Unofficial Comment Form
Project 2014-01 Standards Applicability for Dispersed Generation Resources

Please **DO NOT** use this form for submitting comments. Please use the [electronic form](#) to submit comments on the posted documents. The electronic comment form must be completed by **May 5, 2014.**

If you have questions please contact [Sean Cavote](#) or by telephone at 404-446-9697.

All documents for this project are available on the [project page](#).

**Background Information**
This posting solicits informal comments on the preliminary recommendations of the Project 2014-01 Standards Applicability for Dispersed Generation Resources (DGR) standards drafting team (SDT). The DGR SDT has posted a draft white paper to provide background and technical rationale for proposed revisions to the applicability of several Reliability Standards, along with a Standards Authorization Request (SAR) Draft 2 and the DGR SDT’s response to comments on the original SAR for this project.

As explained in the white paper, the goal of the DGR SDT is to ensure that Generator Owners (GOs) and Generator Operators (GOPs) of dispersed power producing resources are appropriately assigned responsibility for requirements that impact the reliability of the Bulk Power System (BPS), as the characteristics of operating dispersed power producing resources can be unique. In light of the revised BES definition approved by the Federal Energy Regulatory Authority (FERC) in 2014, the intent of this effort is generally to maintain the status quo for applicability of the standards as they have been applied over time with respect to dispersed power producing resources, where the status quo does not create a reliability gap, and to ensure continent-wide consistency in the application of reliability standards to dispersed power producing resources.

The DGR SDT performed a review of all standards that apply to GOs and GOPs (listed in Appendix A, as posted) and determined how each standard requirement should be appropriately applied to dispersed power producing resources, which are categorized as follows:

- The existing standard language is appropriate when applied to dispersed generating resources and does not need to be addressed;
- The existing standard language is appropriate when applied to dispersed generating resources but additional NERC guidance documentation is needed to clarify either how to implement the requirements for dispersed generating resources or how to demonstrate compliance for such resources; and
• The existing standard language needs to be modified in order to account for the unique characteristics of dispersed generation resources. This could be accomplished through the applicability section of the standard in most cases or, if required, through changes to the individual requirements. However, please note that any recommended changes to requirements are limited to changes in the applicability of the subject requirement and will not include technical changes to any requirement.

From this review the SDT determined that there are three high priority standards in which immediate attention is required to provide direction to industry stakeholders as soon as feasible regarding how to appropriately direct compliance related preparations:

• PRC-004-2.1a;
• PRC-005 (versions -2, -3, and the version currently in development in Project 2007-17.3) ; and
• VAR-002.

However, the SDT has recognized that other standards (listed in posted Appendix B) may require further review by the SDT to determine the necessity and the type of clarification or guidance to the applicability for dispersed power producing resources. This necessity is based on how each standard requirement, as written, would apply to dispersed generation resources and the individual generating units at these facilities, considering the recently approved BES definition. The proposed resolutions could target the applicability language in the applicability section or in individual requirements. There may be other methods to ensure consistent throughout the Regions, including modifying Reliability Standard Audit Worksheet (RSAW) language or having guidance issued by NERC. These tools, among others, will be considered by the SDT throughout the project.

This posting includes three documents:
• Draft White Paper;
• Appendix A – List of all standards reviewed by the DGR SDT
• Appendix B – List of standards recommended as requiring further consideration for dispersed power-producing resources

You do not have to answer all questions. Enter comments in simple text format. Bullets, numbers, and special formatting will not be retained.
Questions

1. The posted white paper and its Appendix B identify 24 standards that may require modifications or guidance to account for the unique characteristics of dispersed power producing resources, including three high priority standards. Do you agree that the DGR SDT has correctly identified the standards that require applicability changes or additional guidance for dispersed power producing resources? If not, please explain.

☐ Yes  ☒ No

Comments: PRC-004-2.1a should not be modified to exclude dispersed power producing resources. It is important to know about relay misoperations in order to maintain system reliability. This extends to individual units that make up an aggregated dispersed power producing resource, especially when one considers the potential that similar practices would be used in setting each of the protection systems applied to individual units. FERC has explicitly recognized this in its March 20, 2014 Order Approving Revised Definition, where it stated that: “[f]or example, a wind farm larger than 75 MVA can affect reliability if all of its wind turbines trip offline simultaneously after just a slight fluctuation in voltage or frequency. Therefore, because variable generation can impact the interconnected transmission network, we anticipate that wind plant owners whose facilities meet the inclusion I4 criteria who seek to exclude individual wind turbines from the bulk electric system through the exception process will be infrequent.” See North American Reliability Corporation, 146 FERC ¶ 61,199 (2014) at P 48.

2. The posted white paper and its Appendix B describe how the SDT recommends addressing dispersed power producing resources through changes to the applicability section, guidance documentation, or in the applicability of requirements. Do you agree that the DGR SDT has correctly identified the best approach for each standard? If not, please explain.

☐ Yes  ☒ No

Comments: The applicability of PRC-004 should not be modified as explained above in the response to Question No. 1.

