

# NERC

NORTH AMERICAN ELECTRIC  
RELIABILITY CORPORATION

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**28<sup>th</sup> Meeting Summary**  
**Cyber Security Order 706 SDT — Project 2008-06**

*Adopted Unanimously by the SDT December 15, 2010*

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**Baltimore, Maryland**

**November 16, 2010, Tuesday - 8 AM to 6 PM EDT**  
**November 17, 2010, Wednesday - 8 AM to 6 PM EDT**  
**November 18, 2010, Thursday - 8 AM to 6 PM EDT**

**Robert Jones, Stuart Langton, and Hal Beardall**  
**Facilitation and Meeting Design**  
**FCRC Consensus Center, Florida State University**

[http://www.nerc.com/filez/standards/Project\\_2008-06\\_Cyber\\_Security.html](http://www.nerc.com/filez/standards/Project_2008-06_Cyber_Security.html)

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**Cyber Security Order 706 SDT- Project 2008-06  
28<sup>TH</sup> MEETING  
November 16-18, 2010  
Baltimore, Maryland**

**EXECUTIVE SUMMARY**

John Lim, Chair of the CSO 706 SDT welcomed members and other participants to Baltimore and thanked Tom Stevenson and Maggie Powell at Constellation Energy for hosting the meeting. Howard Gugel, NERC, conducted a roll call and reviewed the antitrust and public meeting guidelines at the beginning of each day. On Thursday morning, the SDT unanimously adopted the October 12-14, 2010 Ontario meeting summary.

The chair outlined the objectives the SDT sought to accomplish by the end of the meeting and Bob Jones reviewed the timed agenda for each day. The Chair and Vice Chair thanked the members who joined in the daily Readytalk conference calls during the prior week to bring strawman responses to industry comments for the SDT review at this meeting.

Phil Huff reviewed the milestone schedule noting that the SDT had agreed to prepare and submit the CIP XX Version 5 to industry by July, 2011. Mr. Huff noted that the proposed schedule may be adjusted slightly in the Spring based on SDT progress but will lead to a balloting of the Version 5 proposed CIP standards by mid-year. He also pointed out that currently the Team has agreed not to put preliminary drafts out for informal industry comment in 2011.

The Chair welcomed several industry groups and invited them to make comments on the CIP 002-4. Barry Lawson on behalf of NRECA noted that he supports the efforts of the SDT and hopes they can get to a consensus on some changes based on the industry comments. He noted he abstained from voting but he and NRECA members want to be able to vote in the affirmative on the next ballot. He summarized the association's concerns around control centers for balancing authorities and transmission operators and the bright line MW criteria as well as the Blackstart portions of the criteria. The NRECA hopes that SDT will address the question of whether this draft will "incentivize people to withdraw assets from blackstart plans." Nathan Mitchell, representing APPA noted that while they voted against the standard, they are not against what the SDT is doing overall. They hope the SDT will take a new look at and address a few areas of concern regarding control centers and blackstart units. He believed it was possible to pull in public power members with some modifications in these areas. David Batz, representing EEI, echoed the other trade association comments, noting that EEI appreciated the efforts of the SDT and the complexity of the job. He reinforced EEI members' interest in a successful balloting of CIP 002-4 and suggested there was an opportunity for the SDT to improve the product noting that it won't be perfect.

Mark Weatherford, VP/Chief Security Officer, NERC, introduced himself to the Team noting that he was relatively new at NERC and at the drafting process but wanted to see how the Team is functioning.

He assured the Team that he is a supporter of the process and appreciates that the SDT is working very hard to perform a needed service for the industry.

Scott Mix reported on the CIP 005-4 Urgent Action. The CIP 005 drafting team received numerous significant comments on the posted standard. The previous standard and its associated SAR were withdrawn and replaced by updated versions. The language for CIP 005-4 Requirement R6 has been significantly modified based on industry comment, and was approved for an abbreviated posting and ballot period by the Standards Committee. NERC has posted a summary of comments received, and summary of issues raised during the previous posting period. An updated guidance document was also posted. The goal of the team is to still file the revisions for concurrent consideration of a single “Version 4” package by regulators.

Many of the SDT members and other meeting participants participated in a tour of a Constellation Energy sub-station on site on Wednesday mid-day.

Howard Gugel reported that there was a 43% approval rating from the industry. He suggested that the way the ballot process is set up leads to a high negative first vote as industry entities want to be able to make comments for the SDT to consider in any redrafting for the next ballot. He offered that the industry ballot results and comments do not represent an insurmountable task for the SDT to respond to these comments, make appropriate changes in the standard and succeed in a new ballot. He suggested the largest concerns and strongest feelings surrounded the following three areas in the standards and Attachment 1: Control Centers; Blackstart Resources; and 1.3- Transmission planner reliability “must run” units. He noted that it was very helpful to have worked through and reached agreement of the SDT on responses to the September 29 webinar questions and comments at the Toronto SDT meeting many of which were presented as comments to the ballot. Mr Gugel offered his appreciation for the participation of many of the SDT members who set time aside for each day of the preceding week to help prepare strawman responses for consideration at the Baltimore meeting.

The SDT reviewed the industry comments and a strawman response document and conducted straw polls for a number of proposed changes to the standard. In general, if the proposal received greater than 2/3 support from the Team it was incorporated into the text of the standard. The SDT initially focused on Attachment 1 and the implementation plan documents and then returned to the standards document to make any changes consistent with the agreed upon changes in Attachment 1 and the implementation plans. The SDT reviewed strawman responses to each industry comment. At the conclusion of the meeting the SDT reviewed and amended the Guidance Document consistent with the changes in the standards documents and adopted a response document for posting.

The SDT reviewed the industry comments on the Implementation Plan and the Implementation Plan for Newly Identified Critical Cyber Assets and Newly Registered Entities and concluded that the effective date should be a 24-month period for all entities without exceptions to address the industry confusion on the first ballot proposal.

Below are displayed the results of the straw polls that formed the basis for the SDT refining and adopting a revised CIP 002-4 and related documents.

**CYBER SECURITY — CRITICAL CYBER ASSET IDENTIFICATION CIP-002-4  
SDT STRAW POLLS**

<b>A. INTRODUCTION-PROPOSED WORDING STRAW POLLS</b>	<b>Yes</b>	<b>No</b>	<b>Abstain</b>	<b>% Support</b>
<b>Applicability 4.2</b>				
Add: 4.2.1 <u>Facilities regulated by the Canadian Nuclear Safety Commission.</u>	<b>17</b>	<b>0</b>	-	<b>100%</b>
Add: 4.2.3 <u>Cyber assets associated with Cyber Security Plans submitted to U.S. Nuclear Regulatory Commission pursuant to 10CFR73.54.</u>	<b>17</b>	<b>0</b>	-	<b>100%</b>
<b>Effective Date 5.</b> “The first day of the <del>eighth</del> <u>third</u> -calendar quarter after applicable regulatory approvals have been received (or the Reliability Standard otherwise become effective the first day of the <del>ninth</del> <u>third</u> calendar quarter after BOT adoption in those jurisdictions where regulatory approval is not required)”	<b>17</b>	<b>0</b>	-	<b>100%</b>
<b>B. REQUIREMENTS-PROPOSED WORDING STRAW POLLS</b>	<b>Yes</b>	<b>No</b>	<b>Abstain</b>	<b>% Support</b>
R.1 Critical Asset Identification — The Responsible Entity shall develop a list of its identified Critical Assets determined through an annual application of the criteria contained in <i>CIP-002-4 Attachment 1 – Critical Asset Criteria</i> . The Responsible Entity shall update <del>review</del> this list <del>at least annually, and update it as necessary, and review it at least annually.</del>	<b>17</b>	<b>0</b>	-	<b>100%</b>
R2. Critical Cyber Asset Identification — Using the list of Critical Assets developed pursuant to Requirement R1, the Responsible Entity shall develop a list of associated Critical Cyber Assets essential to the operation of the Critical Asset. <u>The Responsible Entity shall update this list as necessary, and review it at least annually.</u> For each group of generating units (including nuclear generation) at a single plant location identified in Attachment 1, criterion 1.1, the only Cyber Assets that must be considered are those shared Cyber Assets that could, <u>within 15 minutes</u> , adversely impact the reliable operation of any combination of units that in aggregate equal or exceed Attachment 1, criterion 1.1 <del>within 15 minutes</del> . <del>The Responsible Entity shall review this list at least annually, and update it as necessary</del> For the purpose of Standard CIP-002-4, Critical Cyber Assets are further qualified to be those having at least one of the following characteristics: R2.1 The Cyber Asset uses a routable protocol to communicate outside the Electronic Security Perimeter; or, R2.2 The Cyber Asset uses a routable protocol within a control center; or, R2.3 The Cyber Asset is dial-up accessible.	<b>17</b>	<b>0</b>	-	<b>100%</b>
R3. Annual Approval — The senior manager or delegate(s) shall approve annually the list of Critical Assets and the list of Critical Cyber Assets. Based on Requirements R1 and R2 the Responsible Entity may determine that it has no Critical Assets or Critical Cyber Assets. The Responsible Entity shall keep a signed and dated record of the senior manager or delegate(s)’s approval of the <del>risk based assessment methodology</del> list of Critical Assets and the list of Critical Cyber Assets (even if such lists are null.)	<b>17</b>	<b>0</b>	-	<b>100%</b>

ATTACHMENT #1-PROPOSED WORDING STRAW POLLS	Yes	No	Abstain	% Support
<b>1.3 Proposed Wording</b> Each generation Facility that the Planning Coordinator, Transmission Planner or Reliability Coordinator designates as required to avoid BES Adverse Reliability Impacts in the planning horizon.	13	4	-	76%
<b>1.4 Support for Strawman language:</b> “Each Blackstart Resource identified in the Transmission Operator’s restoration plan.”	16	0	1	94%
<b>1.5</b> The Facilities comprising the Cranking Paths and <u>meeting the</u> initial switching requirements from the Blackstart Resource <u>to the first interconnection point of the generation unit(s) to be started, or up to the point on the Cranking Path where multiple two or more path options exist, as identified in the Transmission Operator's restoration plan.</u>	15	1	-	94%
<b>1.7 Support for Strawman Language plus addition:</b> “Transmission Facilities operated at 300 kV or higher at stations or <u>substations</u> interconnected at 300 kV or higher with three or more other transmission stations <u>or substations.</u> ”	16	0	-	100%
<b>1.8 Proposed Changes:</b> Transmission Facilities at a single station <u>or substation</u> location that <del>if destroyed, degraded, misused or otherwise rendered unavailable, violate one or more</del> <u>are identified by the Reliability Coordinator, Planning Authority or Transmission Planner as critical to the derivation of Interconnection Reliability Operating Limits (IROLs) and their associated contingencies.</u>	17	0	-	100%
<b>1.9 Proposed Changes:</b> Flexible AC Transmission Systems (FACTS) at a single station <u>or substation</u> location, that, <del>if destroyed, degraded, misused or otherwise rendered unavailable, violate one or more</del> <u>are identified by the Reliability Coordinator, Planning Authority or Transmission Planner as critical to the derivation of Interconnection Reliability Operating Limits (IROLs) and their associated contingencies.</u>	16	0	-	100%
<b>1.10 Proposed Changes:</b> Transmission Facilities providing the generation interconnection required to <del>directly</del> <u>interconnect</u> generator output to the transmission system that, if destroyed, degraded, misused, or otherwise rendered unavailable, would result in the loss of the <u>assets identified by the any Responsible Entity/Generator Owner as a result of its application of Attachment 1, criterion 1.1 or 1.3.</u>	15	1	-	94%
<b>1.12 Proposed Language:</b> “Each Special Protection System (SPS), Remedial Action Scheme (RAS) or automated switching system that operates BES Elements that <del>if destroyed, degraded, misused or otherwise rendered unavailable, violate one or more Interconnection Reliability Operating Limits (IROLs)</del> <u>is identified by the Reliability Coordinator, Planning Authority or Transmission Planner as critical to the derivation of Interconnection Reliability Operating Limits (IROLs) and their associated contingencies.”</u>	14	0	2	87%
<b>1.13 Common control system(s) capable of performing</b> <u>Each system or facility that perform automatic load shedding, without human operator intervention initiation, of 300 MW or more within 15 minutes implementing undervoltage load shedding (UVLS) or underfrequency load shedding (UFLS) as required by the regional load shedding program</u>	12	0	5	71%

