

**Project 2009-17: Interpretation of PRC-004-1 and PRC-005-1 for Y-W Electric and Tri-State
Consideration of Comments for Initial Ballot of Revision 1 (November 19–December 7, 2009)**

Summary Consideration:

Several commenters expressed concern that low-voltage networks and small generators do not have a material impact on the reliability of the Bulk Electric System (BES) or that discussion of low-voltage networks or “transmission system faults” was not clear. The discussion regarding low-voltage networks has been removed from the second paragraph, and the first paragraph has been modified to clarify that a transmission Protection System is “installed for the purpose of detecting faults on transmission elements (lines, buses, transformers, etc.) identified as being included in the Bulk Electric System (BES) and trips an interrupting device that interrupts current supplied directly from the BES.”

Several commenters expressed concern that the interpretation has created a defined term, “transmission Protection System,” and that definitions should be developed through the NERC standards development process. The drafting team has modified the first paragraph of the interpretation to clarify our intent is to interpret the applicability of PRC-004-1 Requirements R1 and R3 and PRC-005-1 Requirements R1 and R2; not to define the term “transmission Protection System.” The last sentence now reads, “In these two standards, use of the phrase “transmission Protection System” indicates that the requirements using this phrase are applicable to any Protection System that is installed for the purpose of detecting faults on transmission elements (lines, buses, transformers, etc.) identified as being included in the Bulk Electric System (BES) and trips an interrupting device that interrupts current supplied directly from the BES.”

Some commenters expressed concern that the interpretation is in conflict with regional definitions of the BES or that it attempts to interpret these regional definitions. Other commenters expressed concern that the final paragraph in the interpretation regarding regional differences in definitions of the BES amounted to a disclaimer and undermined the interpretation. The drafting team believes the interpretation, as modified, avoids potential conflicts with regional definitions and believes that references to the BES are valid for the existing definition of the BES and also will be applicable if a NERC-wide methodology for determining BES facilities is developed. The drafting team acknowledges the concern with the last paragraph of the interpretation. The drafting team has removed the paragraph, believing it is not needed to respond to the request for interpretation.

Two commenters expressed concern that faults on non-BES elements could have a material impact on the BES if a protection system failure were to occur. The drafting team acknowledges the potential for faults on non-BES elements to impact the BES and had extensive discussion regarding this concern. However, the drafting team believes that extending applicability of PRC-004-1 Requirements R1 and R3 and PRC-005-1 Requirements R1 and R2 to non-BES elements would change these standards. Such a change would require a Standard Authorization Request (SAR). A majority of the drafting team believes the modifications to the interpretation are adequate and that a SAR to modify the standard is not necessary.

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.¹

¹ The appeals process is in the Reliability Standards Development Procedure: http://www.nerc.com/files/RSDP_V6_1_12Mar07.pdf.

Voter	Entity	Segment	Vote	Comment
Kirit S. Shah Mark Peters	Ameren Services	1 3	Negative	1. We know of no situation where these networks or small (< 20MVA) generator have a material impact on the reliability of the BES. Many co-ops, municipals, and customers operate with a networked sub-transmission or medium voltage system which would make their back-feed protection a transmission protection system per this definition. 2. If this interpretation is approved, the owning entity is responsible for compliance. The TO to which they're connected is not responsible. NERC and regional entities are responsible for assuring that all entities (e.g. co-ops, municipals, and even retail customers) are registered, and then enforcing NERC standards. This could significantly increase compliance enforcement burden with little material improvement in BES reliability. 3. We believe that all transformer taps with low-side voltage below 100kV should be excluded.
<p>Response: The drafting team has modified the interpretation in response to the comments received. The discussion regarding low-voltage networks has been removed from the second paragraph, and the first paragraph has been modified to clarify that a transmission Protection System is “installed for the purpose of detecting faults on transmission elements (lines, buses, transformers, etc.) identified as being included in the Bulk Electric System (BES) and trips an interrupting device that interrupts current supplied directly from the BES.”</p>				
Larry E Watt	Lakeland Electric	1	Negative	Based on the NERC definition and FERC Order 693, the Interpretation Team has overstepped their bounds by attempting to define ‘transmission Protection Systems’ as they apply to the regional definitions of Bulk Electric System. All requests for interpretation of regional definitions of the Bulk Electric System and regional documents supporting the definition should be directed to the appropriate Regional Entity for review and comment.
<p>Response: The drafting team has modified the first paragraph of the interpretation to clarify our intent is to interpret the applicability of PRC-004-1 Requirements R1 and R3 and PRC-005-1 Requirements R1 and R2, not to define the term “transmission Protection System.” The last sentence now reads, “In these two standards, use of the phrase transmission Protection System indicates that the requirements using this phrase are applicable to any Protection System that is installed for the purpose of detecting faults on transmission elements (lines, buses, transformers, etc.) identified as being included in the Bulk Electric System (BES) and trips an interrupting device that interrupts current supplied directly from the BES.”</p>				
Peter T Yost Edwin E	Consolidated Edison Co. of New York	3 5	Negative	Con Edison votes no on this ballot for the following reason: the term "networked low side system" is unclear. We believe the term should be revised to "low side system supplied from multiple transmission substations". This revision is better aligned with the language regarding radial exclusions in the NERC definition of Bulk Electric System.