3. The posted white paper and its Appendix B identify six standards where guidance may be sufficient to account for the unique characteristics of dispersed power producing resources. Such guidance may include recognition of aggregating common components as a single “Element” for Facility Ratings and
using aggregated capacity value, not individualized units, in the modeling needs. Do you agree that
the DGR SDT has correctly identified standards for which applicability changes are not needed, but
guidance to clarify application of the standard to dispersed power producing resources would be
helpful? If not, please explain.

☑ Yes
☐ No

Comments: With respect to MOD-032, it is important that generators provide accurate models of each
individual unit. Therefore, if all units are identical, then providing aggregate information may be
sufficient. However, if units are not identical, then generators should be required to provide
individual models.
4. Section 4.3.3 of the posted white paper describes the prioritization methodology the DGR SDT used to assign high, medium, or low priority to its review of each standard’s applicability in the context of dispersed power producing resources, and Appendix B contains the results of that prioritization. Has the DGR SDT appropriately prioritized the standards? If not, please explain.

☐ Yes
☒ No

Comments: PRC-004 and associated relay misoperations are important for reliability. Efforts to reduce its applicability should not be a priority.

The next series of questions seek feedback on the technical section of the white paper (section 5).

5. In section 5.10.4 the DGR SDT recommends changing the applicability of PRC-004-2.1a. Has the DGR SDT provided adequate justification or rationale to support revising the applicability of PRC-004-2.1a? If not, please either provide additional reliability-based justification or explain what is needed.

☐ Yes
☒ No

Comments: The justification provided by the SDT is contrary to FERC’s March 20, 2014 Order (please refer to the response to Question No. 1 above).

6. The DGR SDT believes it is not necessary under PRC-004 to analyze protection system misoperations affecting individual dispersed generating units, but is concerned with the potential for unreported misoperations involving a common mode trip of several generating units. The DGR SDT proposes requiring analysis for potential misoperation of individual generating units, if a trip of greater than 75 MVA aggregate occurs in response to a system disturbance. Do you agree with this approach? If not, please provide specific examples or rationale to support an alternate approach.

☐ Yes
☒ No

Comments: We do not agree with this approach because limiting the analysis requirement to a trip of greater than 75 MVA only accounts for very large occurrences that could be unusual. Smaller occurrences, however, may predict an unusual large occurrence that could impact reliability especially when one considers the potential that similar practices would be used in setting each of the protection systems applied to individual units.
7. In section 5.10.6 the DGR SDT recommends making several changes to tailor the applicability of PRC-005 for dispersed power-producing resources. Has the DGR SDT provided adequate justification or rationale to support revising the applicability of PRC-005? If not, please either provide additional reliability-based justification or explain what is needed.

☐ Yes
☒ No

Comments: In general, relay maintenance is a vital part of system reliability and reducing the applicability of the standard seems counter to good utility practice.

8. With respect to the PRC standards, do you believe a common mode failure which results in misoperation of a large number of the individual generating resources at a dispersed generation resource site may impact BES reliability? Please explain your answer.

☒ Yes
☐ No

Comments: Yes, as explicitly recognized by FERC, a wind farm larger than 75 MVA can affect reliability if all of its wind turbines trip offline simultaneously after just a slight fluctuation in voltage or frequency.

In addition, loss of a wind farm as a dispersed generation resource has been observed real time to impact Quebec’s Main Transmission System (the Quebec equivalent of the BES). In Quebec, all the generation or dispersed generation greater than 50MVA connected into 44kV and above are included in its Main Transmission System.

Because of the variability of system loads (peak, off-peak, shoulder periods), and the electrical locations of generating resources and their impacts on the BES, what is a large number of generating resources?

9. In section 5.13.2 of the white paper, has the DGR SDT provided adequate justification or rationale to support revising the applicability of VAR-002-2b? If not, please either provide additional reliability-based justification or explain what is needed.

☐ Yes
☒ No

Comments: In general, providing voltage regulation at the point of aggregation is acceptable.
However embedded dynamic devices may affect aggregate voltage performance. The “clarification” needs to address this.

10. With respect to VAR-002-2b, does the NERC DGR SDT need to provide guidance to ensure dispersed power producing resources individual generator transformers are subject to the R4 and R5, as they are not used to improve voltage performance at the point of interconnection?

☐ Yes ☒ No

Comments: There is no need to modify the applicability of R4 and R5 of VAR-002-2b. The information under R4 has to be provided only upon request of the Transmission Planner and Transmission Operator. If this information is not necessary, it should not be requested and, accordingly, there is no need to modify the standard. Similarly, R5 is only applicable if the Transmission Operator requests a change to the tap setting. The Transmission Operator should only do this when necessary; therefore, there is no need to modify the applicability of the standard. In addition, other reactive devices, such as embedded dynamic reactive devices, may affect aggregate voltage performance and should be addressed.
11. Do you have any additional comments to assist the DGR SDT in further developing its recommendations?

☐ Yes  ☒ No

Comments: