Minutes of Meeting
Working Group C37.015 Guide for the Application of Shunt Reactor Switching

Location: The Westin, Ft. Lauderdale, FL
Date: Wednesday April 3rd, 2024 (8:00-9:45 AM)
Participants: 60 Total in Attendance (45 Requesting Membership)

WG Chair: Mike Crawford
WG Secretary: Luke Collette

Call to Order
Chair called the meeting to order.

Introduction of Members and Guests
Roster distributed and attendance recorded.

IEEE Copyright Policy and Call for Patents
Patent and copyright policy presented. No Patent claims identified.

Agenda
Chair reviewed the agenda.

Current PAR Status
PAR approved

Membership
Chair presented Working Group membership requirements.

Volunteer Opportunities
Chair requested volunteers on the following items:

Clause 4 Limitation of Overvoltages (Mediation Table 1)
Discussion: The intention is to add more content to this section. Content can include items such as in service experience with different mitigation solutions and considerations for selecting the appropriate mitigation.
Volunteers:

- Craig Polchinski
- Carl Schuetz
- Mike Skidmore
- Jerry Wen
- Jeff Brogdon
- Andy Beckel
- Victor Hermosillo

Study Guidance for Reactor Switching

Discussion: The preliminary draft was quickly reviewed, and the following with the following comments/discussion:

- Should and example be added for other shunt reactor types
- Need to update for other switching device technology (e.g., VCB)
- Note IEEE Std C37.100.7 includes some data for other technologies

Volunteers:

- Craig Polchinski
- Marcus Young
- Jan Weisker
- Sudarshan Byreddy
- Jerry Wen

Survey of In Service Experience

Discussion: Work of a previous Task Force developed a survey for shunt reactor switching, but it was never officially submitted. Comments were made that industry experience of failures drove the initial need for the survey, but by the time the survey was completed the industry had developed a general understanding of the phenomena and figured out appropriate mitigation. The discussion during the WG meeting indicated interest in resuscitating the survey, but possibly modifying it to remove some items and perhaps focus on other things such as collected shunt reactor stray capacitance values of in service shunt reactors.

Volunteers:

- Carl Schuetz
- Carl Kurinko
- Todd Irwin
- Lissy Diaz
- Vincent Marshall

Delayed Current Zero

Discussion: Presently C37.012 includes some discussion on delayed current zeros with respect to shunt reactors connected to lines. The question is whether that information should be included in C37.015 in some form. The following were the comments/discussion on this topic:

- Does this information belong in C37.010, C37.012, or C37.015? The consensus seemed to be that something needs included in C37.015, but the extent is to be determined.
- Concerns for delayed current zeros on shunt reactor switching devices during fault conditions, even when not applied as a line-connected shunt reactor, should be included.

Volunteers:

- Jan Weisker
- Jon Rogers
- Marcus Young
- Craig Polchinski

- Jeremy Sneath

Chopping Current for VCB

Discussion: It was indicated that a possible source for this data is IEEE Std C37.100.7. The plan would be to incorporate data such as chopping number/current ranges for other technologies into this revision of C37.015.

Volunteers:

- Mike Crawford
- Luke Collette

Shunt Reactor Capacitance

Discussion: A comment was made that this data could be obtained from a survey of the industry (i.e., users and manufacturers). Other data such as high frequency models should also be considered to aide in performing studies.

Restrike or Reignition Monitoring

Discussion: Should guidance be added for monitoring shunt reactor switching performance and performing maintenance on the switching device. A comment was made that some synchronous controllers have the capability to detect reignitions. Another comment was made that some users collect relay data and visually analyze to detect reignitions by looking for additional current loops. A comment was made that some are collecting measurements of data during switching of shunt reactor tertiary shunt reactors and perhaps guidance on this could be included with reference to IEEE Std C57.142.

