RODE – Recloser Interface Discussion Group Meeting Minutes

Tuesday, April 18, 2023 – Clearwater Beach, Florida

Chair: Mark Feltis

Meeting Minutes

1. Call to Order — Mark Feltis

Order was called at 10:15 am

2. Patent and Copyright concerns reminder — Mark Feltis

Reviewed IEEE patent and copyright slides. No response by any attendees.

3. Introduction of Members and Guests — Mark Feltis

Introductions were made

4. Attendance — Mark Feltis

Routed an attendance sheet; 19 attendees total (See Annex 1)

5. Review of Agenda — Mark Feltis

The agenda for this meeting was reviewed. No corrections/additions were given.

6. Review Minutes — Mark Feltis

Minutes of past Discussion Group meeting (April 12, 2022) were reviewed. No corrections/additions were given.

7. Action Items from last meeting

From the Spring 2022 meeting, the general action item was to think of the various topics/challenges that should be covered in a technical paper on the consideration of a standard recloser interface ... looking more in depth into the various challenges. In specific:

- Mark Feltis will investigate IEC 61850-9-2, which is a substation standard that involves merging units (MU's) with sampled value (SV) output … see if it has applicability outside the substation fence. This is in the realm of "going beyond pins and metal."
- Travis Johnson will investigate connectors, their strengths and weaknesses, etc.
- Other areas to look into would be such things as signal integrity/interference. **If anyone else would like to provide input to any of these** (or other pertinent areas for the consideration of a standard recloser interface), **they are invited to do so**.

Travis Johnson discussed contrasts/benefits/shortcomings of mil spec and bayonet connectors.

Mil spec connectors:

- At least some military specification (mil spec) connectors were turned over to SAE (Society of Automobile Engineers) for continuing standard supervision
- Mil spec connectors are highly used and tend to have fine thread designs that require many revolutions of the connector in order to have them fully mate up. This makes for greater integrity of the connection (keeping out environmental intrusions)
- But they can be troublesome for utility line crews to use (have to be careful in initial alignment to avoid cross threading; require many revolutions)

Bayonet connectors:

- only require like a quarter turn to fully engage
- have alignment tabs that help in initial alignment
- are well received by utility line crews
- but are perhaps not as good at keeping out environmental intrusions (compared to mil spec connectors)

Travis reported that his utility (Xcel Energy) is working toward using the IEEE universal interface for voltage regulators [IEC 60076-21/IEEE Std C57.15-2017 (for step-voltage regulators), clause 11 Universal interface]. They are starting out with retrofitting a few voltage regulators for such a universal interface, but it has not been without any "hiccups" in working through issues. Part of this is due to the relatively vague explanation for the various pin/sockets of said interface.

Francois Soulard commented on his experience of the tank (recloser switch) lasting at least 25 years and the control about half as much (e.g., eventually going out of spec. or being dated, feature-wise). At times a perfectly good tank has to be taken down and replaced because there is no control that will work with it … then the entire installation (rather than just the control and the cable) has to be replaced.

Mark Feltis said that working on a technical paper on the consideration of a standard recloser interface is essentially a funded project at work. He would have to consult with coworker experts to get meaningful information on connector related issues or protocol related issues, etc. Engineers would be charging time to a project for general IEEE benefit – such is not likely to be approved (manufacturers and utilities have a hard enough time getting their own work done!). Work on IEEE standards (e.g., existing C37.60 and in-progress C37.68) is already charged time at work. Mark noticed many in the audience nod in agreement.

Mark recommended that the Recloser Interface Discussion Group be stopped/disbanded. He said that the past 25 years have seen much innovation in recloser switches and recloser controls (the venerable 14-pin McGraw-Edison/Cooper/Eaton connector was primarily the only recloser interface available 25 years ago) and surely coming years will see more. He especially thanked Chris Ambrose (Federal Pacific, retired) and Ian Rokser (Eaton) for their informative written contributions to the discussion (their contributions were included in the annexes of the final report).

Paul Found said that there is no real compelling reason to further pursue a standard recloser interface. Any future consideration of pursuing such would really need to "hear the utility voice."

The recommendation that the Recloser Interface Discussion Group be stopped/disbanded was reported at the RODE subcommittee meeting the next day (Wednesday, April 19, 2023).

The final report is available at the IEEE Switchgear website, under the "Minutes" tab, then "Spring 2022"/"Reclosers and Other Distribution Equipment Subcommittee (RODE)"/"Recloser Interface Discussion Group Report."

Annex 1

Attendance			
First Name	**Last Name**	**Representing**	**April 18, 2023**
Mark	Feltis	Schweitzer Engineering Labs	x
Brendan	Kirkpatrick	Southern California Edison (SCE)	x
Harry	Hirz	G&W Electric	x
Travis	Johnson	Xcel Energy	x
Paul	Found	BC Hydro	x
Karla	Trost	G&W Electric	x
John	Kapitula	ABB	x
Christopher	Hastreiter	Eaton	x
Francois	Soulard	Hydro-Quebec (HQ)	x
Roberto	Olivares	Siemens	x
Anil	Dhawan	Allegis	x
Steve	Pell	Siemens	x
Chris	Slattery	FirstEnergy	x
Kelsey	Bush	ABB	x
Colby	Lovins	Federal Pacific	x
Peter	Glaesman	PCORE Electric/Hubbell Pwr Sys	x
Rob	Schuetz	Eaton	x
Joseph	Fitzgerald	Eaton	x
Jon	Neujahr	Eaton	x