

## Consideration of Comments on Initial Ballot of “Protection System” Definition

The PRC-005 Standard Drafting Team thanks all those who participated in the initial ballot for the proposed revision to the definition of the term, “Protection System.”

All balloters are advised to review the comments and responses in this report as an aid in determining how to participate in the recirculation ballot.

Based on stakeholder comments, the drafting team refined its proposed definition of Protection System as shown below:

Protective relays which respond to electrical quantities, communication systems necessary for correct operation of protective functions, voltage and current sensing devices providing inputs to protective relays, station dc supply, and control circuitry associated with protective functions through the trip coil(s) of the circuit breakers or other interrupting devices.

Several comments questioned the reason for implementing the definition of Protection System in advance of implementing the proposed modifications to PRC-005-1. When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given “priority.” To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now.

Stakeholder comments indicated that applying the expanded scope of the definition of Protection System would to PRC-005-1 would require more than six months and suggested expanding this to 12 months, and the drafting team made this change to the implementation plan. The team adjusted the implementation plan so that entities will have at least twelve months, rather than the six months originally proposed, to apply the new definition of Protection System to PRC-005-1 – Protection System Maintenance and Testing to Requirement R1 of PRC-005-1. The other parts of the implementation plan remain unchanged.

Both clean and redline versions of the definition and the implementation that show the conforming revisions are posted at the following site:

[http://www.nerc.com/filez/standards/Protection\\_System\\_Maintenance\\_Project\\_2007-17.html](http://www.nerc.com/filez/standards/Protection_System_Maintenance_Project_2007-17.html)

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process! If you feel there has been an error or omission, you can contact the Vice President and Director of Standards, Herbert Schrayshuen, at 609-452-8060 or at [herb.schrayshuen@nerc.net](mailto:herb.schrayshuen@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 Procedures: <http://www.nerc.com/standards/newstandardsprocess.html>.

<b>Segment:</b>	1
<b>Organization:</b>	International Transmission Company Holdings Corp
<b>Member:</b>	Michael Moltane
<b>Comment:</b>	It should clearly state in the definition or elsewhere in the standard that automatic ground switches intended to protect the BES are to be considered interrupting devices. This is stated in the Supplemental Reference but the Supplemental Reference is not part of the standard.
<b>Response:</b>	The definition does not identify individual types of interrupting devices. It is left to Regional BES definitions to determine if these devices, the system components “protected” by these devices, and their initiating Protection Systems are BES elements.
<b>Segment:</b>	1, 6
<b>Organization:</b>	Cleco Power LLC
<b>Member:</b>	Danny McDaniel, Matthew D Cripps
<b>Comment:</b>	The revised definition to Protection System should include the following exception. "Devices that sense non electrical conditions, such as thermal or transformer sudden pressure relays are not included." For consistence across the standards, see PRC-004, which references System Protection, the same definition should be used.
<b>Response:</b>	The definition has been modified to specify, “Protective relays which respond to electrical quantities”.
<b>Segment:</b>	1, 5, 6
<b>Organization:</b>	American Electric Power, AEP Service Corp., AEP Marketing
<b>Member:</b>	Paul B. Johnson, Brock Ondayko, Edward P. Cox
<b>Comment:</b>	<ol style="list-style-type: none"> <li>1. The term "station" should either be defined or removed from the definition, as it implies transmission and distribution assets while the term "plant" is used to define generation assets. It would suffice to simply refer to the "DC Supply".</li> <li>2. As written, the implementation plan only specifies a time frame for entities to update their documentation for PRC-005-1 and PRC-005-2 compliance. The implementation plan also needs to give entities a time frame to address any required changes to their documentation for other standards that use the term "Protection System", including but not limited to NUC-001-2, PER-005-1, PRC-001-1, etc.</li> </ol>
<b>Response:</b>	<ol style="list-style-type: none"> <li>1. The term “station” is used in a generic sense to apply to either “substation” or “generation station”</li> </ol>

	<p>facilities.</p> <p>2. An assessment of the changes to the definition (posted with the first comment period), relative to the entire body of other NERC Standards using this defined term, determined that the changes are consistent with the other existing uses of the definition, and that no other implementation plan considerations were necessary. No comments were received relative to this assessment.</p>
<b>Segment:</b>	1
<b>Organization:</b>	Avista Corp.
<b>Member:</b>	Scott Kinney
<b>Comment:</b>	The modified definition of Protection System now refers to “functions” rather than “devices.” What are the “functions?” This new term adds confusion without being defined in the standard.
<b>Response:</b>	The “functions” are the accumulated performance of the various portions of the Protection System. This term is used to distinguish “protective functions” from annunciation, signaling, or information.
<b>Segment:</b>	1, 3
<b>Organization:</b>	MidAmerican Energy Co.
<b>Member:</b>	Terry Harbour, Thomas C. Mielnik
<b>Comment:</b>	<p>The following changes should be incorporated in the definition to insure it is used consistently in PRC-005 and any other standards where it appears. The following is a suggested revised definition:</p> <p>“Protection System” is defined as: A system that uses measurements of voltage, current, frequency and/or phase angle to determine anomalies and to trip a portion of the BES to provide protection for the BES and consists of</p> <ol style="list-style-type: none"> <li>1) Protective relays for BES elements and,</li> <li>2) Communications systems necessary for correct BES protection system operations and,</li> <li>3) Current and voltage sensing devices supplying BES protective relay input and,</li> <li>4) Station DC supply to BES protection systems excluding battery chargers, and</li> <li>5) DC control trip paths to the trip coil(s) of the circuit breakers or other interrupting devices for BES</li> </ol>

	elements.
<b>Response:</b>	The definition of Protection System establishes “what a Protective System is”, not “what it does”. The application-related suggestions in the comment are best left to individual standards. The SDT, however, did modify the “protective relays” to include only those that respond to electrical quantities. Additionally, constraining relays to “on BES elements” would necessarily exclude UFLS relays, and “trip a portion of the BES” would exclude SPS and UVLS which are on the BES, but which trip non-BES elements. The SDT also disagrees with excluding battery chargers.
<b>Segment:</b>	3, 5, 6
<b>Organization:</b>	Lincoln Electric System
<b>Member:</b>	Bruce Merrill, Dennis Florom, Eric Ruskamp
<b>Comment:</b>	<p>LES believes the proposed definition of Protection System as written remains open to interpretation. LES offers the following Protection System definition for the SDT’s consideration:</p> <p>“Protection System” is defined as: A system that uses measurements of voltage, current, frequency and/or phase angle to determine anomalies and trips a portion of the BES and consists of</p> <ol style="list-style-type: none"> <li>1) Protective relays, and associated auxiliary relays, that initiate trip signals to trip coils,</li> <li>2) associated communications channels,</li> <li>3) current and voltage transformers supplying protective relay inputs,</li> <li>4) dc station supply, excluding battery chargers, and</li> <li>5) dc control trip path circuitry to the trip coils of BES connected breakers, or equivalent interrupting device, and lockout relays.</li> </ol>
<b>Response:</b>	The definition of Protection System establishes “what a Protective System is”, not “what it does”. The application-related suggestions in the comment are best left to individual standards. The SDT, however, did modify the “protective relays” to include only those that respond to electrical quantities. Additionally, constraining relays to “on BES elements” would necessarily exclude UFLS relays, and “trip a portion of the BES” would exclude SPS and UVLS which are on the BES, but which trip non-BES elements. The SDT also

	disagrees with excluding battery chargers.
<b>Segment:</b>	4
<b>Organization:</b>	Madison Gas and Electric Co.
<b>Member:</b>	Joseph G. DePoorter
<b>Comment:</b>	<p>Recommend the following definition “Protection System” is defined as: A system that uses measurements of voltage, current, frequency and/or phase angle to determine anomalies and trips a portion of the BES and consists of</p> <ol style="list-style-type: none"> <li>1) Protective relays, and associated auxiliary relays, that initiate trip signals to trip coils,</li> <li>2) associated communications channels,</li> <li>3) current and voltage transformers supplying protective relay inputs,</li> <li>4) dc station supply, excluding battery chargers, and</li> <li>5) dc control trip path circuitry to the trip coils of BES connected breakers, or equivalent interrupting device, and lockout relays.</li> </ol>
<b>Response:</b>	The definition of Protection System establishes “what a Protective System is”, not “what it does”. The application-related suggestions in the comment are best left to individual standards. The SDT, however, did modify the “protective relays” to include only those that respond to electrical quantities. Additionally, constraining relays to “on BES elements” would necessarily exclude UFLS relays, and “trip a portion of the BES” would exclude SPS and UVLS which are on the BES, but which trip non-BES elements. The SDT also disagrees with excluding battery chargers.
<b>Segment:</b>	1
<b>Organization:</b>	National Grid
<b>Member:</b>	Saurabh Saksena
<b>Comment:</b>	1. National Grid suggests adding “Protection System Components including” in the beginning. This is because the word “components” has been used extensively throughout the standard and there is no mention of what constitutes a protection system component in the standard. The word “component” does find mention in FAQs, however, it is recommended to mention it in the main standard.

	<p>2. Also, National Grid proposes a change in the proposed definition (changing "voltage and current sensing inputs" to "voltage and current sensing devices providing inputs"). The revised definition should read as follows: Protective System Components including Protective relays, communication systems necessary for correct operation of protective functions, voltage and current sensing devices providing inputs to protective relays and associated circuitry from the voltage and current sensing devices, station dc supply, and control circuitry associated with protective functions from the station dc supply through the trip coil(s) of the circuit breakers or other interrupting devices.</p> <p>3. The time provided for the first phase "at least six months" is too open ended and does not give entities a clear timeline. National Grid suggests 1 year for the first phase.</p> <p>4. As a result, National Grid suggests phasing out the second phase in stages.</p>
<b>Response:</b>	<ol style="list-style-type: none"> <li>1. The SDT believes that the suggested text does not add to the definition, and may actually lead to additional problems, such as an implication that the list within the definition is incomplete.</li> <li>2. The definition has been modified to reflect the proposed change and the "associated circuitry ..." has been removed.</li> <li>3. The implementation plan has been modified to replace "six months" with "twelve months".</li> <li>4. The SDT does not understand this comment.</li> </ol>
<b>Segment:</b>	10
<b>Organization:</b>	Midwest Reliability Organization
<b>Member:</b>	Dan R. Schoenecker
<b>Comment:</b>	<ol style="list-style-type: none"> <li>1. The MRO's NERC Standards Review Subcommittee believes the proposed protection system definition is unclear specifically as it relates to dc station supply. We would like more clarity as to what is included in the dc station supply.</li> <li>2. We believe battery chargers should not be included in the definition; if the Standard Drafting Team revises the definition we would ask that Table 1 be adjusted, accordingly</li> </ol>
<b>Response:</b>	<ol style="list-style-type: none"> <li>1. The definition addressing "dc supply" was modified.</li> <li>2. The SDT believes that battery chargers should be included in the definition. Without proper functioning of battery chargers, the battery will be discharged by normal station dc load, and will be unable to perform its function; also, there are some entities which use a charger to provide the dc supply without use of a battery.</li> </ol>
<b>Segment:</b>	4

<b>Organization:</b>	Old Dominion Electric Coop.
<b>Member:</b>	Mark Ringhausen
<b>Comment:</b>	I am voting Yes on the ballot, but I do have a small issue with the wording of 'station DC supply'. In some of our UFLS locations, we are not in a substation, but out on the feeder circuit and utilizing the DC supply on the feeder recloser. I think my reading of this definition would apply to this recloser DC supply as well as the Station DC Supply.
<b>Response:</b>	To the extent that UFLS is implemented within distribution system devices not within substations, the activities and intervals established within the standard would apply.
<b>Segment:</b>	6
<b>Organization:</b>	Northern Indiana Public Service Co.
<b>Member:</b>	Joseph O'Brien
<b>Comment:</b>	It is still not clear whether battery chargers fall under this definition.
<b>Response:</b>	The change to "station dc supply" is intended to expand the definition to include all essential elements including battery chargers.
<b>Segment:</b>	8
<b>Organization:</b>	SPS Consulting Group Inc.
<b>Member:</b>	Jim R Stanton
<b>Comment:</b>	The words in the definition, "...includes one or more of the following activities" are ambiguous and subject to inconsistent interpretation by auditors. Suggest changing the language to, "...at least one of the following activities."
<b>Response:</b>	This comment does not appear to apply to the "Protection System" definition.
<b>Segment:</b>	4
<b>Organization:</b>	Detroit Edison Company
<b>Member:</b>	Daniel Herring
<b>Comment:</b>	<ol style="list-style-type: none"> <li>1. The definition should clarify whether current and voltage transformers themselves are included.</li> <li>2. This implementation plan and the one for PRC-005-2 should be consistent.</li> </ol>
<b>Response:</b>	<ol style="list-style-type: none"> <li>1. This portion of the definition has been modified for clarity.</li> </ol>

	2. The Implementation Plan for the definition has been modified. The Implementation Plan for the Standard is a separate issue.
<b>Segment:</b>	1
<b>Organization:</b>	BC Transmission Corporation
<b>Member:</b>	Gordon Rawlings
<b>Comment:</b>	The definition excludes mechanical relays (Gas Relays) which may affect the BES
<b>Response:</b>	The definition has been modified to specify, “Protective relays which respond to electrical quantities”.
<b>Segment:</b>	1, 3, 4, 5, 6
<b>Organization:</b>	Empire District Electric Co., Cowlitz County PUD, Cowlitz County PUD, Cowlitz County PUD, Florida Municipal Power Pool
<b>Member:</b>	Ralph Frederick Meyer, Russell A Noble, Rick Syring, Bob Essex, Thomas E Washburn
<b>Comment:</b>	<p>1. It is still unclear whether relays that respond to mechanical inputs, such as sudden pressure relays, are included in the proposed definition as protective relays. While PRC-005-2 R1 limits the scope of that particular standard to protection systems that sense electrical quantities, it remains unclear in other standards that use the defined term whether mechanical input protections are included.</p> <p>2. We suggest that “Protective Relay” also be defined, and that the definition clearly exclude devices that respond to mechanical inputs in line with the NERC interpretation of PRC-005-1 in response to the CMPWG request.</p>
<b>Response:</b>	<p>1. The definition has been modified to specify, “Protective relays which respond to electrical quantities”.</p> <p>2. “Protective relay” is defined by IEEE and does not have a unique meaning when used in a NERC standard, thus the SDT sees no need to either modify or duplicate that definition.</p>
<b>Segment:</b>	3
<b>Organization:</b>	Central Lincoln PUD
<b>Member:</b>	Steve Alexanderson
<b>Comment:</b>	1. Do you believe the proposed definition of Protection System is ready for ballot? If not, please explain why.

	<p>0 Yes <b>X No</b></p> <p>Comments: It is still unclear whether relays that respond to mechanical inputs, such as sudden pressure relays, are included in the proposed definition as protective relays. While PRC-005-2 R1 limits the scope of that particular standard to protection systems that sense electrical quantities, it remains unclear in other standards that use the defined term whether mechanical input protections are included. We suggest that “Protective Relay” also be defined, and that the definition clearly exclude devices that respond to mechanical inputs in line with the NERC interpretation of PRC-005-1 in response to the CMPWG request.</p> <p>2. Do you agree with the implementation plan for the revised definition of Protection System? The implementation plan has two phases – the first phase gives entities at least six months to update their protection system maintenance and testing program; the second phase starts when the protection system maintenance and testing program has been updated and requires implementation of any additional maintenance and testing associated with the program changes by the end of the first complete maintenance and testing cycle described in the entity’s revised program.</p> <p>If you disagree with this implementation plan, please explain why. <b>X Yes</b> 0 No Comments:</p>
<p><b>Response:</b></p>	<p>1. The definition has been modified to specify, “Protective relays which respond to electrical quantities”.</p> <p>2. Thank you.</p>
<p><b>Segment:</b></p>	<p>3</p>
<p><b>Organization:</b></p>	<p>Consumers Energy</p>
<p><b>Member:</b></p>	<p>David A. Lapinski</p>
<p><b>Comment:</b></p>	<ol style="list-style-type: none"> <li>1. It is unclear whether “voltage and current sensing inputs” include the instrument transformer itself, or does it pertain to only the circuitry and input to the protective relays.</li> <li>2. It is not clear what is included in the component, “station dc supply” without referring to other documents (the posted Supplementary Reference and/or FAQ) for clarification. The definition should be sufficiently detailed to be clear.</li> <li>3. If Protection Systems trip via AC methods, are those systems, and the associated control circuitry included in the definition and within the requirements of the Standard as expressed within the Tables?</li> </ol>
<p><b>Response:</b></p>	<p>1. The definition has been changed for clarity; the SDT intends that the output of these devices, measured at the relay should properly represent the primary quantities.</p>

	<p>2. There are many possible variations to “station dc supply”. The definition must be sufficiently general such that variations can be included.</p> <p>3. The definition has been generalized such that ac tripping is included.</p>
<b>Segment:</b>	1, 3, 5
<b>Organization:</b>	Arizona Public Service Co., APS
<b>Member:</b>	Robert D Smith, Thomas R. Glock, Mel Jensen
<b>Comment:</b>	The change to the definition relative to the voltage and current sensing devices is too prescriptive. Methods of determining the integrity of the voltage and current inputs into the relays to ensure reliability of the devices should be up to the discretion of the utility.
<b>Response:</b>	The definition has been changed for clarity; the SDT intends that the output of these devices, measured at the relay should properly represent the primary quantities.
<b>Segment:</b>	4
<b>Organization:</b>	Consumers Energy
<b>Member:</b>	David Frank Ronk
<b>Comment:</b>	<p>1. It is unclear whether “voltage and current sensing inputs” include the instrument transformer itself, or does it pertain to only the circuitry and input to the protective relays?</p> <p>2. It is not clear what is included in the component, “station dc supply” without referring to other documents (the posted Supplementary Reference and/or FAQ) for clarification. The definition should be sufficiently detailed to be clear.</p> <p>3. If Protection Systems trip via AC methods, are those systems, and the associated control circuitry included?</p> <p>4. For entities that may not have included all elements reflected in the modified definition within their PRC-005-1 program, 6-months following regulatory approvals may not be sufficient to identify all relevant additional components, develop maintenance procedures, develop maintenance and testing intervals, develop a defensible technical basis for both the procedures and intervals, and train personnel on the newly implemented items. We propose that a 12-month schedule following regulatory approvals may be more practical.</p>
<b>Response:</b>	1. The SDT made several changes to the definition to improve clarity. The SDT intends that the output of

	<p>these devices, measured at the relay should properly represent the primary quantities.</p> <p>2. There are many possible variations to “station dc supply”. The definition must be sufficiently general such that variations can be included.</p> <p>3. The definition has been generalized such that ac tripping is included.</p> <p>4. The Implementation Plan has been modified to allow a 12-month schedule as suggested. However, to agree with the SDT Guidelines established by NERC, “end of the first calendar quarter” was modified to “first day of the first calendar quarter”.</p>
<b>Segment:</b>	1, 3, 6
<b>Organization:</b>	Consolidated Edison Co. of New York
<b>Member:</b>	Christopher L de Graffenried, Peter T Yost, Nickesha P Carrol
<b>Comment:</b>	<p>1. There is not enough clarity on whether a Distribution Provider (DP) will be able to clearly identify which protection system components it does own and needs to maintain. Many DPs own and/or operate equipment identified in the existing or proposed definition. However, not all such equipment translates into a transmission Protection System.</p> <p>2. The definition needs clarification on when such equipment is a part of the transmission protection system.</p> <p>3. Also, the time provided for the first phase "at least six months" is too open ended and does not provide entities with a clear timeline. It is suggested that one year is appropriate for the first phase phasing out the second year in stages.</p>
<b>Response:</b>	<p>1. This issue is properly addressed within the Standard, not within the definition.</p> <p>2. This issue is properly addressed within the Standard, not within the definition.</p> <p>3. The Implementation Plan has been modified to allow a 12-month schedule as suggested. However, to agree with the SDT Guidelines established by NERC, “end of the first calendar quarter” was modified to “first day of the first calendar quarter”.</p>
<b>Segment:</b>	1, 3
<b>Organization:</b>	Hydro One Networks, Inc.
<b>Member:</b>	Ajay Garg, Michael D. Penstone
<b>Comment:</b>	The proposed definition of Protection System needs clarification on when such equipment is a part of the

	transmission protection system. Emphasis should be on systems and not individual components.
<b>Response:</b>	This issue is properly addressed within the Standard, not within the definition.
<b>Segment:</b>	4
<b>Organization:</b>	Y-W Electric Association, Inc.
<b>Member:</b>	James A Ziebarth
<b>Comment:</b>	From Question 1 on the comment form: The application of this definition to Reliability Standards NUC-001-2, PER-005-1, PRC-001-1, and PRC-004-1 results in confusion as to whether relays with mechanical inputs are included or excluded from this definition. PRC-005-2_R1 contains language limiting its applicability to relays operating on electrical inputs only, but the remaining standards that rely on this definition are not so specific. This being the case, it would make much more sense to clearly define what devices are actually meant in the glossary definition rather than leaving it up to each individual standard to do so.
<b>Response:</b>	The definition has been modified to specify, “Protective relays which respond to electrical quantities”.
<b>Segment:</b>	1, 3
<b>Organization:</b>	Platte River Power Authority
<b>Member:</b>	John C. Collins, Terry L Baker
<b>Comment:</b>	<ol style="list-style-type: none"> <li>1. Although the applicable relays to which protective relays are outlined in the NERC PRC-005-2 Protection system Maintenance Draft Supplementary Reference dated May 27, 2010, they are not defined in the NERC Glossary of terms. Until it is clearly defined which relays are included inconsistencies will exist from region to region in their audit approaches and which relays they will be looking at.</li> <li>2. Also, there is still debate why the protective relays would extend to mechanical devices such as the lock-out relay and tripping for trip-free relays. In our system configuration we risk reliability to customer load by testing the lock-out relays which we feel outweighs the benefit of testing devices that we see little to no evidence of failure in.</li> </ol>
<b>Response:</b>	<ol style="list-style-type: none"> <li>1. This is properly an issue for the various Regional BES definitions.</li> <li>2. The definition does not explicitly include these devices, although they are implicitly part of “control circuitry”.</li> </ol>
<b>Segment:</b>	3
<b>Organization:</b>	Public Utility District No. 2 of Grant County

<b>Member:</b>	Greg Lange
<b>Comment:</b>	These systems are not always maintained at the component level, i.e. meggering from the relay input test switch through the cable and the CT. This has not closed all the issues around professional judgment (interpretations) that make us nervous when faced with the human element of an audit. We need more specificity to close that gap.
<b>Response:</b>	This issue is properly addressed within the Standard, not within the definition.
<b>Segment:</b>	1, 3, 5, 6
<b>Organization:</b>	Dominion Virginia Power, Dominion Resources Services, Dominion Resources, Inc., Dominion Resources, Inc.
<b>Member:</b>	John K Loftis, Michael F Gildea, Mike Garton, Louis S Slade
<b>Comment:</b>	The proposed definition introduces ambiguity and we suggest retaining the current definition.
<b>Response:</b>	The existing definition presents ambiguities and gaps which must be addressed in accordance with directives from the NERC BOT. Additionally, the draft definition constrains certain components to remove ambiguities.
<b>Segment:</b>	5
<b>Organization:</b>	Southern Company Generation
<b>Member:</b>	William D Shultz
<b>Comment:</b>	We agree that the definition provides clarity and will enhance the reliability of the Protection Systems to which it is applicable. The negative vote is a result of a belief that the definition's effective date must be coincident with the approval and implementation schedule of PRC-005-2. Since this new definition is directly linked to the proposed revised standard, it would be premature to make this definition effective prior to the effective date of the new standard. If balloted and approved, there is no obligation to or guarantee of any additional maintenance to be performed. PRC-005-2 includes this definition, the maintenance activities, and the intervals that will ensure execution of the maintenance and testing.
<b>Response:</b>	Thank you. When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give entities time to apply the new

	definition to PRC-005-1.
<b>Segment:</b>	1, 3, 6
<b>Organization:</b>	Great River Energy
<b>Member:</b>	Gordon Pietsch, Sam Kokkinen, Donna Stephenson
<b>Comment:</b>	We agree with the revised Protection System definition. The revised definition should only be applied to PRC-005-2. The revised definition should not be applied to PRC-005-1.
<b>Response:</b>	Thank you. When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give entities time to apply the new definition to PRC-005-1.
<b>Segment:</b>	5
<b>Organization:</b>	Progress Energy Carolinas
<b>Member:</b>	Wayne Lewis
<b>Comment:</b>	Progress Energy does not believe that the definition should be implemented separately from and prior to the implementation of PRC-005-2. We believe there should be a direct linkage between the definition's effective date to the approval and implementation schedule of PRC-005-2. Since this new definition should be directly linked to the proposed revised standard, it would be premature to make this new definition effective prior to the effective date of the new standard. We believe that changes to the maintenance program should be driven by the revision of the PRC standard, not by the revision of a definition.
<b>Response:</b>	Thank you. When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give entities time to apply the new definition to PRC-005-1.

<b>Segment:</b>	1
<b>Organization:</b>	Ameren Services
<b>Member:</b>	Kirit S. Shah
<b>Comment:</b>	The implementation of the revised definition and PRC-005-2 PSMP must align on the same date.
<b>Response:</b>	Thank you. When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give entities time to apply the new definition to PRC-005-1.
<b>Segment:</b>	3
<b>Organization:</b>	Niagara Mohawk (National Grid Company)
<b>Member:</b>	Michael Schiavone
<b>Comment:</b>	<ol style="list-style-type: none"> <li>1. National Grid does not agree with the proposed implementation plan. The time provided for the first phase "at least six months" is too open ended and does not give entities a clear timeline. National Grid suggests 1 year for the first phase.</li> <li>2. National Grid also suggests phasing out the second phase in stages.</li> </ol>
<b>Response:</b>	<ol style="list-style-type: none"> <li>1. The Implementation Plan has been modified to replace "six months" with "twelve months".</li> <li>2. We do not understand your comment.</li> </ol>
<b>Segment:</b>	1, 3, 3, 3, 3
<b>Organization:</b>	Southern Company Services, Inc., Alabama Power Company, Georgia Power Company, Gulf Power Company, Mississippi Power
<b>Member:</b>	Horace Stephen Williamson, Richard J. Mandes, Anthony L Wilson, Gwen S Frazier, Don Horsley
<b>Comment:</b>	We agree that the definition provides clarity and will enhance the reliability of the Protection Systems to which it is applicable. However, we feel that there needs to be a direct linkage of the definition's effective date to the approval and implementation schedule of PRC-005-2. Since this new definition is directly linked to the proposed revised standard, it would be premature to make this definition effective prior to the effective date of the new standard.

<b>Response:</b>	Thank you. When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give entities time to apply the new definition to PRC-005-1.
<b>Segment:</b>	1, 5
<b>Organization:</b>	Entergy Corporation
<b>Member:</b>	George R. Bartlett, Stanley M Jaskot
<b>Comment:</b>	<p>The following are the reasons associated with our Negative Ballot.</p> <ol style="list-style-type: none"> <li>1. We agree with the definition, however we do not agree with the implementation plan. We believe implementation of the definition needs to coincide with the implementation of Standard PRC-005-2. To do otherwise, will cause entities to address equipment, documentation, work management process, and employee training changes needed for compliance twice within an unreasonably short timeframe.</li> <li>2. A 12 month minimum timeframe is need to implement this definition</li> <li>3. We also reserve the right to include selected reasons submitted by other Negative balloters for their Negative Ballot.</li> </ol>
<b>Response:</b>	<ol style="list-style-type: none"> <li>1. Thank you.</li> <li>2. The Implementation Plan has been modified to allow a 12-month schedule as suggested. However, to agree with the SDT Guidelines established by NERC, "end of the first calendar quarter" was modified to "first day of the first calendar quarter". When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given "priority." To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give entities time to apply the new definition to PRC-005-1.</li> <li>3. Thank you.</li> </ol>
<b>Segment:</b>	3, 6

<b>Organization:</b>	Entergy
<b>Member:</b>	Joel T Plessinger, Terri F Benoit
<b>Comment:</b>	<ol style="list-style-type: none"> <li>1. We agree with the definition, however we do not agree with the implementation plan. We believe implementation of the definition needs to coincide with the implementation of Standard PRC-005-2. To do otherwise, will cause entities to address equipment, documentation, work management process, and employee training changes needed for compliance twice within an unreasonably short timeframe.</li> <li>2. A 12 month minimum timeframe is need to implement this definition</li> </ol>
<b>Response:</b>	<ol style="list-style-type: none"> <li>1. Thank you.</li> <li>2. The Implementation Plan has been modified to allow a 12-month schedule as suggested. However, to agree with the SDT Guidelines established by NERC, “end of the first calendar quarter” was modified to “first day of the first calendar quarter”. When the Board of Trustees was asked to approve an interpretation of PRC-005-1 that was written by the PSMT SDT, the board acknowledged the reliability gap identified by the drafting team caused by the definition of "protection system" and directed that work to close this reliability gap should be given “priority.” To close this reliability gap the BOT has directed that revised definition be applied to PRC-005-1 as soon as practical - not years from now. The implementation plan now proposes at least 12 months for entities to apply the new definition to PRC-005-1, and that should give entities time to apply the new definition to PRC-005-1.</li> </ol>
<b>Segment:</b>	5
<b>Organization:</b>	U.S. Bureau of Reclamation
<b>Member:</b>	Martin Bauer
<b>Comment:</b>	<ol style="list-style-type: none"> <li>1. It is unfortunate that the definition did not retain consistency in the terms. As an example, the definition indicates it includes protective relays and communication systems for the correct operation of protective functions. It would have been better to use the term relays instead of the term functions. Now it is unclear what the communication systems are for.</li> <li>2. The Time Horizons are too narrow for the implementation of the standard as written. The SDT appears to have not accounted for the data analysis associated with performance based systems. The data collection, analysis, and subsequent decisions associated development of a maintenance program and its justification do not occur overnight especially with larger utilities. In addition, this new standard will require complete rewrite of an entities internal maintenance programs. The internal processes associated with these vary based on the</li> </ol>

	size of the entity and its organizational structure. Since this standard is so invasive into the internal decisions concerning maintenance, the standard should allow at least 18 months for entities to rewrite their internal maintenance programs to meet the program development requirements and 18 months to train the staff in the new program, incorporate the program into the entities compliance processes, and to implement the new program.
<b>Response:</b>	<ol style="list-style-type: none"> <li>1. "Functions" was used, as some applications (SPS, for example) may have communications systems that operate other than via protective relays.</li> <li>2. This comment appears to be focused on the revised Standard, not on the definition.</li> </ol>
<b>Segment:</b>	2
<b>Organization:</b>	Midwest ISO, Inc.
<b>Member:</b>	Jason L Marshall
<b>Comment:</b>	We are abstaining because a number of our stakeholders have concerns regarding the definition of Protection System and the inclusion of UVLS and UFLS in a standard dealing with maintenance of protection systems.
<b>Response:</b>	The inclusion of UVLS/UFLS is related to a directive from FERC in Order 693, and to the SAR for this project.
<b>Segment:</b>	1
<b>Organization:</b>	Lakeland Electric
<b>Member:</b>	Larry E Watt
<b>Comment:</b>	An implementation plan should be associated with this definition change.
<b>Response:</b>	An Implementation Plan specifically for the definition is posted.
<b>Segment:</b>	1
<b>Organization:</b>	Clark Public Utilities
<b>Member:</b>	Jack Stamper
<b>Comment:</b>	The proposed definition does not provide the level of clarity that is needed.
<b>Response:</b>	The SDT made several changes to the definition to improve clarity.
<b>Segment:</b>	1
<b>Organization:</b>	Beaches Energy Services

<b>Member:</b>	Joseph S. Stonecipher
<b>Comment:</b>	While better than the last draft, too many problems still exist.
The following series of comments all indicate that the entity has submitted comments via the official comment form.	
<b>Segment:</b>	1, 5, 6
<b>Organization:</b>	Public Service Electric and Gas Co., PSEG Energy Resources & Trade LLC
<b>Member:</b>	Kenneth D. Brown, David Murray, James D. Hebson
<b>Comment:</b>	Please reference comments submitted by the PSEG companies on the official comment form for this standard.
<b>Segment:</b>	1
<b>Organization:</b>	Potomac Electric Power Co.
<b>Member:</b>	Richard J. Kafka
<b>Comment:</b>	PHI submitted comments
<b>Segment:</b>	3
<b>Organization:</b>	Louisville Gas and Electric Co.
<b>Member:</b>	Charles A. Freibert
<b>Comment:</b>	Comments will be submitted under the comment form
<b>Segment:</b>	3
<b>Organization:</b>	Bonneville Power Administration
<b>Member:</b>	Rebecca Berdahl
<b>Comment:</b>	Please see BPA's comments submitted during the concurrent formal comment period ending July 16, 2010.
<b>Segment:</b>	1
<b>Organization:</b>	GDS Associates, Inc.
<b>Member:</b>	Claudiu Cadar
<b>Comment:</b>	All comments included in the NERC comment form
<b>Segment:</b>	1, 3, 4, 5, 6
<b>Organization:</b>	FirstEnergy Energy Delivery, FirstEnergy Solutions, FirstEnergy Solutions, Ohio Edison Company,

	FirstEnergy Solutions
<b>Member:</b>	Robert Martinko, Kevin Querry, Kenneth Dresner, Douglas Hohlbaugh, Mark S Travaglianti
<b>Comment:</b>	Please see FE comments for suggested enhancements submitted via the parallel comment period for this definition.
<b>Segment:</b>	1
<b>Organization:</b>	Duke Energy Carolina
<b>Member:</b>	Douglas E. Hils
<b>Comment:</b>	Please see our responses in the comment form - thank you.
<b>Segment:</b>	8
<b>Organization:</b>	Utility Services LLC
<b>Member:</b>	Brian Evans-Mongeon
<b>Comment:</b>	see filed comments
<b>Segment:</b>	5
<b>Organization:</b>	PPL Generation LLC
<b>Member:</b>	Mark A. Heimbach
<b>Comment:</b>	Please see comments submitted by "PPL Supply" on 7/16/10.
From this point on, all comments provided relate to the proposed standard, not to the proposed definition and its implementation plan. Responses to comments submitted with ballots for the standard are included in the comment report for the standard – they are not duplicated here.	
<b>Segment:</b>	1
<b>Organization:</b>	Lake Worth Utilities
<b>Member:</b>	Walt Gill
<b>Comment:</b>	1. As written, is opens up the PRC-005 standard to Technical Feasibility Exceptions because some batteries are not able to accommodate all of the tests proscribed in the draft standard 2. The draft standard would cause NERC to regulate through the standards battery testing, DC circuit testing, etc. on distribution elements with no significant improvement to BES reliability, which is beyond the statutory scope of the standards 3. The standard unreasonably retains the "100% compliance" paradigm for thousands, if not millions of protection

system components. Will the Standard Introduce Technical Feasibility Exceptions to PRC Standards? a large proportion of the batteries (as high as 50% as reported by some SMEs) are not able to accommodate all of the tests prescribed in the draft standard. Will this necessitate the introduction of TFEs into the process unnecessarily? The Standard Reaches Beyond the Statutory Scope of the Reliability Standards As written, the standard requires testing of batteries, DC control circuits, etc., of distribution level protection components associated with UFLS and UVLS. UFLS and UVLS are different than protection systems used to clear a fault from the BES. An uncleared fault on the BES can have an Adverse Reliability Impact and hence; the focus on making sure the fault is cleared is important and appropriate. However, a UFLs or UVLS event happens after the fault is cleared and is an inexact science of trying to automatically restore supply and demand balance (UFLS) or restore voltages (UVLS) to acceptable levels. If a few UFLS or UVLS relays fail to operate out of potentially thousands of relays with the same function, there is no significant impact to the function of UFLS or UVLS. Hence, there is no corresponding need to focus on every little aspect of the UFLS or UVLS systems. Therefore, the only component of UFLS or UVLS that ought to be focused on in the new PRF-005 standard is the UFLS or UVLS relay itself and not distribution class equipment such as batteries, DC control circuitry, etc., and these latter ought to be removed from the standard. In addition, most distribution circuit are radial without substation arrangements that would allow functional testing without putting customers out of service while the testing was underway, or at least without momentary outages while customers were switched from one circuit to another. Therefore, as written, we would be sacrificing customer service for a negligible impact on BES reliability. Perfection is Not A Realistic Goal The standard allows no mistakes. Even the famous six sigma quality management program allows for defects and failures (i.e., six sigma is six standard deviations, which means that statistically, there are events that fall outside of six standard deviations). PRC-005 has been drafted such that any failure is a violation, e.g., 1 day late on a single relay test of tens of thousands of relays is a violation. That is not in alignment with worldwide accepted quality management practices (and also makes audits very painful because statistical, random sampling should be the mode of audit, not 100% review as is currently being done in many instances). FMPA suggests considering statistically based performance metrics as opposed to an unrealistic performance target that does not allow for any failure ever. Due to the shear volume of relays, with 100% performance required, if the standards remain this way, PRC-005 will likely be in the top ten most violated standards for the forever. There is a fundamental flaw in thinking about reliability of the BES. We are really not trying to eliminate the risk of a widespread blackout, we are trying to reduce the risk of a widespread blackout. We plan and operate the system to single and credible double contingencies and to finite operating and planning reserves. To eliminate the risk, we would need to plan and operate to an infinite number of contingencies, and have an infinite reserve margin, which is infeasible. Therefore, by definition, there is a finite risk of a widespread blackout that we are trying to reduce,

	not eliminate, and, by definition, by planning and operating to single and credible double contingencies and finite operating and planning reserves, we are actually defining the level of risk from a statistical basis we are willing to take. With that in mind, it does not make sense to require 100% compliance to avoid a smaller risk (relays) when we are planning to a specified level of risk with more major risk factors (single and credible double contingencies and finite planning and operating reserves).
<b>Segment:</b>	3, 4, 5
<b>Organization:</b>	Wisconsin Electric Power Marketing, Wisconsin Energy Corp., Wisconsin Electric Power Co.
<b>Member:</b>	James R. Keller, Anthony Jankowski, Linda Horn
<b>Comment:</b>	We Energies does not agree to the implementation plan proposed. While it makes common sense to proceed with R1 prior to proceeding with implementing R2, R3, and R4, the timeline to be compliant for R1 is too short. It will take a considerable amount of resources to migrate the maintenance plan from today's standard to the new standard in phase one. ATC recommends that time to develop and update the revised program be increased to at least one year followed by a transition time for the entity to collect all the necessary field data for the protection system within its first full cycle of testing. (In ATC's case would be 6 years) To address phase two, We Energies believes human and technological resources will be overburdened to implement this revised standard as written. The transition to implementing the new program will take another full testing cycle once the program has been updated. Increased documentation and obtaining additional resources to accomplish this will be challenging. Implementation of PRC-005-2 will impact We Energies in the following manner: a. Increase costs: double existing maintenance costs. b. Since there will be a doubling of human interaction (or more), it is expected that failures due to human error will increase, possibly proportionately. c. Breaker maintenance may need to be aligned with protection scheme testing, which will always contain elements that are include in the non-monitored table for 6 yr testing. d. We Energies is developing standards for redundant bus and transformer protection schemes. This would allow We Energies to test the protection packages without taking the equipment out of service. Further if one system fails, there is full redundancy available. With the current version of PRC-005-2, We Energies would need to take an outage to test the protection schemes for a transformer or a bus, there is not an incentive to install redundant schemes. We Energies is working with a condition based breaker maintenance program. This program's value would be greatly diminished under PRC-005-2 as currently written. Consideration also needs to be given for other NERC standards expected to be passed and in the implementation stage at the same time, such as the CIP standards.
<b>Segment:</b>	4, 5

<b>Organization:</b>	Florida Municipal Power Agency
<b>Member:</b>	Frank Gaffney, David Schumann
<b>Comment:</b>	<p>FMPA recommends a negative vote on PRC-005-2, Project 2007-17, for three significant reasons 1. As written, it opens up the PRC-005 standard to Technical Feasibility Exceptions because some batteries are not able to accommodate all of the tests proscribed in the draft standard as explained by Steve Alexanderson in a prior e-mail to the ballot pool. 2. The draft standard would cause NERC to regulate through the standards battery testing, DC circuit testing, etc. on distribution elements with no significant improvement to BES reliability, which is beyond the statutory scope of the standards 3. The standard unreasonably retains the "100% compliance" paradigm for thousands, if not millions of protection system components. Will the Standard Introduce Technical Feasibility Exceptions to PRC Standards? As described by Steve Alexanderson in a prior e-mail to the ballot pool, a large proportion of the batteries (as high as 50% as reported by some SMEs) are not able to accommodate all of the tests proscribed in the draft standard. Will this necessitate the introduction of TFEs into the process unnecessarily? The Standard Reaches Beyond the Statutory Scope of the Reliability Standards As written, the standard requires testing of batteries, DC control circuits, etc., of distribution level protection components associated with UFLS and UVLS. UFLS and UVLS are different than protection systems used to clear a fault from the BES. An uncleared fault on the BES can have an Adverse Reliability Impact and hence; the focus on making sure the fault is cleared is important and appropriate. However, a UFLS or UVLS event happens after the fault is cleared and is an inexact science of trying to automatically restore supply and demand balance (UFLS) or restore voltages (UVLS) to acceptable levels. If a few UFLS or UVLS relays fail to operate out of potentially thousands of relays with the same function, there is no significant impact to the function of UFLS or UVLS. Hence, there is no corresponding need to focus on every little aspect of the UFLS or UVLS systems. Therefore, the only component of UFLS or UVLS that ought to be focused on in the new PRF-005 standard is the UFLS or UVLS relay itself and not distribution class equipment such as batteries, DC control circuitry, etc., and these latter ought to be removed from the standard. In addition, most distribution circuit are radial without substation arrangements that would allow functional testing without putting customers out of service while the testing was underway, or at least without momentary outages while customers were switched from one circuit to another. Therefore, as written, we would be sacrificing customer service for a negligible impact on BES reliability. Perfection is Not A Realistic Goal The standard allows no mistakes. Even the famous six sigma quality management program allows for defects and failures (i.e., six sigma is six standard deviations, which means that statistically, there are events that fall outside of six standard deviations). PRC-005 has been drafted such that any failure is a violation, e.g., 1 day late on a single relay test of tens of thousands of relays is a violation. That is not in</p>

	<p>alignment with worldwide accepted quality management practices (and also makes audits very painful because statistical, random sampling should be the mode of audit, not 100% review as is currently being done in many instances). FMPA suggests considering statistically based performance metrics as opposed to an unrealistic performance target that does not allow for any failure ever. Due to the sheer volume of relays, with 100% performance required, if the standards remain this way, PRC-005 will likely be in the top ten most violated standards for the forever. There is a fundamental flaw in thinking about reliability of the BES. We are really not trying to eliminate the risk of a widespread blackout, we are trying to reduce the risk of a widespread blackout. We plan and operate the system to single and credible double contingencies and to finite operating and planning reserves. To eliminate the risk, we would need to plan and operate to an infinite number of contingencies, and have an infinite reserve margin, which is infeasible. Therefore, by definition, there is a finite risk of a widespread blackout that we are trying to reduce, not eliminate, and, by definition, by planning and operating to single and credible double contingencies and finite operating and planning reserves, we are actually defining the level of risk from a statistical basis we are willing to take. With that in mind, it does not make sense to require 100% compliance to avoid a smaller risk (relays) when we are planning to a specified level of risk with more major risk factors (single and credible double contingencies and finite planning and operating reserves).</p>
<b>Segment:</b>	1
<b>Organization:</b>	Keys Energy Services
<b>Member:</b>	Stan T. Rzad
<b>Comment:</b>	As written, it opens up the PRC-005 standard to Technical Feasibility Exceptions because some batteries are not able to accommodate all of the tests proscribed in the draft standard. The draft standard would cause NERC to regulate through the standards battery testing, DC circuit testing, etc. on distribution elements with no significant improvement to BES reliability, which is beyond the statutory scope of the standards. The standard unreasonably retains the "100% compliance" paradigm for thousands, if not millions of protection system components.
<b>Segment:</b>	3
<b>Organization:</b>	Municipal Electric Authority of Georgia
<b>Member:</b>	Steven M. Jackson
<b>Comment:</b>	Station DC supply testing was set at three months. A six month time based testing interval is reasonable. Maximum maintenance interval for a lead-acid vented battery is listed at six calendar years. This type of test

	reduces battery life. A 10 to 12 year interval is reasonable. As written this rule would require a TFE that should be administratively unnecessary. Additional clarification is needed in: Control and trip circuits associated with UVLS and UFLS do not require tripping of the breakers but all other protection systems require tripping. Please clarify. Digital relays have electromagnetic output relays - are they categorized as electromechanical or solid state? There needs to be reasonable flexibility based on industry experience in allowing less than 100% perfection in the testing of relays, etc.
<b>Segment:</b>	1
<b>Organization:</b>	American Transmission Company, LLC
<b>Member:</b>	Jason Shaver
<b>Comment:</b>	ATC does not agree to the implementation plan proposed. While it makes common sense to proceed with R1 prior to proceeding with implementing R2, R3, and R4, the timeline to be compliant for R1 is too short. It will take a considerable amount of resources to migrate the maintenance plan from today's standard to the new standard in phase one. ATC recommends that time to develop and update the revised program be increased to at least one year followed by a transition time for the entity to collect all the necessary field data for the protection system within its first full cycle of testing. (In ATC's case would be 6 years) To address phase two, ATC believes human and technological resources will be overburdened to implement this revised standard as written. The transition to implementing the new program will take another full testing cycle once the program has been updated. Increased documentation and obtaining additional resources to accomplish this will be challenging. Implementation of PRC-005-2 will impact ATC in the following manner: a. Increase costs: double existing maintenance costs. b. Since there will be a doubling of human interaction (or more), it is expected that failures due to human error will increase, possibly proportionately. c. Breaker maintenance may need to be aligned with protection scheme testing, which will always contain elements that are include in the non-monitored table for 6 yr testing. d. ATC is developing standards for redundant bus and transformer protection schemes. This would allow ATC to test the protection packages without taking the equipment out of service. Further if one system fails, there is full redundancy available. With the current version of PRC-005-2, ATC would need to take an outage to test the protection schemes for a transformer or a bus, there is not an incentive to install redundant schemes. ATC is working with a condition based breaker maintenance program. This program's value would be greatly diminished under PRC-005-2 as currently written. Consideration also needs to be given for other NERC standards expected to be passed and in the implementation stage at the same time, such as the CIP standards.
<b>Segment:</b>	1

<b>Organization:</b>	Tucson Electric Power Co.
<b>Member:</b>	John Tolo
<b>Comment:</b>	The mention of communication systems maintenance (M1.) needs more clarity as to the depth of the maintenance required. Also, Table 1a, a 3-month interval to verify that the Protection System communications system is functional is too frequent to be practical.
<b>Segment:</b>	4
<b>Organization:</b>	Fort Pierce Utilities Authority
<b>Member:</b>	Thomas W. Richards
<b>Comment:</b>	The requirement for taking intracell readings is not possible for all batteries. Some minor rewording would resolve this issue and make it applicable to those batteries that have internal cell-to-cell straps. I would recommend changing the minimum requirement to take intracell resistance readings from the battery terminals, since identifying the particular cell that is going bad is of little use. I imagine all utilities replace an entire jar, not individual cells. The draft standard would cause NERC to regulate, through the standards battery testing, DC circuit testing, etc. on distribution elements with no significant improvement to BES reliability, which is beyond the statutory scope of the standards The standard unreasonably retains the "100% compliance" paradigm for thousands, if not millions of protection system components. This becomes an investigation, not an audit. There is no way an audit team will have the time to arrive at 100% compliance with a large entity.
<b>Segment:</b>	1, 3, 6
<b>Organization:</b>	Xcel Energy, Inc.
<b>Member:</b>	Gregory L Pieper, Michael Ibold, David F. Lemmons
<b>Comment:</b>	Xcel Energy believes the standard still contains many aspects that are not clearly understood by entities, including what is needed to demonstrate a compliant PSMP. Comments have been submitted concurrently to NERC via the draft comment response form.
<b>Segment:</b>	1, 3, 5, 6
<b>Organization:</b>	Kansas City Power & Light Co.
<b>Member:</b>	Michael Gammon, Charles Locke, Scott Heidtbrink, Thomas Saitta
<b>Comment:</b>	The proposed changes in the Standard are far too prescriptive and does not take into account the multitude of

	manufacturers equipment by establishing broad maintenance cycles and testing intervals.
<b>Segment:</b>	1
<b>Organization:</b>	SCE&G
<b>Member:</b>	Henry Delk, Jr.
<b>Comment:</b>	While SCE&G believes the majority of the PRC-005-2 standard is ready to be affirmed there are still inconsistencies with areas of the standard that need to be corrected prior to approval. These inconsistencies are addressed in SCE&G's comments which have been submitted for the current draft of this standard.
<b>Segment:</b>	1, 3, 4, 6
<b>Organization:</b>	Seattle City Light
<b>Member:</b>	Pawel Krupa, Dana Wheelock, Hao Li, Dennis Sismaet
<b>Comment:</b>	Functional testing is impractical.
<b>Segment:</b>	6
<b>Organization:</b>	Florida Power & Light Co.
<b>Member:</b>	Silvia P Mitchell
<b>Comment:</b>	This standard is too prescriptive and will result in many violations.
<b>Segment:</b>	5
<b>Organization:</b>	Salt River Project
<b>Member:</b>	Glen Reeves
<b>Comment:</b>	SRP believes the requirements of the Standard are confusing and may be problematic in determining compliance. We also believe the required functional testing of the breaker trip coil may potentially increase maintenance outages of circuit breakers. In most cases, circuit breaker maintenance outages can be coordinated such that Protection System maintenance and testing can be done simultaneously. However, in some cases this may not be possible. Outages of any BES facility whether planned or unplanned can impact system reliability. SRP suggests that trip coil monitoring devices be included as an acceptable means of ensuring the trip coil is functioning properly. This will help to avoid unnecessary outages.
<b>Segment:</b>	3
<b>Organization:</b>	Lakeland Electric

<b>Member:</b>	Mace Hunter
<b>Comment:</b>	The proposed draft may introduce TFEs into the PRC standards, not a good thing. The proposed draft reaches beyond the statutory scope of the reliability standards. Perfection is not a realistic goal.
<b>Segment:</b>	1
<b>Organization:</b>	PPL Electric Utilities Corp.
<b>Member:</b>	Brenda L Truhe
<b>Comment:</b>	PPL EU is voting negative because Rqmt 1.1 "Identify all Protection System components" is too broad and must be clarified and the definition of Protective Relays is not limited to only those devices that use electrical quantities as inputs (exclude pressure, temperature, gas, etc).
<b>Segment:</b>	1
<b>Organization:</b>	Pacific Gas and Electric Company
<b>Member:</b>	Chifong L. Thomas
<b>Comment:</b>	We are concerned over R1.1, where all components must be identified, without a definition for the word component or the granularity specified. While the FAQ gives a definition, and allows for entity latitude in determining the granularity, the FAQ is not part of the standard. We are concerned whether identification is required for every individual component, such as each auxiliary relay, or is it sufficient that the auxiliary relays are included within the scheme that is being tested and documented. Do the auxiliary relays need to be documented within the maintenance database and/or on the actual test reports of schemes being tested? We suggest that the FAQ definitions be included within the standard.