<b>1.14</b> <i>Final Language:</i> Each control center, <del>control system, or backup control center, or backup control system</del> used to perform the functional obligations of the Reliability Coordinator, <del>Balancing Authority, or Transmission Operator.</del>	15	2	-	88%
<b>1.15</b> <i>Final language</i> “Each control center or backup control center used to control generation at multiple plant locations for any generation Facility or group of generation Facilities identified in 1.1,1.3, and 1.4. Each control center or backup control center used to control generation equal to or exceeding 1500 MWs in a single Interconnection.”	14	0	-	100%
<b>1.16</b> <i>Final draft:</i> Each control center or backup control center used to perform the functional obligations of the Transmission Operator that includes control of at least one asset identified in criteria 1.2, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11 or 1.12.	17	0	-	100%
Original 1.16 <i>Original strawman wording:</i> <del>Any additional assets that the Responsible Entity deems appropriate to include.</del>	0	17	-	
<b>1.17</b> <i>Final Draft:</i> Each control center or backup control center used to perform the functional obligations of the Balancing Authority that includes at least one asset identified in criteria 1.1, 1.3, 1.4, or 1.13. Each control center or backup control center used to perform the functional obligations of the Balancing Authority for generation equal to or greater than an aggregate of 1500 MWs in a single Interconnection.	17	0	-	100%
<b>IMPLEMENTATION PLANS- PROPOSED WORDING STRAW POLL</b>	Yes	No	Abstain	% Support
Create a 24 month implementation deadline for all CA and CCA assets and reflect this in the standard’s effective date (A.5) and in the implementation plan language.	15	2	-	88%
<b>OVERALL ADOPTION OF CIP 002-4 RESPONSE DOCUMENT</b>	Yes	No	Abstain	% Support
Motion to approve adoption of the CIP 002-4 SDT response document as refined with direction to Howard Gugel to provide any needed Editorial Changes Consistent with the SDT’s agreement on the responses.	17	0	-	100%
<b>OVERALL ADOPTION OF CIP 002-4 AND RELATED DOCUMENTS AS REFINED</b>	Yes	No	Abstain	% Support
Motion to approve overall adoption of CIP 002-4 and related Documents (Implementation Plans & Guidance Document) consistent with the SDT straw polling results.	15	3	-	83%

The Team reviewed the steps and assignments leading up to the Orlando meeting which member Rich Kinan will host once again at the OUC facilities. The Framework Sub-Group will be meeting several times in the interim to prepare documents for the SDT to review at the December meeting. The 2<sup>nd</sup> Ballot is expected to close on Friday, December 10 COB. NERC staff will prepare the ballot results and comments with strawman draft responses and send out as soon as possible following the close of the ballot in advance of the Orlando meeting the following Tuesday. The Orlando meeting agenda will include review and response to the 2<sup>nd</sup> ballot results and comments, an orientation and training session on the results-based standards process and a review, discussion and consensus testing of a framework for CIP Version 5. The Chair thanked Tom Stevenson and Margaret Powell for the excellent hosting of the SDT in Baltimore.

*The meeting adjourned at 4:40 on Thursday*

**Cyber Security Order 706 SDT- Project 2008-06  
28<sup>TH</sup> MEETING SUMMARY  
November 16-18, 2010  
Baltimore, Maryland**

**I. AGENDA REVIEW, WORKPLAN SCHEDULE, INTRODUCTORY  
REMARKS AND UPDATES**

**A. Agenda and Milestone Schedule Review**

John Lim, Chair of the CSO 706 SDT welcomed members and other participants to Baltimore and thanked Tom Stevenson and Maggie Powell at Constellation Energy for hosting the meeting. Howard Gugel, NERC, conducted a roll call and reviewed the antitrust and public meeting guidelines at the beginning of each day. On Thursday morning, the SDT unanimously adopted the October 12-14, 2010 Ontario meeting summary.

The chair outlined the objectives the SDT sought to accomplish by the end of the meeting and Bob Jones reviewed the timed agenda for each day including starting with any proposed changes to the requirements and Attachment 1 criteria and then proceeding through each of the industry comments and draft responses. The Chair and Vice Chair thanked the members who joined in the daily Readytalk conference calls during the past week to bring strawman responses to industry comments for the SDT review at this meeting.

Phil Huff reviewed the milestone schedule noting that the SDT had agreed to prepare and submit the CIP XX-XX Version 5 to industry by July, 2011. Phil noted that the proposed schedule may be adjusted slightly in the Spring based on SDT progress but will lead to a balloting of the Version 5 proposed CIP standards by mid-year. He also pointed out that currently the Team is not planning to put preliminary drafts out for informal industry comment.

**B. Introductory Remarks- Trade Associations**

Barry Lawson on behalf of NRECA noted that he supports the efforts of the SDT and hopes they can get to a consensus on some changes based on the industry comments. He noted he abstained from voting but he and NRECA members want to be able to vote in the affirmative on the next ballot. He summarized the association's concerns around control centers for balancing authorities and transmission operators and the bright line MW criteria as well as the Blackstart portions of the criteria. The NRECA hopes that SDT will address the question of whether this draft will "incentivize people to withdraw assets from blackstart plans."

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areas of concern regarding control centers and blackstart units. He believed it was possible to pull in public power members with some modifications in these areas.

David Batz, representing EEI, echoed the other trade association comments, noting that EEI appreciated the efforts of the SDT and the complexity of the job. He reinforced EEI members' interest in a successful balloting of CIP 002-4 and suggested there was an opportunity for the SDT to improve the product noting that it won't be perfect.

### **C. Introductory Remarks by Mark Weatherford, VP/Chief Security Officer, NERC**

Mark introduced himself to the Team noting that he was relatively new at NERC and at the drafting process but wanted to see how the Team is functioning. He noted that he understood that CIP security efforts have been evolving rapidly and that Scott Mix has kept him in the loop. He assured the Team that he is a supporter of the process and appreciates that the SDT is working very hard to perform a needed service for the industry.

### **D. Related Cyber Security Initiative Update- CIP 005-4 Urgent Action**

Scott Mix reported on the CIP 005-4 Urgent Action. The CIP 005 drafting team received numerous significant comments on the posted standard. That previous standard and its associated SAR were withdrawn and replaced by updated versions. The language for CIP 005-4 Requirement R6 has been significantly modified based on industry comment, and was approved for an abbreviated posting and ballot period by the Standards Committee. The comment and ballot period closes on 12/1/2010. Also posted was the summary of comments received, and summary of issues raised during the previous posting period. An updated guidance document was also posted. The goal of the team is to still file the revisions for concurrent consideration of a single "Version 4" package by regulators.

#### *SDT Member Comments*

- This is not the normal procedure in terms of comment and ballot.
- The Team and NERC are hoping to be able to request FERC to take action on the two filings together. The industry wants only one Version 4.
- Scott Mix has done an excellent job in facing and addressing the many challenges for this urgent action effort.

### **E. Field Trip to a Constellation Energy Sub-Station**

Many of the SDT members and other meeting participants participated in a tour of a Constellation Energy sub-station on site on Wednesday mid-day.

## **II. REVIEW OF CIP 002-4 PROPOSED CHANGES**

### **A. Overview of the Ballot Results**

Howard Gugel reported that there was a 43% approval rating from the industry. He suggested that the way the ballot process is set up leads to a high negative first vote as industry entities want to be able to make comments for the SDT to consider in any redrafting for the next ballot. He offered that the industry ballot results and comments do not represent an insurmountable task for the SDT to respond to

these comments and make appropriate changes in the standard and succeed in a new ballot. He suggested the largest concerns and strongest feelings surrounded the following three areas in the standards and Attachment 1:

- Control Centers;
- Blackstart Resources; and
- 1.3- Transmission planner reliability “must run” units.

He noted that it was very helpful to have worked through and reached agreement of the SDT on responses to the September 29 webinar questions and comments at the Toronto SDT meeting many of which were presented as comments to the ballot. Finally Howard offered his appreciation for the participation of many of the SDT members who set time aside for each day of the preceding week to help prepare strawman responses for consideration at the Baltimore meeting.

### **B. Review and Consensus Building on Proposed Changes to CIP 002-4 and Related Documents**

The SDT reviewed the industry comments and a strawman response document and conducted straw polls for a number of proposed changes to the standard. In general, if the proposal received greater than 2/3 support from the Team it was incorporated into the text of the standard. In calculating the percentage of members in support of a proposal, the abstentions were not included.

The SDT initially focused on Attachment 1 and the implementation plan documents and then returned to the standards document to make any changes consistent with the agreed upon changes in Attachment 1 and the implementation plans. The SDT reviewed strawman responses to each industry comment. At the conclusion of the meeting the SDT reviewed and amended the Guidance Document consistent with the changes in the standards documents.

**CYBER SECURITY — CRITICAL CYBER ASSET IDENTIFICATION CIP-002-4  
SDT STRAW POLLS**

<b>A. INTRODUCTION-PROPOSED WORDING STRAW POLLS</b>	<b>Yes</b>	<b>No</b>	<b>Abstain</b>	<b>% Support</b>
<b>Applicability 4.2</b>				
Add: 4.2.1 Facilities regulated by the Canadian Nuclear Safety Commission.	17	0	-	100%
Add: 4.2.3 Cyber assets associated with Cyber Security Plans submitted to U.S. Nuclear Regulatory Commission pursuant to 10CFR73.54.	17	0	-	100%
<b>Effective Date 5.</b> “The first day of the <del>eighth</del> <u>third</u> -calendar quarter after applicable regulatory approvals have been received (or the Reliability Standard otherwise become effective the first day of the <del>ninth</del> <u>third</u> calendar quarter after BOT adoption in those jurisdictions where regulatory approval is not required)”	17	0	-	100%

<b>B. REQUIREMENTS-PROPOSED WORDING STRAW POLLS</b>	<b>Yes</b>	<b>No</b>	<b>Abstain</b>	<b>% Support</b>
R.1 Critical Asset Identification — The Responsible Entity shall develop a list of its identified Critical Assets determined through an annual application of the criteria contained in <i>CIP-002-4 Attachment 1 – Critical Asset Criteria</i> . The Responsible Entity shall update <del>review</del> this list <del>at least annually, and update it as necessary, and review it at least annually.</del>	17	0	-	100%
R2. Critical Cyber Asset Identification — Using the list of Critical Assets developed pursuant to Requirement R1, the Responsible Entity shall develop a list of associated Critical Cyber Assets essential to the operation of the Critical Asset. <u>The Responsible Entity shall update this list as necessary, and review it at least annually.</u> For each group of generating units (including nuclear generation) at a single plant location identified in Attachment 1, criterion 1.1, the only Cyber Assets that must be considered are those shared Cyber Assets that could, <u>within 15 minutes</u> , adversely impact the reliable operation of any combination of units that in aggregate equal or exceed Attachment 1, criterion 1.1 <del>within 15 minutes</del> . <del>The Responsible Entity shall review this list at least annually, and update it as necessary.</del> For the purpose of Standard CIP-002-4, Critical Cyber Assets are further qualified to be those having at least one of the following characteristics: R2.1 The Cyber Asset uses a routable protocol to communicate outside the Electronic Security Perimeter; or, R2.2 The Cyber Asset uses a routable protocol within a control center; or, R2.3 The Cyber Asset is dial-up accessible.	17	0	-	100%
R3. Annual Approval — The senior manager or delegate(s) shall approve annually the list of Critical Assets and the list of Critical Cyber Assets. Based on Requirements R1 and R2 the Responsible Entity may determine that it has no Critical Assets or Critical Cyber Assets. The Responsible Entity shall keep a signed and dated record of the senior manager or delegate(s)’s approval of the <del>risk-based assessment methodology</del> list of Critical Assets and the list of Critical Cyber Assets (even if such lists are null.)	17	0	-	100%

<b>ATTACHMENT #1- PROPOSED WORDING STRAW POLLS</b>	<b>Yes</b>	<b>No</b>	<b>Abstain</b>	<b>% Support</b>
<b>1.3 Proposed Wording</b> Each generation Facility that the Planning Coordinator, Transmission Planner or Reliability Coordinator designates as required to avoid Adverse Reliability Impacts in the planning horizon.	13	4	-	76%

