C37.62 – Fault Interrupter

April 27, 2015 – St. Pete Beach, FL

Chair: Antone Bonner

Meeting Minutes

1. Call to order and introduction:

The meeting was called to order at 3:53 PM.

2. Roster Check:

Attendance included 19 Working Group members and 15 guests. . Refer to Annex for the attendance list.

3. Previous Meeting Minutes:

Previous minutes were sent out in October. Not all members got it however it is on the RODE sub-committee minutes. No objections so minutes accepted.

4. Meeting Highlights:

The chair asked how many were first time attenders. There were a few hands therefore he provided a summary of how this group came into existence as extracting the fault interrupters from C37.60.

We now have draft 1 which is the contribution from the different sub-groups that extracted the information from C37.60. Chapter contributors were recognized by the chair by name. Draft 1 was released this past Saturday. A question was raised if this was on central desk top. Antone displayed the central desktop and it does not appear that they are.

Completed actions to date:

- Contributions from teams merged into draft 1
- Clauses renumbered as needed
- Tables and figures renumbered
- Copies of draft 1 emailed
    - "clean" copy with changes incorporated into the text and tables
    - "marked' copies with changes as well as original, showing original and changes.

A question was raised that C37.60 is being changed. It asked how many changes from that which would have applied to the fault interrupter are being considered. Antone stated that we need to keep pulse on that.

The objective is to be open to suggestions that come in. The original intent was to make this standard accepted as quickly as possible. We have not taken technical changes yet but will today.

Antone stated that everyone's comments will be solicited but need to put it into the standard IEEE comments spreadsheet. This will require about a month or two time. **Comments should be back to Antone by June 30, 2015**.

It was brought out that there were comments from the last meeting that the PAR did not allow for changes. The chair was directed to contact the IEEE officers to determine if that is true. It appears that the C37.62 group felt changes were allowed and we will consider significant technical issues that are identified through this process.

Presentation by Scott Reed:

- An email was sent out by Scott this past week. He thanks Tim Royster and Nenad Uzelac for providing feedback on this already.
- A table that was provided by Scott was shown to the group.
    - It does not seem appropriate to have the same ratings for FI as reclosers per Scott's email.
        - Feedback from Tim Royster replied back to this regarding faults being closer to the substation. Refer to the correspondence for this discussion. The FI should be tested to a higher requirement because it is expected to be out there for a longer time and is not normally able to be maintained.
        - Scott referred back to the annex of C37.60 regarding the operating sequence of reclosers on overhead lines. FI do not have this type of operating sequence. The vast majority of the 70 to 80% of the short circuits that a recloser sees will be seen by FI's where the FI will perform one operation whereas reclosers will see two.
            - It was pointed out that some temporary faults would be an Open-Close if the temporary fault has cleared.
            - The source of the 70% to 80% of the temporary faults was queried. One heard it may be 90%.
            - The table recommendations was made based on less duty the FI would see. Refer to Scott's contribution for exact wording.
        - It was commented that proposing to reduce the number of shots in the operating duty is therefore the durability life of the FI since the table represents a half-life of the contact meeting. This is based on Note 1 from the table 12 of C37.60. A question was raised on whether Note 1 was no longer required?
        - A comment was made that as of now a user is not concerned about an FI lasting. If we change this test requirement then that will not be true.
- Nenad Uzelec discussed the email response he had provided this year. This recommended using two different classes of FI similar to IEC breakers. This is an E1 and E2. The user can then decide which type of durability that he wants to purchase and use.
- It was recommended to leave the period for comments open awhile longer. They can go to Scott Reed with cc to Antone Bonner. Scott will combine and reply back to Antone Bonner on his response to these comments. Comments are due to Scott Reed by two weeks after the RODE sub-committee minutes are posted. Scott's email is Scott.reed@sandc.com. Antone Bonner will also email the minutes out to all members when he submits.

It was commented that much of the data we have is on reclosers and less on underground faults for FI's. That data may be needed for a decision. It was commented that there tends to be agreement in data that 20% to 30% are permanent faults.

Tom Stefanski reviewed the standard and has a few comments

- Group 1: We are trying to define the identity of the device. His understanding is that FI is used on cables system, mostly exposed to permanent faults, and has lower TRV's. The new draft is introducing faster TRV as if it was the recloser standard and lowering the ac withstand voltage

required. We should offer some explanation why these changes are being offered. Tables 3 and Table 4 from the draft was displayed for the group.

- Chapter 5 leads were asked if they have comments regarding this. If you are using a FI for overhead to cable line you should use the same TRV as the recloser. You would use OH to OH, and OH to URD TRV for the specific case.
- T3 numbers, particularity for the T20, is a very fast rate of rise. In C37.60 there was a clause that stated the lab can do the best they can and if they can't get it should be faster than T100.
  - It was requested that Tom Stefanski send the comment to the group and comments will be submitted two weeks after the minutes are published.

