

## **Project 2009-24: Interpretation of EOP-005-1 for the Florida Municipal Power Agency Consideration of Comments for Initial Ballot (January 5–15, 2010)**

### **Summary Consideration:**

Seven predominant concerns were raised about the interpretation. Based on the comments received, the drafting team modified the response to questions 1 and 2. The revised interpretation will be posted for pre-ballot review. Below is a listing of the balloter concerns and drafting team responses and actions:

1. Many who submitted comments were concerned about the reference to a document that was not part of the standard. The drafting team agreed this clouded the issue and removed the reference and associated wording.
2. Some entities stated that the reference to simulation in Requirement R7 referred to tabletop exercises and not an engineering analysis. The drafting team looked at the entire standard and determined that the term “simulation” in Requirement R7 was consistent with an engineering evaluation and revised the interpretation with the supporting analysis.
3. Some entities expressed that there is a difference between “plan” and “procedure.” The drafting team agreed and included some changes in the revised interpretation to correct this confusion.
4. Some entities were concerned that the interpretation would have far-reaching implications to version 2 of the standard. The drafting team disagreed, as this interpretation would only apply to EOP-005-1.
5. Some entities were concerned that the requirements would prove burdensome to smaller entities. The drafting team responded that requirements apply to all applicable entities, regardless of size.
6. Some entities felt that the interpretation imposed new requirements by providing more information than was asked. The drafting team modified the interpretation to only provide responses to the questions that were asked.
7. Some entities felt that the interpretation should provide the level of clarity provided in version 2. The drafting team responded that they could only work with the words in version 1, and could not change the requirements to match version 2.

If you feel that the drafting team overlooked your comments, 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 and Director of Standards, Gerry Adamski, at 609-452-8060 or at [gerry.adamski@nerc.net](mailto:gerry.adamski@nerc.net). In addition, there is a NERC Reliability Standards Appeals Process.<sup>1</sup>

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<sup>1</sup> The appeals process is in the Reliability Standards Development Procedure: [http://www.nerc.com/files/RSDP\\_V6\\_1\\_12Mar07.pdf](http://www.nerc.com/files/RSDP_V6_1_12Mar07.pdf).

Voter	Entity	Segment	Vote	Comment
Daniel Herring	Detroit Edison Company	4	Negative	- The interpretation assumes the restoration plan is the same as the restoration procedure. That can be incorrect. - I believe a tabletop exercise is capable of meeting simulation requirement criteria. Tabletop exercises are utilized in other industries (nuclear, chemical, etc.) - The interpretation is too far reaching in that it expands the scope of power system analyses beyond the stated requirements. - The interpretation brings back into play the Electric System Restoration Document which contains provisions and language that were deliberately left out of the original standard when drafted.
<p><b>Response:</b> The drafting team thanks you for your comments. The team agrees that there is a difference between a plan and a procedure, and the interpretation has been revised to correct this confusion. EOP-005-1 requires the Transmission Operator to have a restoration plan, with associated procedures as defined in Attachment 1. A procedure is an element of the plan. In addition, the reference to the <i>Electric System Restoration Document</i> has been removed. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly.</p>				
Ahmad Sanati	South California Edison Company	5	Negative	"SCE understands and agrees that a simulation must be conducted on key components of the restoration procedure, but does not believe that a simulation of the entire restoration procedure is necessary or even possible given the number of potential restoration scenarios. SCE believes that the interpretation should be revised in order to provide clear and specific simulation requirements."
<p><b>Response:</b> The drafting team thanks you for your comments. The drafting team has modified the interpretation in order to bring more clarity, specifically that "the desired outcome of the verification is to demonstrate that the restoration procedure will produce the desired results and can progress as planned."</p>				
Stan T. Rzad	Keys Energy Services	1	Negative	1) the interpretation "sweeps" in the "Electric System Restoration Reference Document" into the standard, essentially making portions of the document an attachment to the standard; 2) the interpretation prescribes the types of power system analyses required to meet the power system analyses portions of the standard (in FMPA's opinion, R10 and not R7), and prescribes more studies than are detailed in the Version 2 standard (e.g., electromagnetic transient studies), EOP-005-2, pending regulatory approval; 3) the interpretation misinterprets the use of the word "simulate" in R7 and fails to take the correct context of requirement R7 into account, since R7 applies to both TOPs and BAs, as does R6, the word "simulate" should have the same meaning as the word as used in R6, and not as the word "simulate" is used in R10 which only applies to TOPs; and 4) the interpretation has far-reaching consequences to the Version 2 standard, requiring more power system analyses than is currently required in the Version 2 standard, requiring analyses beyond the "state whereby the choice of the next Load to be restored is not driven by the need to control frequency or voltage".

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Ballard Keith Mutters	Orlando Utilities Commission	3	Negative	1) the interpretation "sweeps" in the "Electric System Restoration Reference Document" into the standard, essentially making portions of the document an attachment to the standard; 2) the interpretation prescribes the types of power system analyses required to meet the power system analyses portions of the standard (in FMPA's opinion, R10 and not R7), and prescribes more studies than are detailed in the Version 2 standard (e.g., electromagnetic transient studies), EOP-005-2, pending regulatory approval; 3) the interpretation misinterprets the use of the word "simulate" in R7 and fails to take the correct context of requirement R7 into account, since R7 applies to both TOPs and BAs, as does R6, the word "simulate" should have the same meaning as the word as used in R6, and not as the word "simulate" is used in R10 which only applies to TOPs; and 4) the interpretation has far-reaching consequences to the Version 2 standard, requiring more power system analyses than is currently required in the Version 2 standard, requiring analyses beyond the "state whereby the choice of the next Load to be restored is not driven by the need to control frequency or voltage".
Richard Kinas	Orlando Utilities Commission	5	Negative	1) the interpretation "sweeps" in the "Electric System Restoration Reference Document" into the standard, essentially making portions of the document an attachment to the standard; 2) the interpretation prescribes the types of power system analyses required to meet the power system analyses portions of the standard (in FMPA's opinion, R10 and not R7), and prescribes more studies than are detailed in the Version 2 standard (e.g., electromagnetic transient studies), EOP-005-2, pending regulatory approval; 3) the interpretation misinterprets the use of the word "simulate" in R7 and fails to take the correct context of requirement R7 into account, since R7 applies to both TOPs and BAs, as does R6, the word "simulate" should have the same meaning as the word as used in R6, and not as the word "simulate" is used in R10 which only applies to TOPs; and 4) the interpretation has far-reaching consequences to the Version 2 standard, requiring more power system analyses than is currently required in the Version 2 standard, requiring analyses beyond the "state whereby the choice of the next Load to be restored is not driven by the need to control frequency or voltage".
<p><b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, the simulation requirements in Requirement R7 and Requirement R10 are distinctly different. Requirement R10 strictly deals with blackstart and cranking paths, while Requirement R7 deals with the restoration of the entire transmission system. The team believes that the revised interpretation provides no far-reaching consequences to the version 2 standard.</p>				
Keith V. Carman	Tri-State G & T Association Inc.	1	Negative	1) The interpretation is inconsistent with the standard and misinterprets the existing requirement R7, thereby expanding the scope of the existing standard beyond what was originally intended, and 2) the interpretation imposes complex and burdensome simulation study requirements on Balancing Authorities and small Transmission Operators for facilities and loads that have no significant impact on the regional restoration plan.

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<p><b>Response:</b> The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between “simulation” and “simulated exercises,” and has revised the responses to question 1 and question 2 accordingly. In addition, EOP-005-1 requires each Transmission Operator to have a restoration plan, with associated procedures as defined in Attachment 1. Balancing Authorities are not required to have a plan or procedures. They are required to test their communication facilities, train their operating personnel in the implementation of the restoration plan, and verify the restoration procedure by actual testing or by simulation.</p>				
Randall McCamish	City of Vero Beach	1	Negative	1) the proposed interpretation is inconsistent with the standard and misinterprets the existing requirement R7, thereby expanding the scope of the existing standard beyond what was originally intended, and 2) the interpretation imposes complex and burdensome simulation study requirements on Balancing Authorities and small Transmission Operators for facilities and loads that have no significant impact on the regional restoration plan.
<p><b>Response:</b> The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between “simulation” and “simulated exercises,” and has revised the responses to question 1 and question 2 accordingly. In addition, EOP-005-1 requires each Transmission Operator to have a restoration plan, with associated procedures as defined in Attachment 1. Balancing Authorities are not required to have a plan or procedures. They are required to test their communication facilities, train their operating personnel in the implementation of the restoration plan, and verify the restoration procedure by actual testing or by simulation.</p>				
Allen Mosher	American Public Power Association	4	Negative	1) the proposed interpretation is inconsistent with the standard and misinterprets the existing requirement R7, thereby expanding the scope of the existing standard beyond what was originally intended, and 2) the interpretation imposes complex and burdensome simulation study requirements on Balancing Authorities and small Transmission Operators for facilities and loads that have no significant impact on the regional restoration plan. <ul style="list-style-type: none"> <li>o The word “simulate” is used in more than one way in the standard. The meaning of the word “simulate” in R6 (which can be interpreted as table top drills) is different than R10 (which is probably more appropriately power flow and stability studies), so, which is the more appropriate meaning of the word “simulate” in R7? APPA believes that R6 correlates with R7 more than R10 correlates with R7, and therefore, we believe that the interpretation provided is incorrect.</li> <li>o The interpretation sweeps in the “Electric System Restoration Reference Document” into the standard through the interpretation, in effect, adding more requirements to the standard through the interpretation.</li> <li>o The interpretation lists many types of power system analyses, some of which are not necessary to study system restoration (such as short circuit studies). The language implies that all of these studies need to be performed by all registered entities identified in the standard, which is not correct. Note that the power system study requirements under the existing standard are captured in EOP-005-1 R10, not in R7.</li> <li>o The interpretation carries over to the Version 2 standard, EOP-005-2, pending regulatory approval and begs the question: how much of the restoration plan needs to be studied through power system analyses?</li> </ul>

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<p><b>Response:</b> The drafting team thanks you for your comments. EOP-005-1 requires each Transmission Operator to have a restoration plan, with associated procedures as defined in Attachment 1. Balancing Authorities are not required to have a plan or procedures. They are required to test their communication facilities, train their operating personnel in the implementation of the restoration plan, and verify the restoration procedure by actual testing or by simulation. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, the simulation requirements in Requirement R7 and Requirement R10 are distinctly different. Requirement R10 strictly deals with blackstart and cranking paths, while Requirement R7 deals with the restoration of the entire transmission system. The team believes that the revised interpretation provides no far-reaching consequences to the version 2 standard. The reference to the <i>Electric System Restoration Document</i> has been removed.</p>				
Jason L. Murray	Alberta Electric System Operator	2	Negative	<p>1. The drafting teams response provides more confusion as it lists out other plan requirements that are not related to FMPA's question. I would recommend the drafting team only provide a response that deals specifically with FMPA's questions (i.e. what is meant by the phrase "verify the restoration procedure" and by the term "simulation"), the additional background information around restoration plan requirements is not needed as the requirements should be stated in the EOP. I would recommend removing the first 3 paragraphs of the drafting teams response as it is not need and could potentially inadvertently introduce new requirements. 2. Regarding FMPA's question on simulation: I would recommend a more specific accountability for simulation to mean engineering methods and practices. As an example: The phrase "verify the restoration procedure by simulation" means an engineering analysis, using industry accepted engineering analytical methods and practices to verify that the restoration plan is technically feasible. The level of simulations required are dependent upon the nature of the restoration plan and should consider load flows to verify steady state conditions, transient stability analysis to verify the dynamic performance and electromagnetic transient analysis to verify switching operations.</p>
<p><b>Response:</b> The drafting team thanks you for your comments. The interpretation has been revised to specifically address the two phrases. In addition, the definition of "verify the restoration procedure" has been revised to incorporate your comments.</p>				
William L. Thompson	Dominion Virginia Power	1	Negative	<p>1. The interpretation "sweeps" in the "Electric System Restoration Reference Document" into the standard, essentially making portions of the document an attachment to the standard 2. The interpretation prescribes the types of power system analyses required to meet the power system analyses portions of the standard (in FMPA's opinion, R10), and prescribes more studies than are detailed in the Version 2 standard, EOP-005-2, pending regulatory filing 3. The interpretation misinterprets the use of the word "simulate" in R7 and fails to take the correct context of requirement R7 into account 4. The interpretation has far-reaching consequences to the Version 2 standard, requiring more power system analyses than is currently required in the Version 2 standard.</p>

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Mark Ringhausen	Old Dominion Electric Coop.	4	Negative	1. The interpretation "sweeps" in the "Electric System Restoration Reference Document" into the standard, essentially making portions of the document an attachment to the standard 2. The interpretation prescribes the types of power system analyses required to meet the power system analyses portions of the standard (in FMPA's opinion, R10), and prescribes more studies than are detailed in the Version 2 standard, EOP-005-2, pending regulatory filing 3. The interpretation misinterprets the use of the word "simulate" in R7 and fails to take the correct context of requirement R7 into account 4. The interpretation has far-reaching consequences to the Version 2 standard, requiring more power system analyses than is currently required in the Version 2 standard.
Mike Garton	Dominion Resources, Inc.	5	Negative	1. The interpretation "sweeps" in the "Electric System Restoration Reference Document" into the standard, essentially making portions of the document an attachment to the standard 2. The interpretation prescribes the types of power system analyses required to meet the power system analyses portions of the standard (in FMPA's opinion, R10), and prescribes more studies than are detailed in the Version 2 standard, EOP-005-2, pending regulatory filing 3. The interpretation misinterprets the use of the word "simulate" in R7 and fails to take the correct context of requirement R7 into account 4. The interpretation has far-reaching consequences to the Version 2 standard, requiring more power system analyses than is currently required in the Version 2 standard.
<p><b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed. EOP-005-1 requires each Transmission Operator to have a restoration plan, with associated procedures as defined in Attachment 1. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, the simulation requirements in Requirement R7 and Requirement R10 are distinctly different. Requirement R10 strictly deals with blackstart and cranking paths, while Requirement R7 deals with the restoration of the entire transmission system. The team believes that the revised interpretation provides no far-reaching consequences to the version 2 standard.</p>				
Ray Mammarella	PP&L, Inc.	1	Negative	1. The Interpretation introduces new requirements rather than justifying / explaining the current requirements in question 2. The Interpretation proposes to expand Reliability Standards to include a NERC Reference Document
<p><b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed.</p>				
Steve Alexanderson	Central Lincoln PUD	3	Negative	o The word "simulate" is used in more than one way in the standard. The meaning of the word "simulate" in R6 (which can be interpreted as table top drills) is different than R10 (which is probably more appropriately power flow and stability studies), so, which is the more appropriate meaning of the word "simulate" of R7? We believe that R6 correlates with R7 more than R10 correlates with R7, and therefore, we believe that the interpretation provided is incorrect. o The interpretation "sweeps in" the