1.3 Add "Reliability Coordinator designate"	0	17	-	
1.3 Add "Reliability Coordinator communicated as necessary"	0	17	-	
1.4 Support for Strawman language: "Each Blackstart Resource identified in the Transmission Operator's restoration plan."	16	0	1	94%
1.4 Add "Each generator identified as a Blackstart Unit in the Transmission Operator's restoration plan."	12	6	-	
1.4 Add, "Each generator identified as Blackstart resource"-	7	11	-	
1.4 Add, "If more than a single generator is identified, only the first three fall under this."	0	16	-	
1.5 The Facilities comprising the Cranking Paths and <u>meeting the initial switching requirements from the Blackstart Resource to the first interconnection point of the generation unit(s) to be started, or up to the point on the Cranking Path where <del>multiple</del> two or more path options exist, as identified in the Transmission Operator's restoration plan.</u>	15	1	-	94%
1.5 Add, "meeting the"	15	1	-	
1.5 Add "first interconnection point of the generation"	12	6	-	
1.5 Delete " <del>multiple</del> ", Add "two or more"	15	1	-	
1.5 Delete- " <del>to the point on the Cranking Path where multiple two or more path options exist.</del> "	1	15	-	
1.7 Support for Strawman Language plus addition: "Transmission Facilities operated at 300 kV or higher at stations or substations interconnected at 300 kV or higher with three or more other transmission stations or substations."	16	0	-	100%
1.8 Proposed Changes: Transmission Facilities at a single station or substation location that <del>if destroyed, degraded, misused or otherwise rendered unavailable, violate one or more</del> <u>are identified by the Reliability Coordinator, Planning Authority or Transmission Planner as critical to the derivation of Interconnection Reliability Operating Limits (IROLs) and their associated contingencies.</u>	17	0	-	100%
1.9 Proposed Changes: Flexible AC Transmission Systems (FACTS) at a single station or substation location, that, <del>if destroyed, degraded, misused or otherwise rendered unavailable, violate one or more</del> <u>are identified by the Reliability Coordinator, Planning Authority or Transmission Planner as critical to the derivation of Interconnection Reliability Operating Limits (IROLs) and their associated contingencies.</u>	16	0	-	100%
1.10 Proposed Changes: Transmission Facilities providing the generation interconnection required to <del>directly</del> <u>interconnect generator output to the transmission system that, if destroyed, degraded, misused, or otherwise rendered unavailable, would result in the loss of the assets identified by the any Responsible Entity/Generator Owner as a result of its application of Attachment 1, criterion 1.1 or 1.3.</u>	15	1	-	94%
1.12 Strawman Language: Each Special Protection System (SPS), Remedial Action Scheme (RAS) or automated switching system that operates BES Elements that, if destroyed, degraded, misused or otherwise rendered unavailable, violate one or more Interconnection Reliability Operating Limits (IROLs).	0	16		

<b>1.12</b> <i>Proposed Language:</i> “Each Special Protection System (SPS), Remedial Action Scheme (RAS) or automated switching system that operates BES Elements that if <del>destroyed, degraded, misused or otherwise rendered unavailable, violate one or more Interconnection Reliability Operating Limits (IROLs)</del> <u>is identified by the Reliability Coordinator, Planning Authority or Transmission Planner as critical to the derivation of Interconnection Reliability Operating Limits (IROLs) and their associated contingencies.</u> ”	14	0	2	87%
<b>1.13</b> Common control system(s) capable of performing automatic load shedding, <u>without human operator intervention</u> , of 300 MW or more within 15 minutes.	12	3	0	
<b>1.13</b> <del>Common control system(s) capable of performing</del> <u>Each system or facility that perform</u> automatic load shedding, without human operator <del>intervention initiation</del> , of 300 MW or more <del>within 15 minutes</del> <u>implementing undervoltage load shedding (UVLS) or underfrequency load shedding (UFLS) as required by the regional load shedding program</u>	12	0	5	71%
<b>1.13</b> Support for 300 MW	6	-	-	
<b>1.13</b> Support for 1500 MW	10	-	-	
<b>1.13</b> Support for more than 1500 MW	2	-	-	
<b>1.14</b> <i>Final Language:</i> Each control center, <del>control system, or backup control center, or backup control system</del> used to perform the functional obligations of the Reliability Coordinator, <del>Balancing Authority, or Transmission Operator.</del>	15	2	-	88%
<b>1.15</b> <b>Final</b> “Each control center or backup control center used to control generation at multiple plant locations for any generation Facility or group of generation Facilities identified in 1.1,1.3, and 1.4. Each control center or backup control center used to control generation equal to or exceeding 1500 MWs in a single Interconnection.”	14	0	-	100%
1 <sup>st</sup> Proposed Edit of Strawman: Each control center or backup control center used to <del>control</del> <u>change generation output at multiple plant locations for any generation Facility or group of Facilities identified as a Critical Asset, or used to control generation greater than an aggregate generation of greater than 1500 MWs in a single Interconnection.</u>	12	2	-	
2 <sup>nd</sup> Proposed Edit of Strawman: “Each control center or backup control center used to control generation <u>output at multiple plant, locations for any generation Facility or group of Facilities identified in 1.1.1.3. and 1.4</u> Each control center or backup control center used to control <u>aggregate generation greater than an aggregate</u> equal to or exceeding 1500 MWs in a single Interconnection.”	13	1	-	
<b>1.16</b> <i>Final draft:</i> Each control center or backup control center used to perform the functional obligations of the Transmission Operator that includes control of at least one asset identified in criteria 1.2, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.11 or 1.12.	17	0	-	100%
Original 1.16 <i>Original strawman wording:</i> <del>Any additional assets that the Responsible Entity deems appropriate to include.</del>	0	17	-	
Original 1.16 <i>Alternative wording:</i> <del>Any additional assets owned by the Responsible Entity that the Responsible Entity deems appropriate to include.</del>	0	17	-	

<b>1.17 Final Draft:</b> Each control center or backup control center used to perform the functional obligations of the Balancing Authority that includes at least one asset identified in criteria 1.1, 1.3, 1.4, or 1.13. Each control center or backup control center used to perform the functional obligations of the Balancing Authority for generation equal to or greater than an aggregate of 1500 MWs in a single Interconnection.	<b>17</b>	<b>0</b>	-	<b>100%</b>
1.17 <i>Alternative wording.</i> Each control center or backup control used to perform the functional obligations of the Balancing Authority that includes at least one asset identified in criteria 1.1, 1.2, 1.3, 1.4, 1.14, for a generation greater than aggregate of 1500 MW in a single interconnection/ <del>in a single region</del> /remove.	<b>11</b>	<b>4</b>	-	
(114 b “in a single interconnection”)	<b>11</b>	<b>4</b>	-	
(114 b “in a single region”)	<b>10</b>	<b>1</b>	<b>4</b>	

The SDT spent nearly two days reviewing the industry comments related to Attachment 1, a strawman Attachment 1 document for changes to the standards, and draft responses to the industry. They tested the level of support for existing, proposed and alternative wording. (See, Appendix #5 for a summary of the Attachment 1 issues reviewed)

<b>IMPLEMENTATION PLANS- PROPOSED WORDING STRAW POLL</b>	<b>Yes</b>	<b>No</b>	<b>Abstain</b>	<b>% Support</b>
Create a 24 month implementation deadline for all CA and CCA assets and reflect this in the standard’s effective date (A.5) and in the implementation plan language.	<b>15</b>	<b>2</b>	-	<b>88%</b>

### Implementation Plan Discussion Issues

The SDT reviewed the industry comments on the Implementation Plan and the Implementation Plan for Newly Identified Critical Cyber Assets and Newly Registered Entities. The SDT and participant discussion covered the following issues: apparent confusion over the complications for the proposed exceptions in the timing for implementation of IPFNICCANRE vs. a 24-month period for all entities without exceptions; affording time for budgeting for CIP 002-4 implementation; minimizing the need to take TFEs along with mitigation plans; balance the exceptions process with a simple, less confusing approach that has the optic of not getting the lists for 2 years; is it best to get an early report card regarding fewer or greater number of assets; and take CIP 002-4 into account when developing Version 5 (CIP 010....).

<b>OVERALL ADOPTION OF CIP 002-4 RESPONSE DOCUMENT</b>	<b>Yes</b>	<b>No</b>	<b>Abstain</b>	<b>% Support</b>
Motion to approve adoption of the CIP 002-4 SDT response document as refined with direction to Howard Gugel to provide any needed Editorial Changes Consistent with the SDT’s agreement on the responses.	<b>17</b>	<b>0</b>	-	<b>100%</b>

<b>OVERALL ADOPTION OF CIP 002-4 AND RELATED DOCUMENTS AS REFINED</b>	<b>Yes</b>	<b>No</b>	<b>Abstain</b>	<b>% Support</b>
Motion to approve overall adoption of CIP 002-4 and related Documents (Implementation Plans & Guidance Document) consistent with the SDT straw polling results.	<b>15</b>	<b>3</b>	-	<b>83%</b>

The 3 SDT members voting no (*Jim Brenton, Dave Norton and Rich Kinas*) agreed on the following rationale statement explaining their votes:

- The 15 min criteria for real time is vague and should not apply to cyber assets:
- Attachment 1.1 The 1500 MW criteria for Generation is too high. ISO/RTOs recommended 300 MW for Generators. This criteria will miss too many generators and a lot of NUKES
- Attachment 1.5 We must include all blackstart restoration paths, not just primary path to the first sub with two transmission paths
- Attachment 1.13 Remove "without human intervention." This item originally addressed Load Serving Entities, not automatic load shedding. The revisions since last posting significantly change intent of this control.
- Attachment 1.15-1.17. All RC/BA/TOP/GOPs should be Critical Assets
- ISO/RTO position- We are not sure that many of the ISOs/RTOs will support this version as we have regressed in the level of cyber security included in CIP Version 4 when compared to that of CIP Version 3.
- NERC will be hard pressed to show these standards will improve security for the BES.”

### **III. NEXT STEPS AND ASSIGNMENTS**

The Team reviewed the steps and assignments leading up to the Orlando meeting which member Rich Kinas will host once again at the OUC facilities. The Framework Sub-Group will be meeting several times in the interim to prepare documents for the SDT to review at the December meeting. The 2<sup>nd</sup> Ballot is expected to close on Friday, December 10 COB. NERC staff will prepare the ballot results and comments with strawman draft responses and send out as soon as possible following the close of the ballot in advance of the Orlando meeting the following Tuesday.

The Chair thanked Tom Stevenson and Margaret Powell for the excellent hosting of the SDT in Baltimore.

*The meeting adjourned at 4:40 on Thursday*

**Appendix # 1— Meeting Agenda  
Project 2008-06 Cyber Security Order 706 SDT  
Draft 28<sup>th</sup> Meeting Agenda**

**November 16, 2010, Tuesday- 8:00 AM to 6:00 PM CDT  
November 17, 2010 Wednesday- 8:00 AM to 6:00 PM CDT  
November 18, 2010 Thursday- 8:00 AM to 6:00 PM CDT  
Baltimore, Maryland**

*NOTE: 1. Agenda Times May be Adjusted as Needed during the Meeting*

*NOTE: 2. Drafting Sub-team Meetings May Not Have Access to Telephones and Ready Talk*

**Proposed Meeting Objectives/Outcomes:**

- To review and test consensus on responses to industry comments on CIP 002-4 and on any changes for inclusion in the 2<sup>nd</sup> ballot.
- To review progress of the CIP Framework Team
- To agree on next steps and assignments

**Tuesday, November 16, 2010 8:00 a.m. - 6:00 p.m.**

- Introductions, welcome *-(Morning)*
- Introductory Remarks by Mark Weatherford, VP/Chief Security Officer, NERC
- Introductory Remarks by Trade Organizations – Allen Mosher, APPA, Barry Lawson, NRECA, and David Batz, EEI
- Receive updates on other related cyber security initiatives- *NERC Staff and SDT Members (Morning)*
- Review meeting and milestone schedule for CIP 002-4 and CIP 010 and 011 *(Morning)*
- Review and Test Consensus on the Draft CIP 002-4 Response Document *(Morning and Afternoon)*

**Wednesday, November 17, 2010 8:00 a.m. - 6:00 p.m.**

- Continue Review and Consensus Testing on the Draft CIP 002-4 Response Document *(Morning)*
- *Local Sub-Station Tour (Mid-day)*
- Review and Test Consensus on possible CIP 002-4 Changes *(Afternoon)*

**Thursday, November 18, 2010, 8:00 a.m. - 6:00 p.m.**

- Review and Test Consensus on possible CIP 002-4 Changes *(Morning)*
- Adopt CIP-002-4 for 2<sup>nd</sup> Ballot and SDT Industry Response Document *(Afternoon)*
- Review progress on Framework Team *(Afternoon)*
- Review SDT December, 2010 Orlando Meeting Agenda *(Afternoon)*



## Appendix # 2 Attendees List November 16-18, 2010 Baltimore

### Attending in Person — SDT Members and Staff

1. Rob Antonishen	Ontario Power Generation
2. Jim Brenton	ERCOT
3. Jay S. Cribb	Southern Company Services
4. Joe Doetzl	Kansas City Pwr. & Light Co
5. Sharon Edwards	Duke Energy
6. Gerald S. Freese	America Electric Pwr.
7. Jeff Hoffman	U.S. Bureau of Reclamation, Denver
<b>8. Phillip Huff, Vice Chair</b>	Arkansas Electric Coop Corporation (W/Th)
9. Doug Johnson	Exelon Corporation – Commonwealth Edison
10. Rich Kinan	Orlando Utilities Commission (Tu/W)
<b>11. John Lim, Chair</b>	Consolidated Edison Co. NY
12. David S. Revill	Georgia Transmission Corporation
13. Kevin Sherlin	Sacramento Municipal Utility District (Tu/W)
14. Tom Stevenson	Constellation
15. Keith Stouffer	National Institute of Standards & Technology
16. John D. Varnell	Technology Director, Tenaska Power Services Co. (W/Th)
17. William Winters	Arizona Public Service, Inc.

### SDT Members Attending via ReadyTalk and Phone

18. Jackie Collett	Manitoba Hydro
19. David Norton	Entergy
20. Scott Rosenberger	Luminant Energy
21. John Van Boxtel	WECC (Tu)
<i>Scott Mix</i>	<i>NERC</i>
<i>Howard Gugel</i>	<i>NERC</i>
<i>Roger Lampila</i>	<i>NERC</i>
<i>Mallory Higgins</i>	<i>NERC (W)</i>
<i>Brian Harrell</i>	<i>NERC (Tu)</i>
<i>Laura Hussey</i>	<i>NERC (W)</i>
<i>Mark Weatherford</i>	<i>NERC (Tu)</i>
<i>Robert Jones</i>	<i>FSU/FCRC Consensus Center</i>
<i>Stuart Langton</i>	<i>FSU/FCRC Consensus Center</i>

## SDT Members Not Participating

William Gross	Nuclear Energy Institute
Patricio Leon	Southern California Edison
Jonathan Stanford	Bonneville Power Administration
Bradley Yeates	South Nuclear Operating Company

## Others Attending in Person

Jan Bargaen	FERC
John Bussman	AECI
Robert Preston Lloyd	Southern California Edison
Carey W. Flemming	Constellation Energy Nuclear Group (W)
Jim Fletcher	American Electric Power
CJ Ingersoll	Constellation Energy (Tu/W)
Barry Lawson	NRECA (Tu)
Andres Lopez	USACE
Nathan Mitchell	APPA (Tu)
Brian Newell	American Electric Power
Margaret Powell	Constellation Energy
Stan Rae	Constellation Energy (Tu)
Ingrid Rayo	Constellation Energy
Mike Rossman	Constellation Energy
Kevin Ryan	FERC (Tu/W)
Mark Simon	Encari

## Others Attending via Readytalk and Phone

### November 16, 2010, Tuesday

Chris	Ewing	chris_ewing@selinc.com
David	Batz	dbatz@eei.org
Drew	Kittey	Drew.Kittey@ferc.gov
Larry	Camm	larry_camm@selgs.com
Bryn	Wilson	wilsonwb@oge.com
Rod	Hardiman	rhardim@southernco.com
David	Gordon	dgordon@mmwec.org

## November 17, 2010, Wednesday

Chris	Ewing	chris_ewing@selinc.com
Rod	Hardiman	rhardim@southernco.com
Barry	Lawson	barry.lawson@nreca.coop
Bryn	Wilson	wilsonwb@oge.com
Drew	Kittey	Drew.Kittey@ferc.gov
Anna	Wang	amwang@burnsmcd.com

## November 18, 2010, Thursday

Drew	Kittey	Drew.Kittey@ferc.gov
Chris	Ewing	chris_ewing@selinc.com
Bryn	Wilson	wilsonwb@oge.com
Todd	Williams	trwilliams@midamerican.com
Barry	Lawson	barry.lawson@nreca.coop
Rod	Hardiman	rhardim@southernco.com

### **Appendix #3 NERC Antitrust Compliance Guidelines**

*See Antitrust Compliance Guidelines read at the beginning of each day's session at:*

*The NERC reminder below was read at the beginning of each day's session.*

**NERC REMINDER FOR USE AT BEGINNING OF MEETINGS AND CONFERENCE CALLS THAT HAVE BEEN PUBLICLY NOTICED AND ARE OPEN TO THE PUBLIC**

**For face-to-face meeting, with dial-in capability:**

Participants are reminded that this meeting is public. Notice of the meeting was posted on the NERC website and widely distributed. The notice included the number for dial-in participation. Participants should keep in mind that the audience may include members of the press and representatives of various governmental authorities, in addition to the expected participation by industry stakeholders.

**Appendix #4**

**Final SDT CIP 002-4 Documents for Posting**

[http://www.nerc.com/filez/standards/Project\\_2008-06\\_Cyber\\_Security\\_PhaseII\\_Standards.html](http://www.nerc.com/filez/standards/Project_2008-06_Cyber_Security_PhaseII_Standards.html)

## **Appendix #5**

### **Attachment 1 Summary of Issues Discussed by the SDT**

During the course of the three-day meeting there were extended discussions and proposals for revision of Attachment 1 criteria to address industry comments that covered the following issues:

