Single Line Diagram Guideline for Projects

The AESO requires a single line diagram (SLD) of the market participant and TFO's facilities in order to develop the functional specification in Stage 3. The market participant and TFO are expected to prepare the SLD of their facility according to the requirements in this guideline.

Format

The AESO recommends the market participant or TFO prepare and submit the SLD in Microsoft Visio format, which is editable by the AESO, to aid in the development of the functional specification.

Requirements

The SLD is expected to include all equipment related to topology including:

- generator or any power resource (including solar, wind, and storage energy);
- transformer;
- transmission line;
- switching device;
- bus;
- feeder; and
- VAR device.

The SLD is expected to include information about key engineering parameters and ratings which impact functionality of the facility such as:

- generator: include at least MARP in MW and terminal voltage;
- transformer: include at least voltage rating in kV, capacity rating in MVA, LTC capability, and winding configuration;
- switching device: include at least device type and connectivity;
- VAR device: include at least the VAR capacity; and
- load or feeder.

The SLD is expected to also show the following:

- legend for facility;
- project information: project name, project number and location;
- facility name and code (including substation and line number);
- revenue meter location;
- demarcation line to show ownership; and
- topology of point of delivery connection on the transmission side.

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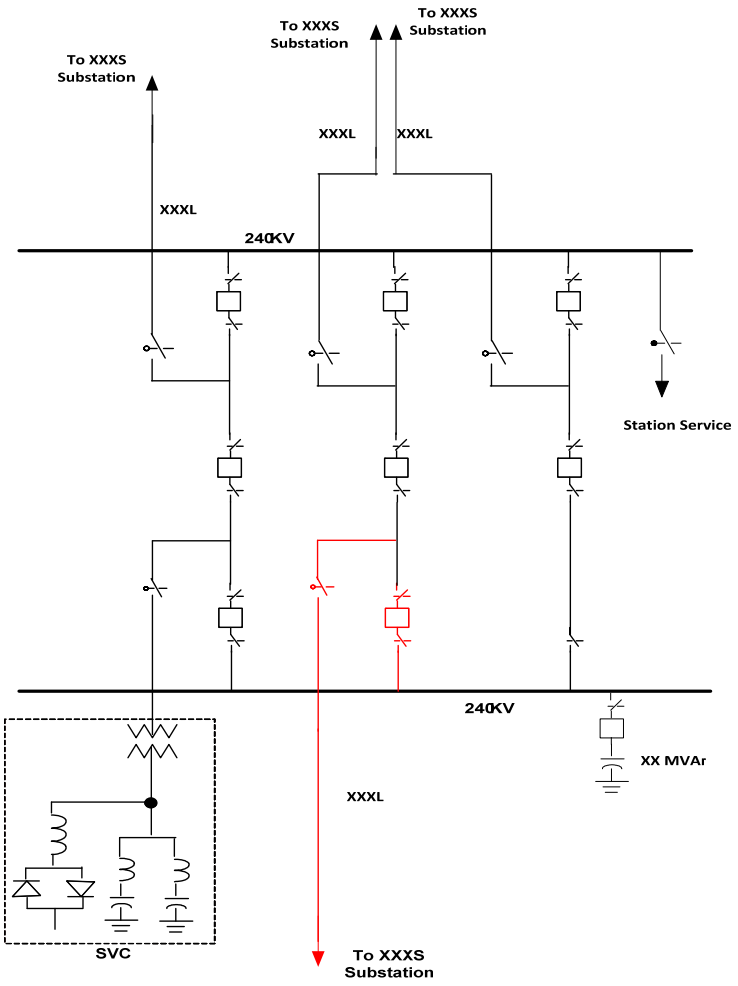
Examples

Example #1: Typical Transmission Switching Substation



LEGEND

MOD		Proposed Development	
Circuit Breaker		Existing	
Manual Disconnect Switch		Cap Banks	

NOTE

This single line diagram provides an illustration of a functional arrangement that would meet the need of the proposed project. Although the TFO is required to maintain the specified functionality, the exact routing and configuration of the project proposed by the TFO in its facility application may vary slightly from this configuration based on more detailed engineering routing and siting information obtained by the TFO in preparation of its Facility Application