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				<p>“Electric System Restoration Reference Document” into the standard through the interpretation, in effect, adding more requirements to the standard through the interpretation. o The interpretation lists many types of power system analyses, some of which are not necessary for studying system restoration (such as short circuit studies). The language implies that all of these studies need to be performed by all registered entities identified in the standard, which we believe is not correct. Note that the power system study requirements under the existing standard are captured in EOP-005-1 R10, not in R7. o The interpretation carries over to the Version 2 standard, EOP-005-2, pending regulatory filing and begs the question: how much of the restoration plan needs to be studied through power system analyses?</p>
<p><b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed. EOP-005-1 requires each Transmission Operator to have a restoration plan, with associated procedures as defined in Attachment 1. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between “simulation” and “simulated exercises,” and has revised the responses to question 1 and question 2 accordingly. In addition, the simulation requirements in Requirement R7 and Requirement R10 are distinctly different. Requirement R10 strictly deals with blackstart and cranking paths, while Requirement R7 deals with the restoration of the entire transmission system. The team believes that the revised interpretation provides no far-reaching consequences to the version 2 standard.</p>				
Famarz Amjadi	BC Transmission Corporation	2	Negative	<p>“BCTC disagrees with the interpretation as it is stating that to be compliant you must either conduct an actual test or use a simulation of an event. BCTC position is at a minimum you must use table top exercises but a combination of table top and simulation was preferred”.</p>
<p><b>Response:</b> The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between “simulation” and “simulated exercises,” and has revised the responses to question 1 and question 2 accordingly. Also, the definition of “verify the restoration procedure” has been revised.</p>				
Jeffrey Mueller	Public Service Electric and Gas Co.	3	Negative	<p>“PSEG agrees with the concerns set forth below expressed by FMPA, and particularly is concerned that the interpretation would substantively modify the Standard without having followed the proper standards development process. The interpretation “sweeps” in the “Electric System Restoration Reference Document” into the standard, essentially making portions of the document an attachment to the standard. The interpretation prescribes the types of power system analyses required to meet the power system analyses portions of the standard (in FMPA’s opinion, R10), and prescribes more studies than are detailed in the Version 2 standard, EOP-005-2, currently pending regulatory approval. The interpretation misinterprets the use of the word “simulate” in R7 and fails to take the correct context of requirement R7 into account. The interpretation has far-reaching consequences to the Version 2 standard, requiring more power system analyses than is currently required in the Version 2 standard. “</p>
<p><b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed. EOP-005-1 requires each Transmission Operator to have a restoration plan, with associated procedures as defined in Attachment 1. The team has revisited the definition of simulation and</p>				

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<p>has modified the interpretation. The team notes that there is a difference between “simulation” and “simulated exercises,” and has revised the responses to question 1 and question 2 accordingly. In addition, the simulation requirements in Requirement R7 and Requirement R10 are distinctly different. Requirement R10 strictly deals with blackstart and cranking paths, while Requirement R7 deals with the restoration of the entire transmission system. The team believes that the revised interpretation provides no far-reaching consequences to the version 2 standard.</p>				
Jason Shaver	American Transmission Company, LLC	1	Negative	<p>ATC appreciates the work of the drafting team but can not support the proposed interpretation. Question 1: ATC believes that the response to question 1 will result in an expansion of the requirements beyond the role of the interpretation process. ATC suggest the following language as a replacement for the proposed interpretation. The expansion comes from the fact that the current standard only requires the following: The current requirement states that we: - have to have a restoration plan - have to review and update annually - declare that the plan has priority of restoring the integrity of the Interconnecti9on - coordinate the plan - test communication - train operating personnel The interpretation expande the requirement by now stating that the restoration plan has to also: - Have Philosophies and strategies - Selection of critical alarms - Identification of relationships - Identification of Blackstart resources Etc. The phrase “verify the restoration procedure” Verifying the restoration procedure means establishing that the restoration procedure is technically sound and can progress as planned. The requirement allows two ways to verify the restoration procedure. The first option is for a TOP to actually demonstrate that the procedure is viable. The other option is by simulation which could be accomplished through a planning study. However the TOP decides to verify the procedure the goal of the verification is to demonstrate viability of the procedure. We believe that our recommendation addresses the question being asked without expanding or modifying the approved requirement. Question 2: Every TOP has to demonstrate that their restoration plan is viable. If a TOP does not have a Blackstart unit, and is therefore dependent a neighboring TOP they still must verify through actual testing or simulation that their restoration plan is viable. We believe that our recommendation addresses the question being asked without expanding or modifying the approved requirement. Additional comments: If the drafting team does no accept our changes then we believe that they need to explain the difference between a TOP and a small TOP. ATC is unaware of NERC having document criteria to determine this difference.</p>
<p><b>Response:</b> The drafting team thanks you for your comments. The responses to question 1 and question 2 have been changed to incorporate your comments.</p>				
Gordon Rawlings	BC Transmission Corporation	1	Negative	<p>BCTC disagrees with the interpretation as it is stating that to be compliant you must either conduct an actual test or use a simulation of an event. BCTC position is at a minimum you must use table top exercises but a combination of table top and simulation was preferred.</p>
<p><b>Response:</b> The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between “simulation” and “simulated exercises,” and has revised the responses to question 1 and question 2 accordingly. Also, the definition of “verify the restoration procedure” has been revised.</p>				

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Donald S. Watkins	Bonneville Power Administration	1	Negative	BPA is voting No because the Interpretation seems to negate the "OR" in requirement R7 making it an "AND". Additionally, it is noted that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC. Specific simulation requirements are identified in the revised version.
<p><b>Response:</b> The drafting team thanks you for your comments. The response to question 1 has been modified to incorporate your comments. While it is correct that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC, the team must provide an interpretation based solely on the wording in version 1.</p>				
Rebecca Berdahl	Bonneville Power Administration	3	Negative	BPA is voting No because the Interpretation seems to negate the "OR" in requirement R7 making it an "AND". Additionally, it is noted that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC. Specific simulation requirements are identified in the revised version. The Interpretation should provide the level of clarity identified in the revised standard on the level of simulation required.
<p><b>Response:</b> The drafting team thanks you for your comments. The response to question 1 has been modified to incorporate your comments. While it is correct that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC, the team must provide an interpretation based solely on the wording in version 1.</p>				
Brenda S. Anderson	Bonneville Power Administration	6	Negative	BPA is voting No because the Interpretation seems to negate the "OR" in requirement R7 making it an "AND".
<p><b>Response:</b> The drafting team thanks you for your comments. The response to question 1 has been modified to incorporate your comments.</p>				
Joseph G. DePoorter	Madison Gas and Electric Co.	4	Negative	Do not agree with question #2 response where the question was concerning "exercises" and "tabletop drills", which could be in many different forms. The SDT only looked at tabletop exercises, something that is not defined.
<p><b>Response:</b> The drafting team thanks you for your comments. The response to question 2 has been modified to incorporate your comments.</p>				

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Louis S Slade	Dominion Resources, Inc.	6	Negative	Dominion is voting against for the following reasons 1. The interpretation "sweeps" in the "Electric System Restoration Reference Document" into the standard, essentially making portions of the document an attachment to the standard 2. The interpretation prescribes the types of power system analyses required to meet the power system analyses portions of the standard (in FMPA's opinion, R10), and prescribes more studies than are detailed in the Version 2 standard, EOP-005-2, pending regulatory filing 3. The interpretation misinterprets the use of the word "simulate" in R7 and fails to take the correct context of requirement R7 into account 4. The interpretation has far-reaching consequences to the Version 2 standard, requiring more power system analyses than is currently required in the Version 2 standard.

**Response:** The drafting team thanks you for your comments. The reference to the *Electric System Restoration Document* has been removed. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, the simulation requirements in Requirement R7 and Requirement R10 are distinctly different. Requirement R10 strictly deals with blackstart and cranking paths, while Requirement R7 deals with the restoration of the entire transmission system. The team believes that the revised interpretation provides no far-reaching consequences to the version 2 standard.

Jeff Nelson	Springfield Utility Board	3	Negative	Having reviewed the interpretation, Springfield Utility Board concurs with the arguments made by, and the position of, the Florida Municipal Power Agency. FMPA's position and arguments are provided below. In summary they are: <ul style="list-style-type: none"> <li>o The word "simulate" is used in more than one way in the standard. The meaning of the word "simulate" in R6 (which can be interpreted as table top drills) is different than R10 (which is probably more appropriately power flow and stability studies), so, which is the more appropriate meaning of the word "simulate" of R7? We believe that R6 correlates with R7 more than R10 correlates with R7, and therefore, we believe that the interpretation provided is incorrect.</li> <li>o The interpretation "sweeps in" the "Electric System Restoration Reference Document" into the standard through the interpretation, in effect, adding more requirements to the standard through the interpretation.</li> <li>o The interpretation lists many types of power system analyses, some of which are not necessary for studying system restoration (such as short circuit studies). The language implies that all of these studies need to be performed by all registered entities identified in the standard, which we believe is not correct. Note that the power system study requirements under the existing standard are captured in EOP-005-1 R10, not in R7.</li> <li>o The interpretation carries over to the Version 2 standard, EOP-005-2, pending regulatory filing and begs the question: how much of the restoration plan needs to be studied through power system analyses? FMPA believes that the interpretation provided is not correct and that the correct interpretation should be consistent with R6 with the meaning of "simulation" provided in the "Blackout Report:" Please refer to FMPA's comments as the FMPA's comments in their entirety cannot be copied into the this comment form in their entirety.</li> </ul>
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**Response:** The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team

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<p>notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. The reference to the <i>Electric System Restoration Document</i> has been removed. In addition, the simulation requirements in Requirement R7 and Requirement R10 are distinctly different. Requirement R10 strictly deals with blackstart and cranking paths, while Requirement R7 deals with the restoration of the entire transmission system. The team believes that the revised interpretation provides no far-reaching consequences to the version 2 standard.</p>				
Luther E. Fair	Gainesville Regional Utilities	1	Negative	I am voting "Negative" on the proposed interpretation because: 1) the proposed interpretation is inconsistent with the standard and misinterprets the existing requirement R7, thereby expanding the scope of the existing standard beyond what was originally intended, and 2) the interpretation imposes complex and burdensome simulation study requirements on Balancing Authorities and small Transmission Operators for facilities and loads that have no significant impact on the regional restoration plan.
<p><b>Response:</b> The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, EOP-005-1 requires each Transmission Operator to have a restoration plan, with associated procedures as defined in Attachment 1. Balancing Authorities are not required to have a plan or procedures. They are required to test their communication facilities, train their operating personnel in the implementation of the restoration plan, and verify the restoration procedure by actual testing or by simulation.</p>				
Francis J. Halpin	Bonneville Power Administration	5	Negative	I am voting No because the Interpretation seems to negate the "OR" in requirement R7 making it an "AND".
<p><b>Response:</b> The drafting team thanks you for your comments. The response to question 1 has been modified to incorporate your comments.</p>				
Thomas W Richards	Fort Pierce Utilities Authority	4	Negative	I have four reasons for my negative vote. 1) the interpretation sweeps in the "Electric System Restoration Reference Document" into the standard, essentially making portions of the document an attachment to the standard; 2) the interpretation prescribes the types of power system analyses required to meet the power system analyses portions of the standard, and prescribes more studies than are detailed in the Version 2 standard (e.g., electromagnetic transient studies), EOP-005-2, pending regulatory approval; 3) the interpretation misinterprets the use of the word "simulate" in R7 and fails to take the correct context of requirement R7 into account, since R7 applies to both TOPs and BAs, as does R6, the word "simulate" should have the same meaning as the word as used in R6, and not as the word "simulate" is used in R10 which only applies to TOPs; and 4) the interpretation has far-reaching consequences to the Version 2 standard, requiring more power system analyses than is currently required in the Version 2 standard, requiring analyses beyond the "state whereby the choice of the next Load to be restored is not driven by the need to control frequency or voltage".
<p><b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and</p>				

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<p>has revised the responses to question 1 and question 2 accordingly. In addition, the simulation requirements in Requirement R7 and Requirement R10 are distinctly different. Requirement R10 strictly deals with blackstart and cranking paths, while Requirement R7 deals with the restoration of the entire transmission system. The team believes that the revised interpretation provides no far-reaching consequences to the version 2 standard.</p>				
Bob C. Thomas	Illinois Municipal Electric Agency	4	Negative	IMEA is voting Negative in support of concerns that the interpretation effectively attaches portions of the "Electric System Restoration Reference Document" to the standard, prescribes the types of power system analyses required, misinterprets the use of "simulate" in R7, and requires more power system analyses than proposed in version 2 of EOP-005.
<p><b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, the simulation requirements in Requirement R7 and Requirement R10 are distinctly different. Requirement R10 strictly deals with blackstart and cranking paths, while Requirement R7 deals with the restoration of the entire transmission system. The team believes that the revised interpretation provides no far-reaching consequences to the version 2 standard.</p>				
Tim Kelley	Sacramento Municipal Utility District	1	Negative	In its interpretation response for control area restoration plans the elements are over prescriptive than what is detailed in the current and proposed standard versions. Additionally, in reference to the restoration by simulation verification, the interpretation states analytical tools used to verify safe operation that include powerflow, transient stability, dynamics, etc. in an attempt to address small TOPs by possible incorporation of the smaller TOP in larger TOP's plan. This interpretation fails to recognize that larger neighbors of RC will not typically include small TOP without blackstart units in their power system studies.
James Leigh-Kendall	Sacramento Municipal Utility District	3	Negative	In its interpretation response for control area restoration plans the elements are over prescriptive than what is detailed in the current and proposed standard versions. Additionally, in reference to the restoration by simulation verification, the interpretation states analytical tools used to verify safe operation that include powerflow, transient stability, dynamics, etc. in an attempt to address small TOPs by possible incorporation of the smaller TOP in larger TOP's plan. This interpretation fails to recognize that larger neighbors of RC will not typically include small TOP without blackstart units in their power system studies.
Mike Ramirez	Sacramento Municipal Utility District	4	Negative	In its interpretation response for control area restoration plans the elements are over prescriptive than what is detailed in the current and proposed standard versions. Additionally, in reference to the restoration by simulation verification, the interpretation states analytical tools used to verify safe operation that include powerflow, transient stability, dynamics, etc. in an attempt to address small TOPs by possible incorporation of the smaller TOP in larger TOP's plan. This interpretation fails to recognize that larger neighbors of RC will not typically include small TOP without blackstart units in their power

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				system studies.
Bethany Wright	Sacramento Municipal Utility District	5	Negative	In its interpretation response for control area restoration plans the elements are over prescriptive than what is detailed in the current and proposed standard versions. Additionally, in reference to the restoration by simulation verification, the interpretation states analytical tools used to verify safe operation that include powerflow, transient stability, dynamics, etc. in an attempt to address small TOPs by possible incorporation of the smaller TOP in larger TOP's plan. This interpretation fails to recognize that larger neighbors of RC will not typically include small TOP without blackstart units in their power system studies.

**Response:** [The drafting team thanks you for your comments. The response to question 1 has been modified to incorporate your comments.](#)

Robert Martinko	FirstEnergy Energy Delivery	1	Negative	In Question 1 FMPA asks what is meant by the phrase “verify the restoration procedure” and by the term “simulation” in requirement R7. FirstEnergy believes the provided Interpretation to this question expands the requirements of the EOP-005-1 standard. The inclusion of text from the Electric System Restoration Reference Document and details of items that might typically be included in a restoration plan appear to set a new compliance benchmark. For example, the reference to “Selection of critical alarms from the alarm information available” is not a requirement within EOP-005-1 nor is it listed in the Attachment 1 items included in the EOP-005-1 standard. Furthermore, the stated example presents information within the interpretation response that is not pertinent to the question raised by FMPA. Also, the interpretation states that verification through simulation is limited to information obtained through analytical tools such as power flow, dynamics, etc. However, the standard does not prohibit the simulation of restoration steps through table top drills. An interpretation must conservatively clarify a standard as currently written, and its adoption should lead to improvements in the standard through the ANSI Approved NERC Standards Development Process. Furthermore, in the case of the EOP Blackstart standards, development has been completed to more succinctly describe the requirements regarding simulating and verifying of a blackstart restoration plan through computerized analytical tools. Version 2 of standard EOP-005, which is NERC Board approved and pending applicable regulatory approvals alleviates the ambiguity and clarifies what is required. The new standard also allows for a 24 month implementation plan whereas this EOP-005-1 Interpretation would become effective immediately upon regulatory approval. FE suggests the following response to Question 1, which we feel is a more concise answer and which also removes the additional reference guide information that is not relevant to the request from FMPA: “Verifying the restoration procedure means establishing that the restoration procedure is technically sound and can progress as planned. When verifying a restoration plan through simulation, the EOP-005-1 does not explicitly require the use of analytical tools such as steady-state or dynamic analysis and the use of table top exercises is permissible for verification.” FMPA’s Question 2 states “For a TOP without any blackstart facilities in its restoration plan, can exercises and tabletop drills be used to meet Requirement R7 by verifying the restoration procedure through tabletop simulations?” While we are
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Voter	Entity	Segment	Vote	Comment
				<p>concerned that the question appears to be a question specific to an entity's compliance to the standard, is outside the scope of the interpretation process, and should not be addressed by the drafting team; we feel that the accuracy of the interpretation response offered for this question could be improved. We suggest the following: "EOP-005-1, and specifically requirement R7, does not distinguish between different classifications of TOPs, that is, TOPs who have blackstart capable units within their footprint and those who do not. As stated above in Question 1, tabletop drills are permissible when simulating a blackstart plan per EOP-005-1."</p>
<p>Joanne Kathleen Borrell</p>	<p>FirstEnergy Solutions</p>	<p>3</p>	<p>Negative</p>	<p>In Question 1 FMPA asks what is meant by the phrase "verify the restoration procedure" and by the term "simulation" in requirement R7. FirstEnergy believes the provided Interpretation to this question expands the requirements of the EOP-005-1 standard. The inclusion of text from the Electric System Restoration Reference Document and details of items that might typically be included in a restoration plan appear to set a new compliance benchmark. For example, the reference to "Selection of critical alarms from the alarm information available" is not a requirement within EOP-005-1 nor is it listed in the Attachment 1 items included in the EOP-005-1 standard. Furthermore, the stated example presents information within the interpretation response that is not pertinent to the question raised by FMPA. Also, the interpretation states that verification through simulation is limited to information obtained through analytical tools such as power flow, dynamics, etc. However, the standard does not prohibit the simulation of restoration steps through table top drills. An interpretation must conservatively clarify a standard as currently written, and its adoption should lead to improvements in the standard through the ANSI Approved NERC Standards Development Process. Furthermore, in the case of the EOP Blackstart standards, development has been completed to more succinctly describe the requirements regarding simulating and verifying of a blackstart restoration plan through computerized analytical tools. Version 2 of standard EOP-005, which is NERC Board approved and pending applicable regulatory approvals alleviates the ambiguity and clarifies what is required. The new standard also allows for a 24 month implementation plan whereas this EOP-005-1 Interpretation would become effective immediately upon regulatory approval. FE suggests the following response to Question 1, which we feel is a more concise answer and which also removes the additional reference guide information that is not relevant to the request from FMPA: "Verifying the restoration procedure means establishing that the restoration procedure is technically sound and can progress as planned. When verifying a restoration plan through simulation, the EOP-005-1 does not explicitly require the use of analytical tools such as steady-state or dynamic analysis and the use of table top exercises is permissible for verification." FMPA's Question 2 states "For a TOP without any blackstart facilities in its restoration plan, can exercises and tabletop drills be used to meet Requirement R7 by verifying the restoration procedure through tabletop simulations?" While we are concerned that the question appears to be a question specific to an entity's compliance to the standard, is outside the scope of the interpretation process, and should not be addressed by the drafting team; we feel that the accuracy of the interpretation response offered for this question could be improved. We suggest the following: "EOP-005-1, and specifically requirement R7, does not distinguish between</p>

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				different classifications of TOPs, that is, TOPs who have blackstart capable units within their footprint and those who do not. As stated above in Question 1, tabletop drills are permissible when simulating a blackstart plan per EOP-005-1."
Douglas Hohlbaugh	Ohio Edison Company	4	Negative	<p>In Question 1 FMPA asks what is meant by the phrase "verify the restoration procedure" and by the term "simulation" in requirement R7. FirstEnergy believes the provided Interpretation to this question expands the requirements of the EOP-005-1 standard. The inclusion of text from the Electric System Restoration Reference Document and details of items that might typically be included in a restoration plan appear to set a new compliance benchmark. For example, the reference to "Selection of critical alarms from the alarm information available" is not a requirement within EOP-005-1 nor is it listed in the Attachment 1 items included in the EOP-005-1 standard. Furthermore, the stated example presents information within the interpretation response that is not pertinent to the question raised by FMPA. Also, the interpretation states that verification through simulation is limited to information obtained through analytical tools such as power flow, dynamics, etc. However, the standard does not prohibit the simulation of restoration steps through table top drills. An interpretation must conservatively clarify a standard as currently written, and its adoption should lead to improvements in the standard through the ANSI Approved NERC Standards Development Process. Furthermore, in the case of the EOP Blackstart standards, development has been completed to more succinctly describe the requirements regarding simulating and verifying of a blackstart restoration plan through computerized analytical tools. Version 2 of standard EOP-005, which is NERC Board approved and pending applicable regulatory approvals alleviates the ambiguity and clarifies what is required. The new standard also allows for a 24 month implementation plan whereas this EOP-005-1 Interpretation would become effective immediately upon regulatory approval. FE suggests the following response to Question 1, which we feel is a more concise answer and which also removes the additional reference guide information that is not relevant to the request from FMPA: "Verifying the restoration procedure means establishing that the restoration procedure is technically sound and can progress as planned. When verifying a restoration plan through simulation, the EOP-005-1 does not explicitly require the use of analytical tools such as steady-state or dynamic analysis and the use of table top exercises is permissible for verification." FMPA's Question 2 states "For a TOP without any blackstart facilities in its restoration plan, can exercises and tabletop drills be used to meet Requirement R7 by verifying the restoration procedure through tabletop simulations?" While we are concerned that the question appears to be a question specific to an entity's compliance to the standard, is outside the scope of the interpretation process, and should not be addressed by the drafting team; we feel that the accuracy of the interpretation response offered for this question could be improved. We suggest the following: "EOP-005-1, and specifically requirement R7, does not distinguish between different classifications of TOPs, that is, TOPs who have blackstart capable units within their footprint and those who do not. As stated above in Question 1, tabletop drills are permissible when simulating a blackstart plan per EOP-005-1."</p>

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Kenneth Dresner	FirstEnergy Solutions	5	Negative	<p>In Question 1 FMPA asks what is meant by the phrase “verify the restoration procedure” and by the term “simulation” in requirement R7. FirstEnergy believes the provided Interpretation to this question expands the requirements of the EOP-005-1 standard. The inclusion of text from the Electric System Restoration Reference Document and details of items that might typically be included in a restoration plan appear to set a new compliance benchmark. For example, the reference to “Selection of critical alarms from the alarm information available” is not a requirement within EOP-005-1 nor is it listed in the Attachment 1 items included in the EOP-005-1 standard. Furthermore, the stated example presents information within the interpretation response that is not pertinent to the question raised by FMPA. Also, the interpretation states that verification through simulation is limited to information obtained through analytical tools such as power flow, dynamics, etc. However, the standard does not prohibit the simulation of restoration steps through table top drills. An interpretation must conservatively clarify a standard as currently written, and its adoption should lead to improvements in the standard through the ANSI Approved NERC Standards Development Process. Furthermore, in the case of the EOP Blackstart standards, development has been completed to more succinctly describe the requirements regarding simulating and verifying of a blackstart restoration plan through computerized analytical tools. Version 2 of standard EOP-005, which is NERC Board approved and pending applicable regulatory approvals alleviates the ambiguity and clarifies what is required. The new standard also allows for a 24 month implementation plan whereas this EOP-005-1 Interpretation would become effective immediately upon regulatory approval. FE suggests the following response to Question 1, which we feel is a more concise answer and which also removes the additional reference guide information that is not relevant to the request from FMPA: “Verifying the restoration procedure means establishing that the restoration procedure is technically sound and can progress as planned. When verifying a restoration plan through simulation, the EOP-005-1 does not explicitly require the use of analytical tools such as steady-state or dynamic analysis and the use of table top exercises is permissible for verification.” FMPA’s Question 2 states “For a TOP without any blackstart facilities in its restoration plan, can exercises and tabletop drills be used to meet Requirement R7 by verifying the restoration procedure through tabletop simulations?” While we are concerned that the question appears to be a question specific to an entity’s compliance to the standard, is outside the scope of the interpretation process, and should not be addressed by the drafting team; we feel that the accuracy of the interpretation response offered for this question could be improved. We suggest the following: “EOP-005-1, and specifically requirement R7, does not distinguish between different classifications of TOPs, that is, TOPs who have blackstart capable units within their footprint and those who do not. As stated above in Question 1, tabletop drills are permissible when simulating a blackstart plan per EOP-005-1.”</p>

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Mark S Travaglianti	FirstEnergy Solutions	6	Negative	<p>In Question 1 FMPA asks what is meant by the phrase “verify the restoration procedure” and by the term “simulation” in requirement R7. FirstEnergy believes the provided Interpretation to this question expands the requirements of the EOP-005-1 standard. The inclusion of text from the Electric System Restoration Reference Document and details of items that might typically be included in a restoration plan appear to set a new compliance benchmark. For example, the reference to “Selection of critical alarms from the alarm information available” is not a requirement within EOP-005-1 nor is it listed in the Attachment 1 items included in the EOP-005-1 standard. Furthermore, the stated example presents information within the interpretation response that is not pertinent to the question raised by FMPA. Also, the interpretation states that verification through simulation is limited to information obtained through analytical tools such as power flow, dynamics, etc. However, the standard does not prohibit the simulation of restoration steps through table top drills. An interpretation must conservatively clarify a standard as currently written, and its adoption should lead to improvements in the standard through the ANSI Approved NERC Standards Development Process. Furthermore, in the case of the EOP Blackstart standards, development has been completed to more succinctly describe the requirements regarding simulating and verifying of a blackstart restoration plan through computerized analytical tools. Version 2 of standard EOP-005, which is NERC Board approved and pending applicable regulatory approvals alleviates the ambiguity and clarifies what is required. The new standard also allows for a 24 month implementation plan whereas this EOP-005-1 Interpretation would become effective immediately upon regulatory approval. FE suggests the following response to Question 1, which we feel is a more concise answer and which also removes the additional reference guide information that is not relevant to the request from FMPA: “Verifying the restoration procedure means establishing that the restoration procedure is technically sound and can progress as planned. When verifying a restoration plan through simulation, the EOP-005-1 does not explicitly require the use of analytical tools such as steady-state or dynamic analysis and the use of table top exercises is permissible for verification.” FMPA’s Question 2 states “For a TOP without any blackstart facilities in its restoration plan, can exercises and tabletop drills be used to meet Requirement R7 by verifying the restoration procedure through tabletop simulations?” While we are concerned that the question appears to be a question specific to an entity’s compliance to the standard, is outside the scope of the interpretation process, and should not be addressed by the drafting team; we feel that the accuracy of the interpretation response offered for this question could be improved. We suggest the following: “EOP-005-1, and specifically requirement R7, does not distinguish between different classifications of TOPs, that is, TOPs who have blackstart capable units within their footprint and those who do not. As stated above in Question 1, tabletop drills are permissible when simulating a blackstart plan per EOP-005-1.”</p>

