

**Consideration of Comments on Initial Ballot — Interpretation of PRC-005-1 Requirement R1 for the Compliance Monitoring Processes Working Group (Project 2009-10)**

**Summary Consideration:** Balloters presented a mixed response to the approach for interpreting the questions, especially related to whether or not battery chargers were part of the standard. Some balloters supported the drafting team’s literal approach while others believed the team should have applied more of its own judgment. While the drafting team agrees with balloters regarding the importance of battery chargers and other elements, those types of changes need to go through the full standards development process rather than the interpretation process. The drafting team will forward suggestions for changes to the team working on Project 2007-17, which is drafting a revised version of PRC-005-1 and is considering the types of issues identified by the balloters.

Some balloters suggested the word “currently” be removed from the response to Question 1. The drafting team agrees and will remove the term as a correction prior to posting the interpretation for recirculation ballot.

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. In addition, there is a NERC Reliability Standards Appeals Process.<sup>1</sup>

Voter	Entity	Segment	Vote	Comment
Douglas E. Hils	Duke Energy Carolina	1	Negative	Duke Energy provides the following comments: • We agree with the response to Question #1. • On Question #2, we agree that the definition of “Protection System” does not include auxiliary relays. That equipment is tested on initial commissioning, and when modifications are made. The only other testing performed on that equipment would be testing that is incidental to our testing program for DC control circuits during the commissioning process. However the Interpretation could be read to require maintenance and testing of imbedded auxiliary relays as part of DC control circuit testing. We agree that devices such as sudden pressure relays are not included in Requirement R1. • We agree with the response to Question #3. • We agree with the response to Question #4, because this is how our program is defined. DC circuits should be fully checked during the commissioning process or when changes are made to the DC circuits. Routine testing to the DC circuitry is not required on a time-based interval but based on changes to the DC circuitry. • We disagree with the response to Question #5. The first three bullets of the response are fine, but the fourth bullet is wrong. Continuously monitored digital

<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).

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				communications systems are not maintained and tested because the functions are embedded within the relays.
<p><b>Response:</b> The answer provided for Question #5 provides examples of what systems might be considered “associated communication systems”. It does not indicate what degree of maintenance and testing might be required. In the case that the systems are demonstrated to be fully monitored, a decision that no periodic maintenance and testing might be appropriate.</p> <p>Draft PRC-005-2 (Project 2007-17), which is nearing its first comment posting, includes provisions for fully monitored Protection System components.</p>				
Robert Martinko	FirstEnergy Energy Delivery	1	Affirmative	FirstEnergy Corp. supports the interpretation of PRC-005-1 Req. R1 and is voting Affirmative. We offer the following comments. 1. Interpretations should only state facts based on the wording of the current requirements. In the answer the Question 1 of the interpretation, the word "currently" should be dropped from the last sentence. "Currently" implies that these devices may need to be covered in future revisions of the standard, but this should be handled through a SAR and the normal standard development process. 2. Regarding Question #2 and the interpretation provided for the question, we agree that auxiliary relays are not covered by the standard and that maintenance and testing should be limited to devices that respond only to electrical quantities of current and voltage. 3. With regard to Question #3 that re-closing relays are not covered by PRC-005-1, we agree that by the definition of Protection System and the requirements of PRC-005-1 that a reclosing relay is not considered a protective relay. The inclusion of re-closing relays should be considered in the on-going revision of PRC-005 and Protection System definition underway in NERC Project 2007-17. It is FE's opinion that Protection Systems should include not only devices designed to detect and initiate action to isolate a fault on a system, but also schemes designed to automatically restore tripped facilities. This opinion should be fully vetted via the standards development process.
<p><b>Response:</b> The word “currently” will be removed from the interpretation of Question #1. Your comments will be forwarded to the Project 2007-17 SDT that is presently drafting proposed revisions to PRC-005-1.</p>				

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Joanne Kathleen Borrell	FirstEnergy Solutions	3	Affirmative	FirstEnergy Corp. supports the interpretation of PRC-005-1 Req. R1 and is voting Affirmative. We offer the following comments. 1. Interpretations should only state facts based on the wording of the current requirements. In the answer the Question 1 of the interpretation, the word "currently" should be dropped from the last sentence. "Currently" implies that these devices may need to be covered in future revisions of the standard, but this should be handled through a SAR and the normal standard development process. 2. Regarding Question #2 and the interpretation provided for the question, we agree that auxiliary relays are not covered by the standard and that maintenance and testing should be limited to devices that respond only to electrical quantities of current and voltage. 3. With regard to Question #3 that re-closing relays are not covered by PRC-005-1, we agree that by the definition of Protection System and the requirements of PRC-005-1 that a reclosing relay is not considered a protective relay. The inclusion of re-closing relays should be considered in the on-going revision of PRC-005 and Protection System definition underway in NERC Project 2007-17. It is FE's opinion that Protection Systems should include not only devices designed to detect and initiate action to isolate a fault on a system, but also schemes designed to automatically restore tripped facilities. This opinion should be fully vetted via the standards development process.
<p><b>Response:</b> The word "currently" will be removed from the interpretation of Question #1. Your comments will be forwarded to the Project 2007-17 SDT that is presently drafting proposed revisions to PRC-005-1.</p>				
Douglas Hohlbaugh	Ohio Edison Company	4	Affirmative	FirstEnergy Corp. supports the interpretation of PRC-005-1 Req. R1 and is voting Affirmative. We offer the following comments. 1. Interpretations should only state facts based on the wording of the current requirements. In the answer the Question 1 of the interpretation, the word "currently" should be dropped from the last sentence. "Currently" implies that these devices may need to be covered in future revisions of the standard, but this should be handled through a SAR and the normal standard development process. 2. Regarding Question #2 and the interpretation provided for the question, we agree that auxiliary relays are not covered by the standard and that maintenance and testing should be limited to devices that respond only to electrical quantities of current and voltage. 3. With regard to Question #3 that re-closing relays are not covered by PRC-005-1, we agree that by the definition

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				<p>of Protection System and the requirements of PRC-005-1 that a reclosing relay is not considered a protective relay. The inclusion of re-closing relays should be considered in the on-going revision of PRC-005 and Protection System definition underway in NERC Project 2007-17. It is FE's opinion that Protection Systems should include not only devices designed to detect and initiate action to isolate a fault on a system, but also schemes designed to automatically restore tripped facilities. This opinion should be fully vetted via the standards development process.</p>
<p><b>Response:</b> The word "currently" will be removed from the interpretation of Question #1. Your comments will be forwarded to the Project 2007-17 SDT that is presently drafting proposed revisions to PRC-005-1.</p>				
Kenneth Dresner	FirstEnergy Solutions	5	Affirmative	<p>FirstEnergy Corp. supports the interpretation of PRC-005-1 Req. R1 and is voting Affirmative. We offer the following comments. 1. Interpretations should only state facts based on the wording of the current requirements. In the answer the Question 1 of the interpretation, the word "currently" should be dropped from the last sentence. "Currently" implies that these devices may need to be covered in future revisions of the standard, but this should be handled through a SAR and the normal standard development process. 2. Regarding Question #2 and the interpretation provided for the question, we agree that auxiliary relays are not covered by the standard and that maintenance and testing should be limited to devices that respond only to electrical quantities of current and voltage. 3. With regard to Question #3 that re-closing relays are not covered by PRC-005-1, we agree that by the definition of Protection System and the requirements of PRC-005-1 that a reclosing relay is not considered a protective relay. The inclusion of re-closing relays should be considered in the on-going revision of PRC-005 and Protection System definition underway in NERC Project 2007-17. It is FE's opinion that Protection Systems should include not only devices designed to detect and initiate action to isolate a fault on a system, but also schemes designed to automatically restore tripped facilities. This opinion should be fully vetted via the standards development process.</p>
<p><b>Response:</b> The word "currently" will be removed from the interpretation of Question #1. Your comments will be forwarded to the Project 2007-17 SDT that is presently drafting proposed revisions to PRC-005-1.</p>				

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Mark S Travaglianti	FirstEnergy Solutions	6	Affirmative	FirstEnergy Corp. supports the interpretation of PRC-005-1 Req. R1 and is voting Affirmative. We offer the following comments. 1. Interpretations should only state facts based on the wording of the current requirements. In the answer the Question 1 of the interpretation, the word "currently" should be dropped from the last sentence. "Currently" implies that these devices may need to be covered in future revisions of the standard, but this should be handled through a SAR and the normal standard development process. 2. Regarding Question #2 and the interpretation provided for the question, we agree that auxiliary relays are not covered by the standard and that maintenance and testing should be limited to devices that respond only to electrical quantities of current and voltage. 3. With regard to Question #3 that re-closing relays are not covered by PRC-005-1, we agree that by the definition of Protection System and the requirements of PRC-005-1 that a reclosing relay is not considered a protective relay. The inclusion of re-closing relays should be considered in the on-going revision of PRC-005 and Protection System definition underway in NERC Project 2007-17. It is FE's opinion that Protection Systems should include not only devices designed to detect and initiate action to isolate a fault on a system, but also schemes designed to automatically restore tripped facilities. This opinion should be fully vetted via the standards development process.
<p><b>Response:</b> The word "currently" will be removed from the interpretation of Question #1. Your comments will be forwarded to the Project 2007-17 SDT that is presently drafting proposed revisions to PRC-005-1.</p>				
Richard Salgo	Sierra Pacific Power Co.	1	Affirmative	I agree with all elements of the interpretation. With respect to number 5, it appears that the "associated communications" are only included to the extent that they are essential to the protection of the particular element.
<p><b>Response:</b> Thank you for your support.</p>				
Chad Bowman	Public Utility District No. 1 of Chelan County	1	Affirmative	I think the proposed Interpretation is excellent. It makes use of the plain language of the approved Standard to determine scope. If more expansive application of testing and maintenance of protection systems are needed, efforts to make such changes should be routed through the revision process already in place, rather than

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				achieved through expansive interpretations of existing language.
<b>Response:</b> Thank you for your support.				
Steve Alexanderson	Central Lincoln PUD	3	Affirmative	If more expansive application of testing and maintenance of protection systems are needed, efforts to make such changes should be routed through the revision process already in place, rather than achieved through expansive interpretations of existing language.
<b>Response:</b> Thank you for your support.				
Bruce Merrill	Lincoln Electric System	3	Negative	LES does not think that the answers given to the question on examples of "associated communications systems" is a sufficient answer. LES believes the intent of the request for interpretation was to know if the whole telecom system was included, or if only the parts of it that can affect the bulk electric system. Logically, the answer should be the same whether we own or lease the channel, though we certainly can not go down to the phone company to test their equipment. LES recommends that the demarcation point be at a place just after the device that generates the signal to be sent to the remote end and/or receives the remote signal and generates an action output, e.g., trip, block, unblock etc. If the telecom system is to be included, the requirement should be in COMM, not PRC.
<b>Response:</b> The answer provided for Question #5 provides examples of what systems might be considered "associated communication systems." If the associated communication system is used to convey essential Protection System tripping logic, then it is included. If a telecom circuit is used to convey a trip signal or block-trip signal or any essential trip scheme logic, then that telecommunications equipment is part of a Protection System. There should be no distinction as to whether the system is owned or leased. The interpretation does not indicate what degree of maintenance and testing might be required. Your comments will be forwarded to the Project 2007-17 SDT that is presently drafting proposed revisions to PRC-005-1.				

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Dennis Florum	Lincoln Electric System	5	Negative	LES does not think that the answers given to the question on examples of "associated communications systems" is a sufficient answer. LES believes the intent of the request for interpretation was to know if the whole telecom system was included, or if only the parts of it can affect the bulk electric system. Logically, the answer should be the same whether we own or lease the channel, though we certainly can not go down to the phone company to test their equipment. LES recommends that the demarcation point be at a place just after the device that generates the signal to be sent to the remote end and/or receives the remote signal and generates an action output, e.g., trip, block, unblock etc. If the telecom system is to be included, the requirement should be in COMM, not PRC.
Eric Ruskamp	Lincoln Electric System	6	Negative	LES does not think that the answers given to the question on examples of "associated communications systems" is a sufficient answer. LES believes the intent of the request for interpretation was to know if the whole telecom system was included, or if only the parts of it that can affect the bulk electric system. Logically, the answer should be the same whether we own or lease the channel, though we certainly can not go down to the phone company to test their equipment. LES recommends that the demarcation point be at a place just after the device that generates the signal to be sent to the remote end and/or receives the remote signal and generates an action output, e.g., trip, block, unblock etc. If the telecom system is to be included, the requirement should be in COMM, not PRC.
<p><b>Response:</b> The answer provided for Question #5 provides examples of what systems might be considered "associated communication systems." If the associated communication system is used to convey essential Protection System tripping logic, then it is included. If a telecom circuit is used to convey a trip signal or block-trip signal or any essential trip scheme logic, then that telecommunications equipment is part of a Protection System. There should be no distinction as to whether the system is owned or leased. The interpretation does not indicate what degree of maintenance and testing might be required. Your comments will be forwarded to the Project 2007-17 SDT that is presently drafting proposed revisions to PRC-005-1.</p>				
Kenneth R. Johnson	Public Utility District No. 1 of Chelan	3	Affirmative	Nice work

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	County			
<b>Response:</b> Thank you for your support.				
Jacque Smith	ReliabilityFirst Corporation	10	Negative	<p>ReliabilityFirst staff believe that station batteries chargers are part of the station batteries thus would be included under PRC-005-1.</p> <p>ReliabilityFirst staff request that the drafting team provide the clarification that was being sought in Question 4 for the DC control circuitry. The team should provide the interpretation based upon not only the standard and glossary of terms but also the intent of the standard when they were drafting it. The team strictly interpreted the language of the glossary of terms but the questions were seeking an interpretation to the standard and glossary of terms to clarify the ambiguity of the standard and provide consistency among the regions.</p> <p>ReliabilityFirst staff disagree that reclosers or anything else used to restore vs. isolate is not part of the protective system.</p>
<b>Response:</b> Thank you for your comments.				
<p>We concur that the battery chargers play a critical role in the station DC Supply; however, the existing definition does not specifically include that element. It is noted that the existing standard needs to be revised in order to address this deficiency, and a substantive change such as this needs to go through the full standards development process, rather than the abbreviated process used for interpretations.</p> <p>Draft PRC-005-2 (Project 2007-17), which is nearing its first comment posting, addresses battery chargers and the issues raised relative to DC control circuitry. Your comments will be forwarded to the Project 2007-17 SDT.</p>				



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Thomas J. Bradish	Reliant Energy Services	5	Affirmative	<p>Reliant voted affirmative but we are concerned over the statement in the answer to Question 2: "The existing definition of "Protection System" does not include auxiliary relays; therefore, maintenance and testing of such devices is not explicitly required. Maintenance and testing of such devices is addressed to the degree that an entity's maintenance and testing program for DC control circuits involves maintenance and testing of imbedded auxiliary relays.</p> <p>Maintenance and testing of devices that respond to quantities other than electrical quantities (for example, sudden pressure relays) are not included within Requirement R1." Although sudden pressure relays don't meet the strict definition of voltage and current sensing devices but we believe that they meet the intent of the definition. SPR's respond quicker than other protective schemes and therefore they do a better job to limit damage to a transformer. If they are employed on a transformer, why not test them?</p> <p>Also in the answer to Question 3: "R1 does not require maintenance and testing of transmission line re-closing relay because "protective relays" refer to devices that detect and take action for abnormal conditions. Automatic restoration of transmission lines is not a "protective" function". Our concern is if a re-closing relay mis-operates and causes the interrupting device to close back into a persistent fault in the circuit, that's a problem. Or, if a re-closing relay mis-operates and doesn't allow the interrupting device to re-close into a cleared circuit, that could be a problem (e.g., customers not returned to service until after crews are dispatched to determine the status of the circuit, interrupting device, etc.).</p>
Trent Carlson	Reliant Energy Services	6	Affirmative	<p>Reliant voted affirmative but we are concerned over the statement in the answer to Question 2: "The existing definition of "Protection System" does not include auxiliary relays; therefore, maintenance and testing of such devices is not explicitly required. Maintenance and testing of such devices is addressed to the degree that an entity's maintenance and testing program for DC control circuits involves maintenance and testing of imbedded auxiliary relays.</p> <p>Maintenance and testing of devices that respond to quantities other than electrical quantities (for example, sudden pressure relays) are not included within</p>

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				<p>Requirement R1." Although sudden pressure relays don't meet the strict definition of voltage and current sensing devices but we believe that they meet the intent of the definition. SPR's respond quicker than other protective schemes and therefore they do a better job to limit damage to a transformer. If they are employed on a transformer, why not test them?</p> <p>Also in the answer to Question 3: "R1 does not require maintenance and testing of transmission line re-closing relay because "protective relays" refer to devices that detect and take action for abnormal conditions. Automatic restoration of transmission lines is not a "protective" function". Our concern is if a re-closing relay mis-operates and causes the interrupting device to close back into a persistent fault in the circuit, that's a problem. Or, if a re-closing relay mis-operates and doesn't allow the interrupting device to re-close into a cleared circuit, that could be a problem (e.g., customers not returned to service until after crews are dispatched to determine the status of the circuit, interrupting device, etc.).</p>
<p><b>Response:</b> Thank you for your comments. Your comments will be forwarded to the Project 2007-17 SDT that is presently drafting proposed revisions to PRC-005-1.</p>				
Martin Bauer	U.S. Bureau of Reclamation	5	Affirmative	<p>Relying on the NERC Glossary for an interpretation that a Battery Charger is not included in the meaning of what is included in "Batteries" seems to contradict the standards intent to ensure reliability. Batteries will not provide a reliable source of power if the battery chargers are not reliable. The response becomes a literal reading rather than an interpretation.</p>
<p><b>Response:</b> Thank you for your comments. A request for interpretation is specifically tasked with interpreting a standard, not changing requirements or establishing new requirements. If the definition is not adequate, changes must be pursued through the standards development process.</p> <p>Draft PRC-005-2 (Project 2007-17), which is nearing its first comment posting, proposes a change to the definition of "Protection System" to include the overall DC Supply, and proposes specific required maintenance activities for battery chargers.</p>				
Anita Lee	Alberta Electric	2	Negative	<p>The AESO agrees with all the responses to the questions in the interpretation, except for Q#2. The AESO agrees with the first part of the response to Q#2, that</p>

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	System Operator			<p>being auxiliary relays are not considered to be protective relays and therefore are not within scope of R1.</p> <p>However, the AESO disagrees with the last portion of the response where it said "devices that respond to quantities other electrical quantities (for example, sudden pressure relays) are not included in R1". The AESO believes that some protective relays/devices, even they do not respond to electric quantities, such as sudden pressure relays in a major transformer, pressure sensing relay in a GIS substation, etc., should be considered as part of the protection system because they can be crucial in ensuring the BES reliability. This interpretation actually limits/reduces the original intended scope of R1.</p>
<p><b>Response:</b> Thank you for your comments. The drafting team believes that current NERC PRC standards do not address this type of protective device. A change of this nature is more appropriately handled via the overall standards development process rather than via the abbreviated process used for interpretations.</p> <p>Your comments will be forwarded to the Project 2007-17 SDT that is presently drafting proposed revisions to PRC-005-1.</p>				
Michehl R. Gent	Other	8	Negative	<p>The wrong interpretation has been made! Battery chargers are well known to fail and the result often leads to malfunctions of relays. The "right thing" would be to assume the "but not limited to" language was never removed from the definition when the version "0" standards were developed.</p>
<p><b>Response:</b> Thank you for your comments. We concur that the battery charger plays a critical role in the station DC Supply; however, the existing definition does not specifically include that element.</p> <p>Draft PRC-005-2 (Project 2007-17), which is nearing its first comment posting, proposes a change to the definition of "Protection System" to include the overall DC Supply, and proposes specific required maintenance activities for battery chargers.</p>				
Kent Saathoff	Electric Reliability Council of Texas, Inc.	10	Negative	<p>We should not lose sight of the fact that ensuring reliability is the overarching purpose of the Standards. This strict interpretation of the wording of the definition of Protection Systems runs directly counter to that purpose. Battery chargers, auxiliary relays and line reclosing relays must function properly and be maintained to have properly functioning protection systems and a reliable electric system.</p>

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<p><b>Response:</b> Thank you for your comments. We concur that the battery charger plays a critical role in the reliability of the Protection System; however, the existing definition does not specifically include that element.</p> <p>The drafting team believes that auxiliary relays in the tripping path are included today only to the degree that an entity's Protection System maintenance and testing program maintains the DC control circuits as currently expressed in the definition of Protection System, but are not explicitly included in PRC-005-1.</p> <p>Draft PRC-005-2 (Project 2007-17), which is nearing its first comment posting, proposes a change to the definition of "Protection System" to include the overall DC Supply, and proposes specific required maintenance activities for battery chargers. It also explicitly discusses auxiliary relays that are in the trip path.</p> <p>Your comments on reclosing relays will be forwarded to the Project 2007-17 SDT.</p>				
Louise McCarren	Western Electricity Coordinating Council	10	Affirmative	WECC believes the interpretation process was rigorous and that the resulting interpretation is accurate and adds clarity. WECC further believes the Standard itself needs to be revised pursuant to the Standards Development Process.
<p><b>Response:</b> Thank you for your support. Revisions to PRC-005-1 are proceeding under Project 2007-17.</p>				
James A Ziebarth	Y-W Electric Association, Inc.	4	Affirmative	Y-W Electric Association agrees with the interpretation of these terms. While the CMPWG may have some valid concerns for equipment to be added to the definition of a Protection System, Y-WEA believes that the definition should be formally changed through the revision process rather than by adopting and applying expansive interpretations of the existing language.
<p><b>Response:</b> Thank you for your support. Revisions to PRC-005-1 are proceeding under Project 2007-17, which will propose revisions to the Protection System definition.</p>				