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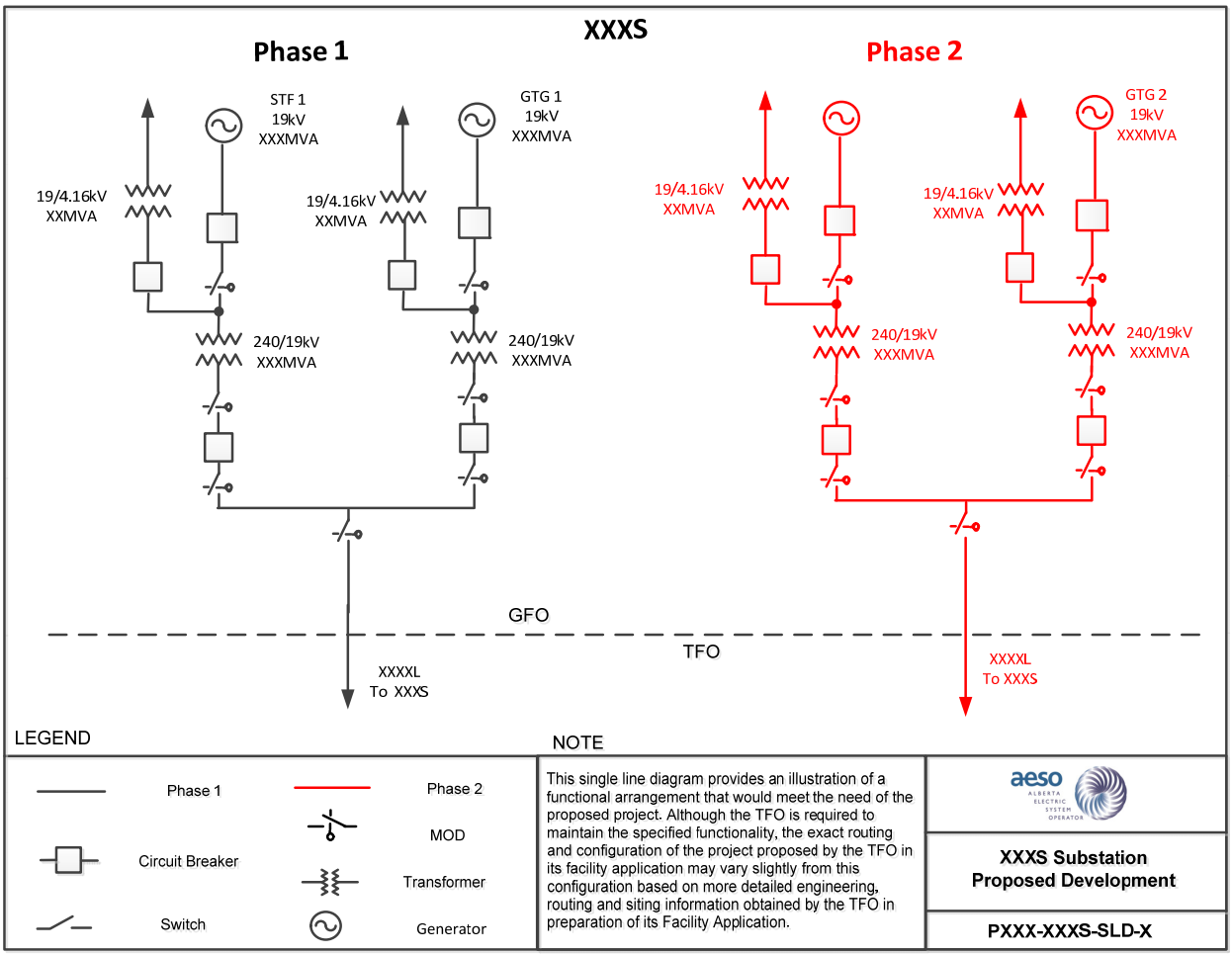
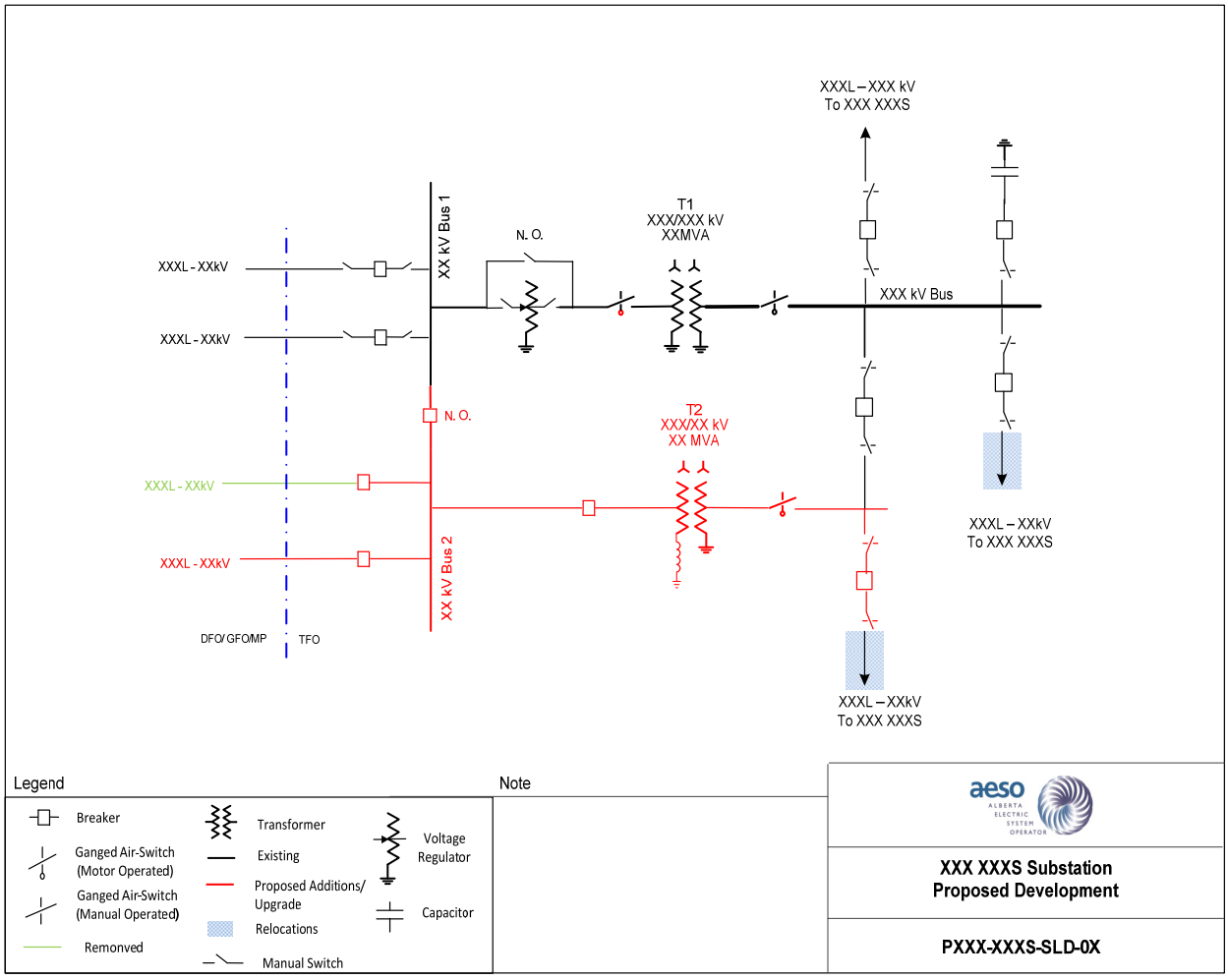
XXXS Proposed Development

