

Consideration of Comments on the Regional Reliability Standard PRC-006-RFC-01— Automatic Underfrequency Load Shedding Requirements

The Regional Reliability Standards Working Group thanks all commenters who submitted comments on the proposed regional standard PRC-006-RFC-01— Automatic Underfrequency Load Shedding Requirements. This standard was posted for a 45-day public comment period from February 26, 2009 through April 13, 2009. The stakeholders were asked to provide feedback on the standards through a special Electronic Comment Form. There were 12 sets of comments, including comments from 24 different people from 18 companies representing 5 of the 10 Industry Segments as shown in the table on the following pages.

http://www.nerc.com/filez/regional_standards/regional_reliability_standards_under_development.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, 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 Procedures: <http://www.nerc.com/standards/newstandardsprocess.html>.

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5. Does the proposed regional reliability standard meet at least one of the following criteria?17

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The Industry Segments are:

- 1 — Transmission Owners
- 2 — RTOs, ISOs
- 3 — Load-serving Entities
- 4 — Transmission-dependent Utilities
- 5 — Electric Generators
- 6 — Electricity Brokers, Aggregators, and Marketers
- 7 — Large Electricity End Users
- 8 — Small Electricity End Users
- 9 — Federal, State, Provincial Regulatory or other Government Entities
- 10 — Regional Reliability Organizations, Regional Entities

		Commenter	Organization	Industry Segment										
				1	2	3	4	5	6	7	8	9	10	
1.	Group	William J. Gallagher	Transmission Access Policy Study Group	X		X	X	X	X					
		Additional Member	Additional Organization	Region						Segment Selection				
1.		Raymond Phillips	Alabama Municipal Electric Authority	SERC						4				
2.		Frank Gaffney	Florida Municipal Power Agency	FRCC						3, 4				
3.		Gayle Mayo	Indiana Municipal Power Agency	RFC						4				
4.		Bob Thomas	Illinois Municipal Electric Agency	RFC						4				
5.		Eric Ruskamp	Lincoln Electric Systems	MRO						1, 3, 5, 6				
6.		Roy Thilly	WPPI Energy	MRO						4, 5				
2.	Group	Jalal Babik	Dominion Resources Services			X		X	X					
		Additional Member	Additional Organization	Region						Segment Selection				
1.		Louis Slade		SERC						6				
2.		Mike Garton		NPCC						5				
3.	Group	Sam Ciccone	FirstEnergy	X		X	X	X	X					

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	Commenter	Organization	Industry Segment										
			1	2	3	4	5	6	7	8	9	10	
	Additional Member	Additional Organization	Region							Segment Selection			
1.	Doug Hohlbaugh	FE	RFC							1, 3, 4, 5, 6			
2.	Dick Kovacs	FE	RFC							1			
3.	Ed Baznik	FE	RFC							1			
4.	Art Buanno	FE	RFC							1			
4.	Individual	Phil Hansen	WPPI Energy			X	X						
5.	Individual	James H. Sorrels, Jr.	American Electric Power	X		X		X	X				
6.	Individual	Laura Lee	Duke Energy	X		X		X	X				
7.	Individual	Howard Rulf	We Energies			X	X	X					
8.	Individual	John P. Bonner, PE	Individual										
9.	Individual	Patti Metro	National Rural Electric Cooperative Association (NRECA)			X	X						
10.	Individual	Scott Berry	Indiana Municipal Power Agency				X						
11.	Individual	Bob Thomas	Illinois Municipal Electric Agency				X						
12.	Individual	Chris Norton	American Municipal Power - Ohio, Inc.				X						

1. Was the proposed standard developed in a fair and open process, using the associated Regional Reliability Standards Development Procedure?

Organization	Yes or No	Question 1 Comment
Transmission Access Policy Study Group	No	<p>NERC’s commenting process for this regional standard is unfair in that it purports to limit comments to four factors, and states that technical comments should only be submitted to the Regional Entity. There is no support in the NERC Rules of Procedure or Reliability Standards Development Process for limiting the comments on this proposed Regional Reliability Standard as NERC claims to do here. Section 311 of the Rules of Procedure, to which TAPS was referred with respect to this restriction, deals with NERC approval of a regional entity reliability standards development process, not approval of a particular regional standard. Section 312.4.2 simply requires NERC to issue public notice of the proposed regional standard and request comments on it; there is no mention of limiting the scope of the comments to be requested. Moreover, if NERC is to perform an independent technical evaluation of a proposed regional standard, it should accept technical comments from stakeholders. The specific four factors to which NERC is limiting comments in this case were only addressed by FERC in the Certification Order, and were rejected there. P 274. TAPS is concerned about this restriction on the ability of stakeholders to comment to NERC about proposed regional standards both because of the general need for entities to be able to participate fully in the process, and because when we have expressed our concerns about particular regional entities to NERC, we have been told not to worry because we can address any problems with regional entity standards at NERC. It is especially important to allow comments to NERC on the substance of a proposed regional standard because of the possibility that the regional standard could be adopted on a continent-wide basis; while continent-wide adoption would of course require the full Reliability Standards Development Process, some entities might be inclined to be more supportive of a standard that has already been approved for one Region. NERC should therefore, if it does not reject the proposed standard outright, post the proposed standard for another round of comments by all stakeholders, this time with no limitation on the scope of comments, so that it can make an informed decision. The ReliabilityFirst process for this proposed standard suffered from another flaw in that the proposed standard would be applicable to GOs not currently subject to inclusion on the Compliance Registry. RFC should have provided special notice to each entity that would be newly subject to compliance under the proposed standard, since currently unregistered entities cannot be expected to closely monitor all standards under development; at a minimum, RFC should have made an extra effort at outreach to inform stakeholders, including currently unregistered entities, that the proposed standard would be applicable to some currently unregistered entities.</p>
<p>Response: The proposed PRC-006-RFC-01 standard has been publicly posted for five 30-Day comment posting periods in which are open to all entities per the FERC approved RFC Regional Standards Development Procedure. Industry did have ample opportunity to provide technical comment via the five RFC 30-Day posting periods. Members of the Regional Reliability Standards Working Group (RRSWG) have also been informed of these postings. The RRSWG consists of Regional standards directors from each Region.</p> <p>ReliabilityFirst and NERC had decided post the proposed PRC-006-RFC-01 standard at the NERC level (45-Day posting) to be proactive and to allow the Standard Drafting Team (SDT) the ability to review and respond to the comments prior to any potential Category Ballot. Per the ReliabilityFirst Standards Procedure, no changes can be made to any proposed standard once it goes to through Category Ballot. If the proposed standard is posted at the NERC level after industry and subsequent ReliabilityFirst Board approval, the SDT does not have the capability of modifying such standard regardless of any</p>		