- 1.3 The SDT discussion and review of industry comments covered the following issues: clarifying the meaning of “adverse reliability impacts” and “planning horizon”, forced retirement issues, explain long term planning in guidance document and including or excluding reliability coordinator.
- 1.4 Blackstart Resource. The SDT discussion and review of industry comments covered the following issues: considering whether to include “each generation facility”, the reference to EOP 5 restoration plans and distinguishing them from cyber issues, providing incentives to keep Blackstart resources in the transmission plan, considering a bright line limitor, and clarifying this criteria in the guidance document.
- 1.5 The SDT discussion and review of industry comments covered the following issues: delineating between generator and transmission responsibilities and clarify what “up to the unit being started” includes.
- 1.7 The SDT discussion and review of industry comments covered the following issues: criticality vs. reliability in protecting against distributed attacks, 500 KV and above as backbone of the BES,
- 1.8 The SDT discussion and review of industry comments covered the following issues: reference to FAC 014-2, the relationship between 1.7 and 1.8., and planning vs. operational IROLs.
- 1.9 The SDT discussion and review of industry comments covered the following issues: make clear that FACTS devices are included in standard.
- 1.10 The SDT discussion and review of industry comments covered the following issues: “directly” was intended to scope down this criteria but may add confusion, consider whether the generator interface may change in the near future, and focus on generator owners vs. responsible entity.
- 1.12 The SDT discussion and review of industry comments covered the following issues: is “operates” or “identified” the right action here, is it a failure to operate as designed, clarify who is testing and maintaining the SPS and the RAS, generator run back schemes focused internally on the generation system not externally on the BES. Blanket statements about these might not be appropriate.
- 1.13 The SDT discussion and review of industry comments covered the following issues: automatic load shed has been an ongoing SDT discussion; target was auto load shedding system for version 1; “capable of” vs. “configured to” vs. “limiting to underfrequency/underload”; “initiation” vs. “intervention;” reference to regional load shedding programs; consider the smart grid issues coming down the road; considering advanced persistent threats that can get into control systems and load malicious software

1500 MW would be too high; in some shops distribution SKADA system in different system than transmission system; should regional diversity be addressed; consider PRC 6.1 for planning coordinators, and PRC 007-0 & PRC 20-1; reference “under-frequency load shedding and under voltage load shedding systems; consider retaining 300 MW with caveat that this will be revisited in Version 5. *On Wednesday SDT 2<sup>nd</sup> review of redraft:* reference to human operator may confuse manual and automatic load shed; concern is with this function not being available when needed.

- 1.14 The SDT discussion and review of industry comments covered the following issues: definition and differences between control system lead to removing control system; what should the bright line be, 1500, 2000 or other; with cyber vulnerability threats to smaller entities (i.e. jumping point or gateway to other areas, size may not be the key factor; address all control centers in Version 5; CSO 706- paragraph 280 addresses control centers; bright line for BA and TOP needed now.
- *1.14- 1.17 New Wording*
- 1.14 New: *On Wednesday SDT 2<sup>nd</sup> review of redraft:* Break out the different actors and their responsibilities; reference asset(s) identified in previous applicable criteria for each actor (TO, BA, RC ); cover reliability coordinator in this criteria.
- 1.15 New. The SDT 2<sup>nd</sup> review on Wednesday of this criteria and discussion of industry comments covered the following issues: this is consistent with CSO 706 paragraph 280; single region vs. single interconnection; interconnection deals with reliability and regions may change overtime; consider this as interim change before Version 5 addresses the appropriate level of controls needed; in an open standards process, if we can’t validate information we can’t use it;
- 1.6 the unknown level of threat is what we are protecting against and TOPs have a broader breadth of control compared to other systems;; is verbal communication the same as electronic control; careful not to bring in market groups.
- 1.16 New The SDT 2<sup>nd</sup> review on Wednesday of this criteria and discussion of industry comments covered the following issues:
- Original 1.16 The SDT discussion and review of industry comments covered the following issues: (“Any additional assets owned by the Responsible Entity that the Responsible Entity deems appropriate to include.”) Delete this criteria as there is no SDT support for retaining this criteria due to compliance and enforcement and other issues.

## Appendix #5 SDT Sub-Teams

Sub-Team	
<b>CIP 010 BES System Categorization</b>	John Lim (Lead), Rich Kinan, Jim Brenton, Dave Norton <i>(Observer Participants: Rod Hardiman, Jim Fletcher)</i> <i>(FERC: Mike Keane, Peter Kuebeck)</i>
<b>Personnel and Physical Security</b>	Doug Johnson (Lead), Rob Antonishen, Patrick Leon, Kevin Sherlin <i>(FERC: Drew Kittey)</i>
<b>System Security and Boundary Protection</b>	Jay Cribb (Lead), Jackie Collett, John Varnell, John Van Boxtel, Philip Huff <i>(Observer Participant: Brian Newell)</i> <i>(FERC: Justin Kelly)</i>
<b>Incident Response and Recovery</b>	Scott Rosenberger (Lead), Joe Doetzl, Tom Stevenson <i>(Observer Participant: Jason Marshall)</i> <i>(FERC: Dan Bogle)</i>
<b>Access Control</b>	Sharon Edwards (Lead), Jeff Hoffman, Jerry Freese, Bill Winters <i>(Observer Participants: Roger Fradenburgh, Robert Preston Lloyd)</i> <i>(FERC: Mike Keane)</i>
<b>Change Management, System Lifecycle, Information Protection, Maintenance, and Governance</b>	Dave Revill (Lead), Jon Stanford, Keith Stouffer, Bill Winters <i>(Observer Participant: Brian Newell)</i> <i>(FERC: Jan Bargaen, Matthew Dale)</i>
<b>CIP 002-4 Drafting Team</b>	John Lim (Lead), Jim Brenton, Jackie Collett, Jay Cribb, Sharon Edwards, Doug Johnson, Rich Kinan, Dave Norton, Dave Revill, and Bill Winters <i>(Observer Participants: Rod Hardiman; Jim Fletcher; Bryn Wilson)</i> <i>(FERC: Mike Keane, Peter Kuebeck; NERC: Scott Mix)</i>
<b>Implementation Plan CIP 002-4</b>	Dave Revill (Lead), Sharon Edwards, Kevin Sherlin, Scott Rosenberg, Dave Norton and Phil Huff <i>(FERC: Mike Keane; NERC: Scott Mix)</i>
<b>Framework CIP 010 &amp;011</b>	Dave Norton (Lead), Jim Brenton, Jay Cribb, Joe Doetzl, Phil Huff, Doug Johnson, Dave Revill, Jon Stanford, and John Van Boxtel. <i>(FERC: Mike Keane; NERC: Scott Mix)</i>