PXXX XXXS – SLD -01

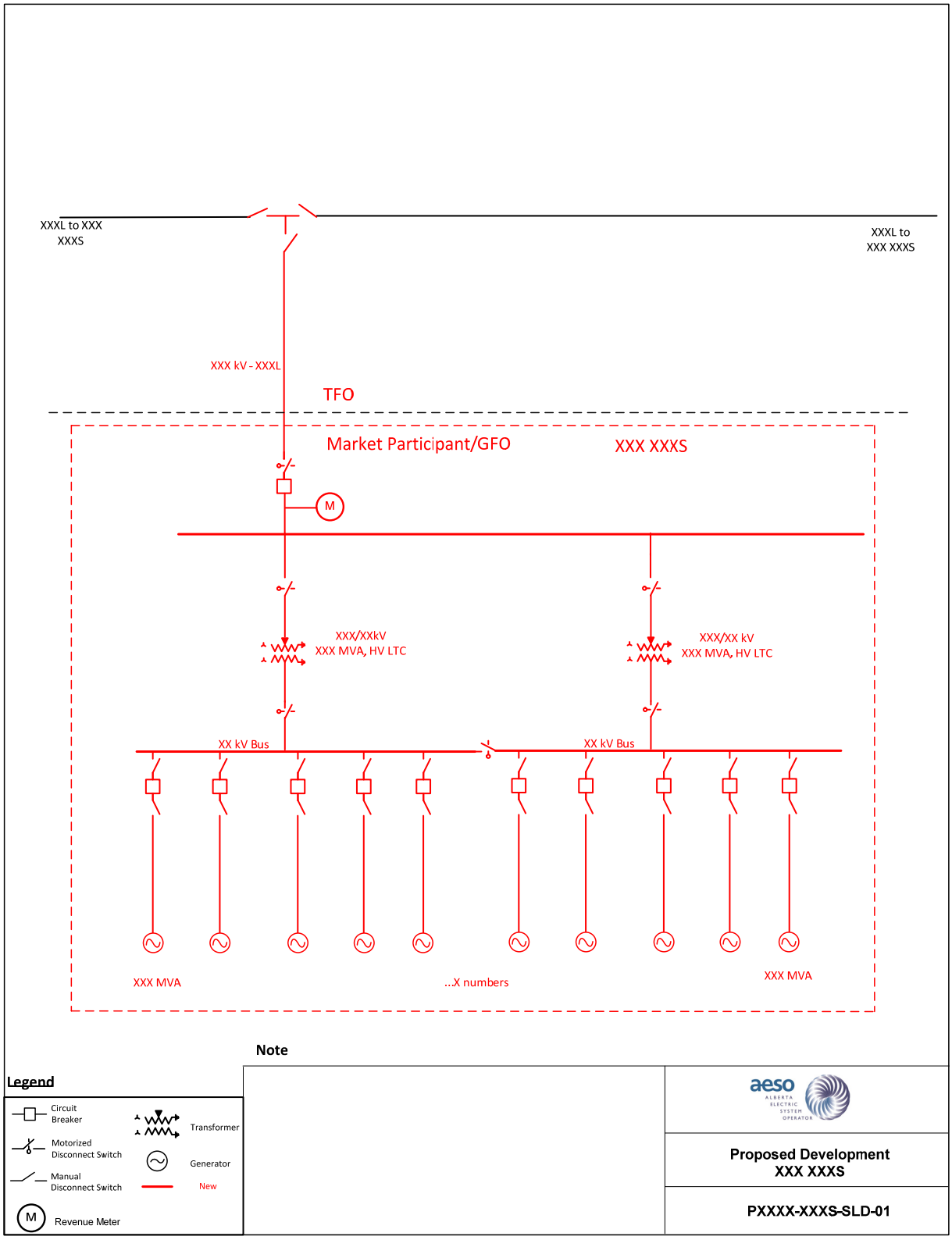
Example #2: Typical Generation Plant Facility



