Substation Configuration Guideline for Transmission Inverter Based Interconnections

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Applies to:
Duke Energy - Transmission Planning, Transmission Engineering, Transmission Operations

Project Name	
Interconnection Queue Number (If Applicable)	
Funding Project ID Number (If Applicable)	
Checklist Completed by	
Date	

PURPOSE

The purpose of this checklist is to aide in Duke Energy's decision-making process for the interconnection of Transmission connected inverter-based generation at a Greenfield Substation. Duke Energy Transmission Planning, Transmission Engineering, Transmission Operations will use this guideline as a tool in determining the preferred configuration of Greenfield Substations to accommodate proposed interconnections.

CHECKLIST

Use the following checklist to guide the decision in selecting the preferred configuration for the new Transmission Substation site.

Question Number	Yes	No	Description
1	☐	☐	Is tapping allowed at this Voltage? *
2	☐	☐	Is the total site capacity, within 1 mile, less than 100 MW? **
3	☐	☐	Is there no more than one additional future connection anticipated? ***
4	☐	☐	Will generation on the circuit remain below 200 MW?

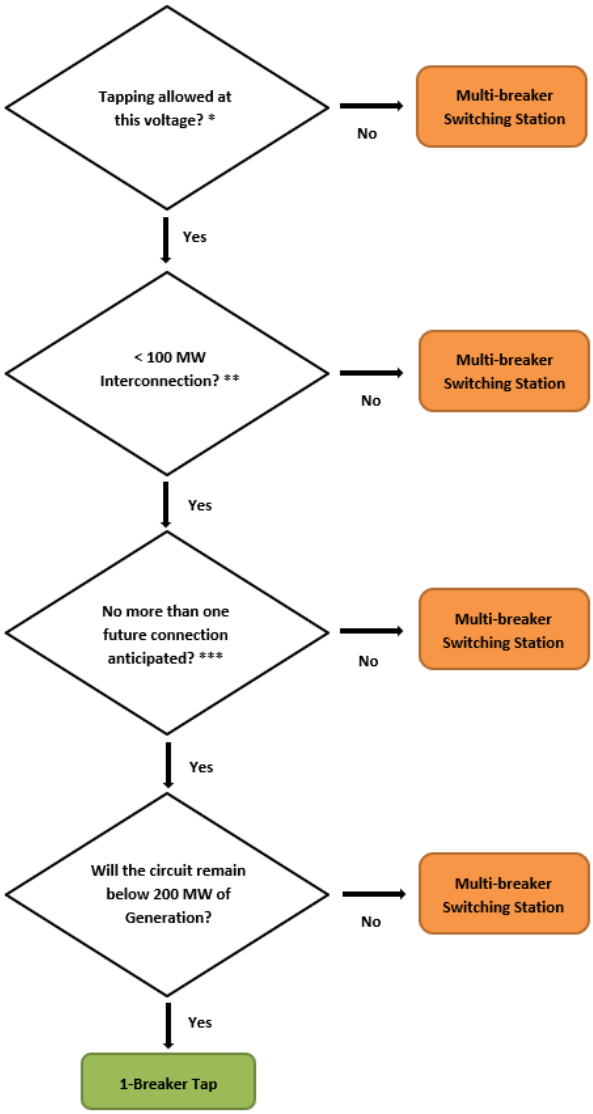
Duke Energy reserves the right to modify as necessary with engineering judgment.

* Due to inherent differences in system design and topography between the various operations regions, tapping is allowed at or below the following voltage classes: DEC 115 kV, DEP 230 kV, DEF 115 kV, DEMW 138 kV.
** Total site capacity within 1 mile.
*** Future connections can include potential generator interconnections, load delivery points, or additional transmission lines in the 10-year planning horizon, within 3 miles of the proposed Point of Interconnection (POI).

Results

If the answer to all four questions is Yes, a 1-Breaker Tap is the preferred configuration to be confirmed by Transmission Planning.

If the answer to any of the four questions is No, a Multi-breaker Switching Station is the preferred configuration to be confirmed by Transmission Planning.



Duke Energy reserves the right to modify this flowchart as necessary with engineering judgment.

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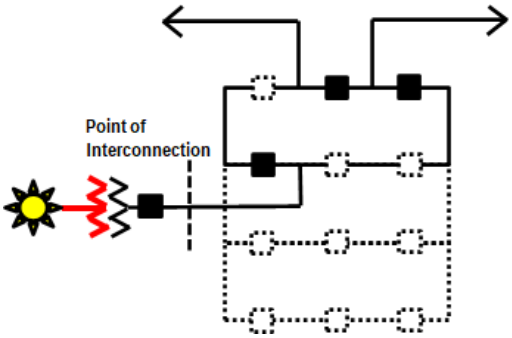
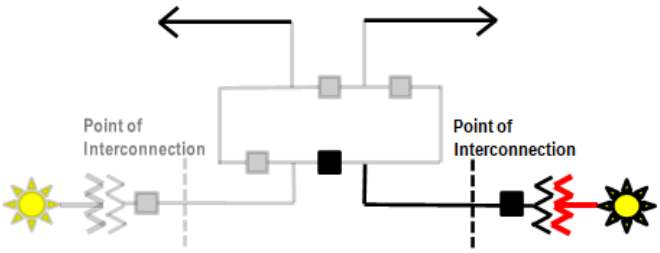
Example One-Line Diagrams

Multi-breaker Switching Station





1-Breaker Tap