

# Consideration of Comments

Project 2007-17.2 Protection System Maintenance and Testing – Phase 2 (Reclosing Relays) PRC-005-3

The Project 2007-17.2 drafting team thanks all commenters who submitted comments on draft 2 of PRC-005-3 standard for Protection System Maintenance and Testing (Reclosing Relays). The standard was posted for a 45-day formal comment period from July 10, 2013 through August 23, 2013. Stakeholders were asked to provide feedback on the standard and associated documents through a special electronic comment form. There were 41 responses, including comments from approximately 149 different people from approximately 85 companies representing 7 of the 10 Industry Segments as shown in the table on the following pages.

All comments submitted may be reviewed in their original format on the standard's project page.

If you feel that your comment has been overlooked, please let us know immediately. Our goal is to give every comment serious consideration in this process! If you feel there has been an error or omission, you can contact the Vice President and Director of Standards, Mark Lauby, at 404-446-2560 or at mark.lauby@nerc.net. In addition, there is a NERC Reliability Standards Appeals Process.<sup>1</sup>

#### **Summary Consideration of all Comments Received:**

## PRC-005-3

There were no changes made to the standard.

#### Implementation Plan:

In response to comments, the drafting team incorporated the "Implementation Plan for Newly identified Automatic Reclosing Components due to generation changes in the Balancing Authority Area" into the full Implementation Plan to consolidate the implementation documents.

Numerous commenters disagreed with the implementation period specified in the "Implementation Plan for Newly identified Automatic Reclosing Components due to generation changes in the Balancing Authority Area" stating that it was too short to accommodate the potential number of newly identified Automatic Reclosing Components that could become applicable nor did it provide enough time for potential outage coordination(s) necessary to perform the required maintenance. Upon reconsideration, the drafting team agreed that the proposed implementation schedule for newly

<sup>&</sup>lt;sup>1</sup> The appeals process is in the Standard Processes Manual: http://www.nerc.com/files/Appendix 3A StandardsProcessesManual 20120131.pdf



identified Automatic Reclosing Components was inappropriate and could potentially jeopardize reliability by forcing entities to take unscheduled outages to become compliant. The drafting team deemed three years to be sufficient to avoid the reliability concerns and permit entities to implement maintenance in a manner that would be sustainable in the long-term.

In response to a comment, the drafting team inserted the jurisdictional pro-forma language where it had been inadvertently left out of the Implementation Plan. Additionally, NERC will file the errata change with the applicable regulatory authorities as necessary for the PRC-005-2 Implementation Plan.

To avoid confusion, the drafting team modified paragraph 4 of the Background section to remove the references to the implementation timing. The timing is already comprehensively addressed in the implementation plan for each requirement.

## **Supplementary Reference and FAQ Document:**

Additional content was provided to improve the reference document.

#### **Unresolved Minority Views:**

- A few commenters objected to the development of PRC-005-3 prior to regulatory approval of PRC-005-2. The drafting team advised that they are acting in accordance with the schedule NERC provided to FERC which outlines the timeframes in which NERC will respond to the directives of FERC Order 758 through the standards drafting process. Specifically regarding reclose relays (Footnote 37), FERC directed NERC to: "By July 30, 2012, NERC should submit to the Commission either the completed project which addresses the remaining issues consistent with this order, or an informational filing that provides a schedule for how NERC will address such issues in the Project 2007-17 reinitiated efforts."
- Several commenters requested an additional requirement be included in PRC-005-3 mandating that Balancing Authorities provide Transmission Owners, Generator Owners, and Distribution Providers the information identifying the current largest single generating unit in the Balancing Authority Area (described in Applicability 4.2.6), and notify those entities (within a specified time) when this information changes. The SAR for this project does not permit the addition of functional entities to the Applicability section of this standard; therefore, the drafting team is unable to make the requested change. The drafting team understands the request but contends that such a requirement would be more appropriately included in a Reliability Standard applicable to Balancing Authorities; consequently, the drafting team has added this issue to the NERC Issues Database for consideration when the pertinent Reliability Standard is revised.



# **Index to Questions, Comments, and Responses**

| 1. | In response to comments, the drafting team revised the previously-posted draft of PRC-005-3 and the Supplementary Reference and FAQ document. Do you agree with these changes? If not, please provide specific suggestions for improvement  |
|----|---|
| 2. | In response to comments, the drafting team developed an "Implementation Plan for Newly identified Automatic Reclosing Components due to generation changes in the Balancing Authority Area" Do you agree with this additional Implementation Plan? If not, please provide specific suggestions for improvement. |



# The Industry Segments are:

- 1 Transmission Owners
- 2 RTOs, ISOs
- 3 Load-serving Entities
- 4 Transmission-dependent Utilities
- 5 Electric Generators
- 6 Electricity Brokers, Aggregators, and Marketers
- 7 Large Electricity End Users
- 8 Small Electricity End Users
- 9 Federal, State, Provincial Regulatory or other Government Entities
- 10 Regional Reliability Organizations, Regional Entities

| Gı  | oup/Individual       | Commenter                     |                   | 0      | rganization              |   |   | Regi | stered | d Ballo | t Bod | y Segr | ment |   |    |
|-----|----------------------|-------------------------------|-------------------|--------|--------------------------|---|---|------|--------|---------|-------|--------|------|---|----|
|     |                      |                               |                   |        |                          | 1 | 2 | 3    | 4      | 5       | 6     | 7      | 8    | 9 | 10 |
| 1.  | Group                | Guy Zito                      | Northeast         | Power  | Coordinating Council     |   |   |      |        |         |       |        |      |   | Х  |
|     | Additional Member    | Additional Organiz            | ation             | Region | <b>Segment Selection</b> |   |   |      |        |         |       |        |      |   |    |
| 1.  | Alan Adamson         | New York State Reliability Co | ouncil, LLC       | NPCC   | 10                       |   |   |      |        |         |       |        |      |   |    |
| 2.  | Greg Campoli         | New York Independent Syste    | m Operator        | NPCC   | 2                        |   |   |      |        |         |       |        |      |   |    |
| 3.  | Sylvain Clermont     | Hydro-Quebec TransEnergie     |                   | NPCC   | 1                        |   |   |      |        |         |       |        |      |   |    |
| 4.  | Chris de Graffenried | Consolidated Edison Co, of N  | lew York, Inc.    | NPCC   | 1                        |   |   |      |        |         |       |        |      |   |    |
| 5.  | Gerry Dunbar         | Northeast Power Coordinatin   | g Council         | NPCC   | 10                       |   |   |      |        |         |       |        |      |   |    |
| 6.  | Mark Kenny           | Northeast Utilities           |                   | NPCC   | 1                        |   |   |      |        |         |       |        |      |   |    |
| 7.  | Kathleen Goodman     | ISO - New England             |                   | NPCC   | 2                        |   |   |      |        |         |       |        |      |   |    |
| 8.  | Michael Jones        | National Grid                 | . 3               |        | 1                        |   |   |      |        |         |       |        |      |   |    |
| 9.  | David Kiguel         | Hydro One Networks Inc.       | One Networks Inc. |        | 1                        |   |   |      |        |         |       |        |      |   |    |
| 10. | Christina Koncz      | PSEG Power LLC                | Power LLC N       |        | 5                        |   |   |      |        |         |       |        |      |   |    |



| Gı   | roup/Individual          | Commenter                     |               | 0         | rganization              |        | Registered Ballot Body Segment |   |   |   |   |   |   |   |   |    |  |
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|      |                          |                               |               |           |                          |        | 1                              | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |  |
| 11.  | Helen Lainis             | Independent Electricity Syste | m Operator    | NPCC      | 2                        |        |                                |   | 1 | 1 |   |   | ı | 1 |   |    |  |
| 12.  | Michael Lombardi         | Northeast Power Coordinatin   | g Council     | NPCC      | 10                       |        |                                |   |   |   |   |   |   |   |   |    |  |
| 13.  | Randy MacDonald          | New Brunswick Power Trans     | mission       | NPCC      | 9                        |        |                                |   |   |   |   |   |   |   |   |    |  |
| 14.  | Bruce Metruck            | New York Power Authority      |               | NPCC      | 6                        |        |                                |   |   |   |   |   |   |   |   |    |  |
| 15.  | Silvia Parada Mitche     | II NextEra Energy, LLC        |               | NPCC      | 5                        |        |                                |   |   |   |   |   |   |   |   |    |  |
| 16.  | Lee Pedowicz             | Northeast Power Coordinatin   | g Council     | NPCC      | 10                       |        |                                |   |   |   |   |   |   |   |   |    |  |
| 17.  | Robert Pellegrini        | The United Illuminating Com   | oany          | NPCC      | 1                        |        |                                |   |   |   |   |   |   |   |   |    |  |
| 18.  | Si-Truc Phan             | Hydro-Quebec TransEnergie     |               | NPCC      | 1                        |        |                                |   |   |   |   |   |   |   |   |    |  |
| 19.  | David Ramkalawan         | Ontario Power Generation, Ir  | ıc.           | NPCC      | 5                        |        |                                |   |   |   |   |   |   |   |   |    |  |
| 20.  | Brian Robinson           | Utility Services              |               | NPCC      | 8                        |        |                                |   |   |   |   |   |   |   |   |    |  |
| 21.  | Brian Shanahan           | National Grid                 |               | NPCC      | 1                        |        |                                |   |   |   |   |   |   |   |   |    |  |
| 22.  | Wayne Sipperly           | New York Power Authority      |               | NPCC      | 5                        |        |                                |   |   |   |   |   |   |   |   |    |  |
| 23.  | Donald Weaver            | New Brunswick System Open     | ator          | NPCC      | 2                        |        |                                |   |   |   |   |   |   |   |   |    |  |
| 24.  | Ben Wu                   | Orange and Rockland Utilitie  | S             | NPCC      | 1                        |        |                                |   |   |   |   |   |   |   |   |    |  |
| 25.  | Peter Yost               | Consolidated Edison Co. of N  | lew York, Inc | . NPCC    | 3                        |        |                                |   |   |   |   |   |   |   |   |    |  |
| 2.   | Group                    | Colby Bellville               | Duke Ene      | rgy       |                          |        | Х                              |   | Х |   | Х | Х |   |   |   |    |  |
| 1    | Additional Member A      | Additional Organization Regi  | on Segment    | Selection | n                        |        |                                |   |   |   |   |   |   |   |   |    |  |
| 1. I | Doug Hils                | RFC                           | 1             |           |                          |        |                                |   |   |   |   |   |   |   |   |    |  |
| 2. I | Lee Schuster             | FRC                           | C 3           |           |                          |        |                                |   |   |   |   |   |   |   |   |    |  |
| 3. I | Dale Goodwine            | SER                           | C 5           |           |                          |        |                                |   |   |   |   |   |   |   |   |    |  |
| 4. ( | Greg Cecil               | RFC                           | 6             |           |                          |        |                                |   |   |   |   |   |   |   |   |    |  |
| 3.   | Group                    | Russel Mountjoy               | MRO NER       | C Stand   | ards Review Forum        | (NSRF) | Х                              | Х | Х | Χ | Х | Х |   |   |   |    |  |
|      | <b>Additional Member</b> | Additional Organiza           | tion          | Region    | <b>Segment Selection</b> |        |                                |   |   |   |   |   |   |   |   |    |  |
| 1.   | Alice Ireland            | Xcel Energy                   |               | MRO       | 1, 3, 5, 6               |        |                                |   |   |   |   |   |   |   |   |    |  |
| 2.   | Chuck Lawrence           | American Transmission Comp    | any           | MRO       | 1                        |        |                                |   |   |   |   |   |   |   |   |    |  |
| 3.   | Dan Inman                | Minnkota Power Cooperative    |               | MRO       | 1, 3, 5, 6               |        |                                |   |   |   |   |   |   |   |   |    |  |
| 4.   | Dave Rudolph             | Basin Electric Power Coopera  | tive          | MRO       | 1, 3, 5, 6               |        |                                |   |   |   |   |   |   |   |   |    |  |
| 5.   | Kayleigh Wilkerson       | Lincoln Electric System       |               | MRO       | 1, 5, 6                  |        |                                |   |   |   |   |   |   |   |   |    |  |
| 6.   | Jodi Jensen              | Western Area Power Administ   | ration        | MRO       | 1, 6                     |        |                                |   |   |   |   |   |   |   |   |    |  |
| 7.   | Joseph DePoorter         | Madison Gas and Electric      |               | MRO       | 3, 4, 5, 6               |        |                                |   |   |   |   |   |   |   |   |    |  |
| 8.   | Ken Goldsmith            | Alliant Energy                |               | MRO       | 4                        |        |                                |   |   |   |   |   |   |   |   |    |  |



| Gr   | oup/Individual   | Commenter                     |                   |                    | Registered Ballot Body Segment |   |   |   |   |   |   |   |   |    |  |
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|      |                  |                               |                   |                    | 1                              | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |  |
| 9.   | Mahmood Safi     | Omaha Public Power District   | MRC               | 1, 3, 5, 6         | 1                              | L |   | 1 |   |   |   |   |   | 1  |  |
| 10.  | Marie Knox       | Midcontinent Independent Sys  | stem Operator MR0 | 2                  |                                |   |   |   |   |   |   |   |   |    |  |
| 11.  | Mike Brytowski   | Great River Energy            | MRC               | 1, 3, 5, 6         |                                |   |   |   |   |   |   |   |   |    |  |
| 12.  | Scott Bos        | Muscatine Power and Water     | MRO               | 1, 3, 5, 6         |                                |   |   |   |   |   |   |   |   |    |  |
| 13.  | Scott Nickels    | Rochester Public Power Distri | ict MR0           | O 4                |                                |   |   |   |   |   |   |   |   |    |  |
| 14.  | Terry Harbour    | MidAmerican Energy            | MRO               | 1, 3, 5, 6         |                                |   |   |   |   |   |   |   |   |    |  |
| 15.  | Tom Breene       | Wisconsin Public Service      | MRO               | 3, 4, 5, 6         |                                |   |   |   |   |   |   |   |   |    |  |
| 16.  | Tony Eddleman    | Nebraska Public Power Distric | ct MR0            | 1, 3, 5            |                                |   |   |   |   |   |   |   |   |    |  |
| 4.   | Group            | David Thorne                  | Pepco Holding     | s Inc & Affiliates | Х                              |   | Х |   |   |   |   |   |   |    |  |
| Α    | dditional Member | Additional Organization Re    | egion Segment Se  | lection            | <u>.</u>                       |   |   | • |   |   |   | • | • |    |  |
| 1. C | Carlton Bradshaw | Delmarva Power & Light Co RI  | FC 1, 3           |                    |                                |   |   |   |   |   |   |   |   |    |  |
| 2. C | Carl Kinsley     | Delmarva Power & Light Co RI  | FC 1, 3           |                    |                                |   |   |   |   |   |   |   |   |    |  |
| 5.   | Group            | Louis Slade                   | Dominion          |                    | Х                              |   | Х |   | Х | Х |   |   |   |    |  |
| Α    | dditional Member | Additional Organization Reg   | ion Segment Sele  | ction              | <u>.</u>                       |   |   | • |   |   |   |   |   |    |  |
| 1. J | eff Bailey       | Nuclear                       | 5                 |                    |                                |   |   |   |   |   |   |   |   |    |  |
| 2. C | Chip Humphrey    | Power Generation NPC          | C 5               |                    |                                |   |   |   |   |   |   |   |   |    |  |
| 3. N | lichael Crowley  | Electric Transmission SER     | C 1, 3            |                    |                                |   |   |   |   |   |   |   |   |    |  |
| 4. S | Sean Iseminger   | Power Generation RFC          | 5                 |                    |                                |   |   |   |   |   |   |   |   |    |  |
| 5. C | Connie Lowe      | NERC Compliance Policy SER    | C 1, 3, 5, 6      |                    |                                |   |   |   |   |   |   |   |   |    |  |
| 6. N | like Garton      | NERC Compliance Policy NPC    | CC 1, 3, 5, 6     |                    |                                |   |   |   |   |   |   |   |   |    |  |
| 7. R | Randi Heise      | NERC Compliance Policy RFC    | 1, 3, 5, 6        |                    |                                |   |   |   |   |   |   |   |   |    |  |
| 8. R | Rick Purdy       | Electric Transmission SER     | C 1, 3            |                    |                                |   |   |   |   |   |   |   |   |    |  |
| 6.   |                  |                               | SERC Protection   | n and Controls     |                                |   |   |   |   |   |   |   |   |    |  |
|      | Group            | David Greene                  | Subcommittee      |                    |                                |   |   |   |   |   |   |   |   |    |  |
| A    | dditional Member | Additional Organization R     | Region Segment S  | election           |                                |   |   |   |   |   |   |   |   |    |  |
| 1. P | aul Nauert       | Ameren                        |                   |                    |                                |   |   |   |   |   |   |   |   |    |  |
| 2. B | ridget Coffman   | Santee Cooper                 |                   |                    |                                |   |   |   |   |   |   |   |   |    |  |
| 3. G | George Pitts     | TVA                           |                   |                    |                                |   |   |   |   |   |   |   |   |    |  |
| _    | steve Edwards    | Dominion VP                   |                   |                    |                                |   |   |   |   |   |   |   |   |    |  |
| 5. P | Phil Winston     | Southern Company Services     |                   |                    |                                |   |   |   |   |   |   |   |   |    |  |
| 6. D | avid Greene      | SERC                          |                   |                    |                                |   |   |   |   |   |   |   |   |    |  |



| G   | Group/Individual Commenter |                            |         | Organiza                 | tion     |   |   | Regi | stere | d Ballo | ot Bod | y Segr | Segment |   |    |  |  |
|-----|----------------------------|----------------------------|---------|--------------------------|----------|---|---|------|-------|---------|--------|--------|---------|---|----|--|--|
|     |                            |                            |         |                          |          | 1 | 2 | 3    | 4     | 5       | 6      | 7      | 8       | 9 | 10 |  |  |
| 7.  |                            |                            |         | North American Generat   | or Forum |   |   |      |       |         |        |        |         |   |    |  |  |
|     | Group                      | Patrick Brown              |         | Standards Review Team    |          |   |   |      |       | Χ       |        |        |         |   |    |  |  |
|     | Additional Member          | r Additional Organizat     | tion    | Region Segment Selection |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 1.  | Allen Schriver             | NextEra Energy Resource    | ces     | 5                        |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 2.  | Steve Berger               | PPL Susquehanna, LLC       |         | 5                        |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 3.  | Terry Crawley              | Southern Company Gene      | eration | 5                        |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 4.  | Pamela Dautel              | IPR-GDF Suez Generation    | on NA   | 5                        |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 5.  | Dan Duff                   | Liberty Electric Power     |         | 5                        |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 6.  | Mikhail Falkovich          | PSEG                       |         | 5                        |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 7.  | Gary Kruempel              | MidAmerican Energy Co      | mpany   | 5                        |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 8.  | Katie Legates              | American Electric Power    |         | 5                        |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 9.  | Don Lock                   | PPL Generation, LLC        |         | 5                        |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 10. | Joe O'Brien                | NIPSCO                     |         | 5                        |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 11. | Chris Schaeffer            | Duke Energy                |         | 5                        |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 12. | Dana Showalter             | E.ON Climate and Renev     | wables  | 5                        |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 13. | William Shultz             | Southern Company           |         | 5                        |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 14. | Mark Young                 | Tenaska, Inc.              |         | 5                        |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 8.  | Group                      | Terri Pyle                 |         | Oklahoma Gas & Electric  |          | Х |   | Х    |       | Х       | Х      |        |         |   |    |  |  |
|     | Additional Member          | Additional Organization    | Regio   | n Segment Selection      |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 1.  | Terri Pyle                 | OG&E                       | SPP     | 1                        |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 2.  | Don Hargrove               | OG&E                       | SPP     | 3                        |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 3.  | Leo Staples                | OG&E                       | SPP     | 5                        |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 4.  | Jerry Nottnagel            | OG&E                       | SPP     | 6                        |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 9.  | Group                      | Brent Ingebrigtson         |         | PPL NERC Registered Affi | liates   | Х |   | Х    |       | Х       | Х      |        |         |   |    |  |  |
|     | Additional Member          | r Additional Organiza      | ation   | Region Segment Selection | n        |   |   |      |       |         |        |        |         |   |    |  |  |
| 1.  | Brenda Truhe               | PPL Electric Utilities Cor | poratio | n RFC 1                  |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 2.  | Annette Bannon             | PPL Susquehanna, LLC       |         | RFC 5                    |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 3.  |                            | PPL Montana, LLC           |         | WECC 5                   |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 4.  |                            | PPL Generation, LLC        |         | RFC 5                    |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 5.  | Elizabeth Davis            | PPL EnergPlus, LLC         |         | NPCC 6                   |          |   |   |      |       |         |        |        |         |   |    |  |  |
| 6.  |                            |                            |         | SERC 6                   |          |   |   |      |       |         |        |        |         |   |    |  |  |



| Gr          | oup/Individual           | Commenter                      | Organization     |            |                   |   | Registered Ballot Body Segment |   |   |   |   |   |   |   |   |    |  |  |
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|             |                          |                                |                  |            |                   |   | 1                              | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |  |  |
| 7.          |                          |                                | SPP 6            |            |                   |   |                                |   |   |   |   |   |   |   |   | •  |  |  |
| 8.          |                          |                                | MRO 6            |            |                   |   |                                |   |   |   |   |   |   |   |   |    |  |  |
| 9.          |                          |                                | WECC 6           |            |                   |   |                                |   |   |   |   |   |   |   |   |    |  |  |
| 10.         |                          |                                | RFC 6            |            |                   |   |                                |   |   |   |   |   |   |   |   |    |  |  |
| 10.         | Group                    | Sasa Maljukan                  | Hydro One I      | Network    | s Inc.            |   | Х                              |   | Х |   |   |   |   |   |   |    |  |  |
| -           | Additional Member        | Additional Organization Regi   | on Segment S     | election   |                   |   |                                |   |   |   |   |   |   |   |   |    |  |  |
| 1. [        | David Kiguel             | Hydro One Networks Inc. NPC    | C 1, 3           |            |                   |   |                                |   |   |   |   |   |   |   |   |    |  |  |
| 2. F        | Paul Difilippo           | Hydro One Networks Inc. NPC    | C 1, 3           |            |                   |   |                                |   |   |   |   |   |   |   |   |    |  |  |
| 11.         | Group                    | Jason Marshall                 | ACES Standa      | ards Coll  | aborators         |   |                                |   |   |   |   | Х |   |   |   |    |  |  |
| -           | Additional Member        | Additional Organiz             | ation            | Region     | Segment Selection | n |                                | • |   |   |   | • |   | • | • |    |  |  |
| 1           | lohn Shaver              | Arizona Electric Power Coopera | ative            | WECC       | 4, 5              |   |                                |   |   |   |   |   |   |   |   |    |  |  |
| 2           | lohn Shaver              | Southwest Transmission Coope   | erative          | WECC       | 1                 |   |                                |   |   |   |   |   |   |   |   |    |  |  |
| 3. 8        | Shari Heino              | Brazos Electric Power Coopera  | tive             | ERCOT      | 1, 5              |   |                                |   |   |   |   |   |   |   |   |    |  |  |
| 4. <i>A</i> | Amber Anderson           | East Kentucky Power Cooperat   | ive              | SERC       | 1, 3, 5           |   |                                |   |   |   |   |   |   |   |   |    |  |  |
| 5. 5        | Scott Brame              | North Carolina Electric Member | ship Corporation | n SERC     | 1, 3, 4, 5        |   |                                |   |   |   |   |   |   |   |   |    |  |  |
| 6. N        | Mark Ringhausen          | Old Dominion Electric Coopera  | tive             | RFC        | 3, 4              |   |                                |   |   |   |   |   |   |   |   |    |  |  |
| 7. N        | Megan Wagner             | Sunflower Electric Power Corpo | oration          | SPP        | 1                 |   |                                |   |   |   |   |   |   |   |   |    |  |  |
| 12.         | Group                    | Robert Rhodes                  | SPP Standar      | ds Revie   | ew Group          |   |                                | Х |   |   |   |   |   |   |   |    |  |  |
|             | <b>Additional Member</b> | r Additional Organizatio       | n Region         | Segmen     | t Selection       |   |                                |   |   |   |   |   |   |   |   |    |  |  |
| 1.          | Timothy Bobb             | Westar Energy                  | SPP              | 1, 3, 5, 6 | i                 |   |                                |   |   |   |   |   |   |   |   |    |  |  |
| 2.          | John Boshears            | City Utilities of Springfield  | SPP              | 1, 4       |                   |   |                                |   |   |   |   |   |   |   |   |    |  |  |
| 3.          | Tony Eddleman            | Nebraska Public Power Distric  | t MRO            | 1, 3, 5    |                   |   |                                |   |   |   |   |   |   |   |   |    |  |  |
| 4.          | Louis Guidry             | Cleco Power, LLC               | SPP              | 1, 3, 5    |                   |   |                                |   |   |   |   |   |   |   |   |    |  |  |
| 5.          | Jonathan Hayes           | Southwest Power Pool           | SPP              | 2          |                   |   |                                |   |   |   |   |   |   |   |   |    |  |  |
| 6.          | Stephanie Johnson        | Westar Energy                  | SPP              | 1, 3, 5, 6 |                   |   |                                |   |   |   |   |   |   |   |   |    |  |  |
| 7.          | Bo Jones                 | Westar Energy                  | SPP              | 1, 3, 5, 6 |                   |   |                                |   |   |   |   |   |   |   |   |    |  |  |
|             | Tiffany Lake             | Westar Energy                  | SPP              | 1, 3, 5, 6 |                   |   |                                |   |   |   |   |   |   |   |   |    |  |  |
| 9.          | Wes Mizell               | Westar Energy                  | SPP              | 1, 3, 5, 6 | i                 |   |                                |   |   |   |   |   |   |   |   |    |  |  |
| 10.         | James Nail               | City of Independence, MO       | SPP              | 3          |                   |   |                                |   |   |   |   |   |   |   |   |    |  |  |
|             | Valerie Pinamonti        | American Electric Power        | SPP              | 1, 3, 5    |                   |   |                                |   |   |   |   |   |   |   |   |    |  |  |
| 12.         | Ashley Stringer          | Oklahoma Municipal Power A     | uthority SPP     | 4          |                   |   |                                |   |   |   |   |   |   |   |   |    |  |  |



|                   |                     | 1                           |   |     |   |      |        |        |        |       |      |   |    |
|-------------------|---------------------|-----------------------------|---|-----|---|------|--------|--------|--------|-------|------|---|----|
| Gro               | oup/Individual      | Commenter                   | Organization                            |     |   | Regi | istere | d Ball | ot Bod | y Seg | ment |   |    |
|                   |                     |                             |   | 1   | 2 | 3    | 4      | 5      | 6      | 7     | 8    | 9 | 10 |
| 13.               | Group               | Lloyd A. Linke              | Western Area Power Administration       | Х   |   |      |        |        | Х      |       |      |   |    |
|                   | Additional Memb     | er Additional Organ         | ization Region Segment Selection        | ,   | • | •    |        | •      |        |       | •    |   |    |
| 1. U <sub>l</sub> | pper Great Plains R | egion Western Area Power Ad | dministration MRO 1, 6                  |     |   |      |        |        |        |       |      |   |    |
| 2. R              | ocky Mountain Regi  | on Western Area Power Ad    | Iministration WECC 1, 6                 |     |   |      |        |        |        |       |      |   |    |
|                   | ierra Nevada Regio  |                             | dministration WECC 1, 6                 |     |   |      |        |        |        |       |      |   |    |
|                   |                     | egion Western Area Power Ad |   |     |   |      |        |        |        |       |      |   |    |
|                   | 1                   | pject Western Area Power Ac |   | 1,, | 1 | Ι,,  |        | Ι.,,   | Τ.,    |       | 1    | T |    |
| 14.               | Individual          | Ryan Millard                | PacifiCorp                              | Х   |   | Х    |        | Х      | Х      |       |      |   |    |
| 15.               | Individual          | Wayne Johnson               | Southern Company                        | Х   |   | Х    |        | Х      | Х      |       |      |   |    |
| 16.               | Individual          | Kaleb Brimhall              | Colorado Springs Utilities              | Х   |   | X    |        | Х      | Х      |       |      |   |    |
| 17.               | Individual          | Thomas Foltz                | American Electric Power                 | Х   |   | Х    |        | Х      | Х      |       |      |   |    |
| 18.               |                     |                             | Occidental Chemical Corp. (Ingleside    |     |   |      |        | Х      |        |       |      |   |    |
|                   | Individual          | Michelle D'Antuono          | Cogeneration LP)                        |     |   |      |        |        |        |       |      |   |    |
| 19.               | Individual          | Nazra Gladu                 | Manitoba Hydro                          | Х   |   | Х    |        | Х      | Х      |       |      |   |    |
| 20.               | Individual          | Travis Metcalfe             | Tacoma Power                            | Х   |   | Х    | Χ      | Х      | Х      |       |      |   |    |
| 21.               | Individual          | Alice Ireland               | Xcel Energy                             | Х   |   | Х    |        | Х      | Х      |       |      |   |    |
| 22.               | Individual          | Daniel Duff                 | Liberty Electric Power                  |     |   |      |        | Х      |        |       |      |   |    |
| 23.               | Individual          | David Jendras               | Ameren                                  | Х   |   | Х    |        | Х      | Х      |       |      |   |    |
| 24.               | Individual          | Bill Fowler                 | City of Tallahassee                     |     |   | Х    |        |        |        |       |      |   |    |
| 25.               | Individual          | Michael Falvo               | Independent Electricity System Operator |     | Х |      |        |        |        |       |      |   |    |
| 26.               | Individual          | Gerald Farringer            | Consumers Energy                        |     |   | Х    |        |        |        |       |      |   |    |
| 27.               | Individual          | Anthony Jablonski           | ReliabilityFirst                        |     |   |      |        |        |        |       |      |   | Х  |
| 28.               | Individual          | Tracy Goble                 | Consumers Energy Co.                    |     |   |      | Χ      |        |        |       |      |   |    |
| 29.               | Individual          | John Seelke                 | Public Service Enterprise Group         | Х   |   | Х    |        | Х      | Х      |       |      |   |    |
| 30.               | Individual          | Andrew Z. Pusztai           | American Transmission Company, LLC      | Х   |   |      |        |        |        |       |      |   |    |
| 31.               | Individual          | Kayleigh Wilkerson          | Lincoln Electric System                 | Х   |   | Х    |        | Х      | Х      |       |      |   |    |
| 32.               | Individual          | Jonathan Meyer              | Idaho Power Company                     | Х   |   |      |        |        |        |       |      |   |    |



| Gro | Group/Individual Commenter |                                | Organization  | Registered Ballot Body Segment |   |   |   |   |   |   |   |   |    |  |  |
|-----|----------------------------|--------------------------------|---|--------------------------------|---|---|---|---|---|---|---|---|----|--|--|
|     |                            |                                |   | 1                              | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |  |  |
| 33. | Individual                 | Scott Langston                 | City of Tallahassee                                     | Х                              |   |   |   |   |   |   |   |   |    |  |  |
| 34. | Individual                 | Louis C. Guidry                | Cleco   | Х                              |   | Х |   | Х | Х |   |   |   |    |  |  |
| 35. | Individual                 | Brett Holland                  | Kansas City Power & Light                               | Х                              |   | Х |   | Х | Х |   |   |   |    |  |  |
| 36. | Individual                 | Brian Evans-Mongeon            | Utility Services  |                                |   |   | Х |   |   |   |   |   |    |  |  |
| 37. | Individual                 | Texas Reliability Entity, Inc. | Texas Reliability Entity, Inc.                          |                                |   |   |   |   |   |   |   |   | Х  |  |  |
| 38. | Individual                 | Bradley Collard                | Oncor Electric Delivery Company LLC                     | Х                              |   |   |   |   |   |   |   |   |    |  |  |
| 39. | Individual                 | Ryan Walter                    | Tri-State Generation and Transmission Association, Inc. | Х                              |   | Х |   | Х |   |   |   |   |    |  |  |
| 40. | Individual                 | Michael P. Moltane             | ITC   | Х                              |   |   |   |   |   |   |   |   |    |  |  |
| 41. | Individual                 | RoLynda Shumpert               | South Carolina Electric and Gas                         | Х                              |   | Х |   | Х | Х |   |   |   |    |  |  |



If you support the comments submitted by another entity and would like to indicate you agree with their comments, please select "agree" below and enter the entity's name in the comment section (please provide the name of the organization, trade association, group, or committee, rather than the name of the individual submitter).

# **Summary Consideration:**

| Organization                    | Supporting Comments of "Entity Name"   |
|---------------------------------|--|
| Consumers Energy Co.            | Consumers Energy Co.   |
| Hydro One Networks Inc.         | IESO and NPCC RSC  |
| Lincoln Electric System         | MRO NERC Standards Review Forum (NSRF)   |
| Utility Services                | NPCC Reliability Standrds Committee  |
| South Carolina Electric and Gas | SERC PCS   |
| Kansas City Power & Light       | SPP - Robert Rhodes  |
| Ameren                          | We agree with the SERC Protection & Control Subcommittee (PCS) comments and include them by reference. |



1. In response to comments, the drafting team revised the previously-posted draft of PRC-005-3 and the Supplementary Reference and FAQ document. Do you agree with these changes? If not, please provide specific suggestions for improvement.

#### **Summary Consideration:**

The drafting team made no changes to PRC-005-3.

Several comments were offered on PRC-005-2. The drafting team reminded the commenters that changes to previously-approved content in PRC-005-2 are out-of-scope and prohibited by the SAR for this project.

Several commenters objected to the inclusion of maintenance of Automatic Reclosing within a Reliability Standard. The drafting team explained that Automatic Reclosing is being added in response to a FERC directive from Order 758.

In response to comments regarding the objectives of PRC-005-3, the drafting team referred commenters to the referenced document, "Considerations for Maintenance and Testing of Autoreclosing Schemes — November 2012".

Several commenters requested an additional requirement be included in PRC-005-3 mandating that Balancing Authorities provide Transmission Owners, Generator Owners, and Distribution Providers the information identifying the current largest single generating unit in the Balancing Authority Area (described in Applicability 4.2.6), and notify those entities (within a specified time) when this information changes. The SAR for this project does not permit the addition of functional entities to the Applicability section of this standard; therefore, the drafting team is unable to make the requested change. The drafting team understands the request but contends that such a requirement would be more appropriately included in a Reliability Standard applicable to Balancing Authorities; consequently, the drafting team has added this issue to the NERC Issues Database for consideration when the pertinent Reliability Standard is revised.

In response to assorted comments regarding the Applicability 4.2.6 and the associated footnote, the drafting team added more discussion to the Supplementary Reference and FAQ document in Section 2.4.1.

| Organization            | Yes or No | Question 1 Comment  |
|-------------------------|-----------|---|
| Oklahoma Gas & Electric | No        | 1. In the draft Standard and the Supplementary Reference and FAQ document, a lot of detail was deleted from the definition of Automatic Reclosing. The revised definition no longer includes the phrase "but excluding breaker internal controls such as anti-pump and various interlock circuits." Does this imply that those components |



| Organization  | Yes or No                          | Question 1 Comment   |  |  |  |  |  |
|---|------------------------------------|--|--|--|--|--|--|
|   |                                    | are now included in the definition of Automatic Reclosing? In reference to these components, the Supplementary Reference and FAQ document (in section 15.8.1) states that, "These components are not specifically addressed within Table 4, and need not be individually tested. They are indirectly verified by performing the Automatic Reclosing control circuitry verification as established in Table 4." The Standard needs to be explicit on what is and is not required to be tested as part of an entities PRC-005 maintenance and testing program rather than leaving it open to interpretation. |  |  |  |  |  |
|   |                                    | 2. In 4.2.6.1 of the Applicability section of the draft Standard, reference is made to the total installed gross generating capacity of a generating plant which is then compared to the gross generating capacity of the largest BES unit in the Balancing Authority Area. It would be helpful if the drafting team provided some examples (including some that references how to address combined cycle units/plants) in the Suppementary Reference document to help entities understand and properly apply Section 4.2.6.1 of the Standard.   |  |  |  |  |  |
| Response: Thank you for your co   | mments.                            |  |  |  |  |  |  |
| control circuitry associated w referenced components woul established in Table 4.   | ith the reclosi<br>d be indirectly | omatic Reclosing (defined as including two Components - the reclosing relay and the ng relay), upon initiation, does not issue a premature closing command. All of the verified by performing the Automatic Reclosing control circuitry verification am provided additional discussion in Section 2.4.1 of the Supplementary Reference   |  |  |  |  |  |
| ACES Standards Collaborators  No  (1) We find that the changes are non-substantive and do not present a problem.  However, we continue to be concerned about modifying this standard when there is another version pending before the Commission. We believe it will only cause confusion. Given that this standard is historically one of the top ten most violated standards and the most violated non-CIP standard, industry does not need to be burdened with further confusion that will only cause additional violations. One |                                    |  |  |  |  |  |  |



| Organization | Yes or No | Question 1 Comment   |
|--------------|-----------|--|
|              |           | example of the confusion is the implementation plan of the proposed draft. If the PRC-005-2 standard was already enforceable, the implementation plan could focus only on auto-reclosing which would avoid the confusion.  |
|              |           | (2) Because there were no general feedback questions asked and there is no other appropriate question to place our other concerns with the proposed standard, we are inserting them here.  |
|              |           | (3) The implementation plan creates confusion with dual conflicting parallel dates. The confusion is understood by comparing PRC-005-2 implementation plan to the PRC-005-3 implementation plan. For example, the implementation plan for PRC-005-2 requires the responsible entity to be at least 30 percent compliant on the first day of the first calendar quarter 24 months following applicable regulatory approval for maintenance activities with a three year interval. The PRC-005-3 implementation plan is identical. Thus, if FERC approves PRC-005-2 such that is has an effective date of June 1, 2014, the responsible entity will have to be 30 percent compliant with R3 and R4 for equipment with three-year interval maintenance cycles by July 1, 2016. If FERC then approves PRC-005-3 such it has an enforceable date of September 1, 2015, the responsible entity will have to be 30 percent compliant with R3 and R4 for equipment with a three-year interval maintenance cycles by October 1, 2017. Thus, there will be two different conflicting dates for the 30 percent compliance level. Which applies? If the second applies, this is like resetting the compliance date. Furthermore, there is unnecessary confusion with the 30 percent compliant metric, as this could change from the two different implementation plans if additional equipment is installed during the implementation plan. There are too many compliance risks of having implementation plans overlapping or coming into effect in a short amount of time. This proposal mirrors the issues of the implementation plans with CIP version 4 and CIP version 5. FERC granted an extension in order to allow responsible entities to more efficiently utilize resources to transition to the next version. We, as an industry, should learn from this experience and not rush to the next version of the standard prematurely. |

| Organization | Yes or No | Question 1 Comment  |
|--------------|-----------|---|
|              |           | (4) We disagree with the statement (second paragraph first sentence and first bullet) in the general considerations section of the implementation plan that states the responsible entities must be prepared to identify Automatic Reclosing components during the transition from version 2 to version 3. While we agree that this ultimately will be necessary at some point in the transition to prepare for the compliance date, we are concerned that an auditor could interpret this implementation plan as requiring the responsible entity to develop an inventory of Automatic Reclosing components prior to the effective compliance date. A standard cannot retroactively require actions to be completed prior to its effective date. This identification of Automatic Reclosing components presents serious compliance issues and we recommend striking it in its entirety.  |
|              |           | (5) We disagree with the statement (second paragraph first sentence and second bullet) in the general considerations section of the implementation plan that states the responsible entities must be prepared to identify "whether each component has last been maintained according to PRC-005-2 (or the combined successor standard PRC-005-3), PRC-005-1b, PRC-008-0, PRC-011-0, PRC-017-0, or a combination thereof". We do not have an issue if this statement applies only to the Protection System components because they have been under these standards for some time. However, this statement could be viewed as applying to Automatic Reclosing components and it should not because they have never been subject to any standard. While most responsible entities will have maintained their Automatic Reclosing components, they simply were not required to maintain them and, thus, the documentation may not be sufficient to demonstrate prior maintenance activities. Maintenance activities for Automatic Reclosing components are not required until PRC-005-3 is enforceable. |
|              |           | (6) We do not understand why PRC-005-1b, PRC-008-0, PRC-011-0, and PRC-017-0 will not be retired for 156 months or 13 years. That is quite a long time for these standards to be effective in parallel. This poses a potential for double jeopardy and we recommend retiring these standards at the same time the new standard becomes  |

| Organization | Yes or No | Question 1 Comment  |
|--------------|-----------|---|
|              |           | enforceable.  |
|              |           | (7) We find the language in section 3 of the implementation plan for R3 and R4 confusing. That section proposes to require the responsible entity to comply with R3 and R4 for 30 percent of the Protection System components that are subject to three-year maintenance intervals. However, this language "or, for generating plants with scheduled outage intervals exceeding two years, at the conclusion of the first succeeding maintenance outage" is added as a caveat. We are unsure how to interpret it. Does this mean that if a generator has three-year maintenance interval that 30 percent of its Protection System components must meet compliance at the conclusion of the first succeeding maintenance outage or it is an exception and all of its Protection System components must meet R3 and R4 compliance obligations by the same date? |
|              |           | (8) Section 4.2.6.1 of the applicability section of the standard is inconsistent with the proposed definition of the Bulk Electric System (BES) and may be inconsistent with existing definitions that vary by region. Since Inclusion I2 includes the generator and generator step up (GSU) transformer as part of the BES, what exactly would constitute the BES bus? The low side bus of the GSU transformer, the high side bus or some other location? All of these are part of the BES. This section needs further clarification.  |
|              |           | (9) Section 4.2.6.2 of the applicability section of the standard needs further refinement. What would constitute one bus away from the generating plant? What constitutes the plant? The electrical machine, turbine, GSU, and switchyard? What if there is more than one switchyard? What if the switchyard is not on the immediate property but short distance away? Some additional refinement would help to answer these questions. We suggest utilizing the GSU as demarcation point to help clarify.  |
|              |           | (10) The evidence retention section needs to clarify that the responsible entity is not required to keep "documentation of the two most recent performances of each distinct maintenance activity "during the initial implementation of the standard for Automatic Reclosing components. This clarification will help avoid the problems that   |



| Organization | Yes or No | Question 1 Comment  |
|--------------|-----------|---|
|              |           | occurred with PRC-005-1 when auditors requested evidence from before the effective date of the requirements. The bottom line is that a standard cannot be retroactive and cannot compel evidence from before the effective date. This needs to be clear.  |
|              |           | (11) The evidence retention period is excessively long, is inconsistent with the Reliability Assurance Initiative (RAI), and is inconsistent with the Rules of Procedure. Since some Automatic Reclosing component maintenance intervals are 12 years, retaining the two most recent performances of each maintenance activity could result in evidence retention periods of almost 36 years. Entire careers will be worked before this evidence can be destroyed. Given the length of time, it is highly likely that responsible entities will lose some of the documentation which will result in paper violations that do nothing to support reliability. This is contrary to the RAI which is trying move to a forward looking compliance model that provides reasonable assurance of compliance. Furthermore, the evidence retention period is longer than the six year audit cycle for TOs, GOs, and DPs which is inconsistent with section 3.1.4.2 of Appendix C - Compliance Monitoring and Enforcement Program of the NERC Rules of Procedures. This section is very clear that the evidence retention cannot exceed a period prior to the last audit. |
|              |           | (12) We suggest that Table 4-2(a) should be clarified that it only applies to those Automatic Reclosing components that are at large generator plants or close to large generator plants per applicability section 4.2.6.1 and 4.2.6.2 respectively. Otherwise, there may be confusion when compliance and enforcement personnel look at the table. They may view that it will apply to all Automatic Reclosing components that are not an integral part of a Special Protection System (SPS) including those are not close to large generators.  |

1. The drafting team is acting in accordance with the schedule NERC provided to FERC which outlines the timeframes in which NERC will respond to the directives of FERC Order 758 through the standards drafting process. Specifically regarding reclosing relays (Footnote 37), FERC directed NERC to: "By July 30, 2012, NERC should submit to the Commission either the completed project



Organization Yes or No Question 1 Comment

which addresses the remaining issues consistent with this order, or an informational filing that provides a schedule for how NERC will address such issues in the Project 2007-17 reinitiated efforts." Providing the schedule for addressing both reclosing relays and relays that do not respond to electrical quantities addressed this requirement of FERC Order 758

- 2. N/A
- 3. The implementation plan established under PRC-005-2 remains unchanged except for the addition of Automatic Reclosing Components required under PRC-005-3. The Implementation Plan provided with this posting is for PRC-005-3 and carries forward the implementation schedules contained in PRC-005-2. Compliance levels will be based upon applicable regulatory approvals of PRC-005-2 and PRC-005-3 and their associated applicable components.
- 4. Per the implementation period established for Requirement R1, an entity has 12 months to modify its Protection System Maintenance Program to include Automatic Reclosing and identify applicable Automatic Reclosing components. Identification of applicable Automatic Reclosing components is necessary to establish the maintenance schedules for implementing Requirements R3 and R4. The drafting team contends entities have sufficient time to establish a PSMP, identify the applicable components, and follow the Implementation Plan.
- 5. The entity should follow the previous maintenance intervals (if any) for any specific components until that component is addressed by PRC-005-3. As the transition is occurring, the entity should adjust its maintenance and testing schedules to demonstrate that the required percentage of components meets the maintenance intervals given in the PRC-005-3 tables at each of the percent compliant milestones given in its Implementation Plan.
- 6. For the Compliance Enforcement Authority to be assured of compliance, the drafting team contends that the Compliance Enforcement Authority will need the data of the most recent performance of the maintenance, as well as the data of the preceding one to validate that entities have been in compliance since the last audit (or currently since the beginning of mandatory compliance). The retirement schedule of the aforementioned standards meets this intent.
- 7. For Requirements R3 and R4, generating plants with scheduled outage intervals exceeding two years must be 30% compliant at the conclusion of the first maintenance outage. It should be noted that this extension does not apply for the 60% and 100% thresholds.
- 8. The BES is a NERC defined term that is undergoing revisions and might contain regional variations. PRC-005-3 will be workable regardless of how the BES is defined. If an element is a BES element and is located at a generating plant substation, it is included per Section 4.2.6.1, and the requirements for Automatic Reclosing apply. See Section 2.4.1 in the Supplementary Reference and FAQ document for more discussion.
- 9. The drafting team contends Applicability Section 4.2.6.2 is clear and is based upon the recommendations from the SAMS/SPCS report. See Section 2.4.1 in the Supplementary Reference and FAQ document for more discussion.



Organization

# 10. From the Implementation Plan, General Considerations: "For activities being added to an entity's program as part of PRC-005-3 implementation, evidence may be available to show only a single performance of the activity until two maintenance intervals have transpired following initial implementation of PRC-005-3." The Evidence Retention section of the standard applies to steady-state performance of the standard after implementation. 11. For the Compliance Enforcement Authority to be assured of compliance, the drafting team contends that the Compliance Enforcement Authority will need the data of the most recent performance of the maintenance, as well as the data of the preceding one to validate that entities have been in compliance since the last audit (or currently since the beginning of mandatory compliance). The drafting team has specified the data retention in the posted standard to establish this level of documentation. This seems to be consistent with what auditors are expecting (per the drafting team's experience), and is also consistent with Compliance Process Bulletins 2011-001 and 2009-05. The entity is urged to assure that data is retained as specified within the standard. 12. The drafting team contends the standard is clear in that the tables apply to only those components contained in Section 4.2 Facilities. **PPL NERC Registered Affiliates** 1) There are currently two NERC approved projects filed at FERC (PRC-005-1.1b and Nο PRC-005-2). NERC should consider waiting to proceed with this project until the current projects are ruled on and FERC provides further direction. 2) For 4.2.6, for reclosing capability, it is unclear what functionality is to be tested. Please define. 3) For PRC-005-3 section 4.2.6.2, please provide the technical basis for this application of the Standard. Specifically, this application states for Automatic Reclosing: "Applied on BES Elements at substations one bus away from generating plants specified in section 4.2.6.1 when the substation is less than 10 circuit miles from the generating plant substation." Please provide the technical basis/reasoning for the 10-mile criteria. At a recent North American Transmission Forum Workshop on Protection System Maintenance Program it was implied that the 10 mile rule is for cases where a

**Question 1 Comment** 

generator has a short connection to another company's substation. Please clarify if

4) For PRC-005-3 section R1, consider adding the following language that is used for

this is the case.

Yes or No



| Organization | Yes or No | Question 1 Comment   |
|--------------|-----------|--|
|              |           | PRC-005-1.1b "each Generator Owner that owns a generation or generator interconnection Facility Protection System" This is NERC-approved language that has been through the standards development process and has technical justification through Project 2010-07.   |
|              |           | 5) Please provide the technical basis for R1.1 which requires battery testing for DC Supply Component Type Protection Systems to be time based.  |
|              |           | 6) Table 1-2 of PRC-005-3 requires functional testing of non-monitored communication systems on a 4 month cycle. Please specify NERC's criteria for the functional testing (what attributes to be tested). Additionally, specifically define monitoring criteria and data intervals for continuous monitoring of communications systems (to see if check back (fail/no fail) monitoring is adequate).  |
|              |           | 7) This standard presents compliance documentation uncertainties for applicable reclosing relays defined in Applicability Section 4.2.6.1 "Automatic Reclosing applied on the terminals of Elements connected to the BES bus located at generating plant substations where the total installed gross generating plant capacity is greater than the gross capacity of the largest BES generating unit within the Balancing Authority Area". This standard now assumes that GO/TOs are going to coordinate and document that they have contacted the BA to determine the largest unit in the area and then determine if the reclosing relays are/are not applicable but does not mention it in the measures. How much coordination and documentation is required by a GO and its associated switchyards. Does the TO need to prove that the generation facility does or does not exceed the largest BES unit? Does this become part of a PRC-001 requirement to coordinate protection systems? |

- 1) The drafting team is acting in accordance with the schedule NERC provided to FERC which outlines the timeframes in which NERC will respond to the directives of FERC Order 758 through the standards drafting process.
- 2) This is defined in the PRC-005-3 tables 4-1, 4-2a, and 4-2b of the proposed standard and clarified in the reference document "Considerations for the Maintenance and Testing of Autoreclosing Schemes."



| Oı    | rganization  | Yes or No                     | Question 1 Comment   |
|-------|--|-------------------------------|--|
| 4) 5) | <ul> <li>As noted in the SAMS and SPCS study, premature autoreclosing has the potential to cause generating unit or plant shaft damage or instability. The report noted that "transmission line impedance on the order of 1 mile away typically provides adequate impedance to prevent generating unit instability and a 10 mile threshold provides sufficient margin."</li> <li>4) Your comment refers to previously-approved content. The SAR for this project explicitly limits the scope of this project to those changes needed to address Automatic Reclosing. Changes such as you suggest are out-of-scope.</li> <li>5) Your comment refers to previously-approved content. The SAR for this project explicitly limits the scope of this project to those changes needed to address Automatic Reclosing. These requirements are unchanged from PRC-005-2 and specific maintenance practices and criteria are discussed in the Supplementary Reference and FAQ document for PRC-005-2.</li> <li>6) Your comment refers to previously-approved content. The SAR for this project explicitly limits the scope of this project to those changes needed to address Automatic Reclosing. These requirements are unchanged from PRC-005-2 and specific maintenance practices and criteria are discussed in the Supplementary Reference and FAQ document for PRC-005-2.</li> <li>7) The addition of a functional entity to the Applicability section of the standard is outside the scope of the SAR for this project. The</li> </ul> |                               |  |
| /)    | drafting team understands the Reliability Standard applicable  | e request but<br>to Balancing | contends that such a requirement would be more appropriately included in a Authorities; consequently, the drafting team has added this issue to the NERC Issues nent Reliability Standard is revised.  |
| Pe    | pco Holdings Inc & Affiliates  | No                            | 1) In section 4.2.6.1 the term "gross generating plant capacity" is used. We assume this refers to nameplate MVA ratings. To avoid confusion as to what unit of capacity (MVA or MW) is to be used to evaluate these criteria we suggest the phrase be clarified as "gross generating plant capacity (in MVA)".  |
|       |  |                               | 2) NERC's System Analysis and Modeling Subcommittee (SAMS) recommended limiting the applicability of automatic reclosing within this standard to only those installations that would impact the reliability of the BES. Section 4.2.6.1 uses criteria based on the "gross generating plant capacity". Neither the PRC-005-3 standard itself, nor the Supplementary Reference and FAQ document explains how to calculate this gross capacity number. Consider a generating plant that has a total of 600 MVA of installed capacity connected to a 230kV bus. There are also units within the same "power plant" with 200 MVA of capacity connected to a 69kV bus. The 230kV and 69kV busses are interconnected by an autotransformer. The "gross generating plant |

capacity" is 800 MVA, however 200 MVA of this is connected below 100kV and is not



| Organization | Yes or No | Question 1 Comment   |
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|              |           | considered BES generation. If it is not considered BES generation, then it should be excluded from the calculation of gross plant capacity in Section 4.2.6.1, as the loss of this generation would not directly affect the reliability of the BES.  |
|              |           | 3) In some switchyard arrangements generating units within the same power plant are connected to separate switchyard busses that are not connected together. This may be done for reliability reasons and to control fault current levels. In these situations, the calculation of gross plant capacity in Section 4.2.6.1 should be based only on the amount of generation directly connected to the individual bus, and not the total amount in the plant.   |
|              |           | 4) The NERC SAMS review concluded that automatic reclosing mal-performance affects BES reliability when "inadvertent reclosing near a generating station subjects the generation station to severe fault stresses". The concern appears to be potential shaft torque damage, or instability, of rotating machines to automatic reclosing malperformance. That being the case, generation sources that are not subject to severe fault stresses, such as inverter based generation, or static reactive sources (SVC's, capacitor banks, etc.) should not be included in the calculation of gross plant capacity. However, since synchronous condensers are subject to the same fault stresses as synchronous generators they should probably be included in the gross plant generation calculation, providing they are interconnected at 100kV, or above.     |
|              |           | 5) To adequately address the concerns raised in the above sets of comments we suggest Section 4.2.6.1 be re-worded as follows to provide clarity and eliminate confusion on how to evaluate this plant capacity calculation: "Automatic Reclosing applied on the terminals of Elements connected to the BES bus located at generating plant substations where the total installed gross generating plant capacity (in MVA) connected to that bus is greater than the gross capacity (in MVA) of the largest BES generating unit within the Balancing Authority Area." In addition, a qualifying footnote defining "gross generating plant capacity" needs to be added as follows: "For application of 4.2.6.1 gross generating plant capacity is defined as the sum total of the nameplate ratings, expressed in MVA, of all BES rotating machine generating |



| Organization | Yes or No | Question 1 Comment  |
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|              |           | units (including synchronous condensers) that are connected to a common BES switchyard bus." Also, specific examples showing how to calculate "gross generating capacity" should be included in the Supplemental Reference document in order to illustrate and clarity the issues described in the above comments. How will the applicable functional entities be aware of the largest (or change in the largest) BES generating unit within the BA area? |

- 1) Thank you for your comments. No change was made to the standard; however, the drafting team provided additional discussion in Section 2.4.1 of the Supplementary Reference and FAQ document.
- 2) The intent was to prevent a loss of generation that exceeds the capacity of the largest unit in the Balancing Authority Area regardless of the connected voltage levels. There are numerous scenarios possible and the drafting team contends that if the resolution of a particular scenario isn't clear from the Applicability Section, an entity should either maintain the Automatic Reclosing pursuant to PRC-005-3 or perform studies to exclude the Automatic Reclosing maintenance (reference the footnote in the Applicability Section).
- 3) There are numerous scenarios possible and the drafting team contends that if the resolution of a particular scenario isn't clear from the Applicability Section, an entity should either maintain the Automatic Reclosing pursuant to PRC-005-3 or perform studies to exclude the Automatic Reclosing maintenance (reference the footnote in the Applicability Section).
- 4) Damage to a generator is not the basis for determining the applicability of the Automatic Reclosing components; the loss of generation capacity that exceeds the largest unit within the Balancing Authority Area is the basis. Since there are numerous scenarios possible, the drafting team contends that if the resolution of a particular scenario isn't clear from the Applicability Section, an entity should either maintain the Automatic Reclosing pursuant to PRC-005-3 or perform studies to exclude the Automatic Reclosing maintenance (reference the footnote in the Applicability Section).
- 5) An entity is expected to coordinate with its Balancing Authority and agree on the unit of measure (MVA or MW) of the generation facilities consistency is required. Entities are required to remain compliant and to obtain the data necessary to meet requirements.

| Southern Company | No | 1) We believe that there should be a Requirement for the BA to initially inform the   |
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|                  |    | TOs and GOs in their area which units are in scope. Minimally, there must be a        |
|                  |    | requirement that the BA identify the 'largest BES generating unit' and inform all the |



| Organization   | Yes or No   | Question 1 Comment   |
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|  |   | TOs and GOs in their area.   |
|  |   | 2)Secondly, related to 1) above, there must be a requirement that the BA inform all the TOs and GOs in their area when a change occurs related to the 'largest BES generating unit'.   |
| Response: Thank you for your co                                      | mments.   |  |
| The drafting team understands the                                    | ne request but<br>Balancing Aut   | Applicability section of the standard is outside the scope of the SAR for this project. It contends that such a requirement would be more appropriately included in a thorities; consequently, the drafting team has added this issue to the NERC Issues to Reliability Standard is revised.                               |
| Colorado Springs Utilities   | orado Springs Utilities  No  1.Concerning facilities, would a reliability based method of determining covered facilities more likely better serve the reliability of the BES versus the generation base cap method under 4.2.6? |  |
|  |   | 2. With no standard requiring re-closing relaying be in place, there will be a tendency to disable all re-closing relays to avoid facilities coming under this standard.   |
| Response: Thank you for your co                                      | mments.   |  |
| Modeling Subcommittee and<br>"Considerations for Maintena<br>review. | the System Pr<br>ince and Testi   | endations provided by the technical experts on the NERC System Analysis and rotection and Control Subcommittee. They issued a joint technical document entitled ng of Autoreclosing Schemes" and it is posted on the PRC-005-3 project page for your directive to include Automatic Reclosing in the maintenance standard. |
|  |   |  |
| ITC  | No  | 1. 4.2.6 references a footnote 1 that is an exclusion. How can an exclusion be put into a footnote? It should be up in the standard, not in a footnote.  |
|  |   | 2. Regarding 4.2.6.1 for generating plant substations that have generator outputs at separate kV levels where the switchyards are not normally tied together are they treated as separate generating plants? Same question for locations that have   |



| Organization | Yes or No | Question 1 Comment  |
|--------------|-----------|---|
|              |           | generator outputs where the switchyards are not directly tied together.  3. For a location that has a couple Balancing Authority Areas over it is the largest BES generating unit determined by the largest Balancing Authority Area? |

- 1) The footnote is part of the Applicability section of the standard.
- 2) There are numerous scenarios possible and the drafting team contends that if the resolution of a particular scenario isn't clear from the Applicability Section, an entity should either maintain the Automatic Reclosing pursuant to PRC-005-3 or perform studies to exclude the Automatic Reclosing maintenance (reference the footnote in the Applicability Section).
- 3) Coordinated operations between Transmission Owners and Generator Owners and their associated Balancing Authorities are required under other NERC Reliability Standards TOP-002-2.1b. Entities are required to remain compliant and to obtain the data necessary to meet requirements.

| Liberty Electric Power | No | <ol> <li>4.2.6.1 uses the phrase "greater than the gross capacity of the largest BES generating unit within the Balancing Authority Area" as one determinant for inclusion of relays into the standard. However, generators do not have a wide area view of the system, and cannot determine the gross capacity of the largest BES generating unit. Does this value include all generation which could trip simultaneously at a single generating location? All generation which is connected through a single step-up transformer? Further, changes outside of the control of a generator could move relays in or out of the program. If retirement of an asset lowers the gross capacity value of the largest BES generating unit, would relays immediately be pulled into the program?</li> <li>Finally, there is no requirement for the BA to provide the gross capacity value to generation owners. The BA should be added to the list of covered entities, with a requirement to provide to all entities in their balancing area notice of the gross capacity of the largest generating unit once per calendar year, and within 30 days of a change in this value.</li> <li>Another section should be added to the standard to list the implementation requirements for existing assets when a covered relay enters the program.</li> </ol> |
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| Organization   | Yes or No  | Question 1 Comment   |
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| Response: Thank you for your cor   | nments.  |  |
| from the Applicability Section studies to exclude the Automa 2. The addition of a functional edurating team understands the Reliability Standard applicable Database for consideration with 3. The drafting team incorporate | , an entity sho<br>atic Reclosing<br>ntity to the Ap<br>e request but<br>e to Balancing<br>hen the pertir<br>ed the revised<br>ancing Author | the drafting team contends that if the resolution of a particular scenario isn't clear buld either maintain the Automatic Reclosing pursuant to PRC-005-3 or perform maintenance (reference the footnote in the Applicability Section). Oplicability section of the standard is outside the scope of the SAR for this project. The contends that such a requirement would be more appropriately included in a Authorities; consequently, the drafting team has added this issue to the NERC Issues nent Reliability Standard is revised.  "Implementation Plan for Newly identified Automatic Reclosing Components due to rity Area" into the body of the full Implementation Plan such that only a single   |
| Manitoba Hydro   | No   | Although Manitoba Hydro will continue to maintain our "negative" vote for this standard based on concerns from the PRC-005-2 version, we do offer the following comments to the drafting team in regards to PRC-005-3:   |
|  |  | (1) Table 1-4(a), (c), (f) - Manitoba Hydro suggests that the maintenance activity for electrolyte level inspections would be more appropriately specified on intervals of six calendar months, rather than on a four month basis. It is our experience that maximum maintenance intervals of 6 months are adequate at addressing reliability. Requiring four month intervals would be needlessly burdensome to industry without achieving additional reliability benefit. Moreover, the maintenance activities which require inspections to be completed every 18 months will oblige entities to make an additional site visit every second year. In effect, entities are being asked to check equipment (e.g. electrolyte levels) on month 16, return on month 18 to check equipment components such as ohmic values, charge float voltage, etc, and then required to return again on month 20 to check electrolyte levels, which is excessive. Instead, Manitoba Hydro suggests a more manageable maximum maintenance interval of 4 calendar months for these types of maintenance activities (station dc supply voltage, electrolyte level and for unintentional grounds). |



| Organization                    | Yes or No   | Question 1 Comment  |  |
|---------------------------------|---|---|--|
| Response: Thank you for your co | Response: Thank you for your comment.   |   |  |
| changes needed to address Auto  | Your comment refers to previously-approved content. The SAR for this project explicitly limits the scope of this project to those changes needed to address Automatic Reclosing and prohibits other changes as you suggest. The requirements are unchanged from PRC-005-2. Specific maintenance practices and criteria are discussed in the Supplementary Reference and FAQ document. |   |  |
| Public Service Enterprise Group | No  | Automatic reclosing systems, except for those which are an integral part of an SPS, are not part of Protection Systems that are designed and installed to detect and protect the BES from damage from faults and to keep blackouts localized, i.e., prevent cascades. Autoreclosing relays and systems are installed simply to automate an action by a system operator to close a breaker which automatically tripped, and with one specific possible exception, contribute very little to BES reliability. Besides the SPS, the one possible exception may be in those areas where by virtue of the transmission system configuration rapid reclosing of a tripped breaker is needed to minimize stability issues. PSEG agrees that reclosing relays may be significant to that specific circumstance, i.e., where rapid action is needed to avoid system instability. To identify those specific locations and circumstances and limit the inclusion of such relays to those where it is necessary, PSEG suggests that the drafting team incorporate language similar to that in the Transmission Relay Loadability Standard PRC-023-2 R6 which could be modified for PRC-005-3 to read as follows: "Each Planning Coordinator shall conduct an annual assessment to determine the specific locations/circuits in its Planning Coordinator area for which Transmission Owners, Generator Owners, and Distribution Providers with automatic reclosing relays must comply with the maintenance and testing requirements for such relays under this standard." The Planning Coordinator has the expertise and skills to make this determination; many if not most BES asset owners do not.Power systems are designed to deal with permanent faults, not temporary faults. The extra cost of inclusion of many automatic reclosing relays in the maintenance and testing program would yield little or no benefit to reliability of the BES. Only those defined as essential by the Planning Coordinator should be included in this Standard. |  |



| Organization               | Yes or No                                    | Question 1 Comment   |
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| Response: Thank you for yo | our comments.                                |  |
| addressed. PRC-005-3 addr  | esses this directive                         | reclosing relays that affect the reliable operation of the Bulk Power System be and when approved, will supersede PRC-005-2. Furthermore, PRC-005-3 follows the technical document "Considerations for Maintenance and Testing of Autoreclosing  |
| Consumers Energy           | No   | Consumer's Energy Ballot member is voting NEGATIVE on Project 2007-17.2 Protection System Maintenance and Testing - Phase 2 (Reclosing Relays) PRC-005-3 since the standard does not address how each entity is expected to obtain the required information "the gross capacity of the largest BES generating unit with the Balancing Authority Area" (in section 4.2.6.1) and know when it changes. |
| Response: Thank you for yo | our comments.                                |  |
| drafting team understands  | the request but con<br>ancing Authorities; o | icability section of the standard is outside the scope of the SAR for this project. The ntends that such a requirement would be more appropriately included in a Reliability consequently, the drafting team has added this issue to the NERC Issues Database for tandard is revised.  |
| Consumers Energy Co.       | No   | Consumer's Energy Ballot member is voting NEGATIVE on Project 2007-17.2 Protection System Maintenance and Testing - Phase 2 (Reclosing Relays) PRC-005-3 since the standard does not address how each entity is expected to obtain the required information "the gross capacity of the largest BES generating unit with the Balancing Authority Area" (in section 4.2.6.1) and know when it changes. |
| Response: Thank you for yo | our comments.                                | •  |
| drafting team understands  | the request but con<br>ancing Authorities; o | icability section of the standard is outside the scope of the SAR for this project. The ntends that such a requirement would be more appropriately included in a Reliability consequently, the drafting team has added this issue to the NERC Issues Database for tandard is revised.  |



| Organization                         | Yes or No | Question 1 Comment   |
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| Western Area Power<br>Administration | No        | <ol> <li>Further clarification and definition is required regarding the application of the standard to "premature" closing. Specifically, what is the definition of "premature" and why does the standard not refer to inadvertent or incorrect auto reclosing.</li> <li>Facilities Section 4.2.6.2 applies to automatic reclosing applied on the terminals of all BES Elements at substations one bus away from generating plants specified in Section 4.2.6.1 when the substation is less than 10 circuit miles from the generating plant substation. This Section should be clarified and should not include BES elements at those substations connected at a different voltage than the incoming generation circuit. The impedance of any transformation should represent sufficient isolation.</li> <li>It should be clarified that dc control circuitry and power circuit breaker close coils are only included with automatic reclosing that is an integral part of a SPS.</li> </ol> |

- 1. "Premature" means "occurring or existing before the normal or expected time". The concern from the SAMS report is in regard to premature reclosing, not lack of reclosing or reclosing with longer than designed setting timeframe.
- 2. The drafting team followed the recommendations included in the "Considerations for Maintenance and Testing of Autoreclosing Schemes" and has provided additional language in the Supplementary Reference and FAQ document in Section 2.4.1. There are numerous scenarios possible and the drafting team contends that if the resolution of a particular scenario isn't clear from the Applicability Section, an entity should either maintain the Automatic Reclosing pursuant to PRC-005-3 or perform studies to exclude the Automatic Reclosing maintenance (reference the footnote in the Applicability Section).
- 3. The drafting team contends that Tables 4-2(a) and 4-2(b) are clear: The control circuitry up to and including the close coil is included for circuit breakers involved in SPS schemes (Table 4-2(b)). If not part of an SPS, it is only necessary to verify that the control circuitry does not cause a premature close (Table 4-2(a)).

| SPP Standards Review Group | No | 1. In the definition of Automatic Reclosing a goodly amount of detail has been       |
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|                            |    | deleted from the definition. Does the excluded portion of the definition,            |
|                            |    | specifically breaker internal controls such as anti-pump and various interlock       |
|                            |    | circuits still fall under the standard? The reference document implies that they do, |



| Organization  | Yes or No | Question 1 Comment   |
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|   |           | <ol> <li>but the revised wording is not clear to us.</li> <li>In 4.2.6.1 reference is made to the total installed gross generating capacity of a generating plant which is then compared to the gross generating capacity of the largest BES unit in the Balancing Authority Area. Shouldn't the reference to the largest unit also state the installed gross capacity of the unit to prevent any confusion? Also, in selecting to use gross generation numbers, we wonder if consideration was given to generation values used in other standards such as BAL-002 and BAL-003 which tend to lean toward net generation values rather than gross.</li> <li>In the Supplementary Reference and FAQ document we suggest replacing the term 'supervisor' on Page 92 in Section 15.8.1 FAQ in the 7th line of the 1st paragraph in the response to the 2nd question with 'supervision'. The sentence would then read 'applicability of associated supervision/conditional logic and the'.</li> </ol> |
| Response: Thank you for your comments.  |           |  |
| <ol> <li>The standard requires verification that Automatic Reclosing (defined as including two Components a) Reclosing relay and b)         Control circuitry associated with the reclosing relay) upon initiation, does not issue a premature closing command. All of the         components mentioned would be indirectly verified by performing the Automatic Reclosing control circuitry verification as         established in Table 4.</li> <li>The Applicability section 4.2.6.1 is consistent with the recommendations from the SAMS/SPCS report. See Section 2.4.1 in the</li> </ol> |           |  |
| Supplementary Reference and FAQ document for more discussion. An entity is expected to coordinate with its Balancing Authority and agree on the unit of measure (MVA or MW) of the generation facilities – consistency is required.  3. The drafting team made the suggested change.  |           |  |
| MRO NERC Standards Review<br>Forum (NSRF)   | No        | 1. Plase clarify what is meant by "BES elements at substations one bus away from generating plants". How is the one bus criterion applied at a generating station with power transformation and multiple voltages? The use of the words substation and "one bus away" leaves the definition open to interpretation when a plant is connected at one voltage class and there are reclosing relays at another voltage class. The higher or lower voltage class bus could be read as "one bus away" and   |



| Organization | Yes or No | Question 1 Comment   |
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|              |           | yet at the same substation. It may be necessary to speak in terms of either substations or electrical busses. It may also be necessary to define how a different voltage class bus should be treated. Could a large power transformer between voltage classes be equivalent to 10 circuit miles of impedance? Was the reclosing only meant to apply at the same voltage class? |

The drafting team followed the recommendation of the "Considerations for Maintenance and Testing of Autoreclosing Schemes" and has provided additional language in the Supplementary Reference and FAQ document in Section 2.4.1. There are numerous scenarios possible and the drafting team contends that if the resolution of a particular scenario isn't clear from the Applicability Section, an entity should either maintain the Automatic Reclosing pursuant to PRC-005-3 or perform studies to exclude the Automatic Reclosing maintenance (reference the footnote in the Applicability Section).

| American Electric Power | No | Regarding 4.2.6.2 in the Facilities section, the verbiage used suggests that substations that are one bus away, but connected by a transformer instead of a line, would be in scope. This would seem technically inappropriate, as a transformer would typically have a higher impedance than 10 miles of line and therefore premature reclosing at these substations should not affect generators one bus away in these cases. If such substations were to be included, it would unnecessarily bring into scope many more reclosing relays than intended by FERC Order No. 758.AEP envisions voting affirmative on this proposed standard if our concerns regarding scope are eventually addressed. |
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Response: Thank you for your comments.

The drafting team followed the recommendation of the "Considerations for Maintenance and Testing of Autoreclosing Schemes" and has provided additional language in the Supplementary Reference and FAQ document in Section 2.4.1. There are numerous scenarios possible and the drafting team contends that if the resolution of a particular scenario isn't clear from the Applicability Section, an entity should either maintain the Automatic Reclosing pursuant to PRC-005-3 or perform studies to exclude the Automatic Reclosing maintenance (reference the footnote in the Applicability Section).

| Independent Electricity System | No | The IESO contends that the analysis required by the Footnote 1 is out of the scope of |
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| Organization   | Yes or No                       | Question 1 Comment  |
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| Operator   |                                 | PRC-005-3, which is to document programs for the maintenance of all Protection Systems and Automatic Reclosing affecting the BES so that they are kept in working order. In addition, the analysis required by the Footnote 1 is vague and difficult to assess compliance. In the IESO's view, contingencies and related tests performed in transient simulations should be defined in the planning standards (eg. the TPL standards), instead of PRC-005-3 which is drafted for maintenance purposes. We suggest removing the Footnote 1 from the draft standard, or in case it is retained it should be revised to address the aforementioned concerns. |
| Response: Thank you for your co                                    | mments.                         |   |
| exclude. The data required to de Generator Owner, and Distribution | termine exclu<br>on Provider wi | is to allow the responsible entity to determine which reclosing systems they may sion is to be obtained by the owner. It is the responsibility of the Transmission Owner, ith Automatic Reclosing to apply the standard and to perform the necessary atomatic Reclosing from their PSMP if they desire to do so.  |
| Dominion   | No                              | The drafting team did not address concerns relative to how an entity could determine the gross capacity of the largest BES generating unit within the Balancing Authority Area. Dominion suggests the drafting team include a requirement that the BA post or make such information available to all entities in its area. The drafting team did not address concerns that only planning entities are typically afforded access to the models or information, or have the technical skills necessary to be able to make the determination necessary to allow the exclusion included in footnote 1.  |
| Response: Thank you for your co                                    | mments.                         |   |
| drafting team understands the re                                   | quest but cor<br>Authorities; c | cability section of the standard is outside the scope of the SAR for this project. The stends that such a requirement would be more appropriately included in a Reliability onsequently, the drafting team has added this issue to the NERC Issues Database for andard is revised.  |
| American Transmission  | No                              | The selection criteria proposed to identify the reclosing relays that affect the  |



| Organization | Yes or No | Question 1 Comment  |
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| Company, LLC |           | reliability of the Bulk Electric System remains unclear. Please clarify what is meant by "BES elements at substations one bus away from generating plants". How is the one bus criterion applied at a generating station with power transformation and multiple voltages? |

The drafting team followed the recommendation of the "Considerations for Maintenance and Testing of Autoreclosing Schemes" and has provided additional language in the Supplementary Reference and FAQ document in Section 2.4.1. There are numerous scenarios possible and the drafting team contends that if the resolution of a particular scenario isn't clear from the Applicability Section, an entity should either maintain the Automatic Reclosing pursuant to PRC-005-3 or perform studies to exclude the Automatic Reclosing maintenance (reference the footnote in the Applicability Section).

| North American Generator<br>Forum Standards Review Team | No | This standard presents compliance documentation uncertainties for applicable reclosing relays defined in Applicability Section 4.2.6.1 "Automatic Reclosing applied on the terminals of Elements connected to the BES bus located at generating plant substations where the total installed gross generating plant capacity is greater than the gross capacity of the largest BES generating unit within the Balancing Authority Area". This standard now assumes that GO/TOs are going to coordinate and document that they have contacted the BA to determine the largest unit in the area and then determine if the reclosing relays are/are not applicable but does not mention it in the measures. How much coordination and documentation is required by a GO and its associated SWYDs TO to prove that the generation facility does or does not exceed the largest BES unit? Does this become part of a PRC-001 requirement to coordinate protection systems? |
|---|----|--|
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Response: Thank you for your comments.

The addition of a functional entity to the Applicability section of the standard is outside the scope of the SAR for this project. The drafting team understands the request but contends that such a requirement would be more appropriately included in a Reliability Standard applicable to Balancing Authorities; consequently, the drafting team has added this issue to the NERC Issues Database for consideration when the pertinent Reliability Standard is revised.

# NERC

| Organization  | Yes or No | Question 1 Comment   |
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| Tri-State Generation and Transmission Association, Inc. | No        | <ol> <li>Tri-State Generation and Transmission Association, Inc. finds that Table 4-1 is too inclusive and should include a restriction for only automatic reclose relays/functions that are required for system stability, with a list of which those should be as per SAMS, such as SPS and near generation. Table 4-1, as written, captures more equipment than is necessary, creating an undue administrative burden with little, to no, benefit to the reliability of the BES. Adding a compliance liability for reclosing relays that do not impact system stability could lead to industry removing many of the reclosing relays used for expeditious restoration. This does not improve system reliability. Also, since the majority of reclosing functions utilizing microprocessor relays reside within the microprocessor protective relay, the documentation for this testing will be included within documentation already required and provided under Table 1-1. To provide a separate list and documentation for all BES microprocessor reclosing functions will create an undue administrative burden on industry with little to no value to the BES. Further, we recommend the applicability of reclosers is changed to "reclosers identified by the entity's selection criteria to be critical to the operation of the BES per its Maintenance and Testing Program" to better align with FERC order 758 where FERC recommends "selection criteria should be used to identify reclosing relays that affect the reliability of the Bulk-Power System".</li> <li>Tri-State suggests that Table 4-2(a), Control Circuitry Associated with Reclosing Relays that are NOT an Integral Part of an SPS, be removed in its entirety or a maintenance activity specific to the circuitry be defined. The maintenance activity required in Table 4-2(a) is not a maintenance activity that verifies the control CIRCUITRY. A close "command" is external to the hardware circuitry. Whether or not that command occurs, does not confirm the functionality of the close circuitry hardware. The timing test for</li></ol> |



| Organization | Yes or No | Question 1 Comment   |
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|              |           | compliant". Any test for a microprocessor instantaneous reclose would fail this requirement, as the close command is already present at the beginning of the sequence, hence being "premature". A PASS test result showing the reclose command was initiated within the tolerance of the relay but prior to the setting could be viewed as "premature" and be interpreted as "non-compliant". A FAIL test result showing the relay closed well out of the manufacturer tolerance but after the setting would be viewed as "compliant". If the text and Table remain, the statement: "Verify that Automatic Reclosing, upon initiation, does not issue a premature closing command to the close circuitry" should be changed to, "Verify that the close circuitry operates per engineering settings, and not sooner than (tolerance) of the setting." |

- 1. The drafting team followed the recommendations included in the SAMS/SPCS technical document "Considerations for Maintenance and Testing of Autoreclosing Schemes" for determining the applicable reclosing relays.
- 2. The drafting team contends that Tables 4-2(a) and 4-2(b) are clear: The control circuitry up to and including the close coil is included for circuit breakers involved in SPS schemes (Table 4-2(b)). If not part of an SPS, it is only necessary to verify that the control circuitry does not cause a premature close (Table 4-2(a)).

| Cleco | We do not believe reclosing relays are protective devices and therefore are not subject to this level of oversight. Second, the strongest justification was that if the relay failed to operate correctly and reclosed instantaneously, the generator would be subject to additional fault duty. We have not seen such a failure and do not see the justification for including reclosing relays or restoration devices in a Protection System Maintenance & Testing Standard. Major storm events near the station or breakers failing to latch are far more likely to cause sequential faults. |
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Response: Thank you for your comments.

FERC Order 758 directed that maintenance of reclosing relays that affect the reliable operation of the Bulk Power System be addressed. PRC-005-3 addresses this directive, and follows the recommendations included in the SAMS/SPCS technical document



| Organization   | Yes or No | Question 1 Comment   |  |
|--|-----------|--|--|
| "Considerations for Maintenance and Testing of Autoreclosing Schemes." |           |  |  |
| Texas Reliability Entity, Inc.   | No        | We feel that the proposed maintenance activities in tables 4-1 and 4-2 do not necessarily address all of the typical failure modes of reclosing relays and control circuitry associated with them and offer the following comments:  |  |
|  |           | 1) Definition of Automatic Reclosing: Is it the drafting team's intention that "Control circuitry associated with the reclosing relay" includes a separate sync check relay that may be used in the reclosing scheme? The definition is not clear and the drafting team may want to clarify.   |  |
|  |           | 2) Table 1-3: The drafting team may want to consider adding an activity to verify voltage signals are provided for reclosing relay sync check functions.   |  |
|  |           | 3) Table 4-2(a) and 4-2(b): The drafting team may want to consider including activities to verify that auxiliary relays in the reclosing scheme (i.e. bus differential or breaker failure lockout relays) properly inhibit reclosing. The drafting team may also want to consider including activities to verify sync check functions depending on the system design (i.e. hot bus-hot line, hot bus-dead line, etc.). These two activities are necessary to verify that the reclosing scheme will not issue a reclose signal when it is not desired. Table 4-2(b): Suggest rewording the 2nd block to say "Verify all paths of the control circuits ***including all auxiliary relays*** associated with Automatic Reclosing" |  |

- 1. The drafting team contends that Tables 4-2(a) and 4-2(b) are clear: The control circuitry up to and including the close coil is included for circuit breakers involved in SPS schemes (Table 4-2(b)). If not part of an SPS, it is only necessary to verify that the control circuitry does not cause a premature close (Table 4-2(a)).
- 2. Sync check relays are not in scope of PRC-005-03. See the SAMS/SPCS report.
- 3. The drafting team is following the recommendations provided by the technical experts on the NERC System Analysis and Modeling Subcommittee and the System Protection and Control Subcommittee. They issued a joint technical document entitled "Considerations for Maintenance and Testing of Autoreclosing Schemes" and it is posted on the PRC-005-3 project page for your



| Organization                                 | Yes or No | Question 1 Comment  |
|--|-----------|---|
| review.                                      |           |   |
| SERC Protection and Controls<br>Subcommittee | Yes       | 1) Please provide FAQ examples to clarify the meaning of 'total installed gross generating plant capacity is greater than the gross capacity of the largest BES generating unit'. Our take is the gross MVA for FAC-008 would be appropriate. But there are several MOD standards, including some pending FERC approval, that will prove MW and MVAR 'capability' not 'capacity'. |
|  |           | 2) We request that the drafting team modify the FAQ 2.4.1 to include "typically IEEE Device No. 79" in referring to the Automatic Reclosing relay because this helps clarify the scope. Begin the answer with "Yes. Automatic Reclosing includes reclosing relays (typically IEEE Device No. 79) and the associated dc control circuitry."  |

- 1. In response to your request, the drafting team provided additional discussion in Section 2.4.1 of the Supplementary Reference and FAQ document.
- 2. Automatic Reclosing may be either a function imbedded in other devices or a stand-alone device. The drafting team does not believe that the IEEE function number should be referenced.

| Tacoma Power | Yes | Additional Comments-   |
|--------------|-----|--|
|              |     | 1. In the definition of a PSMP, captialize 'components'.   |
|              |     | 2. In the definition of a PSMP (including Supplementary Reference and FAQ document), capitalize 'automatic reclosing'.   |
|              |     | 3. In the Implementation Plan, change "The existing standard PRC-005-2 shall be retired at midnight of the day immediately prior to the first day of first calendar quarter" to "The existing standard PRC-005-2 shall be retired at midnight of the day immediately prior to the first day of the first calendar quarter" |

Response: Thank you for your comments.

1. The drafting team cannot capitalize "components" in the definition of Protection System Maintenance Program (PSMP) because



| Organization  | Yes or No                          | Question 1 Comment   |
|---|------------------------------------|--|
| PSMP is a NERC Glossary T  2. The drafting team cannot of because PSMP is a NERC G  3. The drafting team made the | capitalize "auton<br>lossary Term. | natic reclosing" in the definition of Protection System Maintenance Program (PSMP)   |
| Duke Energy   | Yes                                | <ol> <li>Duke Energy requests additional information regarding the Footnote 1 exclusion provision. As written, it is unclear as to what exactly is needed to provide demonstration for this provision, as well as the frequency of the demonstration necessary to remain compliant. For example, if an entity performs an analysis to prove that the exclusion was applicable to a specific Automatic Reclosing Relay, would the entity need to run another analysis ever again, or would an analysis only need to be done if there was a change to the Balancing Authority Area's system or the BES?</li> <li>Also Duke Energy suggests that because Footnote 1 effectively acts as an exclusion, that the drafting team consider placing the Footnote in the standard itself.</li> </ol> |
| Response: Thank you for your  | comments.                          |  |
|   | nent. As you sugg                  | e study of some sort would be necessary to demonstrate the exclusion of the gest, re-evaluation would be required if system changes dictate.   |
| Occidental Chemical Corp.<br>(Ingleside Cogeneration LP)  | Yes                                | <ol> <li>Ingleside Cogeneration agrees with the distinctions that the project team has made to determine which automatic reclosing components may pose a risk to the BES, and therefore should be subject to PRC-005-3. Clearly those that are incorporated in an SPS have a direct reliability impact. However, it is reasonable to limit applicable to reclosing systems that reside at or near significant generation facilities.</li> <li>We also agree that an exclusion should be allowed wherever the relay owner can demonstrate that the generator protection scheme is configured to withstand a</li> </ol>  |



| Organization                    | Yes or No    | Question 1 Comment   |
|---------------------------------|--------------|--|
|                                 |              | Fault time frame of twice the normal clearing time without severing the Facility from the BES. This is a very conservative risk threshold and properly focuses compliance resources on the most prevalent threats to BES performance.  3. Lastly, the limits of the control circuitry functionality testing are also appropriate. The prior version of PRC-005-3 included testing through the breaker trip coils - which may also inadvertently lock out other ancillary functions. Since the only reliability concern is that the reclosing relay will misoperate in a manner that will result in a premature closing signal, it is appropriate that the functional test required by NERC focuses only on that point. |
| Response: Thank you for your co | mments and s | upport.  |
| ReliabilityFirst                | Yes          | ReliabilityFirst votes in the affirmative because the modifications to this standard further establishes minimum maintenance activities for Automatic Reclosing Component Types and the maximum allowable maintenance intervals. ReliabilityFirst offers the following comments for consideration:   |
|                                 |              | 1. Table 4-2(a) and 4-2(b) - ReliabilityFirst seeks the technical justification for the maximum maintenance interval of 12 years for unmonitored control circuitry associated with Automatic Reclosing.  |
|                                 |              | 2. Applicability section 4.2.6.1 - ReliabilityFirst recommends adding the term "nameplate rating" to clarify which generating plants are required have Automatic Reclosing applied. Without this clarifier included, the term "total installed gross generating plant capacity" is subject to interpretation. For example, a plant may have multiple different values for its gross generating plant capacity but a plant will always have one static nameplate rating. The term "nameplate rating" is also consistent with the new NERC BES definition language.  |

1. PRC-005-3 uses the same interval for 'Protection System' Components and the drafting team contends that it is likewise appropriate for 'automatic reclosing.'



| Organization | Yes or No | Question 1 Comment   |
|--------------|-----------|--|
| _            |           | cy Section 4.2.6.1 is consistent with the recommendations from the SAMS/SPCS report. erence and FAQ document for more discussion.  |
| Xcel Energy  | Yes       | We are supportive of the changes made. But we do have two additional comments:   |
|              |           | a. The inclusion of Table 4-2(b) in PRC-005-3 raises the concern of where this testing would have been required in PRC-005-2 and raises uncertainty about the drafting team's intentions for the testing requirements for all the various possibilities for actuation of SPS mitigating devices. We were under the impression that row 1 of Table 1-5 in PRC-005-2 required 6 year verification of trip coils or actuators of circuit breakers or other SPS mitigating devices. What if an SPS calls for the closure of a normally open breaker and that close signal is accomplished via some means other than a reclosing relay? Where would the testing of such a breaker closure be required by PRC-005-2 or PRC-005-3? The way PRC-005-3 Table 4-2(b) is phrased it would appear that trip coil operations for circuit breakers in protection systems or SPS's would be required per Table 1-5, row 1 and that close coils that are parts of reclosing schemes are required per tested by Table 4-2(b), row 1, but there does not appear to be testing requirements for any other SPS mitigating devices such turbine runbacks, closure of normally open breakers, disconnect operators, etc. Please clarify testing requirements for SPS mitigating devices outside of breaker trip coils (Table 1-5, row 1) and close coils as utilized in SPS reclosing schemes (Table 4-2(b)) - e.g. turbine throttle valve runback, LTC blocking or enabling, closure of normally open breakers, MOD operation, etc., etc. This appears to be a reliability gap in both PRC-005-2 and PRC-005-3. |
|              |           | b. The applicability of reclosing to the Generator Owner & Transmission Owner is dependent upon the GO & TO knowing the characteristics of the Balancing Authority. GOs & TOs do not have this knowledge. There should be an obligation of the BA to inform (and update as needed) the GO and TO of the gross MW value of the largest unit in the BA footprint (or determine the appropriate entity to update the GO & TO). This could be accomplished by adding BA's as an applicable entity to PRC-005-3 and adding a requirement for this notification of TO's and GO's by the BA to PRC-005-3.   |



| Organization | Yes or No | Question 1 Comment  |
|--------------|-----------|---|
|              |           | Alternatively, the applicable entities for PRC-005-3 could be left as is and the requirement for BA's to notify TO's and GO's could be accomplished by adding a new requirement to a more appropriate standard. |

- a. PRC-005-3 only deals with control circuits and relays associated with automatic reclosing. All other equipment is already covered in the third row of Table 1-5 Component Type Control Circuitry Associated With Protective Functions Excluding distributed UFLS and distributed UVLS (see Table 3).
- b. The addition of a functional entity to the Applicability section of the standard is outside the scope of the SAR for this project. The drafting team understands the request but contends that such a requirement would be more appropriately included in a Reliability Standard applicable to Balancing Authorities; consequently, the drafting team has added this issue to the NERC Issues Database for consideration when the pertinent Reliability Standard is revised.

| Northeast Power Coordinating<br>Council | Yes |  |
|---|-----|--|
| PacifiCorp                              | Yes |  |
| City of Tallahassee                     | Yes |  |
| Idaho Power Company                     | Yes |  |
| City of Tallahassee                     | Yes |  |
| Oncor Electric Delivery Company LLC     | Yes |  |



2. In response to comments, the drafting team developed an "Implementation Plan for Newly identified Automatic Reclosing Components due to generation changes in the Balancing Authority Area" Do you agree with this additional Implementation Plan? If not, please provide specific suggestions for improvement.

## **Summary Consideration:**

Numerous commenters disagreed with the implementation period specified in the "Implementation Plan for Newly identified Automatic Reclosing Components due to generation changes in the Balancing Authority Area" stating that it was too short to accommodate the potential number of newly identified Automatic Reclosing Components that could become applicable nor did it provide enough time for potential outage coordination(s) necessary to perform the required maintenance. Upon reconsideration, the drafting team agreed that the proposed implementation schedule for newly identified Automatic Reclosing Components was inappropriate and could potentially jeopardize reliability by forcing entities to take unscheduled outages to become compliant. The drafting team deemed three years to be sufficient to avoid the reliability concerns and permit entities to implement maintenance in a manner that would be sustainable in the long-term.

In response to comments, the drafting team incorporated the "Implementation Plan for Newly identified Automatic Reclosing Components due to generation changes in the Balancing Authority Area" into the full Implementation Plan to consolidate the implementation documents.

In response to a comment, the drafting team inserted the jurisdictional pro-forma language where it had been inadvertently left out of the Implementation Plan. Additionally, NERC will file the errata change with the applicable regulatory authorities as necessary for the PRC-005-2 Implementation Plan.

To avoid confusion, the drafting team modified paragraph 4 of the Background section to remove the references to the implementation timing. The timing is already comprehensively addressed in the implementation plan for each requirement.

| Organization  | Yes or No | Question 2 Comment   |
|---|-----------|--|
| Tri-State Generation and Transmission Association, Inc. | No        | "Prior to the end of the following calendar year" is a very ambiguous implementation plan and could require entities to be compliant anywhere between 12 and 24 months. TSGT recommends that the implementation period state 18 months from the first day of the quarter following component identification. |



| Organization                    | Yes or No      | Question 2 Comment   |
|---------------------------------|----------------|--|
| Response: Thank you for your co | mments.        |  |
|                                 | cing Authority | e "Implementation Plan for Newly identified Automatic Reclosing Components due to Area." The document was also incorporated into the full Implementation Plan to   |
| ACES Standards Collaborators    | No             | (1) We agree with the need for the additional implementation plan but find it confusing. First, we think that the compliance date should be identified as some interval after the commercial in-service date of the change in generation or the official retirement date. Otherwise, there could be confusion in which year the newly applicable Automatic Reclosing components must be compliant. Consider a new unit begins testing on December 1, 2013 and goes commercial January 31, 2014. One could interpret the language in the implementation plan to require the maintenance activities to be completed by December 31, 2014 or December 31, 2015. |
|                                 |                | (2) To avoid the confusion that occurred with PRC-005-1, the implementation plan should state very clearly that the initial maintenance activities must be performed by the compliance date and that no evidence of prior maintenance activities is required. In essence, the compliance date established in this implementation plan due to changes in generation and the overall implementation plan should be very clear that the compliance date established in these plans is the start of the initial interval. To allow the interval to start before the compliance date would be equivalent to making the standard retroactive.                      |

- 1. The drafting team added additional time to the "Implementation Plan for Newly identified Automatic Reclosing Components due to generation changes in the Balancing Authority Area." The document was also incorporated into the full Implementation Plan to consolidate the implementation documents.
- 2. The Implementation Plan already includes several attributes that address your concern. First, in the Background, the Implementation Plan states, "For entities not presently performing a maintenance activity or using longer intervals than the maximum allowable intervals established in the proposed standard, it is unrealistic for those entities to be immediately



| Organization   | Yes or No   | Question 2 Comment   |  |
|--|---|--|--|
| facilitate a continuing mainter<br>previously been performing m<br>demonstrate compliance with<br>states, "For activities being ac<br>show only a single performan<br>of PRC-005-3." Finally, in the | nance prograr<br>naintenance wan<br>all of the mai<br>Ided to an ent<br>ce of the activ<br>specific imple | Ils. Further, entities should be allowed to become compliant in such a way as to m." Also in the Background, the Implementation Plan states "Entities that have within the newly specified intervals may not have all the documentation needed to intenance activities specified." In the General Consideration, the Implementation Plan city's program as part of PRC-005-3 implementation, evidence may be available to with until two maintenance intervals have transpired following initial implementation mentation for Requirements R3 and R4 (reflecting the other quoted text), compliance as of the respective activities within the associated intervals. |  |
| SERC Protection and Controls<br>Subcommittee   | No  | 1) We prefer that maintenance for newly identified Automatic Reclosing Components be completed within 3 calendar years. This is more consistent with the phased in approach that applies to the overall implementation.  |  |
|  |   | 2) We prefer a single document with the implementation plan; please combine the 2 documents.   |  |
|  |   | The comments expressed herein represent a consensus of the views of the above-<br>named members of the SERC EC Protection and Control Subcommittee only and<br>should not be construed as the position of SERC Reliability Corporation, its board, or<br>its officers.   |  |
| Response: Thank you for your comments.   |   |  |  |
|  | hanges in the   | me to the "Implementation Plan for Newly identified Automatic Reclosing Balancing Authority Area." The document was also incorporated into the full nentation documents.   |  |
| PPL NERC Registered Affiliates   | No  | 1. Regarding the implementation plan for this project, the PPL NERC Registered Affiliates are concerned with the following: "For Automatic Reclosing Component maintenance activities with maximum allowable intervals of twelve (12) calendar years, as established in Table 4: The entity shall be at least 30% compliant on the first day of the first calendar quarter sixty (60) months following applicable regulatory approval of PRC-005-3." This would require two cycles of 12-year maintenance in five  |  |



| Organization | Yes or No | Question 2 Comment   |
|--------------|-----------|--|
|              |           | years for 30% of your affected equipment. We recommend that the implementation plan be changed to require that 100% of the affected relays have one maintenance performed by 144 months from the implementation date of the standard.  |
|              |           | 2. The implementation plan states:"For activities being added to an entity's program as part of PRC-005-3 implementation, evidence may be available to show only a single performance of the activity until two maintenance intervals have transpired following initial implementation of PRC-005-3."However, If there is no specific 'bookend' required, and the cycle is truly a 12-year cycle, no evidence of testing or maintenance could be required prior to 144 months from the enforcement date of the standard; but the proposed implementation plan requires the work at 36 months, 60 months, and 84 months, which is short of a 12-year cycle. |

Your comments appear to refer to the initial Implementation Plan, rather than the "Implementation Plan for Newly Identified Automatic Reclosing Components due to generation changes in the Balancing Authority Area".

- 1. The premise presented in your comment is incorrect. The Implementation Plan establishes expectations for performance of the initial maintenance under the standard. After the initial performance of the maintenance, the entity is expected to perform ongoing maintenance according to the intervals in Table 4.
- 2. The statement to which you refer is intended to clarify that auditors should not expect evidence of multiple performances of the maintenance until two full intervals have transpired. The majority of industry agrees with the phased-in approach for implementing the maintenance requirements.

| North American Generator<br>Forum Standards Review Team | No | 1. Regarding the implementation plan for this project, the SRT is concerned with the following: "For Automatic Reclosing Component maintenance activities with maximum allowable intervals of twelve (12) calendar years, as established in Table 4:The entity shall be at least 30% compliant on the first day of the first calendar quarter sixty (60) months following applicable regulatory approval of PRC-005-3." This would require two cycles of 12-year maintenance in five years for 30% of your affected equipment. We recommend that the implementation plan be changed to require that 100% of the affected relays have one maintenance performed by 144 |
|---|----|---|



| Organization | Yes or No | Question 2 Comment   |
|--------------|-----------|--|
|              |           | months from the implementation date of the standard.   |
|              |           | 2. The implementation plan states:"For activities being added to an entity's program as part of PRC-005-3 implementation, evidence may be available to show only a single performance of the activity until two maintenance intervals have transpired following initial implementation of PRC-005-3."However, If there is no specific 'bookend' required, and the cycle is truly a 12-year cycle, no evidence of testing or maintenance should be required prior to 144 months from the enforcement date of the standard; but the proposed implementation plan requires the work at 36 months, 60 months, and 84 months, which is obviously short of a 12-year cycle.  |
|              |           | A Compliance Enforcement Authority could apply this in the following manner:Entity Y has four reclosing relays, all tested and installed on August 1, 2004. The ne PRC-005 Standard becomes effective on July 1, 2014. On August 2, 2014 entity Y could be found in violation if one of the four relays has not gone through the new 12-year required cycle. If the language was changed to 100% compliance by 144 months, with all the earlier steps eliminated, it would work. Specific language needs to be in place noting that no evidence shall be required for any testing prior to the enforcement date, and the 12-year clock starts on that day. The following change would need to be made also: "For activities being added to an entity's program as part of PRC-005-3 implementation, evidence may be available to show only a single performance of the activity until 288 months following the enforcement date of PRC-005-3." |

Your comments appear to refer to the initial Implementation Plan, rather than the "Implementation Plan for Newly Identified Automatic Reclosing Components due to generation changes in the Balancing Authority Area".

- 1. The premise presented in your comment is incorrect. The Implementation Plan establishes expectations for performance of the initial maintenance under the standard. After the initial performance of the maintenance, the entity is expected to perform ongoing maintenance according to the intervals in Table 4.
- 2. The statement to which you refer is intended to clarify that auditors should not expect evidence of multiple performances of the maintenance until two full intervals have transpired. The majority of industry agrees with the phased-in approach for



| Organization                   | Yes or No      | Question 2 Comment   |
|--------------------------------|----------------|--|
| implementing the maintenar     | nce requiremen | nts.   |
| American Electric Power        | No             | AEP will reserve its comments on the proposed implementation plan until its concerns on scope are eventually addressed.  |
|                                |                | Due to the current volume of standards development activity, AEP is not able to apply the same level of rigor to this request for comment as we would normally. As a result, the comments provided in this response are those we deemed the most significant, and do not necessary reflect all the issues that AEP may, at some time, choose to address.           |
| Response: Thank you for your o | comment.       |  |
| Manitoba Hydro N               | No             | Although Manitoba Hydro will continue to maintain our "negative" vote for this standard based on concerns from the PRC-005-2 version, we do offer the following clarifying comments to the drafting team regarding PRC-005-3:  |
|                                |                | (1) General comment - the words "Automatic Reclosing Components" are both capitalized and de-capitalized throughout the document. For example, within the definition of a Protection System Maintenance Program (PSMP) the words are decapitalized, but are then capitalized in PRC-005-3 R3. For consistency, Manitoba Hydro suggests selecting one or the other. |
|                                |                | (2) Definitions of Terms Used in Standard, PSMP - capitalize the word "component" for consistency with the rest of the standard.   |
|                                |                | (3) Background 4, Retirement of Existing Standards, Implementation Plan for Requirements R1, R2 and R5, Implementation Plan for Requirements R3 and R4, Implementation Plan for Requirements R1, R2 and R5 and Implementation Plan for Requirements R3 and R4 - replace "Board of Trustees" with "Board of Trustees'" for consistency with other standards.        |



| Organization                    | Yes or No                              | Question 2 Comment   |
|---------------------------------|--|--|
| because PSMP is a NERC Glo      | ossary Term.<br>apitalize "comp<br>rm. | natic reclosing" in the definition of Protection System Maintenance Program (PSMP) onents" in the definition of Protection System Maintenance Program (PSMP) because ange.   |
| Consumers Energy                | No                                     | Consumer's Energy Ballot member is voting NEGATIVE on Project 2007-17.2 Protection System Maintenance and Testing - Phase 2 (Reclosing Relays) PRC-005-3 since the standard does not address how each entity is expected to obtain the required information "the gross capacity of the largest BES generating unit with the Balancing Authority Area" (in section 4.2.6.1) and know when it changes. |
| drafting team understands the   | request but cong<br>g Authorities;     | cability section of the standard is outside the scope of the SAR for this project. The ntends that such a requirement would be more appropriately included in a Reliability consequently, the drafting team has added this issue to the NERC Issues Database for tandard is revised.   |
| Dominion                        | No                                     | Given that most of the Maximum Maintenance Intervals appear to be in the 4-6 year range, we believe that implementation for newly identified Automatic Reclosing Components due to generation changes in the Balancing Authority Area should be extended to allow up to 36 months from BA notification of such change  |
| Response: Thank you for your o  | omments.                               |  |
|                                 | ncing Authority                        | e "Implementation Plan for Newly identified Automatic Reclosing Components due to Area." The document was also incorporated into the full Implementation Plan to   |
| Pepco Holdings Inc & Affiliates | No                                     | In order to verify the reclosing scheme performance on any newly identified busses, resulting from generation capacity increases, it may require scheduling sequential line  |



| Organization   | Yes or No                               | Question 2 Comment  |
|--|---|---|
|  |   | outages on all BES lines emanating from the bus in order to test breaker autoreclosing operations. Also, based on system operating conditions, these individual line outages may require coordination with certain generation outages. As such, due to the outage coordination necessary to perform this testing, it may not be possible to complete all testing and maintenance activities on these newly identified facilities by the end of the following calendar year. For this reason, we would suggest the following language (similar to that used in the first bullet of R3/R4 Section 5 of the April 2013 draft of the PRC-005-3 Implementation Plan) be used for the implementation plan for these newly identified Automatic Reclosing Components: "The responsible entities must complete the maintenance activities, described in Table 4, for any newly identified Automatic Reclosing Components, resulting from the addition, or retirement, of generating units; or increases of gross generation capacity of individual generating units or plants within the Balancing Authority area, by the first day of the first calendar quarter thirty-six (36) months following implementation of the capacity change, which resulted in the identification of these new Automatic Reclosing Components (or, for generating plants with scheduled outage intervals exceeding three years, at the conclusion of the first succeeding maintenance outage |
| _  | ditional time to the alancing Authority | e "Implementation Plan for Newly identified Automatic Reclosing Components due to Area." The document was also incorporated into the full Implementation Plan to  |
| Occidental Chemical Corp.<br>(Ingleside Cogeneration LP) | No                                      | Ingleside Cogeneration contends that the one year time-frame given to incorporate all the components of Automatic Reclosers newly identified as applicable to PRC-005-3 due to a generation change in the BA footprint is insufficient. It is appropriate to require the PSMP to be updated with the new components by that date, but not to conduct the first full set of maintenance activities. Our primary concern is that Ingleside, as a Generator Owner, will not receive timely notification that a substantive change has been made. And although we are willing to reach out to our Balancing   |



| Organization                    | Yes or No     | Question 2 Comment   |
|---------------------------------|---------------|--|
|                                 |               | Authority on a regular basis - or to establish a notification process - this is not a coordination activity that either of us have historically pursued. Furthermore, the recloser relays maintenance is handled during planned outages. At the very least, we would need an additional three years to schedule and execute the Table 4 maintenance activities in a quality manner. Since a single miss to PRC-005-3 would result in a big dollar penalty, we believe that there is some reasonable leeway that should be provided. Four years beyond the date of the generation change is not excessive - particularly since the failure of reclosing relays has not been found as the cause of a major BES event, or even a common issue in less extensive failures. |
| Response: Thank you for your co | mments.       |  |
|                                 | ing Authority | e "Implementation Plan for Newly identified Automatic Reclosing Components due to Area." The document was also incorporated into the full Implementation Plan to   |
| Southern Company                | No            | Southern Company contends that the two implementation plans associated with the Standard are in conflict. It can be interpreted that all automatic reclosing components will be 'newly identified'. As such they would be required to be completed by the end of the following calendar year.  |
|                                 |               | We believe that the intent was to have the initial applicable Automatic Reclosing Components to have the same phased in completion dates that were brought forward form PRC-005-2. If that was the intent, an potential conflict exists since after the initial phased in schedule up to 12 yrs is set, a change in the unit applicability could occur one year later which could in the case of 'largest unit' retirement bring many more locations into scope all of which would be newly indentified and be subject to the one calendar year requirement.   |
|                                 |               | Bottom Line is that the Implementation plan needs to be revisited.   |
|                                 |               | Related to the comment to #2 above, we do not specifically see a timeline identified to include the following:1) Identification to identify the units and components   |



| Organization                    | Yes or No     | Question 2 Comment   |
|---------------------------------|---------------|--|
|                                 |               | covered.2) Identification of the components that may be excluded per the Note.3) Modification to the PSMP4) Actual Implementation  |
|                                 |               | If the intent is for all this to be covered in R1 and R2, we question this for the following reasons: o Is this enough time for the initial steps noted above, and o This result in multiple dates for compliance with R1 and R2   |
| Response: Thank you for your co | mments.       |  |
| _                               | ing Authority | e "Implementation Plan for Newly identified Automatic Reclosing Components due to Area." The document was also incorporated into the full Implementation Plan to   |
| Idaho Power Company             | No            | The change in generation could bring in significant numbers of additional units to be added to the testing and maintenance procedures. We would prefer a percentage based approach similar to the implementation plan for the other table items in PRC-005-2.  |
| Response: Thank you for your co | mment.        |  |
|                                 | ing Authority | e "Implementation Plan for Newly identified Automatic Reclosing Components due to Area." The document was also incorporated into the full Implementation Plan to   |
| Xcel Energy                     | No            | The implementation plan for the initial implementation of the program allows for a gradual implementation of requirements R3 and R4 for reclosing relay maintenance activities for those relays determined to be in scope such that 30% must be compliant within 36 months of regulatory approval, 60% compliant within 60 months of regulatory approval, and 100% compliant within 84 months of regulatory approval. The additional implementation plan requires 100% compliance within the next following calendar year even in those circumstances where the retirement of the largest unit in the balancing authority would result in an entirely different set of reclosing relays to be in scope. For consistency, it would be far more reasonable for |



| Organization                           | Yes or No     | Question 2 Comment  |
|--|---------------|---|
|  |               | the additional implementation plan to be aligned with the requirements of the original implementation plan for R3 and R4. Specifically, entities should be compliant with R1, R2, and R5 for the newly in scope schemes at the start of the first calendar quarter 12 months following notification of a change in generation necessitating additional reclosing relays be added to the maintenance program or change in the largest unit in the BA area. For requirements R3 and R4, entities shall be 30% compliant within 36 months following notification of a change in generation necessitating additional reclosing relays be added to the maintenance program or change in the largest unit in the BA area, 60% compliant within 60 months following notification of a change in generation necessitating additional reclosing relays be added to the maintenance program or change in the largest unit in the BA area and 100% compliant within 84 months following notification of a change in generation necessitating additional reclosing relays be added to the maintenance program or change in the largest unit in the BA area. |
| Response: Thank you for your co        | mments.       |   |
|  | ing Authority | "Implementation Plan for Newly identified Automatic Reclosing Components due to Area." The document was also incorporated into the full Implementation Plan to  |
| MRO NERC Standards Review Forum (NSRF) | No            | The implementation plan should be based upon the existing maintenance schedules for the affected BES components.  |
| Response: Thank you for your comments. |               |   |
|  | ing Authority | "Implementation Plan for Newly identified Automatic Reclosing Components due to Area." The document was also incorporated into the full Implementation Plan to  |
| American Transmission Company, LLC     | No            | The implementation plan should be based upon the existing maintenance schedules for the affected BES components.  |



| Organization                               | Yes or No     | Question 2 Comment  |  |  |
|--|---------------|---|--|--|
| Response: Thank you for your comments.     |               |   |  |  |
|  | ing Authority | e "Implementation Plan for Newly identified Automatic Reclosing Components due to Area." The document was also incorporated into the full Implementation Plan to  |  |  |
| Liberty Electric Power                     | No            | The program as written requires 30% compliance at 60 months. This implies two instances of 12-year maintenance have to occur in 5 years, or 19 years earlier than should be required. The plan should be changed to all relays must have the first maintenance completed by 144 months from the effective date of the standard.   |  |  |
| Response: Thank you for your co            | mments.       |   |  |  |
| _  | ing Authority | e "Implementation Plan for Newly identified Automatic Reclosing Components due to Area." The document was also incorporated into the full Implementation Plan to  |  |  |
| Independent Electricity System<br>Operator | No            | We appreciate the drafting team's effort to insert appropriate wording to remove a potential conflict with Ontario regulatory practice with respect to the effective date of the standard. However, there are still a couple of places where this insertion is missing. Please insert: ", or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities." prior to the wording ",or in those jurisdiction" in Section 4 on P.2 and in the first paragraph under the Retirement of Existing Standards" on P.3. |  |  |
| Response: Thank you for your co            | mments.       |   |  |  |
| The drafting team modified the I           | mplementatio  | on Plan to incorporate the intent of your suggestion.   |  |  |
| Cleco                                      | No            | We do not believe reclosing relays are protective devices and therefore are not subject to this level of oversight. Second, the strongest justification was that if the relay failed to operate correctly and reclosed instantaneously, the generator would be  |  |  |



| Organization   | Yes or No  | Question 2 Comment   |
|--|--|--|
|  |  | subject to additional fault duty. We have not seen such a failure and do not see the justification for including reclosing relays or restoration devices in a Protection System Maintenance & Testing Standard. Major storm events near the station or breakers failing to latch are far more likely to cause sequential faults.   |
| Response: Thank you for your co                              | mments.  |  |
|  | this directive,                                      | reclosing relays that affect the reliable operation of the Bulk Power System be and follows the recommendations included in the SAMS/SPCS technical document of Autoreclosing Schemes."  |
| Duke Energy  | Yes  | <ol> <li>Duke Energy requests clarification from the drafting team as to whom they envision identifying the newly acquired Automatic Reclosing Components, how they must identify, and what documentation is needed to show correspondence with an entity's maintenance program.</li> <li>Also, Duke Energy suggests that the drafting team consider placing the Implementation Plan for Newly identified Automatic Reclosing Components in the standard itself, and not as its own document.</li> </ol> |
| Response: Thank you for your co                              | mments.  |  |
| accordance with the Applicate 2. The drafting team added add | oility). How the<br>itional time to<br>Balancing Aut | unicate with its BA(s) to identify applicable Automatic Reclosing components (in e correspondence is documented is left to the discretion of the entity. o the "Implementation Plan for Newly identified Automatic Reclosing Components due thority Area." The document was also incorporated into the full Implementation Plan ents.  |
| Northeast Power Coordinating<br>Council                      | Yes  | <ol> <li>Referencing Applicability Section 4.2.6, the Balancing Authority has to notify and provide documentation to the appropriate entities in 4.2.6.1 and 4.2.6.2 that automatic reclosing maintenance is required. TO substations within 10 circuit miles will need to be identified by the Balancing Authority as well.</li> <li>To clarify Footnote 1 on page 4, suggest the following rewording: Automatic</li> </ol>   |



| Organization | Yes or No | Question 2 Comment   |
|--------------|-----------|--|
|              |           | Reclosing as addressed in Sections 4.2.6.1 and 4.2.6.2 may be excluded if the equipment owner can demonstrate that a close in three-phase fault not cleared for the length of a breaker trip-close-trip operating time does not result in a total loss of gross generation in the Interconnection exceeding the gross capacity of the largest BES generating unit within the Balancing Authority Area where the Automatic Reclosing is applied.  3. In the Implementation Plan the drafting team did a good job inserting the appropriate wording to remove a potential conflict with regulatory practice with respect to the effective date of the standard. However, the wording needs to be inserted in Section 4 of the Background Section. Review the Implementation Plan and insert the following words where appropriate:", or as otherwise made effective pursuant to the laws applicable to such ERO governmental authorities." The Implementation Plan must be made available throughout the life of the Standard. |

- 1. The addition of a functional entity to the Applicability section of the standard is outside the scope of the SAR for this project. The drafting team understands the request but contends that such a requirement would be more appropriately included in a Reliability Standard applicable to Balancing Authorities; consequently, the drafting team has added this issue to the NERC Issues Database for consideration when the pertinent Reliability Standard is revised. The drafting team contends that the Transmission Owner, Generator Owner, and Distribution Provider are responsible to identify topology issues such as those to which you refer.
- 2. The drafting team contends the footnote is consistent with the recommendations from the SAMS/SPCS report.
- 3. The drafting team updated the Implementation Plan language.

| Oklahoma Gas & Electric    | Yes |  |
|----------------------------|-----|--|
| SPP Standards Review Group | Yes |  |
| Western Area Power         | Yes |  |



| Organization                           | Yes or No | Question 2 Comment |
|--|-----------|--------------------|
| Administration                         |           |                    |
| PacifiCorp                             | Yes       |                    |
| Tacoma Power                           | Yes       |                    |
| City of Tallahassee                    | Yes       |                    |
| City of Tallahassee                    | Yes       |                    |
| Texas Reliability Entity, Inc.         | Yes       |                    |
| Oncor Electric Delivery<br>Company LLC | Yes       |                    |
| ITC                                    | Yes       |                    |

**END OF REPORT**