**Response:** The drafting team thanks you for your comments. The reference to the *Electric System Restoration Document* has been removed. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between “simulation” and “simulated exercises,” and has revised the responses to question 1 and question 2 accordingly. In addition, the simulation requirements in Requirement R7 and Requirement R10 are distinctly

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different. Requirement R10 strictly deals with blackstart and cranking paths, while Requirement R7 deals with the restoration of the entire transmission system. The team believes that the revised interpretation provides no far-reaching consequences to the version 2 standard. While it is correct that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC, the team must provide an interpretation based solely on the wording in version 1.				
Jalal (John) Babik	Dominion Resources, Inc.	3	Negative	In support of PJM comments
<b>Response:</b> The drafting team thanks you for your comments. Please see the response to PJM's comments.				
Benjamin Church	FPL Energy	5	Negative	Interpretation is overreaching and goes beyond the boundaries of the standard.
<b>Response:</b> The drafting team thanks you for your comments. The interpretation has been modified.				
Brandy A Dunn	Western Area Power Administration	1	Negative	It is still not clear in this interpretation why a simulation is required. Not every utility has the resources available to run restoration and blackstart scenarios on a simulator. Tabletop exercises can be excellent learning opportunities because they require operators to communicate in situations they are not used to, and it allows them to find ways to work around potential problems. Simulators often make the whole restoration/blackstart training scenario too routine. Tabletop drills can be performed in such a way that they simulate what might happen if a utility or area were to lose access to many of its tools that it normally relies on so heavily (SCADA, AGC, E-tag, etc).
<b>Response:</b> The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly.				
Chifong L. Thomas	Pacific Gas and Electric Company	1	Negative	PG&E believes that portions of the interpretation are appropriate, but that overall, the interpretation leaves vague the level of simulations that must be conducted. PG&E agrees that the interpretation of the phrase "verify the restoration procedure" is appropriate. PG&E also agrees that some level of simulation must be conducted on key components of the restoration procedure, but that a simulation of the entire procedure is unnecessary and given the number of potential restoration scenarios, unlikely that simulation of all potential situations could be achieved. PG&E also notes that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC. Specific simulation requirements are identified in this revised version. PG&E believes the interpretation should provide the level of clarity identified in the revised standard on the level of simulation required. Detailed comments are as follows: In the response to Question 1, the term "entire plan" is relative and once again is open to interpretation. With large systems it would be very difficult to predict how or where a system would separate, therefore, the number of scenarios and the assumptions to these scenarios would be overwhelming. The restoration concepts in mitigating inoperable conditions (high/low voltages and frequency) and the

Voter	Entity	Segment	Vote	Comment
				<p>strategies for restoration are the primary concerns. That is why simulations mimicking a disturbance scenario and the training of operators are more critical. The verification of “each significant restoration action” is secondary because the steps of restoration are highly dependent on the pre-disturbance state of the system as well as the availability/ unavailability of equipment for restoration. The steps of restoration can very well vary if the same disturbance occurred in the off-peak period of the winter versus the peak day of the summer therefore the steps or significant actions are only relevant to a specific scenario. The major issue is the definition of procedure. A procedure is a step-by-step, list of instructions that one would NOT deviate from. The very nature of the power system is dynamic; therefore to impose strict procedural criteria to what should be “guidelines” for restoring a dynamic system is highly questionable. The interpretation also states that there are analytical tools used to verify safe operations, and lists general engineering tools that are typically used in industry followed by an “etc.” which, once again, is open to interpretation. In any case, NERC standards should define “what” and not “how” a standard is to be met. For these reasons, PG&amp;E is casting a “no” vote.</p>

**Response:** The drafting team thanks you for your comments. The response to question 1 has been modified to incorporate your comments. While it is correct that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC, the team must provide an interpretation based solely on the wording in version 1.

Richard J. Padilla	Pacific Gas and Electric Company	5	Negative	<p>PG&amp;E believes that portions of the interpretation are appropriate, but that overall, the interpretation leaves vague the level of simulations that must be conducted. PG&amp;E agrees that the interpretation of the phrase “verify the restoration procedure” is appropriate. PG&amp;E also agrees that some level of simulation must be conducted on key components of the restoration procedure, but that a simulation of the entire procedure is unnecessary and given the number of potential restoration scenarios, unlikely that simulation of all potential situations could be achieved. PG&amp;E also notes that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC. Specific simulation requirements are identified in this revised version. PG&amp;E believes the interpretation should provide the level of clarity identified in the revised standard on the level of simulation required. Detailed comments are as follows: In the response to Question 1, the term “entire plan” is relative and once again is open to interpretation. With large systems it would be very difficult to predict how or where a system would separate, therefore, the number of scenarios and the assumptions to these scenarios would be overwhelming. The restoration concepts in mitigating inoperable conditions (high/low voltages and frequency) and the strategies for restoration are the primary concerns. That is why simulations mimicking a disturbance scenario and the training of operators are more critical. The verification of “each significant restoration action” is secondary because the steps of restoration are highly dependent on the pre-disturbance state of the system as well as the availability/ unavailability of equipment for restoration. The steps of restoration can very well vary if the same disturbance occurred in the off-peak period of the winter versus the peak day of the summer therefore the steps or significant actions are only relevant to a specific scenario. The major issue is the definition of procedure. A procedure is a step-by-step, list of</p>
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				instructions that one would NOT deviate from. The very nature of the power system is dynamic; therefore to impose strict procedural criteria to what should be "guidelines" for restoring a dynamic system is highly questionable. The interpretation also states that there are analytical tools used to verify safe operations, and lists general engineering tools that are typically used in industry followed by an "etc." which, once again, is open to interpretation. In any case, NERC standards should define "what" and not "how" a standard is to be met. For these reasons, PG&E is casting a "no" vote.
<b>Response:</b> The drafting team thanks you for your comments. The response to question 1 has been modified to incorporate your comments. While it is correct that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC, the team must provide an interpretation based solely on the wording in version 1.				
John Tolo	Tucson Electric Power Co.	1	Negative	Portions of the interpretation are appropriate, but overall, the interpretation leaves vague the level of simulations that must be conducted. The interpretation of the phrase "verify the restoration procedure" is appropriate. It is also agreed that some level of simulation must be conducted on key components of the restoration procedure, but that a simulation of the entire procedure is unnecessary and given the number of potential restoration scenarios, unlikely that simulation of all potential situations could be achieved. A revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC and specific simulation requirements are identified in the revised version. The interpretation should provide the level of clarity identified in the revised standard on the level of simulation required.
<b>Response:</b> The drafting team thanks you for your comments. The response to question 1 has been modified to incorporate your comments. While it is correct that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC, the team must provide an interpretation based solely on the wording in version 1.				
Sammy Roberts	Progress Energy Carolinas	1	Negative	Progress is voting Negative and supports the comments submitted by FMPA in this Project.
Lee Schuster	Florida Power Corporation	3	Negative	Progress is voting Negative and supports the comments submitted by FMPA in this Project.
Sam Waters	Progress Energy Carolinas	3	Negative	Progress is voting Negative and supports the comments submitted by FMPA in this Project.
Wayne Lewis	Progress Energy Carolinas	5	Negative	Progress is voting Negative and supports the comments submitted by FMPA in this Project
<b>Response:</b> The drafting team thanks you for your comments. Please see the response to FMPA's comments.				

Voter	Entity	Segment	Vote	Comment
Kenneth D. Brown	Public Service Electric and Gas Co.	1	Negative	PSEG agrees with the concerns set forth below expressed by FMPA, and particularly is concerned that the interpretation would substantively modify the Standard without having followed the proper standards development process. The interpretation "sweeps" in the "Electric System Restoration Reference Document" into the standard, essentially making portions of the document an attachment to the standard. The interpretation prescribes the types of power system analyses required to meet the power system analyses portions of the standard (in FMPA's opinion, R10), and prescribes more studies than are detailed in the Version 2 standard, EOP-005-2, currently pending regulatory approval. The interpretation misinterprets the use of the word "simulate" in R7 and fails to take the correct context of requirement R7 into account. The interpretation has far-reaching consequences to the Version 2 standard, requiring more power system analyses than is currently required in the Version 2 standard. "

**Response:** The drafting team thanks you for your comments. The reference to the *Electric System Restoration Document* has been removed. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, the simulation requirements in Requirement R7 and Requirement R10 are distinctly different. Requirement R10 strictly deals with blackstart and cranking paths, while Requirement R7 deals with the restoration of the entire transmission system. The team believes that the revised interpretation provides no far-reaching consequences to the version 2 standard.

James D. Hebson	PSEG Energy Resources & Trade LLC	6	Negative	PSEG agrees with the concerns set forth below expressed by FMPA, and particularly is concerned that the interpretation would substantively modify the Standard without having followed the proper standards development process. The interpretation "sweeps" the "Electric System Restoration Reference Document" into the standard essentially making portions of the document an attachment to the standard. The interpretation prescribes the types of power system analyses required to meet the the power system analyses portions of the standard (in FMPA's opinion, R10) and precribes more studies than are detailed in the Version 2 standard, EOP-005-2, currently pending regulatory approval. The interpretation misinterprets the use of the word "simulate" in R7 and fails to take the correct context of requirement R7 into account. The interpretation has far-reaching consequences to the Version 2 standard, requiring more power system analyses than are currently required in the Version 2 standard.
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**Response:** The drafting team thanks you for your comments. The reference to the *Electric System Restoration Document* has been removed. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, the simulation requirements in Requirement R7 and Requirement R10 are distinctly different. Requirement R10 strictly deals with blackstart and cranking paths, while Requirement R7 deals with the restoration of the entire transmission system. The team believes that the revised interpretation provides no far-reaching consequences to the version 2 standard.

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Mace Hunter	Lakeland Electric	3	Negative	Reasons for negative vote: 1. The interpretation "sweeps" in the "Electric System Restoration Reference Document" into the standard, essentially making portions of the document an attachment to the standard 2. The interpretation prescribes the types of power system analyses required to meet the power system analyses portions of the standard (in FMPA's opinion, R10), and prescribes more studies than are detailed in the Version 2 standard, EOP-005-2, pending regulatory filing 3. The interpretation misinterprets the use of the word "simulate" in R7 and fails to take the correct context of requirement R7 into account 4. The interpretation has far-reaching consequences to the Version 2 standard, requiring more power system analyses than is currently required in the Version 2 standard.
<p><b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, the simulation requirements in Requirement R7 and Requirement R10 are distinctly different. Requirement R10 strictly deals with blackstart and cranking paths, while Requirement R7 deals with the restoration of the entire transmission system. The team believes that the revised interpretation provides no far-reaching consequences to the version 2 standard.</p>				
Alan Adamson	New York State Reliability Council	10	Negative	Reference to the "Electric System Restoration Guideline" and its contents in the interpretation, we believe, represents an expansion in the scope and change to the existing requirements in EOP-005-1.
<p><b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed.</p>				
Michael Schiavone	Niagara Mohawk (National Grid Company)	3	Negative	Regarding the interpretation of what "simulation", in the context of R7, since R7 applies to both TOPs and BAs, and since it applies to the "restoration procedure", essentially synonymous with the "restoration plan" as used in R6, it cannot mean power system analyses and instead should have the meaning of realistic simulation as described in the NERC Blackout Report and as used in R6.
<p><b>Response:</b> The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly.</p>				
Gregory J Le Grave	Wisconsin Public Service Corp.	3	Negative	Response to Question #1 of the interpretation speaks directly to what the necessary restoration plan elements are as outlined in the Electric System Restoration Document. Clarification needs to be made if it is intended that these elements are to become part of the standard because of this interpretation. We can agree that "verification of the procedure" means establishing that the restoration procedure is technically sound and progresses in a logical order and ensures that an essential function is not overlooked. Response to Question #2 interprets the term simulation to mean modeling through the use of several engineering studies rather than exercising the restoration plan to determine feasibility by using a tabletop exercise for example. We disagree with that interpretation as a broadening of the intent of the standard

Voter	Entity	Segment	Vote	Comment
Christopher Plante	Integrus Energy Group, Inc.	4	Negative	Response to Question #1 of the interpretation speaks directly to what the necessary restoration plan elements are as outlined in the Electric System Restoration Document. Clarification needs to be made if it is intended that these elements are to become part of the standard because of this interpretation. We can agree that "verification of the procedure" means establishing that the restoration procedure is technically sound and progresses in a logical order and ensures that an essential function is not overlooked. Response to Question #2 interprets the term simulation to mean modeling through the use of several engineering studies rather than exercising the restoration plan to determine feasibility by using a tabletop exercise for example. We disagree with that interpretation as a broadening of the intent of the standard.

**Response:** The drafting team thanks you for your comments. The reference to the *Electric System Restoration Document* has been removed.

