

Standard Authorization Request Form

Title of Proposed Standard	Underfrequency Load Shedding (UFLS) Standards Project 2007-01
Request Date	November 14, 2006

SAR Requestor Information	SAR Type <i>(Check a box for each one that applies.)</i>
Name Regional Reliability Standards Working Group	<input type="checkbox"/> New Standard
Primary Contact Robert W. Millard Director of Standards ReliabilityFirst Corporation	<input checked="" type="checkbox"/> Revision to existing Standards PRC-006, PRC-007, PRC-008, and PRC-009
Telephone (630) 261-2621 Fax (630) 691-4222	<input type="checkbox"/> Withdrawal of existing Standard
E-mail bob.millard@rfirst.org	<input type="checkbox"/> Urgent Action

<p>Purpose (Describe the purpose of the standard — what the standard will achieve in support of reliability.)</p> <p>PRC-006— Development and Documentation of Regional Reliability Organizations' Underfrequency Load Shedding Programs PRC-007 — Assuring Consistency with Regional UFLS Programs PRC-008 — Underfrequency Load Shedding Equipment Maintenance Programs PRC-009 — UFLS Performance Following an Underfrequency Event</p> <p>The purpose of revising the above four standards is to:</p> <ol style="list-style-type: none"> 1. Provide an adequate level of reliability for the North American bulk power systems - the standards are complete and the requirements are set at an appropriate level to ensure reliability. 2. Ensure they are enforceable as mandatory reliability standards with financial penalties - the applicability to bulk power system owners, operators, and users, and as appropriate particular classes of facilities, is clearly defined; the purpose, requirements, and measures are results-focused and unambiguous; the consequences of violating the requirements are clear. 3. Incorporate other general improvements described in the standards development work plan. 4. Consider comments received during the initial development of the standards and other comments received from ERO regulatory authorities and stakeholders, as noted in the attached review sheets. 5. Satisfy the standards procedure requirement for five-year review of the standards.
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Industry Need (Provide a detailed statement justifying the need for the proposed standard, along with any supporting documentation.)

The four standards in this set are all Version 0 standards. As the electric reliability organization begins enforcing compliance with reliability standards under Section 215 of the Federal Power Act in the United States and applicable statutes and regulations in Canada, the industry needs a set of clear, measurable, and enforceable reliability standards. The Version 0 standards, while a good foundation, were translated from historical operating and planning policies and guides that were appropriate in an era of voluntary compliance. The Version 0 standards and recent updates were put in place as a temporary starting point to stand up the electric reliability organization and begin enforcement of mandatory standards. However, it is important to update the standards in a timely manner, incorporating improvements to make the standards more suitable for enforcement and to capture prior recommendations that were deferred during the Version 0 translation.

Brief Description (Describe the proposed standard in sufficient detail to clearly define the scope in a manner that can be easily understood by others.)

PRC-006 is one of the few reliability standards identified by the Regional Reliability Standards Working Group as a standard that has some requirements that need to be defined by each regional entity in a regional standard.

The standard drafting team will work with stakeholders to review PRC-006 and each of the current regional UFLS procedures to determine which requirements should be continent-wide requirements and which requirements should be included in regional standards.

PRC-007 through PRC-009 have some 'fill-in-the-blank' characteristics as identified in the Regional Reliability Standards Working Group work plan which need to be removed.

The standard drafting team may include other improvements to the standards deemed appropriate by the drafting team, with the consensus of stakeholders, consistent with establishing high quality, enforceable and technically sufficient bulk power system reliability standards.

