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 19 sets of comments received, including comments from more than 78 different people from 55 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.

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.	Henry Miller (G6)	AEP										
2.	Anita Lee (G1)	AESO		✓								
3.	Darrell Pace	Alabama Electric Coop.	✓									
4.	Barry Dyer (G7)	Alabama Power Company			✓							
5.	John Sullivan	Ameren	✓									
6.	Bob McGarrah	Ameren	✓									
7.	Mike McDonald (G6)	Ameren										
8.	Jason Shaver	American Transmission Co.	✓									
9.	Baj Agrawal (G6)	Arizona Public Service										
10.	Mike Viles	BPA	✓									
11.	Gary Keenan	BPA	✓									
12.	Brent Kingsford (G1)	CAISO		✓								
13.	Dean Sikes (G6)	CLECO										
14.	Charles Rogers (G6)	Comsumers Energy										
15.	Ed Thompson	ConEd	✓									
16.	Carl Kinsley (G4)	Delmarva Power & Light	✓									
17.	Brian Moss	Duke Energy Carolinas	✓									
18.	Robert Stuart (G6)	Elequant										
19.	Charles Long	Entergy	✓									
20.	Steve Myers (G1)	ERCOT		✓								
21.	William Miller (G6)	Exelon										
22.	John Muklhausen (G6)	FPL										
23.	Philip Winston (G6) (G7)	Georgia Power Company			✓							
24.	John Ciufo (G6)	Hydro One										
25.	Bruno Jesus (G2)	Hydro One Networks, Inc.	✓									
26.	David Angell (G6)	Idaho Power										
27.	Ron Falsetti (G1)	IESO		✓								
28.	Matt Goldberg (G1)	ISO New England		✓								

Commenter		Organization	Industry Segment									
			1	2	3	4	5	6	7	8	9	10
29.	Kathleen Goodman (G1)	ISO New England		✓								
30.	Bill Shemley (G2)	ISO New England		✓								
31.	Brian Thumm (G1)	ITC Holdings	✓									
32.	Jim Cyrulewski (G3)	JDRJC Associates								✓		
33.	Michael Gammon	KCPL	✓									
34.	Eric Udren (G6)	KEMA										
35.	Don Nelson (G2)	MA Dept. of Tele. And Energy									✓	
36.	Robert Coish	Manitoba Hydro	✓		✓		✓	✓				
37.	David Weekley	MEAG Power	✓									
38.	Jason Marshall (G3)	Midwest ISO Stakeholders Standards Collaboration Participants		✓								
39.	Brian F. Thumm (G3)	Midwest ISO Stakeholders Standards Collaboration Participants		✓								
40.	Jim Cyrulewski (G3)	Midwest ISO Stakeholders Standards Collaboration Participants								✓		
41.	Bill Phillips (G1)	MISO		✓								
42.	Phil Tatro (G6)	National Grid										
43.	Randy MdDonald (G2)	NBSO		✓								
44.	Robert Cummings (G6)	NERC Staff										
45.	Herb Schrayshuen (G2)	NGrid	✓									
46.	Guy V. Zito (G2)	NPCC										✓
47.	Jerad Barnhart (G2)	NStar	✓									
48.	Murale Gopinathan (G2)	NU	✓									
49.	Mike Calimano (G1)	NYISO		✓								
50.	Greg Campoli (G2)	NYISO		✓								
51.	Jim Ingelson (G6)	NYISO										
52.	Ralph Rufrano (G2)	NYPA	✓									
53.	Al Adamson (G2)	NYSRC		✓								
54.	Evan Sage (G6)	Pepco										
55.	Richard Kafka (G4)	Pepco Holdings, Inc.										
56.	Alicia Daughtery (G1)	PJM		✓								
57.	Joseph Burdis (G6)	PJM										
58.	Alvin Depew (G4)	Potomac Electric Power Co.	✓									
59.	Evan Sage (G4)	Potomac Electric Power Co.	✓									
60.	Phil Kleckley	SC Electric and Gas			✓							
61.	Pat Huntley	SERC Reliability Corp.										✓
62.	Bob Jones	Southern Company Services, Inc.	✓									
63.	Roman Carter (G7)	Southern Company Transmission	✓									
64.	Jonathan Glidewell (G7)	Southern Company Transmission	✓									
65.	Marc Butts (G7)	Southern Company Transmission	✓									

Commenter		Organization	Industry Segment									
			1	2	3	4	5	6	7	8	9	10
66.	JT Wood (G7)	Southern Company Transmission	✓									
67.	Jim Busbin (G7)	Southern Company Transmission	✓									
68.	Charles Yeung (G1)	SPP		✓								
69.	Jon Sykes (G6)	SRP										
70.	Roger Champagne (G2) (I)	TransÉnergie Hydro-Québec	✓									
71.	Travis Sykes	TVA	✓									
72.	James Roberts (G6)	TVA										
73.	W. Mark Carpenter (G6)	TXU Energy Delivery										
74.	Joe Uchiyama (G6)	U.S. Bureau of Reclamation										
75.	Fred J. Frederick	Vectren Energy Delivery										
76.	Deven Bhan (G6)	WAPA										
77.	Howard Rulf	We Energies			✓	✓	✓					
78.	Tom Wiedman (G6)	Wiedman Consulting										

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.**

Summary Consideration: Every commenter agreed that PRC-008 should be removed from the list of standards to be revised in association with Project 2007-01.

Question #1			
Commenter	**Yes**	**No**	**Comment**
We Energies	☑		
ATC LLC	☑		
BPA	☑		
ERCOT	☑		
HQT	☑		
IESO	☑		
IRC	☑		
ISO-NE	☑		
ITC Holdings	☑		
KCPL	☑		
Manitoba Hydro	☑		
MISO SCC	☑		
NPCC CP9 RSWG	☑		
NYISO	☑		
Pepco	☑		PHI concurs that relay maintenance standards should be consolidated.
SERC PSS	☑		
Southern Company Transmission	☑		
SPCTF	☑		

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: Most commenters agree with the revised scope. Note that the drafting team will forward additional comments recommending specific technical changes to the standards, to the standard drafting team.

Question #2			
Commenter	**Yes**	**No**	**Comment**
SPCTF		☑	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.			
MISO SCC		☑	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.
Response: 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 posted for public comment at which time the MISO SCC can review and comment further.			
IRC	☑	☑	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.

Question #2			
Commenter	**Yes**	**No**	**Comment**
Response: 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.			
NYISO	☑		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.
Response: 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.			
ERCOT	☑		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.
Response: The SAR drafting team agrees with the comment.			
Manitoba Hydro	☑		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.
We Energies	☑		
ATC LLC	☑		
BPA	☑		
HQT	☑		
IESO	☑		
ISO-NE	☑		

Question #2			
Commenter	**Yes**	**No**	**Comment**
ITC Holdings	☑		
KCPL	☑		
NPCC CP9 RSWG	☑		
Pepco	☑		
SERC PSS	☑		
Southern Company Transmission	☑		

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: Most commenters agreed with the applicability section of the SAR – however a commenter suggested adding the Reliability Coordinator as a potential responsible entity, and the drafting team did make that modification and some commenters indicated that the SAR Form did not reference the latest names for functional entities and the drafting team has updated the SAR Form to use the terms from Version 3 of the Functional Model.

Question #3			
Commenter	**Yes**	**No**	**Comment**
SPCTF		☑	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.			
ITC Holdings		☑	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.
Response: 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.			
KCPL		☑	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.
Response: The SAR drafting team added Reliability Coordinator as a potential functional entity the revised standard might apply to.			
MISO SCC	☑		Is Planning Authority still in the functional model? We believe this function has been replaced.

Question #3			
Commenter	**Yes**	**No**	**Comment**
Response: The drafting team agrees and the standard drafting team will be required to use the latest version of the functional model.			
NPCC CP9 RSWG	☑		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.
Response: The drafting team agrees and has transferred the information to the latest version of the SAR form.			
SERC PSS	☑		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.
Response: 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.			
Southern Company Transmission	☑		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.
Response: 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.			
We Energies	☑		
ATC LLC	☑		
BPA	☑		
ERCOT	☑		
HQT	☑		
IESO	☑		

Question #3			
Commenter	**Yes**	**No**	**Comment**
IESO	☑		
IRC	☑		
ISO-NE	☑		
Manitoba Hydro	☑		
NYISO	☑		
Pepco	☑		

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

Summary Consideration: Most commenters did not have any other concerns with the revisions made to the SAR. Several commenters suggested technical revisions for consideration during standard development and these suggestions will be forwarded to the standard drafting team.

Question #4			
Commenter	**Yes**	**No**	**Comment**
ATC LLC	☑		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. 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.
Response: The SAR drafting team will forward ATC LLC's comments to the standard drafting team for their consideration.			
ITC Holdings	☑		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.
Response: The SAR drafting team will forward ITC Holdings' comments to the standard drafting team for their consideration.			
Vectren	☑		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

Question #4			
Commenter	**Yes**	**No**	**Comment**
			justify the cost.
Response: The SAR drafting team will forward Vectren's comments to the standard drafting team for their consideration.			
MISO SCC	☑		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.			
Manitoba Hydro	☑		Re-iterating significant comments made in 1st draft of SAR, but not included in MH comment section of Appendix C in 2nd draft: PRC – 007 – 0 Measures. 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? NEW COMMENTS FOR 2ND DRAFT. Appendix C - **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. **NCMPA Comments.** I agree with non-compulsory compliance for utilities with very low peak loads if they are

Question #4			
Commenter	**Yes**	**No**	**Comment**
			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 mitgation.
Response: The SAR drafting team will forward MH's comments to the standard drafting team for their consideration.			
Southern Company Transmission	☑		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? 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.
Response: 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. With respect to the last paragraph, this is outside the scope of the SAR drafting team's responsibility.			
We Energies		☑	

Question #4			
Commenter	**Yes**	**No**	**Comment**
BPA		☑	
ERCOT		☑	
HQT		☑	
IESO		☑	
IRC		☑	
ISO-NE		☑	
KCPL		☑	
NPCC CP9 RSWG		☑	
NYISO		☑	
Pepco		☑	
SERC PSS		☑	
SPCTF		☑	