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

Location:The Westin, Ft. Lauderdale, FLDate: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

<u>Call to Order</u> Chair called the meeting to order.

Introduction of Members and Guests Roster distributed and attendance recorded.

<u>IEEE Copyright Policy and Call for Patents</u> Patent and copyright policy presented. No Patent claims identified.

<u>Agenda</u> Chair reviewed the agenda.

Current PAR Status PAR approved

<u>Membership</u> Chair presented Working Group membership requirements.

<u>Volunteer Opportunities</u> Chair requested volunteers on the following items:

## Clause 4 Limitation of Overvoltages (Mediation Table 1)

<u>Discussion</u>: 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**

<u>Discussion</u>: 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

<u>Discussion</u>: 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**

<u>Discussion</u>: 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**

<u>Discussion</u>: 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

<u>Discussion</u>: 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**

<u>Discussion</u>: 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.

<u>Adjournment</u> Meeting adjourned by the Chair at 9:15 AM.

Reported by: Mike Crawford WG Chair

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