Thomas J. Bradish	RRI Energy	5	Negative	RRI voted negative for the following reasons. We support the position of FMPA that; "The standard is ambiguous on what simulation means for those without blackstart, in other words, what are we measuring if there are no "blackstart units or Cranking Paths identified"? How does the measure apply if a power system simulation cannot model whether a blackstart and Cranking Path can "perform their intended functions as required in the regional restoration plan" because there is no blackstart or Cranking path; and hence, no intended function of such? Using this, FMPA could argue that no simulation is required at all by TOPs without black-start or Cranking Paths since the Measure does not apply; however, that is not our position. Our position is that "verify the restoration procedure" and "simulation" have a different meaning for those TOPs without blackstart." We also support the position of the WECC SME's; WECC subject matter experts (SMEs) on Emergency Preparedness and Operations Standards reviewed the proposed interpretation of EOP-005-1. The SME's conclusion is that portions of the interpretation are appropriate, but that overall, the interpretation leaves vague the level of simulations that must be conducted, and for this reason are recommending a NO vote. The SMEs agree that the interpretation of the phrase "verify the restoration procedure" is appropriate. The SMEs also agree that some level of simulation must be conducted on key components of the restoration procedure, but that a simulation of the entire procedure is unnecessary and given the number of potential restoration scenarios, unlikely that simulation of all potential situations could be achieved. The SMEs also noted that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC. Specific simulation requirements are identified the revised version. The SMEs indicated that they believe the interpretation should provide the level of clarity identified in the revised standard on the level of simulation required
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**Response:** The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, the simulation requirements in Requirement R7 and Requirement R10 are distinctly different. Requirement R10 strictly deals with blackstart and cranking paths, while

Voter	Entity	Segment	Vote	Comment
Requirement R7 deals with the restoration of the entire transmission system. While it is correct that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC, the team must provide an interpretation based solely on the wording in version 1.				
Dana Cabbell	Southern California Edison Co.	1	Negative	SCE understands and agrees that a simulation must be conducted on key components of the restoration procedure, but does not believe that a simulation of the entire restoration procedure is necessary or even possible given the number of potential restoration scenarios. SCE believes that the interpretation should be revised in order to provide clear and specific simulation requirements."
David Schiada	Southern California Edison Co.	3	Negative	SCE understands and agrees that a simulation must be conducted on key components of the restoration procedure, but does not believe that a simulation of the entire restoration procedure is necessary or even possible given the number of potential restoration scenarios. SCE believes that the interpretation should be revised in order to provide clear and specific simulation requirements.
<b>Response:</b> The drafting team thanks you for your comments. The interpretation has been modified.				
Edwin Les Barrow	City Public Service of San Antonio	3	Negative	Simulation used to verify a plan in this context should not necessarily require the use of sophisticated tools such as power flow, stability, dynamic and transient analysis software. This interpretation is over-reaching and seems to go beyond the level of the version 2 standard.
<b>Response:</b> The drafting team thanks you for your comments. The interpretation has been modified.				
Robert Kondziolka	Salt River Project	1	Negative	SRP is concerned that by including excerpts from the "Electric System Restoration Reference Document" within the proposed Interpretation, the scope of Standard EOP-005-1 is significantly expanded. SRP believes this is inappropriate in that inclusion of this material circumvents the NERC Standards Development Process.
John T. Underhill	Salt River Project	3	Negative	SRP is concerned that by including excerpts from the "Electric System Restoration Reference Document" within the proposed Interpretation, the scope of Standard EOP-005-1 is significantly expanded. SRP believes this is inappropriate in that inclusion of this material circumvents the NERC Standards Development Process.
Glen Reeves	Salt River Project	5	Negative	SRP is concerned that by including excerpts from the "Electric System Restoration Reference Document" within the proposed Interpretation, the scope of Standard EOP-005-1 is significantly expanded. SRP believes this is inappropriate in that inclusion of this material circumvents the NERC Standards Development Process.
Mike	Salt River Project	6	Negative	SRP is concerned that by including excerpts from the "Electric System Restoration Reference Document" within the proposed Interpretation, the scope of Standard EOP-005-1 is significantly expanded. SRP

Voter	Entity	Segment	Vote	Comment
Hummel				believes this is inappropriate in that inclusion of this material circumvents the NERC Standards Development Process.
<b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed.				
Tom Bowe	PJM Interconnection, L.L.C.	2	Negative	Summary This Interpretation deserves a NEGATIVE vote for the following reasons: 1. The Interpretation introduces new requirements rather than justifying / explaining the current requirements in question 2. The Interpretation proposes to expand Reliability Standards to include a NERC Reference Document For Question 1, rather than to identify NERC standards that would clarify the meaning of “verify”, the Interpretation Team decided to quote a NERC Reference Guide. The issue with using this, or any other Reference Guide is that “Guides” provide examples of what can be done; they are not requirements for what must be done. Guidelines are neither vetted nor balloted. Guideline developers are not asked to justify the global application of their examples, rather the developers provide tutorial help for those who are seeking ideas behind and about a current industry practice. To support this Interpretation will open the NERC Reliability Standards to include every NERC Guideline. Neither the NERC Rules of Procedures nor any FERC Order allows for mandating processes and procedures that have not been previously reviewed and approved by the Industry or by the FERC. Furthermore, the Interpretation Team introduces its own subjective definition of the concept of verification. It does not and cannot not find explicit justification for the Team’s decision introduce the undefined mandate that the verification be “technically sound”. The reason for a standard is to define “technically sound”. The Team also introduces the concept of “typical” plans. “Typical” is not only undefined it is not a rational basis for a reliability standard. The last concept of imposing a new requirement based on the size of a TOP is totally unacceptable. The NERC standards for a given functional entity must be applicable to every functional entity in that class. The Interpretation Team is proposing to introduce the concept of size into NERC standards. This Team cannot and must not be allowed to introduce their own subjective ideas concerning who is too small or who is too big. For Question 2, the Interpretation Team has provided a de facto decision (i.e. “the team interprets that tabletop exercises ... cannot be used to meet the simulation requirements” ) without citation of any kind. This decision does not provide clarity or justification. An Interpretation Team is not a Drafting Team. If the Team finds justification for a position then the Team must show that justification. However, if there is no justification, then the Team must simply state that a new standard is required.
<b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between “simulation” and “simulated exercises,” and has revised the responses to question 1 and question 2 accordingly. In addition, the response to question 2 has been modified.				

Voter	Entity	Segment	Vote	Comment
James L. Jones	Southwest Transmission Cooperative, Inc.	1	Negative	SWTC is voting Negative on the proposed interpretation because: 1) the interpretation is inconsistent with the standard and misinterprets the existing requirement R7, thereby expanding the scope of the existing standard beyond what was originally intended, and 2) the interpretation imposes complex and burdensome simulation study requirements on Balancing Authorities and small Transmission Operators for facilities and loads that have no significant impact on the regional restoration plan.

**Response:** The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between “simulation” and “simulated exercises,” and has revised the responses to question 1 and question 2 accordingly. In addition, EOP-005-1 requires each Transmission Operator to have a restoration plan, with associated procedures as defined in Attachment 1. Balancing Authorities are not required to have a plan or procedures. They are required to test their communication facilities, train their operating personnel in the implementation of the restoration plan, and verify the restoration procedure by actual testing or by simulation.

Linda R. Jacobson	City of Farmington	3	Negative	The FEUS's conclusion is that portions of the interpretation are appropriate, but that overall, the interpretation leaves vague the level of simulations that must be conducted. FEUS also agrees that some level of simulation must be conducted on key components of the restoration procedure, but that a simulation of the entire procedure is unnecessary and given the number of potential restoration scenarios, unlikely that simulation of all potential situations could be achieved. Also noted - a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC. Specific simulation requirements are identified the revised version.
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**Response:** The drafting team thanks you for your comments. The response to question 1 has been modified to incorporate your comments. While it is correct that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC, the team must provide an interpretation based solely on the wording in version 1.

Jonathan Appelbaum	Long Island Power Authority	1	Negative	The interpretation "sweeps" in the "Electric System Restoration Reference Document" into the standard, essentially making portions of the document an attachment to the standard. The interpretation prescribes the types of power system analyses required to meet the power system analyses portions of the standard (in FMPA's opinion, R10), and prescribes more studies than are detailed in the Version 2 standard, EOP-005-2, pending regulatory filing. It also seems to expand the horizon of RESTORATION from restoring a stable system, to restoring all load or every BES element. The interpretation misinterprets the use of the word "simulate" in R7 and fails to take the correct context of requirement R7 into account. I would feel more comfortable with: “verify the procedure” be interpreted as that the procedural steps for restoration are in the proper order, and have been established to reasonably expect that facility ratings will remain within normal limits during the restoration procedure.
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**Response:** The drafting team thanks you for your comments. The reference to the *Electric System Restoration Document* has been removed. The team has revisited

Voter	Entity	Segment	Vote	Comment
<p>the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, the simulation requirements in Requirement R7 and Requirement R10 are distinctly different. Requirement R10 strictly deals with blackstart and cranking paths, while Requirement R7 deals with the restoration of the entire transmission system. While it is correct that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC, the team must provide an interpretation based solely on the wording in version 1.</p>				
Thomas E Washburn	Florida Municipal Power Pool	2	Negative	The interpretation "sweeps" in the "Electric System Restoration Reference Document" into the standard, essentially making portions of the document an attachment to the standard. The interpretation prescribes the types of power system analyses required to meet the power system analyses portions of the standard (in FMPA's opinion, R10), and prescribes more studies than are detailed in the Version 2 standard, EOP-005-2, pending regulatory filing. The interpretation misinterprets the use of the word "simulate" in R7 and fails to take the correct context of requirement R7 into account. The interpretation has far-reaching consequences to the Version 2 standard, requiring more power system analyses than is currently required in the Version 2 standard.
<p><b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, the simulation requirements in Requirement R7 and Requirement R10 are distinctly different. Requirement R10 strictly deals with blackstart and cranking paths, while Requirement R7 deals with the restoration of the entire transmission system. While it is correct that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC, the team must provide an interpretation based solely on the wording in version 1.</p>				
Kathleen Goodman	ISO New England, Inc.	2	Negative	The interpretation appears to include the "Electric System Restoration Reference Document" as requirements for meeting compliance to the Standard. We do not believe the Interpretation process can be used to change Requirements within existing Standards.
<p><b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed.</p>				
Guy V. Zito	Northeast Power Coordinating Council, Inc.	10	Negative	The Interpretation as written, with references to the Electric System Restoration Document is viewed by many to represent expansion in the requirements. The standard should be revised appropriately to address the issue raised through the standards development process.
<p><b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed.</p>				
Paul Shipps	Lakeland Electric	6	Negative	The interpretation brings the Electric System Restoration Reference Document into the standard.
<p><b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed.</p>				

Voter	Entity	Segment	Vote	Comment
Eric Egge	Black Hills Corp	1	Negative	The interpretation describes the elements of a Restoration Plan that are beyond the elements in Attachment 1 - EOP-005-1. An interpretation can not increase the scope of a Standard. For example the SDT states a Plan needs a provision for Public Information. This is beyond the scope of the Request For Interpretation.
<b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed.				
Raymond Phillips	Alabama Municipal Electric Authority	4	Negative	The interpretation expands the scope of the existing standard beyond what was originally intended and misinterprets the existing requirement R7. The interpretation places an unnecessarily complex and burdensome simulation study requirement on Balancing Authorities and small Transmission Operators for facilities and loads that have no material impact on the regional restoration plan.
<b>Response:</b> The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, EOP-005-1 requires each Transmission Operator to have a restoration plan, with associated procedures as defined in Attachment 1. Balancing Authorities are not required to have a plan or procedures. They are required to test their communication facilities, train their operating personnel in the implementation of the restoration plan, and verify the restoration procedure by actual testing or by simulation.				
Tony Kroskey	Brazos Electric Power Cooperative, Inc.	1	Negative	The interpretation for Q1 says that verification of the restoration procedure means establishing that it is "technically sound" but does not clearly define what "technically sound" means or requires.
<b>Response:</b> The drafting team thanks you for your comments. The interpretation has been modified.				
John J. Blazekovich	Exelon Energy	1	Negative	The interpretation introduces elements from a reference document that was not included in the original Version 1 standard. Moreover the items pulled from the reference are stated as necessary items in a restoration plan. Given that these are currently NOT requirements in the version 1 standard, the interpretation has expanded / modified the requirements of the standard. This violates the standard development process.
<b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed.				
Rodney Phillips	Allegheny Power	1	Negative	The Interpretation introduces new requirements rather than justifying / explaining the current requirements in question. The Interpretation proposes to expand Reliability Standards to include a NERC Reference Document.

Voter	Entity	Segment	Vote	Comment
Bob Reeping	Allegheny Power	3	Negative	The Interpretation introduces new requirements rather than justifying / explaining the current requirements in question. The Interpretation proposes to expand Reliability Standards to include a NERC Reference Document.
<b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed.				
Martin Bauer	U.S. Bureau of Reclamation	5	Negative	The interpretation is flawed in that it introduces requirements outside of the standard, offers a solution to meeting the requirement rather than just an interpretation, and finally, does not provide a concise answer to one of the questions. The response to the first question provided has two issues. First is to imply a requirement is contained in a document which is not a Standard. We agree with the reference to the operating guide in the interpretation, however, we do not agree that it contains "necessary" plan elements. This implies that those plan elements must be tested during the verification process. Only the plan elements either stated in the standard, contained in the Agreement between the parties, or defined in the procedures of the parties are subject to verification. "...In the reference document that accompanied the operating guide used to develop this standard (Electric System Restoration Reference Document), the following are provided as necessary plan elements...." Second, the response provides more than an interpretation and may be taken as limited set of entities that could provide simulation services. It is unwise for the SDT to float a solution which could be taken as a pseudo requirement to only use those entities listed. "...The requirement does not state that every TOP has to physically perform simulation or testing; the requirement only mandates verifying the plan with simulation or testing. Another TOP, the Reliability Coordinator, or a contractor could perform testing or simulation on behalf of the smaller TOP...." The response to the second question is far too vague to be of value. The SDT should be specific as which requirements would be satisfied with the table top requirement rather than referring to "some requirements". "...Based on the reference document quoted above, the drafting team interprets that tabletop exercises can meet some of the requirements but cannot be used to meet the simulation requirements...."
<b>Response:</b> The drafting team thanks you for your comments. The interpretation has been modified. The reference to the <i>Electric System Restoration Document</i> has been removed.				
Ralph Frederick Meyer	Empire District Electric Co.	1	Negative	The interpretation is inconsistent with the standard and misinterprets the existing requirement 7, thereby expanding the scope of the existing standards beyond what was originally intended and the interpretation imposes complex and burdensome simulation study requirements on Balancing Authorities and small Transmission Operators for facilities and loads that have no significant impact on the regional restoration plan. Why is it when an interpretation is requested of a NERC standard the resultant is more requirements being added to the standard?

Voter	Entity	Segment	Vote	Comment
<p><b>Response:</b> The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, EOP-005-1 requires each Transmission Operator to have a restoration plan, with associated procedures as defined in Attachment 1. Balancing Authorities are not required to have a plan or procedures. They are required to test their communication facilities, train their operating personnel in the implementation of the restoration plan, and verify the restoration procedure by actual testing or by simulation.</p>				
Terry L Baker	Platte River Power Authority	3	Negative	The interpretation is inconsistent with the standard and misinterprets the existing requirement R7, thereby expanding the scope of the existing standard beyond what was originally intended. The interpretation also imposes complex and burdensome simulation study requirements on Balancing Authorities and small Transmission Operators for facilities and loads that have no significant impact on the regional restoration plan.
<p><b>Response:</b> The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, EOP-005-1 requires each Transmission Operator to have a restoration plan, with associated procedures as defined in Attachment 1. Balancing Authorities are not required to have a plan or procedures. They are required to test their communication facilities, train their operating personnel in the implementation of the restoration plan, and verify the restoration procedure by actual testing or by simulation.</p>				
Charles H Yeung	Southwest Power Pool	2	Negative	The interpretation is not clear on what a simulator must do to meet this standard. How robust does the simulator need to be? According to the interpretation, it needs to simulate "different operating conditions, such as pre-disturbance condition, post-disturbance status, and actual emergency operating condition. These tools include power flow, transient stability, long-term dynamics, voltage transients, short circuit, electromagnetic transient programs, etc."- This would entail a very robust simulator.
<p><b>Response:</b> The drafting team thanks you for your comments. The interpretation has been modified. The reference to the <i>Electric System Restoration Document</i> has been removed.</p>				
Thomas R. Glock	Arizona Public Service Co.	3	Negative	The interpretation is too far-reaching: It sweeps in an attachment to the standard that was not included in the original Version 1 standard The interpretation misinterprets what "simulation" means in the context of R7 Since R7 applies to both TOPs and BAs, and since it applies to the "restoration procedure", essentially synonymous with the "restoration plan" as used in R6, it cannot mean power system analyses and instead should have the meaning of realistic simulation as described in the NERC Blackout Report and as used in R6. The interpretation does not seem to understand the scope of power system analyses that are valuable to studying restoration from blackstart It prescribes unnecessary power system studies for R10, such as electromagnetic transient studies It requires studies of the regional restoration plan beyond the point where "the choice of the next Load to be restored is not driven by the need to control

Voter	Entity	Segment	Vote	Comment
				frequency or voltage"
<p><b>Response:</b> The drafting team thanks you for your comments. The team notes that there is a difference between a plan and a procedure, and the interpretation has been revised to correct this confusion. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, EOP-005-1 requires each Transmission Operator to have a restoration plan, with associated procedures as defined in Attachment 1. Balancing Authorities are not required to have a plan or procedures. They are required to test their communication facilities, train their operating personnel in the implementation of the restoration plan, and verify the restoration procedure by actual testing or by simulation.</p>				
Alden Briggs	New Brunswick System Operator	2	Negative	The interpretation is very lengthy and the reference to the Electric System Restoration Guideline and its contents represents an expansion in the scope and change to the existing requirements in EOP-005. Each Standard should be a stand alone document.
<p><b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed.</p>				
Marcus V Lotto	Southern California Edison Co.	6	Negative	The interpretation proposed by the drafting team on this project does not provide any additional clarity on this issue.
<p><b>Response:</b> The drafting team thanks you for your comments. The interpretation has been modified.</p>				
John D. Martinsen	Public Utility District No. 1 of Snohomish County	4	Negative	The proposed interpretation is inconsistent with the standard and misinterprets the existing requirement R7, thereby expanding the scope of the existing standard beyond what was originally intended. In addition the interpretation imposes complex and burdensome simulation study requirements on Balancing Authorities and small Transmission Operators for facilities and loads that have no significant impact on the regional restoration plan.
<p><b>Response:</b> The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, EOP-005-1 requires each Transmission Operator to have a restoration plan, with associated procedures as defined in Attachment 1. Balancing Authorities are not required to have a plan or procedures. They are required to test their communication facilities, train their operating personnel in the implementation of the restoration plan, and verify the restoration procedure by actual testing or by simulation.</p>				
Karl E. Kohlrus	City Water, Light & Power of Springfield	5	Negative	The proposed interpretation is inconsistent with the standard and misinterprets the existing requirement R7, thereby expanding the scope of the existing standard beyond what was originally intended, and the interpretation imposes complex and burdensome simulation study requirements on Balancing Authorities and small Transmission Operators for facilities and loads that have no significant impact on the regional

Voter	Entity	Segment	Vote	Comment
				restoration plan.
<p><b>Response:</b> The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between “simulation” and “simulated exercises,” and has revised the responses to question 1 and question 2 accordingly. In addition, EOP-005-1 requires each Transmission Operator to have a restoration plan, with associated procedures as defined in Attachment 1. Balancing Authorities are not required to have a plan or procedures. They are required to test their communication facilities, train their operating personnel in the implementation of the restoration plan, and verify the restoration procedure by actual testing or by simulation.</p>				
Terry L. Blackwell	Santee Cooper	1	Negative	The proposed interpretation misinterprets the existing requirement R7, thereby expanding the scope of the existing standard beyond what was originally intended. Future SDTs of this standard should consider the use of another verb besides verify in R7. A suggestion would be to use validate.
Zack Dusenbury	Santee Cooper	3	Negative	The proposed interpretation misinterprets the existing requirement R7, thereby expanding the scope of the existing standard beyond what was originally intended. Future SDTs of this standard should consider the use of another verb besides verify in R7. A suggestion would be to use validate.
Suzanne Ritter	Santee Cooper	6	Negative	The proposed interpretation misinterprets the existing requirement R7, thereby expanding the scope of the existing standard beyond what was originally intended. Future SDTs of this standard should consider the use of another verb besides verify in R7. A suggestion would be to use validate.
<p><b>Response:</b> The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between “simulation” and “simulated exercises,” and has revised the responses to question 1 and question 2 accordingly.</p>				
Pawel Krupa	Seattle City Light	1	Negative	The proposed interpretation: (1) is inconsistent with the Reliability Standard and misinterprets the existing requirement R7, thereby expanding the scope of the existing standard and (2) imposes complex and burdensome simulation study requirements on Balancing Authorities and small Transmission Operators for facilities and loads with no significant impact on the regional restoration plan.
Dana Wheelock	Seattle City Light	3	Negative	The proposed interpretation: (1) is inconsistent with the Reliability Standard and misinterprets the existing requirement R7, thereby expanding the scope of the existing standard and (2) imposes complex and burdensome simulation study requirements on Balancing Authorities and small Transmission Operators for facilities and loads with no significant impact on the regional restoration plan.

Voter	Entity	Segment	Vote	Comment
Hao Li	Seattle City Light	4	Negative	The proposed interpretation: (1) is inconsistent with the Reliability Standard and misinterprets the existing requirement R7, thereby expanding the scope of the existing standard and (2) imposes complex and burdensome simulation study requirements on Balancing Authorities and small Transmission Operators for facilities and loads with no significant impact on the regional restoration plan.
<p><b>Response:</b> The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, EOP-005-1 requires each Transmission Operator to have a restoration plan, with associated procedures as defined in Attachment 1. Balancing Authorities are not required to have a plan or procedures. They are required to test their communication facilities, train their operating personnel in the implementation of the restoration plan, and verify the restoration procedure by actual testing or by simulation.</p>				
Michael J. Haynes	Seattle City Light	5	Negative	The proposed interpretation: (1) is inconsistent with the Reliability Standard and misinterprets the existing requirement R7, thereby expanding the scope of the existing standard and (2) imposes complex and burdensome simulation study requirements on Balancing Authorities and small Transmission Operators for facilities and loads with no significant impact on the regional restoration plan.
<p><b>Response:</b> The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, EOP-005-1 requires each Transmission Operator to have a restoration plan, with associated procedures as defined in Attachment 1. Balancing Authorities are not required to have a plan or procedures. They are required to test their communication facilities, train their operating personnel in the implementation of the restoration plan, and verify the restoration procedure by actual testing or by simulation.</p>				
Dennis Sismaet	Seattle City Light	6	Negative	The proposed interpretation: (1) is inconsistent with the Reliability Standard and misinterprets the existing requirement R7, thereby expanding the scope of the existing standard and (2) imposes complex and burdensome simulation study requirements on Balancing Authorities and small Transmission Operators for facilities and loads with no significant impact on the regional restoration plan. This position is based on the collective opinion of the APPA membership. Thank you.
<p><b>Response:</b> The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, EOP-005-1 requires each Transmission Operator to have a restoration plan, with associated procedures as defined in Attachment 1. Balancing Authorities are not required to have a plan or procedures. They are required to test their communication facilities, train their operating personnel in the implementation of the restoration plan, and verify the restoration procedure by actual testing or by simulation.</p>				
Catherine Koch	Puget Sound Energy, Inc.	1	Negative	The proposed response interprets the term "simulation" too narrowly. Entities should be able to use good engineering judgment and practices to select the level of simulation that is required to support the verification of their restoration plan in light of their system's characteristics. This proposed interpretation

Voter	Entity	Segment	Vote	Comment
				<p>would unnecessarily limit that ability, requires expenditures in modeling tools that may have little value, or builds the need for neighboring TOPs to models other TOP restoration plans. The simulations activities it refers to are those similarly performed by the Transmission Planner under the TPL standards where the expertise in that should remain. This interpretation leads a TOP to now have to gain the expertise of a TP as these types of models must be performed with care to understand the results appropriately. The interpretation also creates vagueness as to the interpretation of R10 (which is assumed to be different than EOP-009 R1) and the difference between verifying a procedure and ensuring something meets their intended function. Finally it creates the question of how much has to be model by these tools and studies as the priority as indicated in R3 should be focused around the interconnection as well as how many scenarios must be covered realizing a good plan outlines the considerations that can be employed given a variety of unforeseen conditions versus attempting to document a detailed plan for every possibility.</p>

**Response:** The drafting team thanks you for your comments. The team notes that there is a difference between a plan and a procedure, and the interpretation has been revised to correct this confusion. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly.

Paul B. Johnson	American Electric Power	1	Negative	<p>The SDT did a very good job responding to the interpretation request. As with any standard, there are issues that may not be anticipated by the SDT as a version is created. These issues provide the basis for improving standards through subsequent revisions. An entity that wishes to change requirements or their applicability must do so through the stakeholder process. It is not appropriate for an entity to use the request for interpretation as a way to create distinctions in the standard applicability, when such distinctions have not been made in the standard. The SDT (and stakeholders in the comment and ballot process) did not differentiate the varying level of analysis needed by TOPs of different sizes. For example, such differences may result from those TOPs that either have or don't have generation plants and/or plants with blackstart capabilities, and from the relative impacts of TOPs based on the critical paths between blackstart units and the next plant to be energized. The complexity continues to grow as one considers the varying conditions for system restoration that exist. Such variations require some TOPs to be intricately involved from the first blackstart plant, while other TOPs may enter the system when conditions are nearly normal with their concerns primarily focusing on voltage control. The SDT correctly replies that the version one standard as written applies to all TOPs regardless of these variations. It is the responsibility of all TOPs' to determine where they fall in restoration plans and make arrangements to meet the standard subject to compliance action. The introduction of the elements of simulation testing from an additional reference does not carry the weight for compliance that the standard does. To the extent that this was intended when the standard was developed, it should have been documented in the original standard. To rely on this reference, creates the impression that new requirements are being introduced for what constitutes simulation testing and such new requirements may not be created through an interpretation. Likewise, it is also not appropriate for a requester to</p>
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Voter	Entity	Segment	Vote	Comment
				<p>introduce definitions from yet another references as a way to redefine the intent of the standard for the purpose of eliminating their clear obligations under the standard. Therefore, the SDT needs to more crisply and cogently report that the standard intended that all TOPs were included in R7 and that "verify the restoration procedure by actual testing or by simulation" should be interpreted as verifying that the procedural steps for restoration are in the proper order, and the steps are established to expect that facility ratings will remain within normal limits during the restoration procedure by actual testing or by simulation. As to question number 2, although there is a factual basis that differences do exist between TOPs in the restoration process, the SDT and the stakeholders did not clearly define such differences in R7 of the first version. Again, the SDT should reply that the version one standard, as written, applies to all TOPs regardless of such variations. It is the obligation of all TOPs' to determine where they fall in restoration plans and make arrangements to meet the standard, just as any other responsible entity would be required to do for any required standard. As previously described, a requirement change of this type should be pursued through the stakeholder process in future versions of this standard.</p>
Raj Rana	American Electric Power	3	Negative	<p>The SDT did a very good job responding to the interpretation request. As with any standard, there are issues that may not be anticipated by the SDT as a version is created. These issues provide the basis for improving standards through subsequent revisions. An entity that wishes to change requirements or their applicability must do so through the stakeholder process. It is not appropriate for an entity to use the request for interpretation as a way to create distinctions in the standard applicability, when such distinctions have not been made in the standard. The SDT (and stakeholders in the comment and ballot process) did not differentiate the varying level of analysis needed by TOPs of different sizes. For example, such differences may result from those TOPs that either have or don't have generation plants and/or plants with blackstart capabilities, and from the relative impacts of TOPs based on the critical paths between blackstart units and the next plant to be energized. The complexity continues to grow as one considers the varying conditions for system restoration that exist. Such variations require some TOPs to be intricately involved from the first blackstart plant, while other TOPs may enter the system when conditions are nearly normal with their concerns primarily focusing on voltage control. The SDT correctly replies that the version one standard as written applies to all TOPs regardless of these variations. It is the responsibility of all TOPs' to determine where they fall in restoration plans and make arrangements to meet the standard subject to compliance action. The introduction of the elements of simulation testing from an additional reference does not carry the weight for compliance that the standard does. To the extent that this was intended when the standard was developed, it should have been documented in the original standard. To rely on this reference, creates the impression that new requirements are being introduced for what constitutes simulation testing and such new requirements may not be created through an interpretation. Likewise, it is also not appropriate for a requester to introduce definitions from yet another references as a way to redefine the intent of the standard for the purpose of eliminating their clear obligations under the standard. Therefore, the SDT needs to more crisply and cogently report that the standard intended that all TOPs were included in R7 and that "verify</p>

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Brock Ondayko	AEP Service Corp.	5	Negative	<p>The SDT did a very good job responding to the interpretation request. As with any standard, there are issues that may not be anticipated by the SDT as a version is created. These issues provide the basis for improving standards through subsequent revisions. An entity that wishes to change requirements or their applicability must do so through the stakeholder process. It is not appropriate for an entity to use the request for interpretation as a way to create distinctions in the standard applicability, when such distinctions have not been made in the standard. The SDT (and stakeholders in the comment and ballot process) did not differentiate the varying level of analysis needed by TOPs of different sizes. For example, such differences may result from those TOPs that either have or don't have generation plants and/or plants with blackstart capabilities, and from the relative impacts of TOPs based on the critical paths between blackstart units and the next plant to be energized. The complexity continues to grow as one considers the varying conditions for system restoration that exist. Such variations require some TOPs to be intricately involved from the first blackstart plant, while other TOPs may enter the system when conditions are nearly normal with their concerns primarily focusing on voltage control. The SDT correctly replies that the version one standard as written applies to all TOPs regardless of these variations. It is the responsibility of all TOPs' to determine where they fall in restoration plans and make arrangements to meet the standard subject to compliance action. The introduction of the elements of simulation testing from an additional reference does not carry the weight for compliance that the standard does. To the extent that this was intended when the standard was developed, it should have been documented in the original standard. To rely on this reference, creates the impression that new requirements are being introduced for what constitutes simulation testing and such new requirements may not be created through an interpretation. Likewise, it is also not appropriate for a requester to introduce definitions from yet another references as a way to redefine the intent of the standard for the purpose of eliminating their clear obligations under the standard. Therefore, the SDT needs to more crisply and cogently report that the standard intended that all TOPs were included in R7 and that "verify the restoration procedure by actual testing or by simulation" should be interpreted as verifying that the procedural steps for restoration are in the proper order, and the steps are established to expect that facility ratings will remain within normal limits during the restoration procedure by actual testing or by</p>

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Edward P. Cox	AEP Marketing	6	Negative	<p>The SDT did a very good job responding to the interpretation request. As with any standard, there are issues that may not be anticipated by the SDT as a version is created. These issues provide the basis for improving standards through subsequent revisions. An entity that wishes to change requirements or their applicability must do so through the stakeholder process. It is not appropriate for an entity to use the request for interpretation as a way to create distinctions in the standard applicability, when such distinctions have not been made in the standard. The SDT (and stakeholders in the comment and ballot process) did not differentiate the varying level of analysis needed by TOPs of different sizes. For example, such differences may result from those TOPs that either have or don't have generation plants and/or plants with blackstart capabilities, and from the relative impacts of TOPs based on the critical paths between blackstart units and the next plant to be energized. The complexity continues to grow as one considers the varying conditions for system restoration that exist. Such variations require some TOPs to be intricately involved from the first blackstart plant, while other TOPs may enter the system when conditions are nearly normal with their concerns primarily focusing on voltage control. The SDT correctly replies that the version one standard as written applies to all TOPs regardless of these variations. It is the responsibility of all TOPs' to determine where they fall in restoration plans and make arrangements to meet the standard subject to compliance action. The introduction of the elements of simulation testing from an additional reference does not carry the weight for compliance that the standard does. To the extent that this was intended when the standard was developed, it should have been documented in the original standard. To rely on this reference, creates the impression that new requirements are being introduced for what constitutes simulation testing and such new requirements may not be created through an interpretation. Likewise, it is also not appropriate for a requester to introduce definitions from yet another references as a way to redefine the intent of the standard for the purpose of eliminating their clear obligations under the standard. Therefore, the SDT needs to more crisply and cogently report that the standard intended that all TOPs were included in R7 and that "verify the restoration procedure by actual testing or by simulation" should be interpreted as verifying that the procedural steps for restoration are in the proper order, and the steps are established to expect that facility ratings will remain within normal limits during the restoration procedure by actual testing or by simulation. As to question number 2, although there is a factual basis that differences do exist between TOPs in the restoration process, the SDT and the stakeholders did not clearly define such differences in R7 of the first version. Again, the SDT should reply that the version one standard, as written, applies to</p>

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<p><b>Response:</b> The drafting team thanks you for your comments. EOP-005-1 requires the Transmission Operator to have a restoration plan, with associated procedures as defined in Attachment 1. A procedure is an element of the plan. In addition, the reference to the <i>Electric System Restoration Document</i> has been removed. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly, incorporating your comments.</p>				
Alan Gale	City of Tallahassee	5	Negative	<p>The SDT is applying the requirements from version 2 retroactively to Version 1. This will create an instant non-compliance for all entities that have relied on a "tabletop" simulation for the verification and training to the plan. Compliance Template P6T2 (approved by the NERC BOT on April 2, 2004) Compliance Assessment Note 6 states "A set of procedures for annual review and updated for simulating and, where practical, actual testing and verification of the plan resources and procedures (at least every three years)." Computer simulation is not specified. The August 21, 1995 version of Policy 6 (Operations Planning), Section D (System Restoration), Requirement 3 stated, "System restoration procedures shall be verified by actual testing or by simulation." It did not specify computer simulation. Is it a good idea? Yes. And we will get it done in time according to the Version 2 standard. Does Version 1 require it? We do not believe so. Why the change in version 2? I feel because the words in Version 1 were NOT "clear and unambiguous". NERC (and the industry) thought it a good idea (that may or may not have been occurring), so it was included in the Version 2. This is the accepted method of making changes. Version 2 has a 24 months implementation plan, so it is recognized that it will take time for some entities to reach full compliance. The creation of a new standard via the interpretation process, or the audit process, is not the accepted method and is being used to circumvent the ANSI approved process. The auditors asked for evidence that we had used a power flow model to verify our system restoration procedure. The auditors come up with new rules and new interpretations for existing requirements, and do not tell the entities responsible for complying about this "new" burden of evidence or what must be done to be compliant. This is in violation of FERC orders, most recently the dissenting opinions to the \$25 MILLION FPL fine. The entities must know what is expected of them to be compliant.</p>
<p><b>Response:</b> The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, EOP-005-1 requires each Transmission Operator to have a restoration plan, with associated procedures as defined in Attachment 1. Balancing Authorities are not required to have a plan or procedures. They are required to test their communication facilities, train their operating personnel in the implementation of the restoration plan, and verify the restoration procedure by actual testing or by simulation.</p>				

Voter	Entity	Segment	Vote	Comment
R Scott S. Barfield-McGinnis	Georgia System Operations Corporation	3	Negative	The SDT response to question #1 adds to the standard and EOP-005 Attachment 1. For example, #10 in the response "Provisions for public information". The SDT response describes elements of a plan and does not define the meaning of "verify the restoration procedure". The SDT response in regard to simulation discusses load flows and tools, not verifying the procedure itself. Yes, the issues given are important to having a "sound" restoration plan, but not address "verifying the restoration procedure" by simulation. The SDT response to question #2 is not specific to "some of the requirements" and does not address the question specifically requested regarding R7.
Guy Andrews	Georgia System Operations Corporation	4	Negative	The SDT response to question #1 adds to the standard and EOP-005 Attachment 1. For example, #10 in the response "Provisions for public information". The SDT response describes elements of a plan and does not define the meaning of "verify the restoration procedure". The SDT response in regard to simulation discusses load flows and tools, not verifying the procedure itself. Yes, the issues given are important to having a "sound" restoration plan, but not address "verifying the restoration procedure" by simulation. The SDT response to question #2 is not specific to "some of the requirements" and does not address the question specifically requested regarding R7.
<p><b>Response:</b> The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, EOP-005-1 requires each Transmission Operator to have a restoration plan, with associated procedures as defined in Attachment 1. Balancing Authorities are not required to have a plan or procedures. They are required to test their communication facilities, train their operating personnel in the implementation of the restoration plan, and verify the restoration procedure by actual testing or by simulation.</p>				
Chuck B Manning	Electric Reliability Council of Texas, Inc.	2	Negative	The type of simulation should be left to the discretion of the relevant entity.
<p><b>Response:</b> The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly.</p>				

Voter	Entity	Segment	Vote	Comment
Joseph S. Stonecipher	Beaches Energy Services	1	Negative	There are 4 significant reasons to vote "negative" for this interpretation: A. In summary, the interpretation is too far-reaching: 1. It sweeps in an attachment to the standard that was not included in the original Version 1 standard. B. The interpretation misinterprets what "simulation" means in the context of R7: 2. Since R7 applies to both TOPs and BAs, and since it applies to the "restoration procedure", essentially synonymous with the "restoration plan" as used in R6, it cannot mean power system analyses and instead should have the meaning of realistic simulation as described in the NERC Blackout Report and as used in R6. C. The interpretation does not seem to understand the scope of power system analyses that are valuable to studying restoration from blackstart: 3. It prescribes unnecessary power system studies for R10, such as electromagnetic transient studies; and, 4. It requires studies of the regional restoration plan beyond the point where "the choice of the next Load to be restored is not driven by the need to control frequency or voltage."
<p><b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, the simulation requirements in Requirement R7 and Requirement R10 are distinctly different. Requirement R10 strictly deals with blackstart and cranking paths, while Requirement R7 deals with the restoration of the entire transmission system. While it is correct that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC, the team must provide an interpretation based solely on the wording in version 1.</p>				
Larry E Watt	Lakeland Electric	1	Negative	There are 4 significant reasons to vote "negative" for this interpretation: 1. The interpretation "sweeps" in the "Electric System Restoration Reference Document" into the standard, essentially making portions of the document an attachment to the standard 2. The interpretation prescribes the types of power system analyses required to meet the power system analyses portions of the standard (in FMPA's opinion, R10), and prescribes more studies than are detailed in the Version 2 standard, EOP-005-2, pending regulatory filing 3. The interpretation misinterprets the use of the word "simulate" in R7 and fails to take the correct context of requirement R7 into account 4. The interpretation has far-reaching consequences to the Version 2 standard, requiring more power system analyses than is currently required in the Version 2 standard.
<p><b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, the simulation requirements in Requirement R7 and Requirement R10 are distinctly different. Requirement R10 strictly deals with blackstart and cranking paths, while Requirement R7 deals with the restoration of the entire transmission system. While it is correct that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC, the team must provide an interpretation based solely on the wording in version 1.</p>				

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Brad Chase	Orlando Utilities Commission	1	Negative	There are 4 significant reasons to vote "negative" for this interpretation: The interpretation "sweeps" in the "Electric System Restoration Reference Document" into the standard, essentially making portions of the document an attachment to the standard The interpretation prescribes the types of power system analyses required to meet the power system analyses portions of the standard (in FMPA's opinion, R10), and prescribes more studies than are detailed in the Version 2 standard, EOP-005-2, pending regulatory filing The interpretation misinterprets the use of the word "simulate" in R7 and fails to take the correct context of requirement R7 into account The interpretation has far-reaching consequences to the Version 2 standard, requiring more power system analyses than is currently required in the Version 2 standard.

**Response:** The drafting team thanks you for your comments. The reference to the *Electric System Restoration Document* has been removed. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, the simulation requirements in Requirement R7 and Requirement R10 are distinctly different. Requirement R10 strictly deals with blackstart and cranking paths, while Requirement R7 deals with the restoration of the entire transmission system. While it is correct that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC, the team must provide an interpretation based solely on the wording in version 1.

Gregory David Woessner	Kissimmee Utility Authority	3	Negative	There are 4 significant reasons to vote "negative" for this interpretation: 1) the interpretation "sweeps" in the "Electric System Restoration Reference Document" into the standard, essentially making portions of the document an attachment to the standard; 2) the interpretation prescribes the types of power system analyses required to meet the power system analyses portions of the standard (in FMPA's opinion, R10 and not R7), and prescribes more studies than are detailed in the Version 2 standard (e.g., electromagnetic transient studies), EOP-005-2, pending regulatory approval; 3) the interpretation misinterprets the use of the word "simulate" in R7 and fails to take the correct context of requirement R7 into account, since R7 applies to both TOPs and BAs, as does R6, the word "simulate" should have the same meaning as the word as used in R6, and not as the word "simulate" is used in R10 which only applies to TOPs; and 4) the interpretation has far-reaching consequences to the Version 2 standard, requiring more power system analyses than is currently required in the Version 2 standard, requiring analyses beyond the "state whereby the choice of the next Load to be restored is not driven by the need to control frequency or voltage".
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**Response:** The drafting team thanks you for your comments. The reference to the *Electric System Restoration Document* has been removed. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, the simulation requirements in Requirement R7 and Requirement R10 are distinctly different. Requirement R10 strictly deals with blackstart and cranking paths, while Requirement R7 deals with the restoration of the entire transmission system. While it is correct that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC, the team must provide an interpretation based solely on the wording in version 1.

