RODE – Recloser Interface Discussion Group Meeting Minutes

October 17, 2018 – Kansas City, Missouri

Chair: Mark Feltis

Meeting Minutes

1. Call to Order — Mark Feltis
Order was called at 1:35 pm

2. Patent concerns reminder — Mark Feltis
Reviewed new IEEE patent slides

3. Introduction of Members and Guests — Mark Feltis
Introductions were made

4. Attendance — Mark Feltis
Routed an attendance sheet; 21 attendees total (See Annex)

5. Review Minutes — Mark Feltis
Minutes of past Task Force meeting (April 23, 2018) were reviewed.
Motion to accept: Anil Dhawan; Second: Francois Soulard

6. Revised Scope
Mark offered the following revised scope, per the October 11, 2017 minutes, where mention was made to have it encompass power system voltages and input power (… also, we've changed from a task force to a discussion group):

IEEE RODE Discussion Group on Automatic Circuit Recloser Interfaces

> This discussion group is set up to consider interfaces between the control unit and switching device of an automatic circuit recloser (three-phase units, including those with single-phase operation capability). It will look at existing, in-service interfaces and document their signals, for ease of comparison and to understand "where we have been" as an industry. Interface considerations are not constrained to just one entrance on the control unit, nor to just signals originating within the switching device (e.g., voltage sensors can be installed without the switching device and their signals brought into the control unit). The total interface can include traditional signals (trip/close, system current, open/closed status, and yellow handle status), system voltages (traditional and low-level sensor outputs), input power to the control unit, and other signals. Communications

interfaces will not be considered. The discussion group will produce a report of its findings and summarize what future common interface work should be done, if any.

Paul Found suggested including the word "common" in the last sentence (preceding the word "interface") and this has been done.

7. Review of consensus on 69a and 69b (yellow handle) signals/pins

The following was agreed upon/confirmed in the April 23, 2018 meeting and reviewed in this meeting:

69a contact: open when yellow handle is pulled to the lock-open position (drawing portrayal would be an open contact … like a traditional 52a contact is portrayed)

69b contact: closed when yellow handle is pulled to the lock-open position (drawing portrayal would be an open contact with a diagonal slash through it … like a traditional 52b contact is portrayed)

8. Signals/pins on interface discussion

Mark reviewed the previously distributed document of existing, known recloser interfaces in North America. An error in the last five pins of the 27-pin recloser interface (Joslyn) was found and has since been corrected – made the pin designations lower-case letters (a, b, c, d, e).

In this review, it was noticed that a number of interfaces had:

- 120 Vac brought up to the recloser for heating purposes
- 12 Vdc brought up to the recloser for 52a/b and 69a/b contact whetting voltage
- various combinations of 52a/b and 69a/b contacts brought down to the control

It was clarified in discussion that having both 52a and 52b signals available provides "intermediate position" information and greater opportunity to alarm for failure modes (as "a" and "b" contacts are expected to be in different states for steady state conditions). Similar can be said for having both 69a and 69b signals available.

In overall discussion (and thinking toward the possibility of a future common interface), two distinct philosophies/approaches manifest themselves:

- every pin on the interface should have a defined function and be used only for that function … there are no extra/unused pins

vs.

- there should be extra pins for future functions

Additional clarifying thoughts were given:

- if extra pins were set aside for the future … then when the "future arrives," past intended ideas are not workable anyway (thus negating the "good intentions" of the extra pins) … you can't predict the future!
- extra pins can end up being used for applications that were originally unforeseen and this can cause problems

- if a pin isn't used in a certain installation (and each pin has a defined function), leave it unused … don't use it for some other function (using it for another function would defeat the intention of a common interface and would cause problems)

Additional thought given: with the various signal magnitude ranges, it is not desirable to have all signals in the same entrance on the control unit (e.g., nominal 120 Vac input power is substantially higher in magnitude than other relatively low-level voltage signals … thus, such an input should enter separately into the control unit).

9. Common and redundant signals/pins

After discussion, it was decided that it would be useful to take the information in the document of existing, known recloser interfaces in North America and organize it to see:

- what signals/pins are common across the various recloser interfaces
- what signals/pins might seemingly be redundant within given recloser interfaces

Mark Feltis will make a first attempt at organizing such information and send it out by the end of November 2018 for the review of the discussion group participants.

10. Next Meeting

Spring 2019: Hilton Burlington Lake Champlain, Burlington, Vermont (April 28 – May 2, 2019)

Annex

Attendance			
First Name	**Last Name**	**Representing**	**Oct 17, 2018**
Mark	Feltis	Schweitzer Engineering Labs	x
Kate	Cummings	G&W Electric	
Nenad	Uzelac	G&W Electric	
David	Beseda	S&C Electric	x
Pete	Meyer	S&C Electric	x
Jordan	Tsvetanoff	First Energy	
Brendan	Kirkpatrick	Southern California Edison (SCE)	x
Jeff	Ward	Doble Engineering Co.	
Harry	Hirz	ABB T&B	
Jeff	Gieger	ABB T&B	
William	Ernst	ABB T&B	
Chris	Ambrose	Federal Pacific	
Ian	Rokser	Eaton	x
Travis	Johnson	Xcel Energy	
Anil	Dhawan	ComEd	x
Paul	Found	BC Hydro	x
Robert	Foster	Megger	x
Francois	Soulard	Hydro-Quebec	x
Tim	Royster	Dominion Energy	

Jacob	Midkift	Dominion Energy	x
Krystle	Carstens	ABB/Elastimold/T&B	
Robert	Warren	DNVGL: KEMA LABS	
Frank	Lambert	Georgia Tech NEETRAC	
Brad	Lewis	American Electric Power (AEP)	x
Steve	Pell	Siemens	x
Edwin	Almeida	Southern California Edison (SCE)	x
Antone	Bonner	PAS Consulting	x
Mohit	Chhabra	S&C Electric	x
Brian	Roberts	Southern States, LLC	x
Karl	Fender	Southern States, LLC	x
Roberto	Olivares	Siemens	x
Karla	Trost	G&W Electric	x
Bharat	Jagadeesan	Southern States, LLC	x
Jason	Cunningham	Southern States, LLC	x