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Organization	Yes or No	Question 1 Comment
<p>comments received at the NERC level. With that said, NERC still has the ability to post such regional standards for another NERC comment period after ReliabilityFirst Board approval.</p> <p>Also, this posting is consistent with the NERC Rules of Procedure (Section 312 4.2) which states “NERC may publicly notice and post for comment the proposed regional reliability standard concurrent with similar steps in the regional entity’s reliability standards development process.</p> <p>The RFC SDT understands that the NERC PRC-024 standard under development will be including generators connected at 60 kV and above.</p> <p>The RFC standard will first be approved by the RFC Board and then be applicable to the RFC membership. The standard will then be forwarded to NERC for consideration as a regional standard. Upon FERC approval, the standard will apply to registered entities in RFC. Comments from groups such as TAPS (which advocates on behalf of their constituents) indicate that this type of information is being made available. The SDT will conduct a Webinar in the future to further clarify the intent of the standard.</p>		
<p>Dominion Resources Services</p>	<p>No</p>	<p>While we agree that the standard was developed in a fair and open process, we don't agree that it followed the regional standards development process. This regional standard has not yet been approved by the RFC board as shown in of the ReliabilityFirst Corporation Reliability Standards Development Procedure (step 7). And, while we are not opposed to the RFC SDT being proactive and applying the NERC Rules and Procedure, Section 312 4.2 which allows for regional standards to be posted at the NERC level concurrent with similar steps in the regional entity's regional standard development process we would prefer that the regional process be modified to indicate that this 'option' may be used.</p>
<p>Response: ReliabilityFirst and NERC had decided to post the proposed PRC-006-RFC-01 standard at the NERC level (45-Day posting) to be proactive and to allow the Standard Drafting Team (SDT) the ability to review and respond to the comments prior to any potential Category Ballot. Per the ReliabilityFirst Standards Procedure, no changes can be made to any proposed standard once it goes to through Category Ballot. If the proposed standard is posted at the NERC level after industry and subsequent ReliabilityFirst Board approval, the SDT does not have the capability of modifying such standard regardless of any comments received at the NERC level. With that said, NERC still has the ability to post such regional standards for another NERC comment period after ReliabilityFirst Board approval.</p> <p>Also, this posting is consistent with the NERC Rules of Procedure (Section 312 4.2) which states “NERC may publicly notice and post for comment the proposed regional reliability standard concurrent with similar steps in the regional entity’s reliability standards development process. There is nothing precluding the NERC 45-Day comment posting period prior to completion of the RFC Standards Development Procedure. This posting is not a substitute for the final NERC/FERC standard submittal. This NERC 45-Day comment posting was an informational purposes and not for approval purposes.</p>		
<p>FirstEnergy</p>	<p>Yes</p>	
<p>WPPI Energy</p>	<p>Yes</p>	
<p>American Electric Power</p>	<p>Yes</p>	<p>The process to date has been fair and open. This standard is still under development at RFC and AEP has provided comments to the currently posted draft for the SDT.</p>
<p>Response: Thanks for your support.</p>		

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Organization	Yes or No	Question 1 Comment
Duke Energy	Yes	
We Energies	No	<p>This standard is in Step 4 ? Comment Posting Period within the RFC Reliability Standards Development Procedure. RFC may solicit comments wherever appropriate, but during standard development these comments will include technical aspects. The email notice from NERC for comments and this questionnaire state that this posting is for process related comments only and that this posting is part of the NERC approval process. This standard is far from approval within RFC. 17 of 21 entities stated that this standard was not ready for ballot in the last RFC posting. By the RFC Reliability Standards Development Procedure a standard is submitted to NERC for approval only after RFC Board approval. Since RFC Board approval has not occurred, this standard must have been submitted to NERC for technical comment and not for approval. Our expectation is that this standard will be posted a second time at NERC for process related comments and approval. Development of this standard within RFC is incomplete. It still needs to finish commenting (Step 4), balloting (Steps 5 and 6), and action by the RFC Board (Step 7). The RFC Reliability Standards Development Procedure only allows a standard to be sent to NERC for approval at the end of Step 7, after RFC Board approval. Since the RFC process is incomplete, industry is unable to comment at this time on the entire RFC Standards Development process for this standard. A single posting at NERC would be a de facto prohibition on industry from commenting on the complete RFC Standards Development process and would make this process unfair.</p> <p>Applicability for Generator Owners needs to be limited to those GOs that are required to register by the NERC Statement of Compliance Registry Criteria using the NERC Bulk Electric System definition. FERC has stated that entity registration is by the NERC registration process using the NERC definition of the Bulk Electric System and the NERC compliance registry criteria (FERC Order 693 par. 95, 96, 97 and FERC Order No. 693-A par. 80). RFC may register an otherwise exempt facility if it is necessary for BES reliability, but this registration is on a facility-by-facility basis (Order No. 693 par. 101). Nothing in a Reliability Standard can cause an entity to be registered if it would otherwise not be required to do so. (FERC Order No. 693-A par. 80). Compliance Monitoring Period and Reset by the RFC Reliability Standards Development Procedure is The time period in which performance or outcomes is measured, evaluated, and then reset. Compliance Monitoring Period and Reset for this standard is "On request (within 45 calendar days)". This is incomplete.</p>
<p>Response: ReliabilityFirst and NERC had decided to post the proposed PRC-006-RFC-01 standard at the NERC level (45-Day posting) to be proactive and to allow the Standard Drafting Team (SDT) the ability to review and respond to the comments prior to any potential Category Ballot. Per the ReliabilityFirst Standards Procedure, no changes can be made to any proposed standard once it goes to through Category Ballot. If the proposed standard is posted at the NERC level after industry and subsequent ReliabilityFirst Board approval, the SDT does not have the capability of modifying such standard regardless of any comments received at the NERC level. With that said, NERC still has the ability to post such regional standards for another NERC comment period after ReliabilityFirst Board approval.</p> <p>Also, this posting is consistent with the NERC Rules of Procedure (Section 312 4.2) which states "NERC may publicly notice and post for comment the proposed regional reliability standard concurrent with similar steps in the regional entity's reliability standards development process. There is nothing precluding the NERC 45-Day comment posting period prior to completion of the RFC Standards Development Procedure. This posting is not a substitute for the final NERC/FERC standard submittal. This NERC 45-Day comment posting was an informational purposes and not for approval purposes.</p> <p>The SDT acknowledges that the applicability extends beyond the NERC Statement of Compliance Registry Criteria. Nevertheless, the SDT is charged with</p>		

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Organization	Yes or No	Question 1 Comment
<p>drafting a standard that serves the reliability interests of the BES. The SDT has determined that it cannot fulfill this charge without including some generators that fall outside the NERC registration criteria. For example, while it is true that the RFC BES definition does not extend to 69 kV, distinguishing between BES and non-BES is not a factor in the reliability impact of lost generation during an under-frequency condition. The SDT contends that the material impact to reliability is solely a function of the physics of electricity—that is, loss of a certain amount of generation from a 69 kV station has precisely the same effect on aggregate BES frequency as loss of the same amount of generation from a BES station. There is no need to supply further technical support beyond recognition of this simple fact. The same consideration applies to all generation, and so a single size threshold has been selected for the standard. The NERC Compliance Registry Criteria were subject to considerations other than reliability and so a conflict has arisen between reliability and other considerations. The SDT has compromised on generator applicability from previous drafts of the standard, but believes that reliability would be poorly served if further compromises were made in deference to these other considerations. The RFC SDT understands that the NERC PRC-024 standard under development will be including generators connected at 60 kV and above.</p>		
Individual	Yes	
National Rural Electric Cooperative Association (NRECA)	Yes	
Indiana Municipal Power Agency	No	<p>The NERC commenting process for this regional standard is unfair, because it limits comments to just four questions and does not allow technical comments to be submitted at this level. If NERC is to perform an independent technical evaluation of a proposed regional standard, then NERC should allow stakeholders to make technical comments.</p> <p>Additionally, this standard applies to GOs not currently subject to inclusion on the Compliance Registry. RFC needs to contact or give special notice to each entity that would be newly subject to compliance under this proposed standard to allow these entities the right to comment to this standard. Unregistered entities cannot be expected to closely monitor all the standards under development. By not giving special notice to unregistered entities subject to this standard, the process is not developed in a fair and open process.</p>
<p>Response: The scope of the NERC commenting period is outside the control of this SDT. Technical comments should be vetted through the Regional commenting periods and not the at the NERC level. All RFC standard comment periods are open and publicly noted. Anyone is entitled to provide comments via the Regional comment periods (there is no restriction for commenters to be within the RFC region).</p> <p>RFC will first be approved by the RFC Board and then be applicable to the RFC membership. The standard will then be forwarded to NERC for consideration as a regional standard. Upon NERC approval, the standard will apply to registered entities in RFC. The SDT will conduct a Webinar in the future to further clarify the intent of the standard.</p>		
Illinois Municipal Electric Agency	No	<p>Illinois Municipal Electric Agency (IMEA) supports the comments submitted by Transmission Access Policy Study Group (TAPS). IMEA believes the process utilized by Reliability First Corporation (RFC) for the development of this proposed standard has been fair and open per the RFC Reliability Standards Development Procedure; however, we are replying "No" to Question 1 for the reasons stated in the TAPS comments.</p>

Organization	Yes or No	Question 1 Comment
<p>Response: Please see response to the TAPS comment.</p> <p>ReliabilityFirst and NERC had decided post the proposed PRC-006-RFC-01 standard at the NERC level (45-Day posting) to be proactive and to allow the Standard Drafting Team (SDT) the ability to review and respond to the comments prior to any potential Category Ballot. Per the ReliabilityFirst Standards Procedure, no changes can be made to any proposed standard once it goes to through Category Ballot. If the proposed standard is posted at the NERC level after industry and subsequent ReliabilityFirst Board approval, the SDT does not have the capability of modifying such standard regardless of any comments received at the NERC level. With that said, NERC still has the ability to post such regional standards for another NERC comment period after ReliabilityFirst Board approval.</p> <p>Also, this posting is consistent with the NERC Rules of Procedure (Section 312 4.2) which states “NERC may publicly notice and post for comment the proposed regional reliability standard concurrent with similar steps in the regional entity’s reliability standards development process.</p>		
<p>American Municipal Power - Ohio, Inc.</p>	<p>No</p>	<p>Comments at the NERC level should not be limited. RFC's proposed standard would subject entities not subject to compliance monitoring based on the registration criteria to now be subject to compliance monitoring without a showing that they affect the reliability of the BES.</p> <p>It is also not clear why RFC is the only region that appears to need to develop a regional standard prior to the development of the NERC standard.</p>
<p>Response: The scope of the NERC commenting period is outside the control of this SDT. Technical comments should be vetted through the Regional commenting periods and not the at the NERC level. All RFC standard comment periods are open and publicly noted. Anyone is entitled to provide comments via the Regional comment periods (there is no restriction for commenters to be within the RFC region).</p> <p>RFC is moving forward with this proposed standard for the following reasons:</p> <p>(1) The associated standard at the NERC level may yet take a considerable amount of time to complete and RFC needs to comply with the fill in the blank requirements of the existing NERC standard, (2) RFC standard work continues to supply input into the NERC PRC-006 development. (3) Replacement of the legacy documents is required in the RFC Bylaws and will address ambiguities, inconsistencies and deficiencies of those documents, (4) This standard development was based on a SAR developed by the Day Two team, (5) Completion of this standard is consistent with RFC Strategic Plan following direction provided by the RFC Board.</p>		

2. Does the proposed standard pose an adverse impact to reliability or commerce in a neighboring region or interconnection?

Organization	Yes or No	Question 2 Comment
Transmission Access Policy Study Group	Yes	The imposition of this standard on entities that would not be subject to reliability standards if they were located in another region will have an adverse effect on commerce in RFC and other regions, as discussed in more detail below in response to Question 4.
<p>Response: The SDT is charged with drafting a standard that serves the reliability interests of the BES. Every region has some requirements (possibly not regional standards) for installation of UFLS. The SDT has determined that it cannot fulfill this charge without including some generators that fall outside the NERC registration criteria.</p>		
Dominion Resources Services	No	
FirstEnergy	No	
WPPI Energy	No	
American Electric Power	No	
Duke Energy	No	
We Energies	No	
Individual	No	
National Rural Electric Cooperative Association (NRECA)	No	
Indiana Municipal Power Agency	Yes	It does by the means discussed in question four of this comment form. Additionally, requirement R4.1 poses an adverse impact to reliability or commerce in a neighboring region or interconnection. Basically, this requirement makes Generator Owners secure load to be tripped off, if the generator cannot meet the frequency requirements of the standard and must be tripped off to prevent damage to the generating unit. On the drafting of PRC-006 at the NERC level, this requirement was in the proposed standard. However, the NERC SDT recognized that the Generator Owner has no means of securing this load to be tripped off from a distribution provider or a transmission owner with end-use

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Organization	Yes or No	Question 2 Comment
		<p>Load customer connected. A distribution provider or a transmission owner with end-use Load customer connected has no incentive to enter into such a contract with a Generator Owner. If a Generator Owner cannot meet this requirement or the under frequency tripping requirement, then the entity may have no choice but to retire the unit which will impact reliability or commerce in a neighboring region or interconnection. Upon removing this requirement from the NERC version of PRC-006, the NERC UFLS SDT felt that this issue will be covered in PRC-024-01. The proposed standard for PRC-024-1 does cover this issue with requirement five. The NERC Generator Verification SDT does realize that there may be cases where generators may not be able to meet the under frequency set points or not be able to ride through a frequency or voltage condition. The Generator Owner is to notify its Reliability Coordinator, Planning Coordinator, Transmission Operator, and Transmission Planner of this limitation. These entities will take into account the limitation of this generator in their models and planning. This is a much more feasible solution than the one proposed by requirement 4.1 of the RFC regional UFLS standard.</p>
<p>Response: The SDT believes that Table 1, which meets the recommendations of turbine-generator original equipment manufacturers, including GE, Siemens, Westinghouse, and Allis Chalmers, is appropriate for UFLS use. There is a substantial margin between the requirements in R4 Table 1 and the OEM curves. The Generator Owner does not necessarily have any responsibility for load shedding. The GOP simply may comply with Table 1 and that resolves all questions about load shedding. The SDT is simply providing an option should the Generator Owner, for whatever reason, elect to not comply with Table 1. They may elect this option. It is not required but only an option. Arrangements may be made with whomever is willing to offer the load shedding service to the GO. Arrangements are generally considered to be some sort of contract with some sort of compensation.</p>		
Illinois Municipal Electric Agency	Yes	Illinois Municipal Electric Agency (IMEA) supports the comments submitted by Transmission Access Policy Study Group (TAPS).
<p>Response: Please see the response to the TAPS comments.</p>		
American Municipal Power - Ohio, Inc.	Yes	The standard would require generation units not currently subject to compliance monitoring to become subject to compliance monitoring. Under the current registration criteria basis this is allowed provided there is a showing that the specific unit affects the BES. This standard seeks to evade that requirement.
<p>Response: The SDT acknowledges that the applicability extends beyond the NERC Statement of Compliance Registry Criteria. Nevertheless, the SDT is charged with drafting a standard that serves the reliability interests of the BES. The SDT has determined that it cannot fulfill this charge without including some generators that fall outside the NERC registration criteria. For example, while it is true that the RFC BES definition does not extend to 69 kV, distinguishing between BES and non-BES is not a factor in the reliability impact of lost generation during an under-frequency condition. The SDT contends that the material impact to reliability is solely a function of the physics of electricity—that is, loss of a certain amount of generation from a 69 kV station has precisely the same effect on aggregate BES frequency as loss of the same amount of generation from a BES station. There is no need to supply further technical support beyond recognition of this simple fact. The same consideration applies to all generation, and so a single size threshold has been selected for the standard. The NERC Compliance Registry Criteria were subject to considerations other than reliability and so a conflict has arisen between reliability and other considerations. The SDT has compromised on generator applicability from previous drafts of the standard, but believes that reliability would be poorly served if further compromises were made in deference to these other considerations. The RFC SDT understands that the NERC PRC-024 standard under development will be including generators connected at 60 kV and above.</p>		

3. Does the proposed standard pose a serious and substantial threat to public health, safety, welfare, or national security?

Organization	Yes or No	Question 3 Comment
Transmission Access Policy Study Group	No	
Dominion Resources Services	No	
FirstEnergy	No	
WPPI Energy	No	
American Electric Power	No	
Duke Energy	No	
We Energies	No	
Individual	No	
National Rural Electric Cooperative Association (NRECA)	No	
Indiana Municipal Power Agency		
Illinois Municipal Electric Agency	No	
American Municipal Power - Ohio, Inc.	No	

4. Does the proposed standard pose a serious and substantial burden on competitive markets within the interconnection that is not necessary for reliability?

Organization	Yes or No	Question 4 Comment
Transmission Access Policy Study Group	Yes	<p>The proposed standard will create a serious and substantial burden on competitive markets within the Eastern Interconnection that is not necessary for reliability. The standard is proposed to apply to “all” plants with an aggregate nameplate rating of 20 MVA or greater, connected at 69 kV or above, in contrast to the Statement of Compliance Registry Criteria’s limitation to generators connected at 100 kV or above, with an aggregate nameplate rating of 75 MVA or greater. By imposing UFLS requirements on Generator Owners currently exempt from the Compliance Registry, the proposed standard would increase the costs of small generators, putting them at a competitive disadvantage in comparison to small generators in other Regions in the Eastern Interconnection. It has not been demonstrated that making the proposed standard applicable to generators that are currently exempt from the Compliance Registry is necessary from a reliability standpoint, nor has such a demonstration even been attempted. The Statement of Compliance Registry Criteria represents a policy decision by stakeholders, NERC and FERC about what entities are likely to have a material impact on reliability. A Regional Entity should not act contrary to that policy decision without supporting, with technical evidence, a clear reliability need to do so. NERC should refuse to accept the proposed standard.</p>
<p>Response: The SDT acknowledges that the applicability extends beyond the NERC Statement of Compliance Registry Criteria. Nevertheless, the SDT is charged with drafting a standard that serves the reliability interests of the BES. The SDT has determined that it cannot fulfill this charge without including some generators that fall outside the NERC registration criteria. For example, while it is true that the RFC BES definition does not extend to 69 kV, distinguishing between BES and non-BES is not a factor in the reliability impact of lost generation during an under-frequency condition. The SDT contends that the material impact to reliability is solely a function of the physics of electricity—that is, loss of a certain amount of generation from a 69 kV station has precisely the same effect on aggregate BES frequency as loss of the same amount of generation from a BES station. There is no need to supply further technical support beyond recognition of this simple fact. The same consideration applies to all generation, and so a single size threshold has been selected for the standard. The NERC Compliance Registry Criteria were subject to considerations other than reliability and so a conflict has arisen between reliability and other considerations. The SDT has compromised on generator applicability from previous drafts of the standard, but believes that reliability would be poorly served if further compromises were made in deference to these other considerations. The RFC SDT understands that the NERC PRC-024 standard under development will be including generators connected at 60 kV and above.</p>		
Dominion Resources Services	Yes	<p>In response to RFC, we cited a concern that this standard in R4.1, R4.1.1 and R4.1.2 which requires non-conforming generators to procure 'load shed' service and that we have been unable to identify an entity willing to provide such service. We do not feel the SDT response adequately addressed or resolved our concern.</p>
<p>Response: The SDT believes that Table 1, which meets the recommendations of turbine-generator original equipment manufacturers, including GE, Siemens, Westinghouse, and Allis Chalmers, is appropriate for UFLS use. There is a substantial margin between the requirements in R4 Table 1 and the OEM curves. The Generator Owner does not necessarily have any responsibility for load shedding. The GOP simply may comply with Table 1 and that resolves all questions about load shedding. The SDT is simply providing an option should the Generator Owner, for whatever reason, elect to not comply with Table 1. They may elect this option. It is not required but only an option. Arrangements may be made with whomever is willing to offer the load</p>		

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Organization	Yes or No	Question 4 Comment
<p>shedding service to the GO. Arrangements are generally considered to be some sort of contract with some sort of compensation. Similar allowances exist in other regional UFLS guidelines (SERC, WECC, etc.).</p>		
FirstEnergy	No	
WPPI Energy	Yes	<p>WPPI supports TAPS comments on PRC-006-RFC-1 and believes the proposed standard will create a serious and substantial burden on competitive markets that is not necessary for reliability. Specifically, by applying the standard to “all” plants with an aggregate nameplate rating of 20 MVA or greater, connected at 69 kV or above, in contrast to the Statement of Compliance Registry Criteria’s limitation to generators connected at 100 kV or above, with an aggregate nameplate rating of 75 MVA or greater, the proposed standard would increase the costs of small generators, putting them at a competitive disadvantage in comparison to small generators in other Regions in the Eastern Interconnection. Including generators outside the Compliance Registry Criteria does not appear to have any material improvement to reliability.</p>
<p>Response: The SDT acknowledges that the applicability extends beyond the NERC Statement of Compliance Registry Criteria. Nevertheless, the SDT is charged with drafting a standard that serves the reliability interests of the BES. The SDT has determined that it cannot fulfill this charge without including some generators that fall outside the NERC registration criteria. For example, while it is true that the RFC BES definition does not extend to 69 kV, distinguishing between BES and non-BES is not a factor in the reliability impact of lost generation during an under-frequency condition. The SDT contends that the material impact to reliability is solely a function of the physics of electricity—that is, loss of a certain amount of generation from a 69 kV station has precisely the same effect on aggregate BES frequency as loss of the same amount of generation from a BES station. There is no need to supply further technical support beyond recognition of this simple fact. The same consideration applies to all generation, and so a single size threshold has been selected for the standard. The NERC Compliance Registry Criteria were subject to considerations other than reliability and so a conflict has arisen between reliability and other considerations. The SDT has compromised on generator applicability from previous drafts of the standard, but believes that reliability would be poorly served if further compromises were made in deference to these other considerations. The RFC SDT understands that the NERC PRC-024 standard under development will be including generators connected at 60 kV and above.</p>		
American Electric Power	No	
Duke Energy	No	
We Energies	No	
Individual	No	
National Rural Electric Cooperative Association (NRECA)	No	

Consideration of Comments on Proposed Regional Reliability Standard PRC-006-RFC-01

Organization	Yes or No	Question 4 Comment
Indiana Municipal Power Agency	Yes	<p>The proposed standard will create a serious and substantial burden on competitive markets within the Eastern Interconnection that is not necessary for reliability. The standard does this in two ways. The first way is by applying the stanard to Generator Owners (GOs) with individual units or plants of 20 MVA or greater, connected at 69kV or above. This application is in contrast with the Statement of Compliance Registry Criteria and no techincal justification has been given. By imposing UFLS requirements on GOs currently exempt from the Compliance Registry, the proposed standard would increase the cost to these generators. This additional cost will put them at a competitive disadvantage in comparison to other generators in other Regions in the Eastern Interconnection. A technical justification or a reliability demonstration has not been given that justifies making this proposed standard applicable to generators that are currently exempt from the Compliance Registry. The Statement of Compliance Registry Criteria represents a policy decision by stakeholders, NERC and FERC. The entities subject to the Compliance Registry Criteria are the ones likely to have a material impact on reliability. A Regional Entity can register any single entity provided there is a clear reliability need, and in addition the Regional Entity must provide a technical justification (not just a statement from the Regional Entity).</p>
<p>Response: The SDT acknowledges that the applicability extends beyond the NERC Statement of Compliance Registry Criteria. Nevertheless, the SDT is charged with drafting a standard that serves the reliability interests of the BES. The SDT has determined that it cannot fulfill this charge without including some generators that fall outside the NERC registration criteria. For example, while it is true that the RFC BES definition does not extend to 69 kV, distinguishing between BES and non-BES is not a factor in the reliability impact of lost generation during an under-frequency condition. The SDT contends that the material impact to reliability is solely a function of the physics of electricity—that is, loss of a certain amount of generation from a 69 kV station has precisely the same effect on aggregate BES frequency as loss of the same amount of generation from a BES station. There is no need to supply further technical support beyond recognition of this simple fact. The same consideration applies to all generation, and so a single size threshold has been selected for the standard. The NERC Compliance Registry Criteria were subject to considerations other than reliability and so a conflict has arisen between reliability and other considerations. The SDT has compromised on generator applicability from previous drafts of the standard, but believes that reliability would be poorly served if further compromises were made in deference to these other considerations. The RFC SDT understands that the NERC PRC-024 standard under development will be including generators connected at 60 kV and above.</p>		
Illinois Municipal Electric Agency	Yes	Illinois Municipal Electric Agency (IMEA) supports the comments submitted by Transmission Access Policy Study Group (TAPS).
<p>Response: Please see the response to the TAPS comments.</p>		
American Municipal Power - Ohio, Inc.	Yes	As stated in prior responses this proposed standard would require many smaller units not current subject to compliance monitoring to become subject to compliance monitoring. This would have a significant financial impact on those units wihout a showing that it is necessary for reliability.
<p>Response: The SDT acknowledges that the applicability extends beyond the NERC Statement of Compliance Registry Criteria. Nevertheless, the SDT is charged with drafting a standard that serves the reliability interests of the BES. The SDT has determined that it cannot fulfill this charge without including some generators that fall outside the NERC registration criteria. For example, while it is true that the RFC BES definition does not extend to 69 kV, distinguishing between BES and non-BES is not a factor in the reliability impact of lost generation during an under-frequency condition. The SDT contends that the material impact to reliability is solely a function of the physics of electricity—that is, loss of a certain amount of generation from a 69 kV station has</p>		

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Organization	Yes or No	Question 4 Comment
		<p>precisely the same effect on aggregate BES frequency as loss of the same amount of generation from a BES station. There is no need to supply further technical support beyond recognition of this simple fact. The same consideration applies to all generation, and so a single size threshold has been selected for the standard. The NERC Compliance Registry Criteria were subject to considerations other than reliability and so a conflict has arisen between reliability and other considerations. The SDT has compromised on generator applicability from previous drafts of the standard, but believes that reliability would be poorly served if further compromises were made in deference to these other considerations. The RFC SDT understands that the NERC PRC-024 standard under development will be including generators connected at 60 kV and above.</p>

5. Does the proposed regional reliability standard meet at least one of the following criteria?

- The proposed standard has more specific criteria for the same requirements covered in a continent-wide standard
- The proposed standard has requirements that are not included in the corresponding continent-wide reliability standard
- The proposed regional difference is necessitated by a physical difference in the bulk power system.

Organization	Yes or No	Question 5 Comment
Transmission Access Policy Study Group	No	<p>NERC is currently in the process of developing a continent-wide standard on this subject. Project 2007-01 (available at http://www.nerc.com/filez/standards/Underfrequency_Load_Shedding.html). It is inappropriate and inefficient for RFC to attempt to draft a regional UFLS standard while the continent-wide standard is under development, especially given that the continent-wide standard is rapidly approaching completion. If, once the continent-wide standard has become mandatory and enforceable, it appears that a regional standard meeting at least one of the three criteria for regional standards might be appropriate in the ReliabilityFirst footprint, RFC can attempt to craft a compliant regional standard. It is our understanding that the NERC UFLS standard will be posted for a second comment period within a matter of weeks, and is expected to be entirely completed by the end of the year, so the RFC process would only be suspended for a few months. For now, no one knows yet what the continent-wide standard will be. Regions should not develop standards in competition with a continent-wide standard that is currently under development; allowing Regional Entities to follow the path that RFC is attempting here will waste the limited resources of NERC, the Regions, and stakeholders. NERC should not create a dangerous precedent by approving RFC's prematurely-drafted standard. It is our understanding that some other regions, including MRO and SERC, have temporarily suspended their development of regional UFLS standard pending finalization of the NERC UFLS standard. These regions are appropriately waiting to see what the continent-wide baseline will be before they attempt to draft regional standards on the same subject. Furthermore, the proposed standard does not meet any of the three criteria set out in this question. The Background Information for the proposed standard states that the proposed standard is not inconsistent with, or less stringent than established NERC Reliability Standards. This is insufficient. Because the corresponding continent-wide standard is currently under development, the proposed regional standard cannot meet either of the first two criteria; it is impossible to judge how RFC's proposed standard will compare to the continent-wide standard. And RFC does not allege, nor could it, that a regional difference is necessitated by a physical difference in the bulk power system. NERC should think twice about proposing a regional standard to FERC when a possibly conflicting continent-wide standard can be expected to follow close on its heels. FERC has stated that it prefers regional uniformity in reliability standards, and only permits regional differences if they are necessitated by a physical difference in the bulk power system or if the Regional Standard is more stringent than the continent-wide standard. Certification Order, P 276. Neither of these criteria has been met. NERC should therefore refuse to accept the proposed standard.</p>

Response: RFC is moving forward with this proposed standard for the following reasons:

- (1) The associated standard at the NERC level may yet take a considerable amount of time to complete and RFC needs to comply with the fill in the blank requirements of the existing NERC standard, (2) RFC standard work continues to supply input into the NERC PRC-006 development. (3) Replacement of the legacy documents is required in the RFC Bylaws and will address ambiguities, inconsistencies and deficiencies of those documents, (4) This standard**

Consideration of Comments on Proposed Regional Reliability Standard PRC-006-RFC-01

Organization	Yes or No	Question 5 Comment
<p>development was based on a SAR developed by the Day Two team, (5) Completion of this standard is consistent with RFC Strategic Plan following direction provided by the RFC Board.</p>		
Dominion Resources Services	Yes	
FirstEnergy	Yes	We agree that the standard meets the criteria in bullets one and two above.
<p>Response: Thank you for your support.</p>		
WPPI Energy	No	WPPI supports TAPS comments related to it being inappropriate and inefficient for RFC to attempt to draft a regional UFLS standard while the continent-wide standard is under development. Until the continent-wide standard is in place regions should not develop standards that could be in competition with a continent-wide standard.
<p>Response: RFC is moving forward with this proposed standard for the following reasons: (1) The associated standard at the NERC level may yet take a considerable amount of time to complete and RFC needs to comply with the fill in the blank requirements of the existing NERC standard, (2) RFC standard work continues to supply input into the NERC PRC-006 development. (3) Replacement of the legacy documents is required in the RFC Bylaws and will address ambiguities, inconsistencies and deficiencies of those documents, (4) This standard development was based on a SAR developed by the Day Two team, (5) Completion of this standard is consistent with RFC Strategic Plan following direction provided by the RFC Board.</p>		
American Electric Power	Yes	
Duke Energy	Yes	The proposed standard meets the second criterion - The proposed standard has requirements that are not included in the corresponding continent-wide reliability standard.
<p>Response: Thank you for your support.</p>		
We Energies	Yes	
Individual	Yes	The proposed regional standard needs to clarify that a generator, which has under-frequency protection on systems and components that would indirectly result in the trip of the unit is covered by Requirement R4. Additional comments; Many nuclear power facilities are designed with under-frequency protection, which will trip the reactor and result in an indirect trip of the generator. This under-frequency protection has been implemented to ensure the safe shutdown of the unit. In boiling water reactors the reactor protection MG-Set have under-frequency trip protect, which will operate between 58.2 and 57.5Hz depending on the age of the facility. Pressurized water reactor also have an under-frequency trip on there reactor coolant pump motor to ensure adequate reactor cooling water and level is maintained. These units were designed and allowed to connect to the transmission system with these under-frequency trip characteristics know by the transmisson operators. Since

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Organization	Yes or No	Question 5 Comment
		it is very unlikely that the under-frequency trip setting could be decrease the only alternative under the proposed standard would be for the generator to arrange for automatic load shedding.
<p>Response: The SDT did discuss these types of nuclear unit protections and believe that all but one have been replaced in RFC. The reactor protection MG set is an old mechanical system that can easily be replaced with an uninterruptable power supply (UPS) that would allow complete compliance.</p>		
National Rural Electric Cooperative Association (NRECA)	Yes	The applicability of this standard for a standard specific sub-registry for Generator Owner to include "all generators with an individual nameplate rating or plants with an aggregate nameplate rating of 20 MVA or greater connected at 69kV or above" is not consistent with the existing NERC Compliance Registry Criteria Version 5. In addition, the "Statistical Analysis behind the Applicable Entity Recommendations" document fails to provide supporting technical justification to show impact of these generators on the Bulk Electric System. It is unclear how this expanded sub-registration will be managed by RFC.
<p>Response: The SDT acknowledges that the applicability extends beyond the NERC Statement of Compliance Registry Criteria. Nevertheless, the SDT is charged with drafting a standard that serves the reliability interests of the BES. The SDT has determined that it cannot fulfill this charge without including some generators that fall outside the NERC registration criteria. For example, while it is true that the RFC BES definition does not extend to 69 kV, distinguishing between BES and non-BES is not a factor in the reliability impact of lost generation during an under-frequency condition. The SDT contends that the material impact to reliability is solely a function of the physics of electricity—that is, loss of a certain amount of generation from a 69 kV station has precisely the same effect on aggregate BES frequency as loss of the same amount of generation from a BES station. There is no need to supply further technical support beyond recognition of this simple fact. The same consideration applies to all generation, and so a single size threshold has been selected for the standard. The NERC Compliance Registry Criteria were subject to considerations other than reliability and so a conflict has arisen between reliability and other considerations. The SDT has compromised on generator applicability from previous drafts of the standard, but believes that reliability would be poorly served if further compromises were made in deference to these other considerations. Very simply, all applicable entities will be required to register for compliance with this standard. The RFC SDT understands that the NERC PRC-024 standard under development will be including generators connected at 60 kV and above.</p>		
Indiana Municipal Power Agency	No	The proposed standard does not meet any of the three criteria set out in this question. Currently, there is no FERC-approved, continent-wide standard for PRC-006. NERC is working on a new standard and it is expected to be completed by the end of the 2009 year. Therefore, the proposed standard cannot meet the first two requirements of this question. RFC has not shown or proven that a regional difference is necessitated by a physical difference in the bulk power system. Since the proposed standard does not meet any of the criteria, NERC should refuse to accept the proposed standard. Additionally, it is inappropriate and very inefficient for RFC to be working on the same standard that NERC is currently developing. RFC should suspend work on this regional standard until the continent-wide standard comes out which will give the regions guidance. Two such regions have set this example and have temporarily suspended their development of a regional UFLS standard pending finalization of the NERC UFLS standard. MRO and SERC are these two regions. By waiting for a NERC PRC-006 standard, RFC will make much better use of limited resources of all parties involved (NERC, the Regions, and stakeholders).
<p>Response: RFC is moving forward with this proposed standard for the following reasons:</p> <p>(1) The associated standard at the NERC level may yet take a considerable amount of time to complete and RFC needs to comply with the fill in the blank requirements of the existing NERC standard, (2) RFC standard work continues to supply input into the NERC PRC-006 development. (3) Replacement of the</p>		

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Organization	Yes or No	Question 5 Comment
<p>legacy documents is required in the RFC Bylaws and will address ambiguities, inconsistencies and deficiencies of those documents, (4) This standard development was based on a SAR developed by the Day Two team, (5) Completion of this standard is consistent with RFC Strategic Plan following direction provided by the RFC Board.</p>		
Illinois Municipal Electric Agency	No	Illinois Municipal Electric Agency (IMEA) supports the comments submitted by Transmission Access Policy Study Group (TAPS).
<p>Response: Please see the response to the TAPS comments.</p>		
American Municipal Power - Ohio, Inc.	No	Without the NERC approved standard it is not possible to evaluate the first two criteria and there has been no showing of the last criteria.
<p>Response: RFC is moving forward with this proposed standard for the following reasons: (1) The associated standard at the NERC level may yet take a considerable amount of time to complete and RFC needs to comply with the fill in the blank requirements of the existing NERC standard, (2) RFC standard work continues to supply input into the NERC PRC-006 development. (3) Replacement of the legacy documents is required in the RFC Bylaws and will address ambiguities, inconsistencies and deficiencies of those documents, (4) This standard development was based on a SAR developed by the Day Two team, (5) Completion of this standard is consistent with RFC Strategic Plan following direction provided by the RFC Board.</p>		