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Michael A. Curtis	Mohave Electric Cooperative	3	Negative	There are 4 significant reasons to vote "negative" for this interpretation: 1. The interpretation "sweeps" in the "Electric System Restoration Reference Document" into the standard, essentially making portions of the document an attachment to the standard. 2. The interpretation prescribes the types of power system analyses required to meet the power system analyses portions of the standard (in FMPA's opinion, R10), and prescribes more studies than are detailed in the Version 2 standard, EOP-005-2, pending regulatory filing. 3. The interpretation misinterprets the use of the word "simulate" in R7 and fails to take the correct context of requirement R7 into account. 4. The interpretation has far-reaching consequences to the Version 2 standard, requiring more power system analyses than is currently required in the Version 2 standard.
<p><b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, the simulation requirements in Requirement R7 and Requirement R10 are distinctly different. Requirement R10 strictly deals with blackstart and cranking paths, while Requirement R7 deals with the restoration of the entire transmission system. While it is correct that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC, the team must provide an interpretation based solely on the wording in version 1.</p>				
Frank Gaffney	Florida Municipal Power Agency	4	Negative	There are 4 significant reasons to vote "negative" for this interpretation: 1. The interpretation "sweeps" in the "Electric System Restoration Reference Document" into the standard, essentially making portions of the document an attachment to the standard 2. The interpretation prescribes the types of power system analyses required to meet the power system analyses portions of the standard (in FMPA's opinion, R10 and not R7), and prescribes more studies than are detailed in the Version 2 standard (e.g., electromagnetic transient studies), EOP-005-2, pending regulatory approval. 3. The interpretation misinterprets the use of the word "simulate" in R7 and fails to take the correct context of requirement R7 into account. Since R7 applies to both TOPs and BAs, as does R6, the word "simulate" should have the same meaning as the word as used in R6, and not as the word "simulate" is used in R10 which only applies to TOPs. 4. The interpretation has far-reaching consequences to the Version 2 standard, requiring more power system analyses than is currently required in the Version 2 standard, requiring analyses beyond the "state whereby the choice of the next Load to be restored is not driven by the need to control frequency or voltage".
David Schumann	Florida Municipal Power Agency	5	Negative	There are 4 significant reasons to vote "negative" for this interpretation: 1) the interpretation "sweeps" in the "Electric System Restoration Reference Document" into the standard, essentially making portions of the document an attachment to the standard; 2) the interpretation prescribes the types of power system analyses required to meet the power system analyses portions of the standard (in FMPA's opinion, R10 and not R7), and prescribes more studies than are detailed in the Version 2 standard (e.g., electromagnetic transient studies), EOP-005-2, pending regulatory approval; 3) the interpretation

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				<p>misinterprets the use of the word "simulate" in R7 and fails to take the correct context of requirement R7 into account, since R7 applies to both TOPs and BAs, as does R6, the word "simulate" should have the same meaning as the word as used in R6, and not as the word "simulate" is used in R10 which only applies to TOPs; and 4) the interpretation has far-reaching consequences to the Version 2 standard, requiring more power system analyses than is currently required in the Version 2 standard, requiring analyses beyond the "state whereby the choice of the next Load to be restored is not driven by the need to control frequency or voltage".</p>
<p><b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, the simulation requirements in Requirement R7 and Requirement R10 are distinctly different. Requirement R10 strictly deals with blackstart and cranking paths, while Requirement R7 deals with the restoration of the entire transmission system. While it is correct that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC, the team must provide an interpretation based solely on the wording in version 1.</p>				
Richard L. Montgomery	Florida Municipal Power Agency	6	Negative	<p>There are 4 significant reasons to vote "negative" for this interpretation: 1) the interpretation "sweeps" in the "Electric System Restoration Reference Document" into the standard, essentially making portions of the document an attachment to the standard; 2) the interpretation prescribes the types of power system analyses required to meet the power system analyses portions of the standard (in FMPA's opinion, R10 and not R7), and prescribes more studies than are detailed in the Version 2 standard (e.g., electromagnetic transient studies), EOP-005-2, pending regulatory approval; 3) the interpretation misinterprets the use of the word "simulate" in R7 and fails to take the correct context of requirement R7 into account, since R7 applies to both TOPs and BAs, as does R6, the word "simulate" should have the same meaning as the word as used in R6, and not as the word "simulate" is used in R10 which only applies to TOPs; and 4) the interpretation has far-reaching consequences to the Version 2 standard, requiring more power system analyses than is currently required in the Version 2 standard, requiring analyses beyond the "state whereby the choice of the next Load to be restored is not driven by the need to control frequency or voltage".</p>
<p><b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, the simulation requirements in Requirement R7 and Requirement R10 are distinctly different. Requirement R10 strictly deals with blackstart and cranking paths, while Requirement R7 deals with the restoration of the entire transmission system. While it is correct that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC, the team must provide an interpretation based solely on the wording in version 1.</p>				

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Brian Evans-Mongeon	Utility Services LLC	8	Negative	There are 4 significant reasons to vote "negative" for this interpretation: 1) the interpretation "sweeps" in the "Electric System Restoration Reference Document" into the standard, essentially making portions of the document an attachment to the standard; 2) the interpretation prescribes the types of power system analyses required to meet the power system analyses portions of the standard (in FMPA's opinion, R10 and not R7), and prescribes more studies than are detailed in the Version 2 standard (e.g., electromagnetic transient studies), EOP-005-2, pending regulatory approval; 3) the interpretation misinterprets the use of the word "simulate" in R7 and fails to take the correct context of requirement R7 into account, since R7 applies to both TOPs and BAs, as does R6, the word "simulate" should have the same meaning as the word as used in R6, and not as the word "simulate" is used in R10 which only applies to TOPs; and 4) the interpretation has far-reaching consequences to the Version 2 standard, requiring more power system analyses than is currently required in the Version 2 standard, requiring analyses beyond the "state whereby the choice of the next Load to be restored is not driven by the need to control frequency or voltage".

**Response:** The drafting team thanks you for your comments. The reference to the *Electric System Restoration Document* has been removed. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between "simulation" and "simulated exercises," and has revised the responses to question 1 and question 2 accordingly. In addition, the simulation requirements in Requirement R7 and Requirement R10 are distinctly different. Requirement R10 strictly deals with blackstart and cranking paths, while Requirement R7 deals with the restoration of the entire transmission system. While it is correct that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC, the team must provide an interpretation based solely on the wording in version 1.

Bruce Merrill	Lincoln Electric System	3	Negative	This interpretation is inconsistent with the standard and expands the scope of the existing standard beyond what was originally intended.
Dennis Florom	Lincoln Electric System	5	Negative	This interpretation is inconsistent with the standard and expands the scope of the existing standard beyond what was originally intended.
Eric Ruskamp	Lincoln Electric System	6	Negative	This interpretation is inconsistent with the standard and expands the scope of the existing standard beyond what was originally intended.

**Response:** The drafting team thanks you for your comments. The interpretation has been modified.

Voter	Entity	Segment	Vote	Comment
Michelle Rheault	Manitoba Hydro	1	Negative	We believe that an interpretation should apply to all TOPs, not just small entities or TOPs without black start capability. Under this interpretation, folks would be encouraged not to have black start capability in order to be subject to these more flexible requirements. This does not promote reliability in our opinion. Furthermore the definition of "small TOP" is not clear. Additionally, the tools listed are somewhat steady-state tools used by planners, long and short term. They are essential to reliability however cannot be substituted easily for simulation.
Greg C Parent	Manitoba Hydro	3	Negative	We believe that an interpretation should apply to all TOPs, not just small entities or TOPs without black start capability. Under this interpretation, folks would be encouraged not to have black start capability in order to be subject to these more flexible requirements. This does not promote reliability in our opinion. Furthermore the definition of "small TOP" is not clear. Additionally, the tools listed are somewhat steady-state tools used by planners, long and short term. They are essential to reliability however cannot be substituted easily for simulation.
Mark Aikens	Manitoba Hydro	5	Negative	We believe that an interpretation should apply to all TOPs, not just small entities or TOPs without black start capability. Under this interpretation, folks would be encouraged not to have black start capability in order to be subject to these more flexible requirements. This does not promote reliability in our opinion. Furthermore the definition of "small TOP" is not clear. Additionally, the tools listed are somewhat steady-state tools used by planners, long and short term. They are essential to reliability however cannot be substituted easily for simulation.
Daniel Prowse	Manitoba Hydro	6	Negative	We believe that an interpretation should apply to all TOPs, not just small entities or TOPs without black start capability. Under this interpretation, folks would be encouraged not to have black start capability in order to be subject to these more flexible requirements. This does not promote reliability in our opinion. Furthermore the definition of "small TOP" is not clear. Additionally, the tools listed are somewhat steady-state tools used by planners, long and short term. They are essential to reliability however cannot be substituted easily for simulation.
<b>Response:</b> The drafting team thanks you for your comments. The interpretation has been modified to eliminate the confusion over scope.				

Voter	Entity	Segment	Vote	Comment
Joseph O'Brien	Northern Indiana Public Service Co.	6	Negative	We believe that an interpretation should apply to all TOPs, not just small entities or TOPs without black start capability. Under this interpretation, folks would be encouraged not to have black start capability in order to be subject to these more-flexible requirements. This does not promote reliability in our opinion. Furthermore the definition of "small TOP" is not clear. To that end we suggest a rewrite of the final paragraph of Answer #1: "The requirement does not state that every TOP has to physically perform simulation or testing; the requirement only mandates verifying the plan with simulation or testing. A TOP's restoration plan may be incorporated into the plan of another entity such as an adjacent TOP or the RC. These entities can then perform the required testing or simulation on behalf of the subject TOP." Additionally The tools listed are somewhat steady-state tools used by planners, long and short term. They are essential to reliability however cannot be substituted easily for simulation.
<b>Response:</b> The drafting team thanks you for your comments. The interpretation has been modified to eliminate the confusion over scope.				
Henry Ernst-Jr	Duke Energy Carolina	3	Negative	We believe that this Interpretation goes beyond the role of an interpretation and could be considered to expand the requirements of the standard. Specifically, including the Electric System Restoration Reference Document and details of items that might typically be included in a restoration plan could be considered to set a compliance benchmark. To our knowledge, the Electric System Restoration Reference Document has not been vetted through the standards-setting process. Also, introducing the concept of how a "small TOP with no blackstart capability" could comply with R7 verification and simulation requirements introduces ambiguity into the requirement. Interpretations should stick to describing "What" the requirement is, and should not delve into "How" an entity might comply with the requirement. The Interpretation should have included only the statement "Verifying the restoration procedure means establishing that the restoration procedure is technically sound and can progress as planned."
<b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed. The team has revisited the definitions of the terms and has revised the responses to question 1 and question 2 accordingly.				
David Frank Ronk	Consumers Energy	4	Negative	We concur with comments provided by FMPA.
<b>Response:</b> The drafting team thanks you for your comments. Please see the response to FMPA's comments.				
James R. Keller	Wisconsin Electric Power Marketing	3	Negative	We do not agree that table top excersises cannot be used to verify restoration procedures.

Voter	Entity	Segment	Vote	Comment
Anthony Jankowski	Wisconsin Energy Corp.	4	Negative	We do not agree that table top excersises cannot be used to verify restoration procedures.
Linda Horn	Wisconsin Electric Power Co.	5	Negative	We do not agree that table top excersises cannot be used to verify restoration procedures.
<b>Response:</b> The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between “simulation” and “simulated exercises,” and has revised the responses to question 1 and question 2 accordingly.				
Jason L Marshall	Midwest ISO, Inc.	2	Negative	We do not support the interpretation because it relies on a reference document. Effectively the reference document is becoming part of the standard as a result. Generally standards should stand on their own except when supporting materials (FAQs, reference documents, etc.) are developed by the drafting team in conjunction with the standards development activity to support the standard. Our understanding is the reference document in question here was not developed in conjunction with the standard but actually existed prior to the standard.
<b>Response:</b> The drafting team thanks you for your comments. The reference to the <i>Electric System Restoration Document</i> has been removed.				
Charles A. Freibert	Louisville Gas and Electric Co.	3	Negative	We oppose based on our agreement on the concerns communicated by FMPA during the pre-ballot review period.
<b>Response:</b> The drafting team thanks you for your comments. Please see the response to FMPA’s comments.				
James B Lewis	Consumers Energy	5	Negative	We support the comments of Frank Gaffney of FMPA.
<b>Response:</b> The drafting team thanks you for your comments. Please see the response to FMPA’s comments.				
William Mitchell Chamberlain	California Energy Commission	9	Negative	While portions of this interpretation are appropriate, overall, the interpretation leaves vague the level of simulations that must be conducted. The interpretation of the phrase “verify the restoration procedure” is appropriate. It is also appropriate that some level of simulation must be conducted on key components of the restoration procedure, but a simulation of the entire procedure is unnecessary and given the number of potential restoration scenarios, it is unlikely that simulation of all potential situations could be achieved. We also note that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC. Specific simulation requirements are identified the revised version. The interpretation should provide the level of clarity identified in the revised standard on the level of simulation required.

Voter	Entity	Segment	Vote	Comment
<p><b>Response:</b> The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between “simulation” and “simulated exercises,” and has revised the responses to question 1 and question 2 accordingly. While it is correct that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC, the team must provide an interpretation based solely on the wording in version 1.</p>				
Patrick Connors	Wisconsin Public Power Inc.	4	Negative	WPPI Energy believes the interpretation has far-reaching consequences to the Version 2 standard, requiring more power system analyses than is currently required in the Version 2 standard, requiring analyses beyond the "state whereby the choice of the next Load to be restored is not driven by the need to control frequency or voltage".
<p><b>Response:</b> The drafting team thanks you for your comments. The team has revisited the definition of simulation and has modified the interpretation. The team notes that there is a difference between “simulation” and “simulated exercises,” and has revised the responses to question 1 and question 2 accordingly. While it is correct that a revision to EOP-005-1 has been approved by the NERC Board of Trustees and filed with FERC, the team must provide an interpretation based solely on the wording in version 1.</p>				