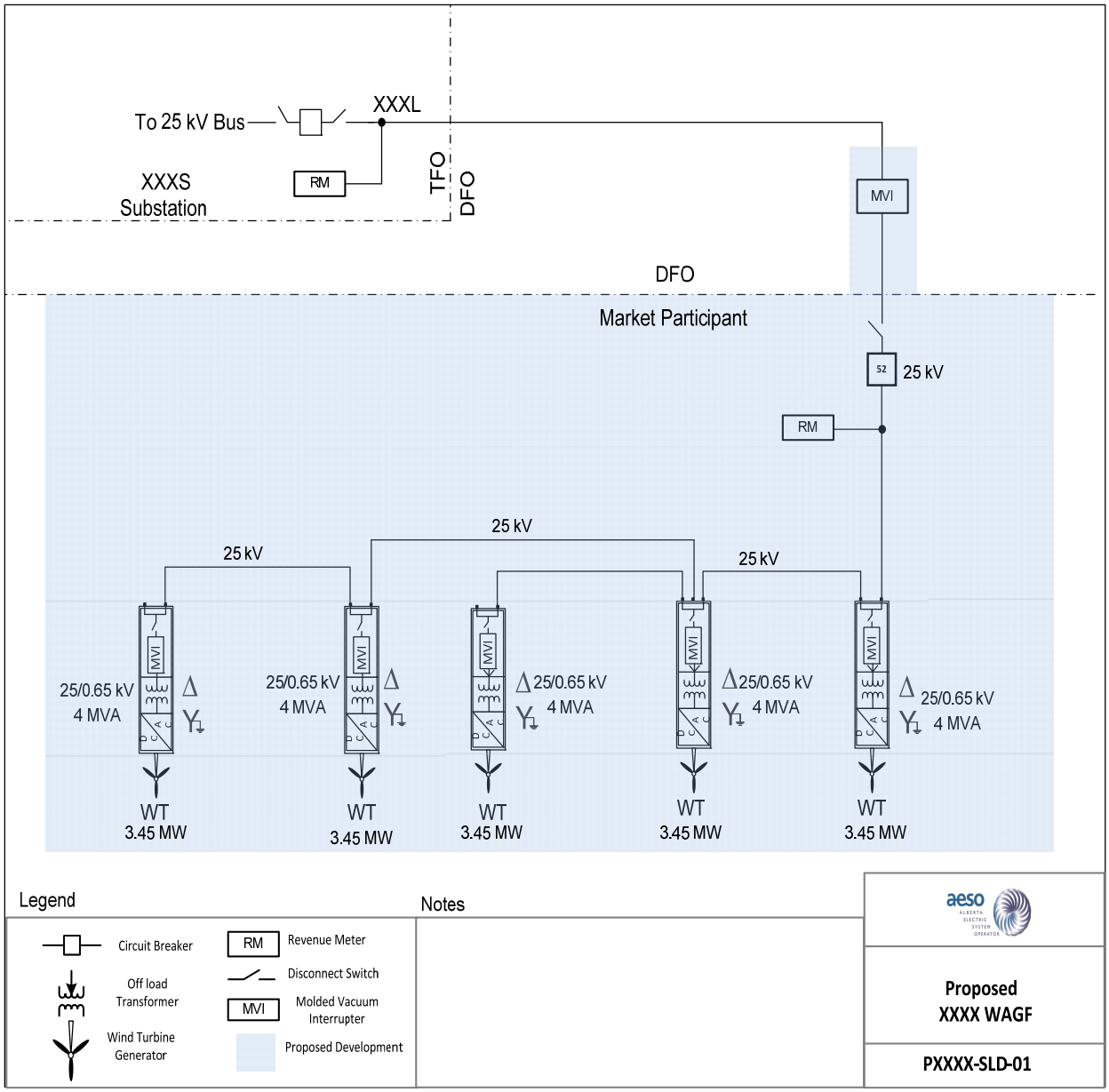
Example #3: Typical Transmission Substation



Example #4: Typical Transmission Directly Connected Aggregated Generating Facility – Wind Farm



Example #5: Typical Distributed Energy Resource Connection – AGF in Wind



Example #6: Typical Distributed Energy Resource Connection – AGF in Solar