Volunteers:

- Mike Crawford
- Luke Collette

General Review of Document

Volunteers:

- Carl Kurinko
- Sankey Bolar
- Michelle Antantis

General discussion comments:

The following were general comments discussed during the WG meeting:

- Request to get reference documents added to iMeet.
- A comment was made about including information on electrical endurance. The existing document discusses mechanical endurance but not electrical endurance. The thought was to add some guidance for users and manufacturers on how to address any electrical endurance concerns for a specific application.
- A comment was made about including the impact of the overvoltages/currents generated by the switching device on the shunt reactor. Although the scope of the document is for

the switching device, perhaps guidance or reference to other documents could aide the user in evaluating the impacts.

Adjournment

Meeting adjourned by the Chair at 9:15 AM.

Reported by:
Mike Crawford
WG Chair

		Name	Employer/Affiliation	Member Request	Notes/Comments
1		Mike Crawford MJC	Mitsubishi Electric	X	Chair
2		Luke Collette	Duquesne Light	X	Secretary.
3		Craig Poliwinski	MEPPI	X	
4		Michelle Antantis	Duquesne Light	X	
5		John Webb	ABB	X	
6		Mark Peterson	Xcel Energy	X	
7		ANDY BECKEL	Xcel Energy	X	
8		Chunming Ma	Burns & McDonnell	X	
9		Sudarshan Byreddy	Burns & McDonnell	X	
10		Steven May	Southern Company	X	
11		Mike Orosz	CBT&S LLC	No	
12		Chris Jarnigan	Southern Company		
13		Vincent Marshall	Southern Company	X	
14		Jerry Wen	BC Hydro	X	
15		Jeff Brogdon	Georgia Transmission		
16		Jan Weisker	Siemens Energy	X	
17		Sam Zaharko	Mitsubishi Electric	X	
18		V. TOUPS	Siemens Energy	X	
19		Casey Weeks	Siemens Energy	X	
20		Javier Ratnikoff	GE Grid Solutions	X	
21		ARBEN BUFI	Meiden America Switchgear	X	
22		Paul masterson	meiden america switchgear	X	

		Name	Employer/Affiliation	Member Request	Notes/Comments
23		Mina Youssef	Eaton	Yes	
24		Lissy Diaz	FPL	Yes	
25		Tim Tillery	Howard Industries	NO	
26		Brian Roberts	Southern States	No	
27		Zachary Beecher	Southern States	No	
28		JASON CUNNINGHAM	SOUTHERN STATES	YES	
29		Jeremy Sneath	Electranix Corp	Yes	
30		Dan Benedict	PPL	Yes	
31		ANDREW CHOVANEC	POWER GRID COMPONENTS	Yes	
32		JONATHAN BENGE	OG+E	No	
33		Andreas Nenning	OMICRON electronics	Yes	
34		Justin Rebarich	GE Grid Solutions		
35		John Tarleton	Southern States	Yes	
36		Arjan Bronsveld	Hitachi Energy Sweden	yes	
37		Marcus Young	Mitsubishi Electric	yes	
38		Dan Schiffbauer	Toshiba International Corp.	Y	
39		Michael Skidmore	AEP	Y	
40		Todd Irwin	GE Grid Solutions	N	
41		Albane BORNUAT	GE Grid Solutions	N	
42		MAURICIO ARISTIZABAL	HITACHI ENERGY	N	
43		HARRY HIRZ	VESCO	N	
44		T. ANDY KEELS	kEElectric Engineering	YES	

		Name	Employer/Affiliation	Member Request	Notes/Comments
45		Victor Hermosillo	GE Grid Solutions	yes	
46		Fernando Ordein	Dominion Energy	Yes	
47		Matthew Cuppett	Hitachi Energy	yes	
48		CARL KURINKO	HITACHI ENERGY	YES	
49		LEO LOPEZ	WIKA		
50		BARY MEEKINS	SOUTHERN STATES	YES	
51		Michael Christian	ABB	yes	
52		Maxwell Eastman	Black & Veatch	No	
53		Neil McCord	KEC Precision	NO	
54		DAMIAN PODGORSKI	SARGENT & LUNDY	YES	
55		Sachin Pingle	ABB	No	
56		ANIKET SHIRODE	ABB	YES	
57		SANKET BOKAR	ONCOR	YES	
58		Carl Schuetz	ATC	Yes	
59		Rich York	MEPPI	Yes	
60		Jon Rogers	Siemens Energy	Yes	
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