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Reliability Functions

The Standard will Apply to the Following Functions <i>(Check box for each one that applies.)</i>		
<input type="checkbox"/>	Reliability Authority	Ensures the reliability of the bulk transmission system within its Reliability Authority area. This is the highest Reliability Authority.
<input type="checkbox"/>	Balancing Authority	Integrates resource plans ahead of time, and maintains load-interchange-resource balance within its metered boundary and supports system frequency in real time.
<input type="checkbox"/>	Interchange Authority	Authorizes valid and balanced Interchange Schedules.
<input type="checkbox"/>	Planning Authority	Plans the Bulk Electric System.
<input type="checkbox"/>	Resource Planner	Develops a long-term (>one year) plan for the resource adequacy of specific loads within a Planning Authority area.
<input type="checkbox"/>	Transmission Planner	Develops a long-term (>one year) plan for the reliability of transmission systems within its portion of the Planning Authority area.
<input type="checkbox"/>	Transmission Service Provider	Provides transmission services to qualified market participants under applicable transmission service agreements
<input checked="" type="checkbox"/>	Transmission Owner	Owns transmission facilities.
<input checked="" type="checkbox"/>	Transmission Operator	Operates and maintains the transmission facilities, and executes switching orders.
<input checked="" type="checkbox"/>	Distribution Provider	Provides and operates the "wires" between the transmission system and the customer.
<input type="checkbox"/>	Generator Owner	Owns and maintains generation unit(s).
<input type="checkbox"/>	Generator Operator	Operates generation unit(s) and performs the functions of supplying energy and Interconnected Operations Services.
<input type="checkbox"/>	Purchasing-Selling Entity	The function of purchasing or selling energy, capacity, and all necessary Interconnected Operations Services as required.
<input type="checkbox"/>	Market Operator	Integrates energy, capacity, balancing, and transmission resources to achieve an economic, reliability-constrained dispatch.
<input checked="" type="checkbox"/>	Load-Serving Entity	Secures energy and transmission (and related generation services) to serve the end user.

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Reliability and Market Interface Principles

Applicable Reliability Principles <i>(Check box for all that apply.)</i>	
<input checked="" type="checkbox"/>	1. Interconnected bulk electric systems shall be planned and operated in a coordinated manner to perform reliably under normal and abnormal conditions as defined in the NERC Standards.
<input checked="" type="checkbox"/>	2. The frequency and voltage of interconnected bulk electric systems shall be controlled within defined limits through the balancing of real and reactive power supply and demand.
<input checked="" type="checkbox"/>	3. Information necessary for the planning and operation of interconnected bulk electric systems shall be made available to those entities responsible for planning and operating the systems reliably.
<input checked="" type="checkbox"/>	4. Plans for emergency operation and system restoration of interconnected bulk electric systems shall be developed, coordinated, maintained and implemented.
<input checked="" type="checkbox"/>	5. Facilities for communication, monitoring and control shall be provided, used and maintained for the reliability of interconnected bulk electric systems.
<input type="checkbox"/>	6. Personnel responsible for planning and operating interconnected bulk electric systems shall be trained, qualified, and have the responsibility and authority to implement actions.
<input type="checkbox"/>	7. The security of the interconnected bulk electric systems shall be assessed, monitored and maintained on a wide area basis.
Does the proposed Standard comply with all of the following Market Interface Principles? <i>(Select 'yes' or 'no' from the drop-down box.)</i>	
1. The planning and operation of bulk electric systems shall recognize that reliability is an essential requirement of a robust North American economy. Yes	
2. An Organization Standard shall not give any market participant an unfair competitive advantage. Yes	
3. An Organization Standard shall neither mandate nor prohibit any specific market structure. Yes	
4. An Organization Standard shall not preclude market solutions to achieving compliance with that Standard. Yes	
5. An Organization Standard shall not require the public disclosure of commercially sensitive information. All market participants shall have equal opportunity to access commercially non-sensitive information that is required for compliance with reliability standards. Yes	

Related Standards

Standard No.	Explanation

Related SARs

SAR ID	Explanation

Regional Differences

Region	Explanation
ERCOT	
FRCC	
MRO	
NPCC	
SERC	
RFC	
SPP	
WECC	

Standard Review Form		
Project 2007-01 Underfrequency Load Shedding		
Standard #	PRC-006-0	Comments
Title	Development and Documentation of Regional Reliability Organizations' Underfrequency Load Shedding Programs	Too long – slight difference with header.
Purpose		Implement vs. develop & document. Underfrequency spelled differently.
Applicability		RRO not in FM.
Requirements	<i>Conditions</i>	Okay
	<i>Who?</i>	R1.1 – includes sub-regions.
	<i>Shall do what?</i>	R1.3 – define sufficient; model at RRO or others or both? R1.4.2 – check grammar and capitalization; loosely worded. R2 & 3 – format of documentation.
	<i>Result or Outcome</i>	Missing
Measures		No real measures and definition of evidence required.
To Do List	<p>FERC NOPR</p> <ul style="list-style-type: none"> o Commission will not propose to accept or remand this Reliability Standard until the ERO submits additional information. (see recommendations for improvement) <p>FERC staff report</p> <ul style="list-style-type: none"> o Concern with Blackout items (especially #21) o Fill in the blank o Definition of RRO as user of system o Lack of coordination <p>Regional Fill-in-the-Blank Team Comments</p> <ul style="list-style-type: none"> o Modify R1 to require each Region to develop a regional standard, and o Determine what elements (if any) of UFLS should be included in the North American standard and what elements should be included in the regional standards. o Development of regional standards needs to be coordinated with Regional entities. Regional entities should begin process for developing regional standards once the drafting team for the North American standard has determined what elements of UFLS should be included in the continent-wide standard and what elements should be included in the regional standards. o PRC-006 will be a continent-wide standard supported by Regional Reliability Standards. o Related PRC-007, PRC-008, and 009. <p>VO Industry Comments</p> <ul style="list-style-type: none"> o Not a standalone standard o Who do you submit compliance material to? o Need to define evidence 	

Standard Review Form Project 2007-01 Underfrequency Load Shedding		
Standard #	PRC-007-0	Comments
Title	Assuring Consistency of Entity Underfrequency Load Shedding Programs with Regional Reliability Organizations' Underfrequency Load Shedding Program Requirements	Too long and different than header.
Purpose		Same as 006 and doesn't address 007. No value proposition or benefit. Spelling of Underfrequency.
Applicability		Okay
Requirements	<i>Conditions</i>	Okay
	<i>Who?</i>	Okay
	<i>Shall do what?</i>	R1 – what about coordination? R2 – provide format, etc. and define 'as necessary'.
	<i>Result or Outcome</i>	Missing
Measures		2 M for 3 R. M1 – define consistency M2 – define evidence
To Do List	FERC NOPR o No changes identified. Regional Fill-in-the-Blank Team Comments o Change "program" to "standard" in R1. o Coordinated with PRC-006. o The regional procedures need to be converted to a standard to implement this. VO Industry Comments o Need to include RA o Need to refine levels of non-compliance	

Standard Review Form		
Project 2007-01 Underfrequency Load Shedding		
Standard #	PRC-008-0	Comments
Title	Implementation and Documentation of Underfrequency Load Shedding Equipment Maintenance Program	Too long and different than header. Doesn't cover testing element.
Purpose		Same statement that has been carried forward and doesn't fit here. No benefit or value proposition.
Applicability		Okay
Requirements	<i>Conditions</i>	Not clear how this differs from 005.
	<i>Who?</i>	Okay
	<i>Shall do what?</i>	R2 – format, etc. missing.
	<i>Result or Outcome</i>	Missing
Measures		M2 needs to define evidence.
To Do List	FERC NOPR <ul style="list-style-type: none"> ○ Include a requirement that maintenance and testing of UFLS programs must be carried out within a maximum allowable interval appropriate to the relay type and the potential impact on the Bulk-Power System. FERC staff report <ul style="list-style-type: none"> ○ Maintenance intervals not addressed Regional Fill-in-the-Blank Team Comments <ul style="list-style-type: none"> ○ Okay if PRC-006 is fixed VO Industry Comments <ul style="list-style-type: none"> ○ Consistent wording from standard to standard required ○ Definition of evidence required 	

Standard Review Form		
Project 2007-01 Underfrequency Load Shedding		
Standard #	PRC-009-0	Comments
Title	Analysis and Documentation of Underfrequency Load Shedding Performance Following an Underfrequency Event	Too long and different than header.
Purpose		Same as previous and it doesn't fit. No benefit or value proposition.
Applicability		Okay
Requirements	<i>Conditions</i>	Okay
	<i>Who?</i>	Okay
	<i>Shall do what?</i>	Okay
	<i>Result or Outcome</i>	Missing
Measures		M1 not really a measure. M2 needs definition of evidence.
To Do List	FERC NOPR o No changes identified. FERC staff report o No corresponding standard for under-voltage Regional Fill-in-the-Blank Team Comments o Change "program" to "standard". o See notes for PRC-007. V0 Industry Comments o Define evidence o 90 days vs. 30 days o Exemptions for those with shunt reactors who don't shed load	