

Requests for Clarifications And Responses

Order No. 754 – Data Request

The Study of Single Point of Failure

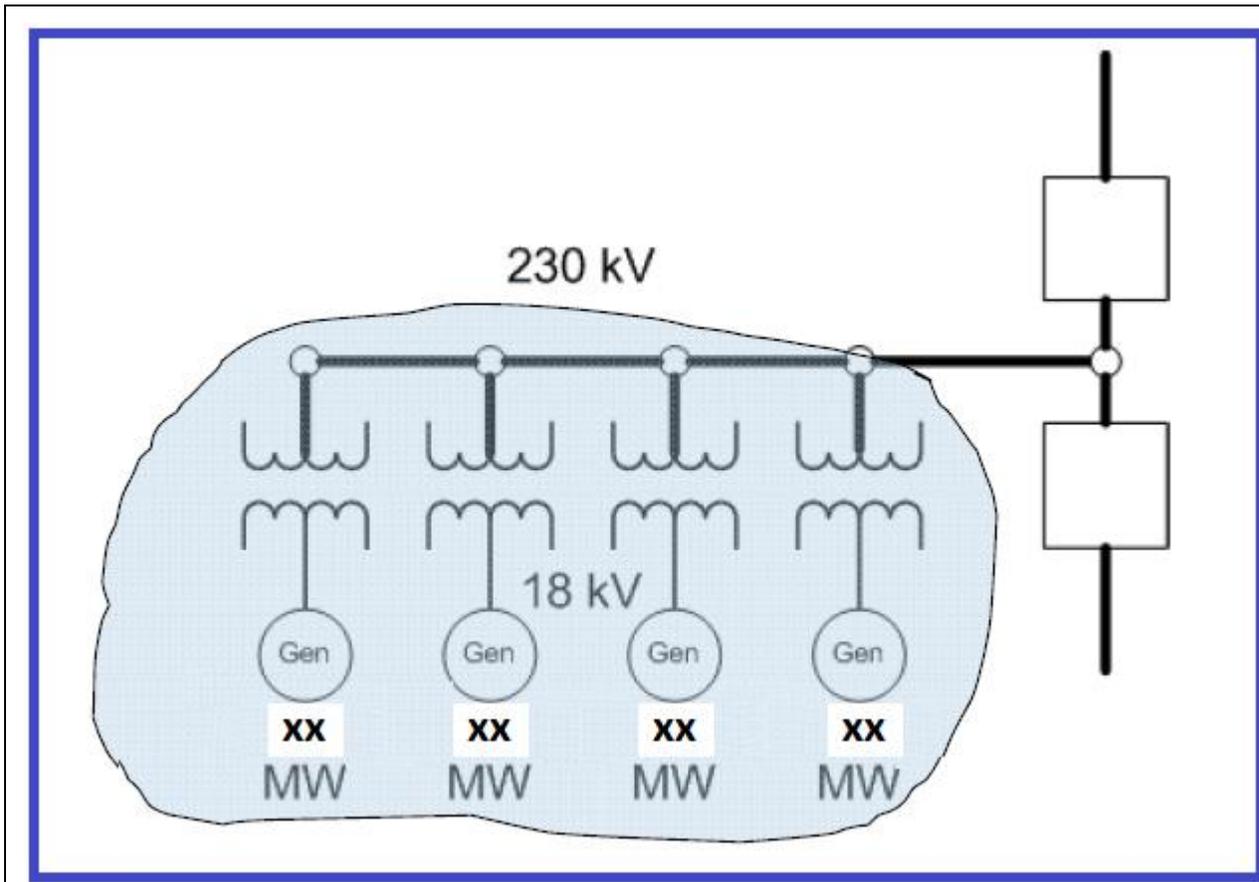
Revised: December 20, 2012

Introduction

The following information includes requests for clarification concerning the NERC Order No. 754, Request for Data or Information, The Study of Single Point of Failure. Responses are a collaborative effort of NERC staff and selected members of both the System Analysis and Modeling Subcommittee (SAMS) and the System Protection and Control Subcommittee (SPCS). NERC posts this information periodically for entities to review and apply to its efforts in collecting the required data concerning the data request. From time to time, NERC will issue announcements to update Transmission Planners when new clarifications are available. The supporting entities, Distribution Provider, Generation Owner, and Transmission Owner will be included in these announcements.

Step 1

Step 1 Q1. In the example below, please provide guidance in regards to Table A of the Request for Data or Information. Would this generator collector bus with four GSU transformers that has one connection to the substation bus be counted as one GSU transformer or as four GSU transformers?



Step 1 A1. For the purpose of applying Table A it is necessary to determine the number of circuits connected to a bus. In this figure, the generator collector bus with four GSU transformers connected to the 230 kV substation bus via a single connection would be counted as one circuit.

Table B

Table B, Q1. When evaluating communication systems associated with transmission line protection systems, is it necessary for communication channels to have diverse paths to be considered independent for the purposes of meeting the attributes in Table B?

Table B, A1. Entities do not need to consider path diversity when evaluating whether communication systems meet the attributes in Table B. For the purposes of this data request, physical separation of protection system components is not necessary for protection system components to be reported as independent.

Table C

Table C, Q1. Assume that a bus that is being analyzed in the Eastern Interconnection has more than 2000 MW of generation directly connected to it. Assume that remote clearing times for the lines connected to this bus will all clear in 30 cycles. If the generation connected to this bus, which exceeds 2000 MW, all goes unstable in 10 cycles does this constitute failure of the Table C performance test? This generation would have otherwise been remotely cleared in 30 cycles. Table C does not speak to the timing issue of the units going unstable but only states “Loss of synchronism of generating units totaling greater than 2000 MW.” The generation could be considered consequential generation loss.

Table C, A1. The criteria in Table C apply to the portion of the system remaining after fault clearing. In the example proposed, the generation that loses synchronism in 10 cycles, but is disconnected from the system due to protection systems operating to isolate the fault at 30 cycles, would not be counted toward the 2000 MW threshold in the first criterion in Table C.

Version History

Version	Date	Action	Change Tracking
1.0	9/30/2012	Step 1, Q1	New
2.0	11/2/2012	Table B, Q1	Revision
3.1	12/20/2012	Table C, Q1	Revision