

Consideration of Comments on 2nd Posting of Underfrequency Load Shedding SAR

The Underfrequency Load Shedding (UFLS) SAR drafting team thanks all commenters who submitted comments on Draft 2 of the UFLS SAR. This SAR was posted for a 30-day public comment period from **February 8 through March 9, 2007**. The SAR drafting team asked stakeholders to provide feedback on the standard through a special standard Comment Form. There were 17 sets of comments, including comments from more than 31 different people from 15 organizations representing 9 of the 10 industry segments as shown in the table on the following pages.

The SAR drafting team recommends that the Standards Committee accept the revised SAR for Project 2007-01 UFLS for development as a standard.

Based on comments received on the second posting of this SAR for comment the SAR drafting team revised the Applicability section of the SAR to include Reliability Coordinator and updated the Applicability section to reflect the latest version of the SAR form. It was noted by the SAR drafting team that the "applicability" identified in the SAR is the starting point for consideration of redrafting of the standard and that the standard drafting team is to review the appropriate applicability of the standard. Finally, the SAR drafting team noted a number of comments outside the scope of responsibility of the SAR drafting team to resolve which will be forwarded to the standard drafting team for consideration.

In this "Consideration of Comments" document stakeholder comments have been organized so that it is easier to see the responses associated with each question. All comments received on the standards can be viewed in their original format at:

http://www.nerc.com/~filez/standards/Underfrequency_Load_Shedding.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 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>.

Consideration of Comments on 2nd Posting of Underfrequency Load Shedding SAR

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.	Anita Lee (G1)	AESO		✓										
2.	Jason Shaver	American Transmission Co.	✓											
3.	Mike Viles	BPA	✓											
4.	Gary Keenan	BPA	✓											
5.	Brent Kingsford (G1)	CAISO		✓										
6.	Ed Thompson	ConEd	✓											
7.	Steve Myers (G1)	ERCOT		✓										
8.	Bruno Jesus (G2)	Hydro One Networks, Inc.	✓											
9.	Roger Champagne	Hydro Québec TransÉnergie	✓											
10.	Ron Falsetti (G1)	IESO		✓										
11.	Matt Goldberg (G1)	ISO New England		✓										
12.	Kathleen Goodman (G1)	ISO New England		✓										
13.	Bill Shemley (G2)	ISO New England		✓										
14.	Brian Thumm (G1)	ITC Holdings	✓											
15.	Jim Cyrulewski (G3)	JDRJC Associates										✓		
16.	Michael Gammon	KCPL	✓											
17.	Don Nelson (G2)	MA Dept. of Tele. And Energy											✓	
18.	Robert Coish	Manitoba Hydro	✓		✓			✓	✓					
19.	Jason Marshall (G3)	Midwest ISO Stakeholders Standards Collaboration Participants		✓										
20.	Brian F. Thumm (G3)	Midwest ISO Stakeholders Standards Collaboration Participants		✓										
21.	Jim Cyrulewski (G3)	Midwest ISO Stakeholders Standards Collaboration Participants										✓		
22.	Bill Phillips (G1)	MISO		✓										
23.	Randy MdDonald (G2)	NBSO		✓										
24.	Herb Schrayshuen (G2)	NGrid	✓											
25.	Guy V. Zito (G2)	NPCC												✓
26.	Jerad Barnhart (G2)	NStar	✓											

Consideration of Comments on 2nd Posting of Underfrequency Load Shedding SAR

Commenter		Organization	Industry Segment											
			1	2	3	4	5	6	7	8	9	10		
27.	Murale Gopinathan (G2)	NU	✓											
28.	Mike Calimano (G1)	NYISO		✓										
29.	Greg Campoli (G2)	NYISO		✓										
30.	Ralph Rufrano (G2)	NYPA	✓											
31.	Al Adamson (G2)	NYSRC		✓										
32.	Richard Kafka (G4)	Pepco Holdings, Inc.												
33.	Alicia Daughtery (G1)	PJM		✓										
34.	Charles Yeung (G1)	SPP		✓										
35.	Roger Champagne (G2)	TransÉnergie Hydro-Québec	✓											
36.	Howard Rulf	We Energies			✓	✓	✓							
37.	Alvin Depew (G4)	Potomac Electric Power Co.	✓											
38.	Carl Kinsley (G4)	Delmarva Power & Light	✓											
39.	Evan Sage (G4)	Potomac Electric Power Co.	✓											
40.	Travis Sykes	TVA	✓											
41.	Darrell Pace	Alabama Electric Coop.	✓											
42.	John Sullivan	Ameren	✓											
43.	Bob McGarrah	Ameren	✓											
44.	Charles Long	Entergy	✓											
45.	David Weekley	MEAG Power	✓											
46.	Pat Huntley	SERC Reliability Corp.												✓
47.	Phil Kleckley	SC Electric and Gas			✓									
48.	Bob Jones	Southern Company Services, Inc.	✓											
49.	Brian Moss	Duke Energy Carolinas	✓											
50.	Fred J. Frederick	Vectren Energy Delivery												
51.	Charles Rogers (G6)	Comsumers Energy												
52.	W. Mark Carpenter (G6)	TXU Energy Delivery												
53.	David Angell (G6)	Idaho Power												
54.	Deven Bhan (G6)	WAPA												
55.	Joseph Burdis (G6)	PJM												
56.	John Ciufu (G6)	Hydro One												
57.	Jim Ingelson (G6)	NYISO												
58.	Mike McDonald (G6)	Ameren												
59.	William Miller (G6)	Exelon												
60.	John Muklhausen (G6)	FPL												
61.	James Roberts (G6)	TVA												
62.	Evan Sage (G6)	Pepco												
63.	Jon Sykes (G6)	SRP												
64.	Phil Tatro (G6)	National Grid												
65.	Joe Uchiyama (G6)	U.S. Bureau of Reclamation												

Consideration of Comments on 2nd Posting of Underfrequency Load Shedding SAR

Commenter		Organization	Industry Segment											
			1	2	3	4	5	6	7	8	9	10		
66.	Eric Udren (G6)	KEMA												
67.	Tom Wiedman (G6)	Wiedman Consulting												
68.	Philip Winston (G6)	Georgia Power												
69.	Baj Agrawal (G6)	Arizona Public Service												
70.	Henry Miller (G6)	AEP												
71.	Robert Cummings (G6)	NERC Staff												
72.	Dean Sikes (G6)	CLECO												
73.	Robert Stuart (G6)	Elequant												
74.	Roman Carter (G7)	Southern Company Transmission	✓											
75.	Jonathan Glidewell (G7)	Southern Company Transmission	✓											
76.	Marc Butts (G7)	Southern Company Transmission	✓											
77.	JT Wood (G7)	Southern Company Transmission	✓											
78.	Jim Busbin (G7)	Southern Company Transmission	✓											
79.	Barry Dyer (G7)	Alabama Power Company			✓									
80.	Phil Winston (G7)	Georgia Power Company			✓									

I – Indicates that individual comments were submitted in addition to comments submitted as part of a group

G1 - IRC Standards Review Committee

G2 – NPCC CP9 Reliability Standards Working Group (NPCC CP9)

G3 – Midwest ISO Stakeholders Standards Collaboration Participants (MISO SSC)

G4 – Pepco Holdings, Inc. – Affiliates

G5 – SERC PC Planning Standards Subcommittee

G6 – NERC System Protection and Control Task Force

G7 – Southern Company Transmission

Index to Questions, Comments, and Responses

1. Do you agree that PRC-008 should be removed from the list of standards to be revised in association with Project 2007-01 and placed into a project with all the relay maintenance and testing standards? If not, please explain in the comment area.6

2. Do you agree with revising the SAR to clarify the scope of work to be performed on each standard including the addition of Appendix A and Appendix C to the SAR? If not, please explain in the comment area.7

3. Do you agree with expanding the Applicability section of the SAR to include Balancing Authority, Planning Authority or Planning Coordinator, Transmission Planner, Generator Owner, and Generator Operator so that the standard drafting team can consider these entities when reviewing the appropriate applicability of the standards? If not, please explain in the comment area. 10

4. Do you have any other concerns with the revisions made to the SAR? If yes, please explain in the comment area. 13

Consideration of Comments on 2nd Posting of Underfrequency Load Shedding SAR

1. Do you agree that PRC-008 should be removed from the list of standards to be revised in association with Project 2007-01 and placed into a project with all the relay maintenance and testing standards? If not, please explain in the comment area.