Voter	Entity	Segment	Vote	Comment
Thompson Nickesha P Carrol		6		
<p>Response: The drafting team has modified the interpretation in response to the comments received. The discussion regarding low-voltage networks has been removed from the second paragraph, and the first paragraph has been modified to clarify that a transmission Protection System is “installed for the purpose of detecting faults on transmission elements (lines, buses, transformers, etc.) identified as being included in the Bulk Electric System (BES) and trips an interrupting device that interrupts current supplied directly from the BES.”</p>				
Douglas E. Hils Robert Smith Henry Ernst Jr	Duke Energy Carolina	1 5 3	Negative	Duke Energy votes “Negative” on this Interpretation because of the sentence “In the event that the transformer low side is connected to a potential source (generator or networked low side system) and there are Protection Systems installed to detect and initiate actions for transmission system faults, then these Protection Systems would be considered transmission Protection Systems.” This sentence is in conflict with the RFC BES definition which states that “The ReliabilityFirst Bulk Electric System excludes: (1) radial facilities connected to load serving facilities or individual generation resources smaller than 20 MVA or a generation plant with aggregate capacity less than 75 MVA where the failure of the radial facilities will not adversely affect the reliable steady-state operation of other facilities operated at voltages of 100 kV or higher...”
<p>Response: The drafting team has modified the interpretation in response to the comments received. The discussion regarding low-voltage networks has been removed from the second paragraph, and the first paragraph has been modified to clarify that a transmission Protection System is “installed for the purpose of detecting faults on transmission elements (lines, buses, transformers, etc.) identified as being included in the Bulk Electric System (BES) and trips an interrupting device that interrupts current supplied directly from the BES.”</p>				
Louise McCarren	Western Electricity Coordinating Council	10	Negative	During the first ballot of this interpretation the following comment was submitted We would consider the protection system for a transformer with a High Side Voltage greater than 100Kv, connected to a transmission line at greater than 100KV by a tap as a BES protection system if: 1) the transformer tap connection had two power supplies. Or 2) the transformer protection system had direct communication with another BES relay or protection system such as a transfer trip. The current definition of BES specifies that a radial transmission line serving only

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				<p>load is not considered as BES IF there is only a single power source. WECC considers these tapped connections as having two power sources. We also believe these transformer protection systems for this configuration should be considered as BES protection systems and subject to PRC-005 because of the potential impact on the BES should they fail to operate. If a tapped transformer has a relay protection failure, the backup protection would be 2 remote breakers in the BES which would isolate not only the affected transformer and its load but any other tapped circuits between the open breakers and also would remove a section of BES transmission from service. It is clear that a failure or misoperation of this transformer protection equipment would impact the BES and we believe it should be considered as an applicable BES protection system. The changes made to the current interpretation did not alter the interpretation to address these concerns</p>
<p>Response: The interpretation does not impact the definition of the Bulk Electric System or its application within each region. The drafting team acknowledges the potential for faults on non-Bulk Electric System elements to impact the Bulk Electric System and had extensive discussion regarding this concern. However, the drafting team is required to base the interpretation on the text of the existing standard and supporting documents, such as defined terms in the NERC Glossary. The drafting team believes that extending applicability of PRC-004-1 Requirements R1 and R3 and PRC-005-1 Requirements R1 and R2 to non-Bulk Electric System elements would change these standards. Such a change would require a Standard Authorization Request (SAR). A majority of the drafting team believes the modifications to the interpretation are adequate and that a SAR to modify the standard is not necessary.</p>				
George R. Bartlett	Entergy Corporation	1	Negative	<p>We believe that there must be a minimum MW value for low side sources potentially contributing fault energy into the BES. It does not seem reasonable to include every single distributed generation source (no matter the size) and its associated protection schemes in the scope of transmission protection schemes under these standards. We suggest the following points to exclude the applicability of relaying protection schemes applied to transformers operated with low sides less than 100kV: Â· Protection schemes designed primarily to protect the transformer itself AFTER the BES branch is isolated through its associated transmission line protection scheme - i.e. overcurrent schemes which isolate tapped transformers from damaging currents which might otherwise be backfed through the transformer's networked or paralleled low side for permanent line faults or isolated transmission load. Â· Protection schemes designed to operate AFTER the clearing of a transmission BES branch to prevent overvoltage conditions which might damage other distribution or transmission assets such as insulators, bushings, lightning arresters, breakers, PT's, CT's, power transformer windings etc. due to a permanent line to ground fault on the isolated BES branch backfed through a delta connected primary</p>
Matt Wolf		3		
Stanley M Jaskot		5		
Terri F Bennet		6		

Voter	Entity	Segment	Vote	Comment
				winding. (i.e. reverse power schemes, zero sequence overvoltage, etc). We support having a reasonable grace period established to allow all entities to come into compliance with any interpretation of a standard when such interpretations represent a significant difference in the initial understanding and application of that standard. We further support waiving or otherwise making special allowance for retroactive compliance requirements when interpretations represent a significant change in the industry's understanding and application of a standard.
<p>Response: The drafting team has modified the interpretation in response to the comments received. The discussion regarding low-voltage networks has been removed from the second paragraph, and the first paragraph has been modified to clarify that a transmission Protection System is “installed for the purpose of detecting faults on transmission elements (lines, buses, transformers, etc.) identified as being included in the Bulk Electric System (BES) and trips an interrupting device that interrupts current supplied directly from the BES.”</p> <p>Based on NERC’s standards development process, as defined in the <i>Reliability Standards Development Procedure</i>, interpretations become effective when approved by regulatory authorities; therefore, implementation plans are not applicable. The drafting team believes that the revised interpretation will not be viewed as a “significant change in the industry's understanding and application of a standard,” and believes the changes to this interpretation will address the commenter’s concern.</p>				
Stephen Lesniak	Commonwealth Edison Co.	3	Negative	Exelon does not believe that protection equipment that trips non-BES equipment poses a threat to the Bulk Electric System. Exelon knows of no evidence within its’ system or on the systems of others where this equipment has led to anything approaching a Bulk Electric System event. Therefore protective equipment designed to detect BES faults that does not trip a BES element should not be subject to the substantial additional expense and burden of record keeping and compliance required by a NERC standard. The definition of a Transmission Protection System should be changed to include only those devices designed to detect transmission level faults and trip BES level elements.
<p>Response: The drafting team has modified the interpretation in response to the comments received. The discussion regarding low-voltage networks has been removed from the second paragraph, and the first paragraph has been modified to clarify that a transmission Protection System is “installed for the purpose of detecting faults on transmission elements (lines, buses, transformers, etc.) identified as being included in the Bulk Electric System (BES) and trips an interrupting device that interrupts current supplied directly from the BES.”</p>				
Suzanne Ritter Terry L.	Santee Cooper	6	Negative	Further clarity is needed in the sentence "In the event that the transformer low side is connected to a potential source (generator or networked low side system) and there are Protection Systems installed to detect and initiate actions for transmission system faults, then these Protection Systems would be considered transmission Protection Systems." Specifically,

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Blackwell		1		<p>what is meant by "installed to detect and initiate actions for transmission system faults?" If there is a networked subtransmission system (less than 100 kV), there sometimes are protection system elements that could "detect and initiate actions for transmission system faults" eventually, just based on the settings needed to protect the subtransmission element. However, they are not "installed to detect and initiate actions for transmission system faults." They are installed to protect the subtransmission elements. Also, sometimes there are protection system elements on small, sub-transmission generators that are "installed to detect and initiate actions for transmission system faults," but not necessarily for the protection of the transmission system element, just as a precaution for the unit itself. These protection systems are not really significant to the transmission system. For instances like these, the ramifications for the possible expansion of this definition of "transmission protection system," based on the wording of these sentences, could be both significant and open to further interpretation. The significance to entities of such an interpretation seems to warrant this subject being handled within the actual standard, instead of an interpretation (based on the note that says, "Note: an Interpretation cannot be used to change a standard"), unless the interpretation is specifically clarified to make sure it is only taken as pertaining to protection systems for potential sources (generator or networked low side system) that are installed specifically to protect a transmission element, not just that may be able to operate for a fault on a transmission system element. Suggest at least wording the sentence as "... and there are Protection Systems primarily installed to protect the associated transmission system element by detecting and initiating actions for transmission system faults, then these Protection Systems would be considered transmission Protection Systems."</p>
<p>Response: The drafting team has modified the interpretation in response to the comments received. The discussion regarding low-voltage networks has been removed from the second paragraph, and the first paragraph has been modified to clarify that a transmission Protection System is "installed for the purpose of detecting faults on transmission elements (lines, buses, transformers, etc.) identified as being included in the Bulk Electric System (BES) and trips an interrupting device that interrupts current supplied directly from the BES."</p>				
Alan Gale	City of Tallahassee	5	Negative	<p>I appreciate Y-WEA's and Tri-State's effort to obtain a clarification so that "[t]hose who are subject to Commission penalties need to know, in advance, what they must do to avoid a penalty" as Commissioner Moeller reiterated in his concurring opinion to the FPL settlement. However, the questions asked must be addressed at the regional level. It is possible that two different regions have two different definitions of what the BES is. Where is the boundary line</p>

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				for the BES? Can you have sub-transmission components of the BES? Does a small local generator make it a transmission system and part of the BES? The interpretation provided even states that this clarification should come from the Regional Entity.
<p>Response: The drafting team has modified the interpretation to avoid potential conflicts with regional definitions of the Bulk Electric System. The discussion regarding low-voltage networks has been removed from the second paragraph, and the first paragraph has been modified to clarify that a transmission Protection System is “installed for the purpose of detecting faults on transmission elements (lines, buses, transformers, etc.) identified as being included in the Bulk Electric System (BES) and trips an interrupting device that interrupts current supplied directly from the BES.” This interpretation clarifies the protective relays to which PRC-004-1 Requirements R1 and R3 and PRC-005-1 Requirements R1 and R2 are applicable. The drafting team acknowledges that by referring to the Bulk Electric System in the interpretation, the applicability is dependent on the definition of Bulk Electric System in each region, similar to application of any other standard that references the Bulk Electric System.</p>				
John J. Moraski	Baltimore Gas & Electric Company	1	Negative	If the highlighted change below (i.e., *normally*) were made that would cause BGE to favor the interpretation. BGE often has slow acting low-side reverse directional relays enabled on radial transformers to protect the transformer against the effects of a transmission line fault in the improbable circumstance that abnormal switching has provided a fault current source at the distribution voltage level. The interpretation as written would incent BGE to disable that protection in order to avoid regulatory risk, an action that would not serve reliability. It is worth noting that when such a relay operates it is after the fault has already been cleared at the transmission terminals, so the benefit of the relay is to the transformer, not to the BES. In general, a radially connected transformer protection system energized from the BES would not be considered a transmission Protection System. In the event that the transformer low side is *normally* connected to a potential source (generator or networked low side system) and there are Protection Systems installed to detect and initiate actions for transmission system faults, then these Protection Systems would be considered transmission Protection Systems.
<p>Response: The drafting team has modified the interpretation in response to the comments received. The discussion regarding low-voltage networks has been removed from the second paragraph, and the first paragraph has been modified to clarify that a transmission Protection System is “installed for the purpose of detecting faults on transmission elements (lines, buses, transformers, etc.) identified as being included in the Bulk Electric System (BES) and trips an interrupting device that interrupts current supplied directly from the BES.”</p>				
Lee Schuster	Florida Power Corporation	3	Negative	Progress is voting Negative and supports the position held by FRCC, as explained in their comments in this ballot. The requester of the interpretation asked for an interpretation and definition of the undefined term “transmission Protection System”. Definitions should be

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				developed through the NERC Reliability Standards Development Procedure by submitting a SAR and requesting that a term be defined. The interpretation development process should not be used to create a new defined term, as requested by the requester in this Project.
<p>Response: The drafting team has modified the first paragraph of the interpretation to clarify our intent is to interpret the applicability of PRC-004-1 Requirements R1 and R3 and PRC-005-1 Requirements R1 and R2, not to define the term “transmission Protection System.” The last sentence now reads, “In these two standards use of the phrase transmission Protection System indicates that the requirements using this phrase are applicable to any Protection System that is installed for the purpose of detecting faults on transmission elements (lines, buses, transformers, etc.) identified as being included in the Bulk Electric System (BES) and trips an interrupting device that interrupts current supplied directly from the BES.”</p>				
Sam Waters Wayne Lewis	Progress Energy Carolinas	3 5	Negative	Progress is voting Negative and supports the position held by FRCC, as explained in their comments in this ballot. The requester of the interpretation asked for an interpretation and definition of the undefined term “transmission Protection System”. Definitions should be developed through the NERC Reliability Standards Development Procedure by submitting a SAR and requesting that a term be defined. The interpretation development process should not be used to create a new defined term, as requested by the requester in this Project.
<p>Response: The drafting team has modified the first paragraph of the interpretation to clarify our intent is to interpret the applicability of PRC-004-1 Requirements R1 and R3 and PRC-005-1 Requirements R1 and R2, not to define the term “transmission Protection System.” The last sentence now reads, “In these two standards use of the phrase transmission Protection System indicates that the requirements using this phrase are applicable to any Protection System that is installed for the purpose of detecting faults on transmission elements (lines, buses, transformers, etc.) identified as being included in the Bulk Electric System (BES) and trips an interrupting device that interrupts current supplied directly from the BES.”</p>				
John Bussman	Associated Electric Cooperative, Inc.	1	Negative	Response: The request for interpretation of PRC-004-1 Requirements R1 and R3 and PRC-005-1 Requirements R1 and R2 focuses on the applicability of the term “transmission Protection System.” The NERC Glossary of Terms Used in Reliability Standards contains a definition of “Protection System” but does not contain a definition of transmission Protection System. The term transmission Protection System is applicable to any Protection System that is installed for the purpose of detecting faults on transmission elements (lines, buses, transformers, etc.) identified as being included in the Bulk Electric System (BES) and initiating action to clear the protected element from all local sources. In general, a radially connected transformer protection system energized from the BES would not be considered a transmission Protection System. In the event that the transformer low side is connected to a potential source (generator

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				<p>or networked low side system) and there are Protection Systems installed to detect and initiate actions for transmission system faults, then these Protection Systems would be considered transmission Protection Systems. It should also be noted that due to the differences among the Regional Entity definitions of the BES, requests for specific clarification of the regional definition, if needed, should be directed to the appropriate Regional Entity. We believe one of the main problems with this interpretation is that “transmission system faults” is not defined. Are these faults on the BES? If so, we can better define which relays should be in the testing program. Still, for low voltage faults not on the BES, the BES can be impacted if the fault does not clear properly Another concern is where the generator source ends. That is, If an entity has a wind farm or other generator source at 10 or 20 MW (we have some as low as a few MWs) connected through two transformers 12.47 KV/ 69kV then 69kV/161kV before it is connected to the 100KV system; does all the relaying in between 12.47 and 100 kV have to be included within the relay maintenance test program. We don’t think that it would be necessary since the fault contribution would be negligible and the affect on the reliability of the BES is minimal. There is a concern with the term networked low side system. At AECl there are many 69KV loops that start at the 161kV transmission system and end back at the 161kV system with a number of transformations in between. Therefore, based on the interpretation; all relay systems within the 69kV network would be required to be included in the relay maintenance and testing program. We don’t believe that was the intent of the interpretation. We understand the intent of the interpretation. However, generator sources should be limited to those above some minimum MW value. In addition, the interpretation should limit the sub-100 kV Protection Systems that would be considered transmission Protection Systems to those associated with the first protective device downstream from the Bulk Electric System. The last item of concern is an implementation plan. If entities have not interrelated the standard per this interpretation when does the interpretation go into effect? There should be some amount of time that an entity has to have it included in their relay maintenance and test program. It should not be retroactive back to June 18, 2007.</p>

Response: The drafting team has modified the interpretation in response to the comments received. The drafting team believes these modifications avoid potential conflicts with regional definitions of the Bulk Electric System. The discussion regarding low-voltage networks has been removed from the second paragraph, and the first paragraph has been modified to clarify that a transmission Protection System is “installed for the purpose of detecting faults on transmission elements (lines, buses, transformers, etc.) identified as being included in the Bulk Electric System (BES) and trips an interrupting device that interrupts current supplied directly from the BES.”

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Michael K Wilkerson	Northern Indiana Public Service Co.	5	Negative	The final sentence in the interpretation appears to be a disclaimer that needs to be addressed. Variance in Regional Entity definitions of the BES should be eliminated by NERC especially since there are entities that span multiple regions.
Joseph O'Brien		6		
<p>Response: The drafting team has removed the last paragraph from the interpretation. The drafting team acknowledges the concern with this paragraph raised by several commenters and believes this paragraph is not needed to respond to the request for interpretation.</p>				
James L. Jones	Southwest Transmission Cooperative, Inc.	1	Negative	The last sentence of the interpretation completely throws the whole issue back to the regions who have not been consistent in the first place. (It should also be noted that due to the differences among the Regional Entity definitions of the BES, requests for specific clarification of the regional definition, if needed, should be directed to the appropriate Regional Entity.)
<p>Response: The drafting team has removed the last paragraph from the interpretation. The drafting team acknowledges the concern with this paragraph raised by several commenters and believes this paragraph is not needed to respond to the request for interpretation.</p>				
Jason L Marshall	Midwest ISO, Inc.	2	Negative	We believe the interpretation would be accurate and correct with just the first two paragraphs. The last paragraph should be deleted as it undermines the first two paragraphs.
<p>Response: The drafting team has removed the last paragraph from the interpretation. The drafting team acknowledges the concern with this paragraph raised by several commenters and believes this paragraph is not needed to respond to the request for interpretation.</p>				
Bob C. Thomas	Illinois Municipal Electric Agency	4	Negative	Actual interpretation is acceptable; however, IMEA's understanding is there is concern within the industry that the last sentence compromises the interpretation.
<p>Response: The drafting team has removed the last paragraph from the interpretation. The drafting team acknowledges the concern with this paragraph raised by several commenters and believes this paragraph is not needed to respond to the request for interpretation.</p>				
Bruce Merrill	Lincoln Electric System	3	Negative	The old and new NERC definition of a transmission protection system seem to include only relays that detect faults on the BES and not relays that protect a radially connected transformer. However, we see from the Request for Interpretation that ReliabilityFirst includes

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Dennis Florom Erik Ruskamp		5 6		breaker failure protection for the transformer high side breaker and WECC includes all of the transformer protection. These protection systems do not detect faults on the BES but can trip an element of the BES. These regional entities are going a step further than NERC. This could present a problem in an audit situation.
<p>Response: This interpretation clarifies the protective relays to which PRC-004-1 Requirements R1 and R3 and PRC-005-1 Requirements R1 and R2 are applicable. The drafting team acknowledges that by referring to the Bulk Electric System in the interpretation, the applicability is dependent on the definition of Bulk Electric System in each region, similar to application of any other standard that references the Bulk Electric System.</p>				
Linda Campbell	Florida Reliability Coordinating Council	10	Negative	<p>The requesters have asked NERC to define ‘transmission Protection System’ and to effectively make a determination of which regional (WECC or RFC) definition of Bulk Electric System is correct. This is an inappropriate use of the Interpretation Process for several reasons. Definitions should be developed through the NERC Reliability Standards Development Procedure by submitting a Standard Authorization Request (SAR) to the standards process manager requesting that a term be defined. Development of a definition for one Reliability Standard interpretation may not consider the impact to the other Reliability Standards that will also use that same definition. Furthermore the Standards Development Procedure ensures that industry vetting is applied to establish consensus. The responsibility of defining Bulk Electric System resides with the regions. This is clearly stated in the NERC definition of the term: “As defined by the Regional Reliability Organization, the electrical generation resources, transmission lines, interconnections with neighboring systems, and associated equipment, generally operated at voltages of 100 kV or higher. Radial transmission facilities serving only load with one transmission source are generally not included in this definition”. Additionally, In Order 693, Paragraph 77, FERC directed NERC to provide them with a complete set of regional definitions of the bulk electric system and any regional documents that identify critical facilities to which the Reliability Standards apply (i.e. facilities below a 100kV threshold that have been identified by the regions as critical to system reliability). The NERC definition and FERC Order 693 clearly identify that the responsibility for the definition of the Bulk Electric System resides with the Regional Entities. Based on the NERC definition and FERC Order 693, the Interpretation Team has overstepped their bounds by attempting to define ‘transmission Protection Systems’ as they apply to the regional definitions of Bulk Electric System. All requests for interpretation of regional definitions of the Bulk Electric System and regional documents supporting the definition should be directed to the appropriate Regional Entity for review and comment.</p>

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<p>Response: The drafting team has modified the interpretation to avoid potential conflicts with regional definitions of the Bulk Electric System. The discussion regarding low-voltage networks has been removed from the second paragraph and the first paragraph has been modified. The drafting team also has modified the first paragraph of the interpretation to clarify our intent is to interpret the applicability of PRC-004-1 Requirements R1 and R3 and PRC-005-1 Requirements R1 and R2, not to define the term “transmission Protection System.” The last sentence now reads, “In these two standards use of the phrase transmission Protection System indicates that the requirements using this phrase are applicable to any Protection System that is installed for the purpose of detecting faults on transmission elements (lines, buses, transformers, etc.) identified as being included in the Bulk Electric System (BES) and trips an interrupting device that interrupts current supplied directly from the BES.”</p>				
<p>Glen Reeves</p> <p>Robert Kondziolka</p> <p>John T. Underhill</p> <p>Mike Hummel</p>	<p>Salt River Project</p>	<p>5</p> <p>1</p> <p>3</p> <p>6</p>	<p>Negative</p>	<p>The term "transmission system faults" used in the interpretation needs to be defined. Is "transmission system" synonymous with "Bulk Electric System"?</p>
<p>Response: The drafting team has modified the interpretation to remove the phrase “transmission system faults.” The discussion regarding low-voltage networks has been removed from the second paragraph, and the first paragraph has been modified to clarify that a transmission Protection System is “installed for the purpose of detecting faults on transmission elements (lines, buses, transformers, etc.) identified as being included in the Bulk Electric System (BES) and trips an interrupting device that interrupts current supplied directly from the BES.”</p>				
<p>Chris W Bolick</p>	<p>Associated Electric Cooperative, Inc.</p>	<p>3</p>	<p>Negative</p>	<p>The term transmission system faults is undefined</p>
<p>Response: The drafting team has modified the interpretation to remove the phrase “transmission system faults.” The discussion regarding low-voltage networks has been removed from the second paragraph, and the first paragraph has been modified to clarify that a transmission Protection System is “installed for the purpose of detecting faults on transmission elements (lines, buses, transformers, etc.) identified as being included in the Bulk Electric System (BES) and trips an interrupting device that interrupts current supplied directly from the BES.”</p>				

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Terry Harbour	MidAmerican Energy Co.	1	Negative	This interpretation could inappropriately pull in distribution protection systems (such as 13 or 69 kV breakers) on the low side of a transformer
<p>Response: The drafting team has modified the interpretation in response to the comments received. The discussion regarding low-voltage networks has been removed from the second paragraph, and the first paragraph has been modified to clarify that a transmission Protection System is “installed for the purpose of detecting faults on transmission elements (lines, buses, transformers, etc.) identified as being included in the Bulk Electric System (BES) and trips an interrupting device that interrupts current supplied directly from the BES.”</p>				
Kim Warren	Independent Electricity System Operator	2	Negative	<p>We continue to have certain reservations regarding the interpretation as drafted because the revisions have failed to address what in our view is its limited scope. The interpretation now reads in part: “... any Protection System that is installed for the purpose of detecting faults on transmission elements (lines, buses, transformers, etc.) identified as being included in the Bulk Electric System (BES)...” Our point is that it is possible for (lower voltage) faults on non-BES elements to impact the BES if those faults are not cleared properly, so that any protection system installed with the intention of detecting and initiating action in such cases where the fault is impactful, should also be classified as a transmission protection system. In short, we believe the goal of a transmission protection system should be to protect the BES from faults that may have an adverse impact on it whether these faults occur on BES elements or not, and as such the “test” of what constitutes a transmission protection should be expanded beyond merely faults on BES elements. Notwithstanding the DT’s response to our previous comment on this issue, the current version of the interpretation does not make this clear.</p>
<p>Response: The drafting team acknowledges the potential for faults on non-Bulk Electric System elements to impact the Bulk Electric System and had extensive discussion regarding this concern. However, the drafting team is required to base the interpretation on the text of the existing standard and supporting documents, such as defined terms in the NERC Glossary. The drafting team believes that extending applicability of PRC-004-1 Requirements R1 and R3 and PRC-005-1 Requirements R1 and R2 to non-Bulk Electric System elements would change these standards. Such a change would require a Standard Authorization Request (SAR). A majority of the drafting team believes the modifications to the interpretation are adequate and that a SAR to modify the standard is not necessary.</p>				
Gregory L Pieper	Xcel Energy, Inc.	1	Negative	<p>We felt that the drafting team’s response to our comment in the last ballot was very helpful and addressed our concern. However, no corresponding clarification was made to the interpretation. Interpretations should not introduce new ambiguity. We feel that it is the drafting team’s responsibility to ensure that the issues relating to “potential sources” is clear in the interpretation and modifications should be made. One suggested way to clarify the</p>

Voter	Entity	Segment	Vote	Comment
Michael Ibold David F. Lemmons		3 6		interpretation is to add some of the language in the drafting team's response to our comment in the last ballot.
<p>Response: The drafting team agrees it is important that an interpretation should not introduce new ambiguity. The drafting team has modified the interpretation in response to the comments received. The discussion regarding low-voltage networks has been removed from the second paragraph, and the first paragraph has been modified to clarify that a transmission Protection System is “installed for the purpose of detecting faults on transmission elements (lines, buses, transformers, etc.) identified as being included in the Bulk Electric System (BES) and trips an interrupting device that interrupts current supplied directly from the BES.”</p>				
Paul B. Johnson Raj Rana Brock Ondayko Edward P. Cox	American Electric Power	1 3 5 6	Negative	<p>While AEP generally agrees with the interpretation provided by the SDT, we do not believe that the interpretation process is being used appropriately in this instance. First, AEP does not believe it is appropriate to define a term used in the standard through an interpretation, especially when such a definition changes the meaning of the standard's requirements. Establishing a definition for the term "transmission Protection System" should be done in the standard development process and through the NERC glossary development process. To justify doing otherwise by stating that the term is already used (but not defined) in the standard, does not seem to be a logical approach. In the case of the acknowledged differences among Regional Entity definitions of the BES, regional BES differences should be identified within the standard. Alternatively, the applicable definition of "transmission Protection System" facilities should be provided on a national basis, with the regions provided the opportunity to create exceptions through the regional standards development process. To simply direct responsible entities to independently seek specific clarification for each Regional Entity, as is written in the third paragraph of the interpretation, is inconsistent with how regional differences have been managed in other standards developed through the national and regional standards development process. Furthermore, the approach of directing responsible entities to request specific clarification of the regional (BES) definition (as applicable to "transmission Protection System") of the appropriate Regional Entity, does not provide a formal and consistent basis under which responsible entities can demonstrate full compliance with the standard.</p>
<p>Response: The drafting team has modified the first paragraph of the interpretation to clarify our intent is to interpret the applicability of PRC-004-1 Requirements R1 and R3 and PRC-005-1 Requirements R1 and R2, not to define the term “transmission Protection System.” The drafting team also has modified the interpretation to avoid potential</p>				

Voter	Entity	Segment	Vote	Comment
<p>conflicts with regional definitions of the Bulk Electric System. The discussion regarding low-voltage networks has been removed from the second paragraph, and the first paragraph has been modified. The last sentence now reads, "In these two standards use of the phrase transmission Protection System indicates that the requirements using this phrase are applicable to any Protection System that is installed for the purpose of detecting faults on transmission elements (lines, buses, transformers, etc.) identified as being included in the Bulk Electric System (BES) and trips an interrupting device that interrupts current supplied directly from the BES."</p> <p>The drafting team has removed the last paragraph from the interpretation. The drafting team acknowledges the concern with this paragraph raised by several commenters and believes this paragraph is not needed to respond to the request for interpretation</p>				
David H. Boguslawski	Northeast Utilities	1	Affirmative	Support with comments: 1) Suggest replacing phrase "from all local sources" with "from all terminals that must open to clear the fault from the BES" -- since introducing the concept of "local" may cause some confusion. 2) Suggest that the definition of Transmission protection system be added to the NERC glossary of terms.
<p>Response: The drafting team acknowledges your affirmative response and clarifying comment. The drafting team has modified the interpretation in line with the commenter's suggestion. The first paragraph has been modified to clarify that a transmission Protection System is "installed for the purpose of detecting faults on transmission elements (lines, buses, transformers, etc.) identified as being included in the Bulk Electric System (BES) and trips an interrupting device that interrupts current supplied directly from the BES."</p>				
Richard Salgo	Sierra Pacific Power Co.	1	Affirmative	The clarifications provided in this revision to the interpretation address our previous concerns.
<p>Response: The drafting team acknowledges your affirmative response and clarifying comment. The drafting team thanks you for your participation in this project.</p>				
James A Maenner	James A Maenner	8	Affirmative	While I agree with this interpretation, the issue has unveiled problems concerning regional differences. By allowing each region to define the Bulk Electric System consensus on transmission applicability will be difficult to achieve. I suggest the development of a NERC-wide methodology for determining BES facilities.
<p>Response: The drafting team acknowledges your affirmative response and clarifying comment. The drafting team has modified the interpretation to avoid potential conflicts with regional definitions of the Bulk Electric System. The drafting team believes this revised interpretation will be applicable for the existing definition of the Bulk Electric System, and also will be applicable if a NERC-wide methodology for determining BES facilities is developed.</p>				