A question was raised when we may go to ballot pool. Comments are to be resolved by end of June. Ballot pool created and balloted in July.

- Question was raised on how this will be done since we are not meeting between now and Fall.
  - Ed Jankowich stated that he has experience with having on-line meetings with actions.
  - Nenad Uzelec recommended a separate face-to-face meeting in between and have the homework done.
  - It was suggested to have the comments come into Antone Bonner by June 30th. He will compile and segregate them by which group was responsible for the section. The groups will then work to resolve the issues and supply back to Antone who will go for email ballots
  - Add Nenad to section 7; Ian Rosker to section 5; Jonathon Deverick for section 7.
  - By end of July
  - It was suggested to get the comments together from the groups, put it together into a draft and put it out to ballot. Antone will send it out for comment to the working group. Then send it out for ballot. He would need to form the ballot pool in parallel.
- Jim Swank moved, that Antone Bonner as chairmen be authorized to form a ballot pool for C37.62 and submit it for ballot when ready. This was seconded by Tim Royster.
  - There are 27 members of the working group. 17 approved, 0 opposed 0 abstained.

5. New Business;

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6. Next meetings:

- Fall 2015 (September 20 - 24), Catamaran Resort Hotel, San Diego, CA USA
- Spring 2016 (April 25 – 29) Sonesta Resort, Hilton Head, SC USA

7. Meeting was adjourned at 4:24 PM Proposed by Fracois Soulard and seconded by Tim Royster.

Annex: Member Attendance

PC37.62 Fault Interrupter Working Group Membership
Date: 4/27/2015
Please sign in and add contact information as needed

First Name	Last Name	Company	Member Status	Present at 4/27/15 Mtg
John Paul	Adigwu	SCE	M	X
Peter	Agliata	Hubbell PS	M	
Rick	Allen	United Illuminating	M	
Chris	Ambrose	Federal Pacific	M	X
Harm	Bannink	DNV GL KEMA Labs	M	X
David	Beseda	S&C Electric Company	M	X
Antone	Bonner	Eaton's Cooper PS	M	X
Frank	DeCesaro	Eaton's Cooper PS	M	X
Leslie	Falkingham	VIL	M	
Paul	Found	BC Hydro	M	X
Jeff	Gieger	T&B/Elastimold	M	excused
Ed	Jankowich	ABB/T&B	M	X
Travis	Johnson	XCEL	M	X
Chris	Lettow	S&C Electric Company	M	
Wangpei	Li	Eaton	M	X
Don	Martin	G&W Electric Co.	M	X
Steve	Meiners	GE	M	
Larry	Putman	Powell Electrical Systems	M	
Scott	Reed	S&C Electric Company	M	X
Ben	Rosenkrans	Eaton Corp.	M	X
Tim	Royster	Dominion Virginia Power	M	X
Francois	Soulard	Hydro Quebec	M	X
Tom	Stefanski	Powertech Labs	M	X
Jim	Swank	Eaton's Cooper PS	M	X
Nenad	Uzelac	G&W Electric Co.	M	X
John	Vartanian	National Grid	M	
Bill	Walter	WE Energies	M	X
Jerry	Baskin	Federal Pacific	M	X*
Chris	Borck	Eaton's Cooper PS	G	
David	Dart	Noja Power	G	
William	Ernst	Thomas & Betts	G	
Dan	Gardner	T&B-ABB	G	
Peter	Glaesman	Reuel	G	

Charlie	Hendrickson	Az Pub Serv. Co.	G	

Reid	Herzog	Okla Gas & Electric	G	
Ken	Lee	T&B/Elastimold	G	X
Amit	Patel	GE	G	
Christian	Sasse	Travida Electric	G	
Jon	Spencer	T&B, ABB	G	X
Andrew	Swisher	SCE	G	
Karla	Trost	G &W Electric	M	X*
Amil	Dhawan	ComEd	G	X
Robert	Warren	DNV GL KEMA Labs	G	X
Sam	Chung	PG&E	G	X
Mark	Danna	Duke Energy	G	X
Roger	Golze	Trayer	G	X
Noel	Smith	Fortis Alberta	G	X
Nick	Nakamura	G &W Electric	G	X
Vincent	Marec	G &W Electric	G	X
Brendan	Kirkpatrick	SCE	G	X
Ian	Rokser	Eaton	G	X
Eric	Li	Powertech Labs	G	X
Jonathon	Deverick	Dominion Virginia Power	G	X

* requested to be members

Submitted by:

Name: Antone Bonner
Date: May 5, 2015