Summary Consideration:

Question #1			
Commenter	Yes	No	Comment
We Energies	<input checked="" type="checkbox"/>		
ATC LLC	<input checked="" type="checkbox"/>		
BPA	<input checked="" type="checkbox"/>		
ERCOT	<input checked="" type="checkbox"/>		
HQT	<input checked="" type="checkbox"/>		
IESO	<input checked="" type="checkbox"/>		
IRC	<input checked="" type="checkbox"/>		
ISO-NE	<input checked="" type="checkbox"/>		
ITC Holdings	<input checked="" type="checkbox"/>		
KCPL	<input checked="" type="checkbox"/>		
Manitoba Hydro	<input checked="" type="checkbox"/>		
MISO SCC	<input checked="" type="checkbox"/>		
NPCC CP9 RSWG	<input checked="" type="checkbox"/>		
NYISO	<input checked="" type="checkbox"/>		
Pepco	<input checked="" type="checkbox"/>		PHI concurs that relay maintenance standards should be consolidated.
SERC PSS	<input checked="" type="checkbox"/>		
Vectren			No comment.
Southern Company Transmission	<input checked="" type="checkbox"/>		
SPCTF	<input checked="" type="checkbox"/>		

Consideration of Comments on 2nd Posting of Underfrequency Load Shedding SAR

2. Do you agree with revising the SAR to clarify the scope of work to be performed on each standard including the addition of Appendix A and Appendix C to the SAR? If not, please explain in the comment area.

Summary Consideration:

Question #2			
Commenter	Yes	No	Comment
We Energies	<input checked="" type="checkbox"/>		
ATC LLC	<input checked="" type="checkbox"/>		
BPA	<input checked="" type="checkbox"/>		
ERCOT	<input checked="" type="checkbox"/>		However, the drafting team should be encouraged to more clearly communicate that such Appendices are lists of topics and comments that are to be considered, but they are not lists of requirements that must be included in the standard to be developed.
<p>Response:</p> <p>The SAR drafting team agrees with the comment.</p>			
HQT	<input checked="" type="checkbox"/>		
IESO	<input checked="" type="checkbox"/>		
IRC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	The addition of Appendix A and Appendix C does not seem to improve clarity on the scope of work, but rather just add a list of "things to consider" for the standards drafting team. As it stands the scope of work is fairly wide open. However, we do not disagree that the standards drafting team should consider those comments.
<p>Response:</p> <p>The scope of the SAR is designed to provide the standard drafting team with a high degree of flexibility for revising the existing standards. Volume I of NERC's three-year reliability standards development plan identifies a set of specific issues each standard drafting team is to consider when revising a standard.</p>			
ISO-NE	<input checked="" type="checkbox"/>		
ITC Holdings	<input checked="" type="checkbox"/>		
KCPL	<input checked="" type="checkbox"/>		

Consideration of Comments on 2nd Posting of Underfrequency Load Shedding SAR

Question #2			
Commenter	Yes	No	Comment
Manitoba Hydro	<input checked="" type="checkbox"/>		MH believes a lot of good effort has been put into the drafting of this SAR to identify all the significant issues that need to be considered in drafting the UFLS standards. The standard drafting team has its work cut out for it! - but at least, hopefully, all the significant issues are identified.
MISO SCC		<input checked="" type="checkbox"/>	In general, we agree with the inclusion of Appendix A and the relevant comments that are included in Appendix C. However, we have the following specific issues with regard to the comments in Appendix C. On Page C-2, we do not agree with KCP&L's assertion that all compliance programs are administered by Reliability Coordinators. Reliability Coordinators do not administer compliance programs. Additionally, we are concerned with the meaning of Manitoba Hydro's general comment on Page C-3 that the RA needs to be included. We are assuming they mean Reliability Coordinator. We do not oppose the Reliability Coordinator being included to the extent they are made aware and have the settings of the UFLS relays available to them; however, we clearly do not believe the Reliability Coordinator should have any coordination role or should replace the role of the RRO.
<p>Response:</p> <p>The standard drafting team will review all comments identified in Appendix C of the SAR and make recommendations accordingly. The standard drafting team's recommendations will be posted for public comment at which time the MISO SCC can review and comment further.</p>			
NPCC CP9 RSWG	<input checked="" type="checkbox"/>		
NYISO	<input checked="" type="checkbox"/>		The addition of Appendix A and Appendix C does not seem to improve clarity on the scope of work, but rather just add a list of "things to consider" for the standards drafting team. As it stands the scope of work is fairly wide open. However, we do not disagree that the standards drafting team should consider those comments.
<p>Response:</p> <p>The scope of the SAR is designed to provide the standard drafting team with a high degree of flexibility for revising the existing standards. Volume I of NERC's three-year reliability standards development plan identifies a set of specific issues each standard drafting team is to consider when revising a standard.</p>			
Pepco	<input checked="" type="checkbox"/>		
SERC PSS	<input checked="" type="checkbox"/>		
Vectren			No comment.

Consideration of Comments on 2nd Posting of Underfrequency Load Shedding SAR

Question #2			
Commenter	Yes	No	Comment
Southern Company Transmission	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
SPCTF	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The SPCTF has developed a report which provides a technical assessment of all three of these standards, which is attached. Please include the observations from this report in the scope of work on these standards.
Response: SPCTF's report will be forwarded to the standard drafting team for their consideration.			

Consideration of Comments on 2nd Posting of Underfrequency Load Shedding SAR

3. Do you agree with expanding the Applicability section of the SAR to include Balancing Authority, Planning Authority or Planning Coordinator, Transmission Planner, Generator Owner, and Generator Operator so that the standard drafting team can consider these entities when reviewing the appropriate applicability of the standards? If not, please explain in the comment area.

Summary Consideration:

Question #3			
Commenter	Yes	No	Comment
We Energies	<input checked="" type="checkbox"/>		
ATC LLC	<input checked="" type="checkbox"/>		
BPA	<input checked="" type="checkbox"/>		
ERCOT	<input checked="" type="checkbox"/>		
HQT	<input checked="" type="checkbox"/>		
IESO	<input checked="" type="checkbox"/>		
IESO	<input checked="" type="checkbox"/>		
IRC	<input checked="" type="checkbox"/>		
ISO-NE	<input checked="" type="checkbox"/>		
ITC Holdings		<input checked="" type="checkbox"/>	None of the UFLS standards currently apply to either Planning function, and the SAR does not contemplate adding any requirements that do. The Planning Coordinator and the Transmission Planner should be removed from the scope of the SAR.
<p>Response:</p> <p>The "applicability" identified in the SAR is the starting point for consideration of redrafting of the standard. The standard drafting team will review the applicability section of the standard and make a recommendation accordingly. Therefore the SAR drafting team does not agree with removing the Planning Coordinator and the Transmission Planner from the Applicability section.</p>			
KCPL		<input checked="" type="checkbox"/>	Even though it is not mentioned in the question, the Reliability Coordinator should be included as one of the Applicable Entities. On the SAR the Reliability Authority is not checked in "The Standard will Apply to the Following Functions" table.
<p>Response:</p>			

Consideration of Comments on 2nd Posting of Underfrequency Load Shedding SAR

Question #3			
Commenter	Yes	No	Comment
<p>The SAR drafting team added Reliability Coordinator as a potential functional entity the revised standard might apply to.</p>			
Manitoba Hydro	<input checked="" type="checkbox"/>		
MISO SCC	<input checked="" type="checkbox"/>		Is Planning Authority still in the functional model? We believe this function has been replaced.
<p>Response:</p> <p>The drafting team agrees and the standard drafting team will be required to use the latest version of the functional model.</p>			
NPCC CP9 RSWG	<input checked="" type="checkbox"/>		We agree with the additional functions proposed in the Applicability section to allow the drafting team the ability to fully consider any entities that may have a role in the standard, also the entities need to be updated to match the latest version of the Functional Model.
<p>Response:</p> <p>The drafting team agrees and has transferred the information to the latest version of the SAR form.</p>			
NYISO	<input checked="" type="checkbox"/>		
Pepco	<input checked="" type="checkbox"/>		
SERC PSS	<input checked="" type="checkbox"/>		The PSS does not see a reason for including the BA, GO, and GOP, but has no objections to allowing the SDT to consider these entities.
<p>Response:</p> <p>The “applicability” identified in the SAR is the starting point for consideration of redrafting of the standard. The standard drafting team will review the applicability section of the standard and make a recommendation accordingly.</p>			
Vectren			No comment.
Southern Company Transmission	<input checked="" type="checkbox"/>		Southern does not object to the Standard Drafting team considering the BA, GO, and GOP in the applicability section. However, only after the requirements of the future standard are developed should a final determination be made on the applicability.
<p>Response:</p> <p>The “applicability” identified in the SAR is the starting point for consideration of redrafting of the standard. The standard drafting team will review the applicability section of the standard and make a recommendation accordingly.</p>			

Consideration of Comments on 2nd Posting of Underfrequency Load Shedding SAR

Question #3			
Commenter	Yes	No	Comment
SPCTF		<input checked="" type="checkbox"/>	Please see the comments in the attached SPCTF report for the SPCTFs position on the applicable entities.
Response: SPCTF's report will be forwarded to the standard drafting team for their consideration.			

Consideration of Comments on 2nd Posting of Underfrequency Load Shedding SAR

4. Do you have any other concerns with the revisions made to the SAR? If yes, please explain in the comment area.

Summary Consideration:

Question #4			
Commenter	Yes	No	Comment
We Energies		<input checked="" type="checkbox"/>	
ATC LLC	<input checked="" type="checkbox"/>		<p>The standard should address both underfrequency and overfrequency, to avoid shedding too much load. The standard should also make it clear that generators must be well-protected, while still supporting the integrity of the system. Thus, Generators Owners must be part of the decision process when the regional entities establish the requirements for generators to remain on-line.</p> <p>Since it is possible that an island can be formed that envelopes more than one regional entity, we recommend strong coordination between neighboring regions so that different and/or conflicting standards are not identified as resolution for a common island.</p>
<p>Response:</p> <p>The SAR drafting team will forward ATC LLC’s comments to the standard drafting team for their consideration.</p>			
BPA		<input checked="" type="checkbox"/>	
ERCOT		<input checked="" type="checkbox"/>	
HQT		<input checked="" type="checkbox"/>	
IESO		<input checked="" type="checkbox"/>	
IRC		<input checked="" type="checkbox"/>	
ISO-NE		<input checked="" type="checkbox"/>	
ITC Holdings	<input checked="" type="checkbox"/>		<p>Independent transmission companies do not have direct access to load (location, nature, etc.) in order to fully implement a UFLS program. The applicability of the Standard should be further modified to reflect the need for the DP/LSE to own/operate/develop/maintain a UFLS program in cooperation with its TO/TOP/RC. The standard is currently written to allow the Regional Entity to require a Transmission Operator or Operator to own/operate a UFLS program, and, in general, an independent transmission company does not have the means to implement load shedding programs.</p>
<p>Response:</p>			

Consideration of Comments on 2nd Posting of Underfrequency Load Shedding SAR

Question #4			
Commenter	Yes	No	Comment
<p>The SAR drafting team will forward ITC Holdings' comments to the standard drafting team for their consideration.</p>			
KCPL		<input checked="" type="checkbox"/>	
Manitoba Hydro	<input checked="" type="checkbox"/>		<p>Re-iterating significant comments made in 1st draft of SAR, but not included in MH comment section of Appendix C in 2nd draft:</p> <p>PRC – 007 – 0</p> <p>Measures.</p> <p>M1 - If "consistency" is to be clarified here, it must also be clarified for R1 as well. If R1 does not require this clarification, neither does M1. Also, does "consistency" really require further clarification?</p> <p>NEW COMMENTS FOR 2ND DRAFT.</p> <p>Appendix C -</p> <p>PJM Comments. I believe RRO's should stand between regional UFLS owner/control areas and NERC. Various RRO's may have some different methodologies and procedures which are appropriate to their specific RRO regions and not to others. There should not be a single UFLS criteria from NERC that covers ALL UFLS conditions and concerns for the entire grid.</p> <p>NCMPA Comments. I agree with non-compulsory compliance for utilities with very low peak loads if they are surrounded by utilities with load levels sizable enough to require compliance to UFLS programs. However, if there are a lot of small load utilities in an RRO region whose total peak load is sizeable enough to require UFLS, these small utilities will have to coordinate as if they were one large utility in order to conform with their RRO's UFLS program in the same fashion a single large load utility would, to ensure proper total RRO region low frequency UFLS mitigation.</p>

Consideration of Comments on 2nd Posting of Underfrequency Load Shedding SAR

Question #4			
Commenter	Yes	No	Comment
Response:			
The SAR drafting team will forward MH's comments to the standard drafting team for their consideration.			
MISO SCC	<input checked="" type="checkbox"/>		In general, this SAR is much improved. We do support ATC's assertion on Page C-4 of Appendix C that the SDT should consider generation frequency response. We ask that they coordinate with the Frequency Response SAR drafting team.
Response:			
The SAR drafting team will forward MISO SCC's comments to the standard drafting team for their consideration.			
NPCC CP9 RSWG		<input checked="" type="checkbox"/>	
NYISO		<input checked="" type="checkbox"/>	
Pepco		<input checked="" type="checkbox"/>	
SERC PSS		<input checked="" type="checkbox"/>	
Vectren	<input checked="" type="checkbox"/>		UFLS steps should be set with a considerable amount of bandwidth. That is if there are 5 steps of 5% required, an entity could drop as much as say 10% in the first step and possibly drop as little as 1% in the second step. As long as the cumulative amount is within the requirements of that level of steps (5-10-15-20-25%). Trying to meet an exact amount of load drop is very difficult and would not provide enough benefit to justify the cost.
Response:			
The SAR drafting team will forward Vectren's comments to the standard drafting team for their consideration.			
Southern Company Transmission	<input checked="" type="checkbox"/>		We have a general concern with the ambiguity associated with the violation severity levels. For example, Moderate and High severity levels both state that an entity is deficient in one or more significant elements. It would seem reasonable that High severity would mean you were deficient in multiple (at least greater than one) significant elements and not just in one element as moderate states. Are we to interpret a significant element is to mean a standard requirement? What are examples of a significant element other than a requirement contained in the standard?

Consideration of Comments on 2nd Posting of Underfrequency Load Shedding SAR

Question #4			
Commenter	Yes	No	Comment
			Finally, we have a general comment about the SAR development process as a whole. FERC is concerned with the amount of time it takes NERC (through the ANSI accredited process) to develop a standard. Since the SAR development process only outlines the scope of the future standard development (in other words, there are no requirements to a SAR), it is recommended that the NERC standards development process accelerate through the SAR phase in order to initiate the more complex task of developing the requirements of a particular Standard. In other words, there should only be, at most, two rounds of comments for a SAR prior to it shifting to the standards drafting team.
<p>Response:</p> <p>The SAR drafting team will forward Southern Company Transmission’s comments contained in the first two paragraphs above to the standard drafting team for their consideration.</p> <p>With respect to the last paragraph, this is outside the scope of the SAR drafting team’s responsibility.</p>			
SPCTF		<input checked="" type="checkbox"/>	