### Unofficial Comment Form

### NERC Functional Model – Demand Response Functions and Entities

Please **DO NOT** use this form to submit comments. Please use the [electronic form](https://www.nerc.net/nercsurvey/Survey.aspx?s=5b53a4f2e2cc4ba092c69ccb381772a1) to submit comments on the “Report on Assessing the Need for Introducing Demand Response Functions and Entities to the NERC Reliability Functional Model.” Comments must be submitted by **March 14, 2012**.

If you have questions please contact Kristin Iwanechko by email at Kristin.Iwanechko@nerc.net or by telephone at 404-446-9736.

**Background:**

In 2008, the Functional Model Working Group (FMWG) set up a small advisory team to assess the need to create a Demand Response (DR) function and a DR entity. That advisory team concluded that such a function and related functional entity were not justified at that time. The advisory team also suggested that the FMWG reconsider the issue when developing Functional Model Version 5 (FM V5). The advisory team recommended consideration of assigning such functions and responsibilities to functions and entities already defined in the Functional Model.

The FMWG reconsidered the issue in its development of FM V5, and again concluded that there was no justification for defining a DR function and entity. The NERC Planning Committee approved the FM V5 at its December 8-9, 2009 meeting and requested the FMWG reassess the need to include a DR Functional Entity in the Functional Model Version 6.

In response to this request, the FMWG formed a Functional Model Demand Response Advisory Team (FMDRAT) in mid-2010. The FMDRAT has completed an assessment of the need to include a DR function and its associated functional entity either in the NERC Functional Model or as an Applicable Entity for NERC Standards.

The FMDRAT assessed a number of key issues related to the role and reliability impacts of DR in the planning and operation horizons. This assessment, summarized in the FMDRAT “Report on Assessing the Need for Introducing Demand Response Functions and Entities to the NERC Reliability Functional Model” (the FMDRAT Report), leads to the following key conclusions and recommendations:

***Conclusions***

1. DR is generally considered in BES planning and operations from the perspective of resource adequacy assessment and operating reserve determination. Long-term planners, operational planners and operators do take into account the amount of DR under contractual agreement or participated in operating reserve market to adjust resource needs to meet forecast system demand and reserve requirements. Since DR itself is not an active facility or component like a generator, its “dispatch” action is initiated upon receiving instructions from the operating authorities under pre-determined system conditions. Compared to sudden load increase and generator tripping, DR’s spontaneous performance or failure to perform as instructed does not pose adverse reliability impacts on the BES for which there is no recourse.
2. All responsible entities have some measures in place to guard against the possibility that a DR resource does not fulfill its obligations to provide the agreed amount of reserves.
3. For long-term planning, most entities include contributions from DR to some extent. Uncertainties associated with DR’s long-term commitment to remain “dispatchable” are typically addressed by applying a discount factor or probability analysis to DR’s availability in resource adequacy assessments.
4. In operational planning, there are no known entities that count on DR as a critical component of their operational plans. An additional DR functional entity will not change the current role or responsibility of the planning coordinator, resource planner, or operations planner.
5. Reliability standards are not required to enforce DR compliance with contractual agreements or obligations. There are little or no reliability impacts caused by the failure of DR resources to perform as agreed to or as requested. Therefore imposing reliability standards to force compliance with commercial agreements would be inappropriate, may not achieve the desired outcome, and in fact may discourage entities from participating in DR programs.
6. DR is a reactive component and a derivative product of the power system; it augments the capabilities of the BES thus increasing the effective utilization of the BES but it does not expand the system’s capability to serve more load and does not move spontaneously or in response to system changes for which reliability standards might be needed to ensure acceptable performance. Having commercial arrangements and compensation/penalty mechanisms in place to govern their contractual obligations would suffice to drive DR to achieve the desired behavior. Imposing reliability standards to enforce such behavior is extraneous and unnecessary.

***Recommendations***

1. DR functions and their associated functional entities not be defined and introduced to the Functional Model at this time.
2. The FMWG continue to monitor DR development and identify if and when DR technology and penetration levels create a unique impact on BES reliability.

Prior to submitting the FMDRAT report to the Standards Committee for acceptance, the FMWG would like to seek industry’s views on the above findings. Please review the FMDRAT Report, and then answer the following questions.

1. Do you agree with Conclusion (1) that compared to sudden load increase and generator tripping, DR’s spontaneous performance or failure to perform as instructed does not pose adverse reliability impacts on the BES for which there is no recourse? If not, please explain in the comment area.

[ ]  Yes

[ ]  No

Comments:

1. Do you agree with Conclusion (2) that all responsible entities have some measures in place to guard against the possibility that a DR resource does not fulfill its obligations to provide the agreed amount of reserves. If not, please explain in the comment area.

[ ]  Yes

[ ]  No

Comments:

1. Do you agree with Conclusion (3) that for long-term planning, most entities include contributions from DR to some extent, and that uncertainties associated with DR’s long-term commitment to remain “dispatchable” are typically addressed by applying a discount factor or probability analysis to DR’s availability in resource adequacy assessments? If not, please explain in the comment area.

[ ]  Yes

[ ]  No

Comments:

1. Do you agree with Conclusion (4) that in operational planning, there are no known entities that count on DR as a critical component of their operational plans, and that an additional DR functional entity will not change the current role or responsibility of the planning coordinator, resource planner, or operations planner? If not, please explain in the comment area.

[ ]  Yes

[ ]  No

Comments:

1. Do you agree with Conclusion (5) that reliability standards are not required to enforce DR compliance with contractual agreements or obligations, and that imposing reliability standards to force compliance with commercial agreements would be inappropriate, may not achieve the desired outcome, and in fact may discourage entities from participating in DR programs? If not, please explain in the comment area.

[ ]  Yes

[ ]  No

Comments:

1. Do you agree with Conclusion (6) that DR is a reactive component and a derivative product of the power system; it augments the capabilities of the BES thus increasing the effective utilization of the BES but it does not expand the system’s capability to serve more load and does not move spontaneously or in response to system changes for which reliability standards might be needed to ensure acceptable performance? If not, please explain in the comment area.

[ ]  Yes

[ ]  No

Comments:

1. Do you agree with the Recommendations presented in the DR Report:
	1. DR functions and their associated functional entities not be defined and introduced to the Functional Model at this time.
2. The FMWG continue to monitor DR development and identify if and when DR technology and penetration levels create a unique impact on BES reliability.

If not, please explain in the comment area.

[ ]  Yes

[ ]  No

Comments:

1. If you have any other comments on the DR Report that you haven’t already mentioned above, please provide them here.

[ ]  Yes

[ ]  No
Comments: