Question 2 is limited to clarifying the meaning of "essential to the operation of the Critical Asset," which could include a consideration of data as a Critical Cyber Asset.

| John Kutzer | No | The response to Question 1 is adequate.The response to Question 2 is not adequate. This response is circular, i.e. "essential is defined as essential". This response does not provide the clarification requested. Also, this response incorrectly states that "... any Cyber Asset, when used to perform a function essential to the operation of the Critical Asset, becomes a Critical Cyber Asset." This addresses only one aspect of the identification of a Critical Cyber Asset and expands the reach of the standard.Similarly,Compliance Application Notice - 0005, Compliance Application: CIP-002-3 R3 |

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Organization	Yes or No	Question 3 Comment
		also incorrectly stated the requirements for identification of Critical Cyber Assets and effectively would expand the reach of the standard to any Cyber Asset "... with the capability and purpose of controlling Bulk Electric System assets remotely... should be designated as CCAs." Logically, this would imply that as a number of current smartphone models (e.g. iPhone, Blackberry, Android) as well as laptops, netbooks should now be designated as CCAs, as well as any other device that has this capability, thereby ignoring the requirements of the standard.

Response: Thank you for your comment. The original response to Question 1 was modified slightly by adding the phrase "is illustrative, not prescriptive."

The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."

Organization	Yes or No	Question 3 Comment
Progress Energy	No	PGN agrees with the answer to Question 1, but not with the answer to Question 2. CIP-005 R2.4 allows "external interactive access" with proper controls. The confusing use of the term "remote control" as described in the comment above implies that any machine used for remote access becomes a Critical Cyber Asset, which PGN doesn't believe is a valid interpretation. Cyber assets normally used to operate critical assets would be essential and classified as critical cyber assets as a result, however, a cyber device that is temporarily connected to a critical asset would be more like a piece of maintenance and test equipment (M&TE) and would be controlled as such - not as a critical cyber asset.

Response: Thank you for your comment. The original response was modified slightly by adding the phrase "is illustrative, not prescriptive."

Duke's second question is primarily asking for clarity on language in Requirement 3, "essential to the operation of the Critical Asset." The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical

Organization	Yes or No	Question 3 Comment
Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."		
US Bureau of Reclamation	No	The answer to question 2 of the interpretation request did not add any clarity. The response merely restated the question as answer "essential to the operation of the Critical Asset" means that the Critical Cyber Asset is ... essential to the operation of the Critical Asset".Duke provided several clarifying points one of which was that essential can be viewed as "being incapable of removal without destroying the thing itself or its character." which made the question:Does the term "essential to the operation of cyber asset" mean the cyber asset cannot be operated without the asset being evaluated? o When the response is "the Critical Cyber Asset is used to perform a function..." there is ambiguity in what the term "is" means in this context. Does it mean the CCA is used all the time...? Used sometimes...? That it can be used...? Illustrative of the issue is the situation where there are several control consoles distributed within a facility, any one of which can be employed to control an essential function associated with a CA. Are all the control consoles CCA? Can one of the consoles be designated as CCA and leave the other out? This question really isn't clearly answered. This question can be answered very easily and quickly, but was not. This has implications down the road with relaying - if and when it becomes subject to the requirements as potential CCA. As an example, if there is a backup protective scheme meeting other criteria as CCA, will it be required to declare it a CCA because it might be used? o In a similar light to the first bullet, the response does not clearly address the "remote access" aspect of the query. What if something is tied to the system to support a temporary activity or need... How does this impact my CCA list and what are the obligations? An example here is the case where an entity is forced to deal with an emergency pandemic event which requires the entity to "remote in" to our system. Assume that this is an event was allowed for, but not something ever used. Is the entity required to have identified the remote console device they are now using as a CCA because it might one day be used to provide essential control features? Is the entity required to operate it from an environment that meets the Standards?

Response: Thank you for your comment.   The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary."   The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations.   The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical

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Organization	Yes or No	Question 3 Comment
Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."		
United Illuminating	No	United Illuminating agrees with the response to Question 1. United Illuminating disagrees with the response to Question 2. The response utilizes the word essential to define essential. In essence NERC is stating that essential means essential. United Illuminating suggests that essential means those devices required by the asset to perform the functions that caused the asset to be identified as Critical.

Response: Thank you for your comment. The original response to Question 1 was modified slightly by adding the phrase "is illustrative, not prescriptive."

The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary."   The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations.   The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."

Organization	Yes or No	Question 3 Comment
Ameren	No	This interpretation expands the scope of the requirement of the standard instead of providing clarity of what the phrase "essential to the operation of the Critical Asset" means. This interpretation should focus on clarifying what the term "essential" means.

Response: Thank you for your comment. The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary."   The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations.   The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."

Organization	Yes or No	Question 3 Comment
CenterPoint Energy	No	CenterPoint Energy agrees with the response to Q1 but does not agree with the response to Q2 as it offers no additional clarity on the meaning of the phrase "essential to the operation of the Critical Asset". CenterPoint Energy believes the interpretation should focus on the term

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Organization	Yes or No	Question 3 Comment
		"essential". As indicated in Duke's question, the term "essential" means "basic, vital, or fundamental". CenterPoint Energy offers the following response to Duke's Q2: If an entity has an asset that "may" be used to operate a Critical Asset, but is not "required" for operation of the Critical Asset, the asset would not be considered "essential to the operation of the Critical Asset".

Response: Thank you for your comment. The original response to Question 1 was modified slightly by adding the phrase "is illustrative, not prescriptive."

The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."

Organization	Yes or No	Question 3 Comment
American Transmission Company	No	ATC is concerned with the response to Q #2 above and believes the language does not provide clarity or assistance to the industry on this important topic.

Response: Thank you for your comment. The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."

Organization	Yes or No	Question 3 Comment
Duke Energy	No	The interpretation attempts to clarify the phrase "essential to the operation of the Critical Asset" by introducing the confusing concept of "perform a function essential to the operation of a Critical Asset". We believe that this fails to provide clarity, and instead expands the reach of the standard. The interpretation should focus on clarifying what the term "essential" means. We believe that "essential" cyber assets are those which are always required for operation of the Critical Assets.

Response: Thank you for your comment. Duke's second question is primarily asking for clarity on language in Requirement 3, "essential to the

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Organization	Yes or No	Question 3 Comment
operation of the Critical Asset." The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset." Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."		
ISO New Enlgand Inc.	No	We agree with the first response. We do not agree with the second response because: 1. It should not include an example2. The response should use the same wording for Critical Cyber Assets as the approved Glossary of Terms.
Response: Thank you for your comment. The original response to Question 1 was modified slightly by adding the phrase "is illustrative, not prescriptive." The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset." Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."		
Brazos Electric Power Cooperative, Inc.	No	The response for Question 2 to provide clarity for the word essential uses the term essential. It did not provide clarity such as it means vital or cannot function without, etc.
Response: Thank you for your comment. The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset." Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."		

Organization	Yes or No	Question 3 Comment
SDG&E	No	We believe there are actually two interpretations under project 2010-95. The first is regarding whether or not the examples in CIP003 R3 are prescriptive such that the types of assets meeting those descriptions must be assumed to be Critical Cyber Assets. We agree with NERC's interpretation that the list is not meant to be prescriptive; rather it is a list of the types of assets that should be considered (evaluated). The second interpretation pertains to the definition of "essential" when referring to the standard's language "essential to the operation of the Critical Asset". CIP002-R3 states "....the Responsible Entity shall develop a list of associated Critical Cyber Assets essential to the operation of the Critical Asset". An asset that is "essential to the operation of the Critical Asset" is not the same as "any Cyber Asset used to perform a function essential to the operation of the Critical Asset". There are many devices that could, in theory, be used to perform a function that would be considered essential to the operation of the Critical Asset that are not themselves essential to the operation of the Critical Asset. Essential should mean that an Entity is unable to operate the Critical Asset without that cyber asset (i.e. essential to the operation of the Critical Asset).

Response: Thank you for your comment. The original response to Question 1 was modified slightly by adding the phrase "is illustrative, not prescriptive."The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."

Organization	Yes or No	Question 3 Comment
ERCOT	No	ERCOT ISO agrees with the comments from the SRC. In addition, ERCOT ISO offers the following comments. The meaning of "essential" should be addressed more clearly with less emphasis on asset types (i.e.: operator consoles). The response confuses the issues addressed by the requestor. Another alternative to essential would be the use of the word "required". Cyber Asset only becomes a Critical Cyber Asset if it is required to operate the Critical Asset. This would imply that the Critical Asset would not be able to perform the function required without the Critical Cyber Asset in question. Additionally, assets that are convenience or nice-to-have should be excluded from being categorized as Critical Cyber Assets.

Response: Thank you for your comment. The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the

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Organization	Yes or No	Question 3 Comment
Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset." Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."		
American Electric Power	No	Comments: AEP is fine with the first interpretation, but the second needs additional work as we don't feel it is responsive to the question asked and also expands upon the requirement as it excludes the sub-requirements that provide context of the definition of the critical cyber assets.
Response: Thank you for your comment. The original response to Question 1 was modified slightly by adding the phrase "is illustrative, not prescriptive." The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset." Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets." The sub-requirements are beyond the scope of this interpretation.		
Xcel Energy	No	The response to question 1 seems clear and adequate. The response to question 2 is inadequate in that it basically restates the phrase that had been questioned. It does not provide guidance for the question of assessing Cyber Assets that "may" be used but are not "required" and completely ignores the stated example of remote access.
Response: Thank you for your comment. The original response to Question 1 was modified slightly by adding the phrase "is illustrative, not prescriptive." The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset." Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3		

Organization	Yes or No	Question 3 Comment
Midwest ISO	No	We agree with the answer to the first question. We disagree with the answer to the second question. "Essential to the operation of the Critical Asset" would mean that the Critical Asset cannot be operated without the Critical Cyber Asset or, at the very least, it would be challenging to operate the Critical Asset without the Critical Cyber Asset. One definition of essential as defined in Merriam-Webster dictionary is: "of the utmost importance". Necessary and indispensable are common synonyms for essential identified in Merriam-Webster. Thus, a Cyber Asset only becomes a Critical Cyber Asset if it is necessary to operate the Critical Asset.
Independent Electricity System Operator	Yes	We agree with the response to Question 1.We agree with the intent of response to Question 2 but we believe (1) it should not include an example and (2) it could be worded more clearly. We respectfully suggested the following wording for the response to Question 2:The phrase "essential to the operation of the Critical Asset" means that the Critical Cyber Asset is used to perform a function fundamental to the operation of the Critical Asset. This means that; if the Critical Cyber Asset was not available or was severely impaired, the Critical Asset could not be operated or operation of the Critical Asset would be severely impaired.

Response: Thank you for your comment. The original response to Question 1 was modified slightly by adding the phrase "is illustrative, not prescriptive."

The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary."   The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations.   The language within CIP-002-1 Requirement 3 works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."

New York Independent System Operator	No	We do not agree with this interpretation due to concerns with the response to question #2. There are four issues with the response to question #2. First, the response does not directly answer the question asked. Second, the response repeats the same language as the original standard without further clarification. Third the example provided creates further confusion. Finally, the response expands the scope of the standard.The response does not directly answer question #2. A key

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| | | element of this question is the second sentence which asks if cyber assets that "may" be used but are not "required" for operation of a Critical Asset must be considered "essential to the operation of the Critical Asset". There is nothing in the response that clearly or directly addresses this basic question.The response attempts to clarify the meaning of the requirement by using the same language as the original requirement. If the phase "essential to the operation of the Critical Asset" is to mean something different than the defined NERC glossary terms and the dictionary definitions of the words contained therein then there should be other words used in the clarification aside from those already in the requirement. Expanding the phase to include the notion of a cyber asset performing a function "essential to the operation of the Critical Asset" does nothing to clarify the meaning of the phase "essential to the operation of the Critical Asset".The example provided in the response creates additional confusion given the context of question #2. There are three sentences in question #2 each raising slightly different elements for consideration in the interpretation. A single example illustrating one situation where a cyber asset would be considered "essential to the operation of the Critical Asset" does little to clarify the different elements in question. In fact, the example may further confuse the meaning of the requirement by suggesting that this one example represents a pattern that must be applied to each element in question. Providing another example where a cyber asset would be determined not essential would enable people to compare and contrast the examples and may provide insight to the meaning of the requirement.The response to question #2 expands the scope of the standard. Given that the term "essential" is not defined in the NERC glossary, the dictionary definition is important. The Merriam -Webster dictionary definition, "ESSENTIAL implies belonging to the very nature of a thing and therefore being incapable of removal without destroying the thing itself or its character", directly contradicts the notion that a cyber asset that is not "required" for operation of the Critical Asset must necessarily be considered "essential to the operation of the Critical Asset". Therefore, this interpretation changes the meaning of the phase "essential to the operation of the Critical Asset" and effectively expands the scope of the standards to include cyber assets that may not otherwise be included. |

Response: Thank you for your comment. The original response was modified slightly by adding the phrase "is illustrative, not prescriptive."

The IDT prepared a new response to Duke's second question identifying that "essential" is not defined in the Glossary of Terms used in NERC Reliability Standards. The well-understood meaning and ordinary usage of the word "essential" implies "inherent to" or "necessary." The phrase "inherent to or necessary to the operation of the Critical Asset" has the same meaning as "essential to the operation of the Critical Asset."

Additionally, the IDT offers the following supplemental observation regarding the above interpretations. The language within CIP-002-1 Requirement 3

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Organization	Yes or No	Question 3 Comment
works hand-in-hand with the Standard's Purpose and Requirement 1. The Responsible Entity is responsible for using its judgment to identify Critical Cyber Assets that are essential, inherent, or necessary to the operation of the Critical Assets."		
Lincoln Electric System	Yes	
South Carolina Electric and Gas	Yes	
Oncor Electric Delivery LLC	Yes	
Manitoba Hydro	Yes	
Santee Cooper	Yes	
Response: Thank you for your comment.		

END OF REPORT