Plan Review Submittal Form Instructions

The following information is a guide for filling out the plan review submittal form. This form will aid in the registration and review process and will ultimately speed up the plan review process. The form is divided into two sections. The first page is the "PLAN REVIEW SUBMITTAL FORM" and, the second page is the "PLAN REVIEW SUBMITTAL DRAWINGS/INFORMATION CHECKLIST". Information on both pages is mandatory and omissions in the form and drawing list will restrict the submission from being registered and reviewed. If the form and drawing list is not completed following the guidelines below, the following process will be followed.

1) After reviewing the submission form the Plan Review Representative (PRR) will identify if submission can be registered
2) If there are issues that prevent registration, the PRR will communicate the following information to the submitter. "The submission form/drawing list was not complete. The following information is required ** . If the required information is not submitted within 10 business days your submission will be rejected.
3) The PRR will file the submission for 10 business days.
4) After 10 business days, if the information is not provided, the submittal will be discarded.

The following will provide field by field direction for filling out the form portion (page 1) of the submittal documentation

Failure to complete this section may result in the submittal not being registered or reviewed.

Submitter Company Name: The name of the company submitting the documents for review.

Customer ID: This field requires you to enter your ESA account/ID number if you have one. If you do not have an ESA account/ID number, you are not required to populate this field.

Submitters Address: The mailing address of the company submitting the documents for review

Submitters Name: The name of the person responsible for the plans. This person would be the contact for any questions that the Plan Review Department would have about the submission

Submitters Email Address: The email address of the **person** responsible for the plans. This should not be a company general email address but should be specific to the person responsible for the submission.

Submitters Phone Number: The phone number of the person submitting the documents for review.

Alternate Contact: The name of an alternate contact that would be able to assist the Plan Review Department in clarifying questions that arise should the primary contact be unavailable. This information is **Optional**. Failure to fill in this field will **not** result in rejection of the submission

Site Name: Please provide a proper site name for the project where one is available. The more information you can provide in this field the better. For example "Acme Waste Water Treatment Plant,

Phase 3". Please try to avoid using site names such as "New Commercial Building" or "Commercial Development" as this will make searching for these projects at a later date very difficult.

Site Address: Please provide the municipal address, the 911 number or as much information as possible to determine the address of the project. At this time we cannot accept GPS co-ordinates.

PO/Job Number: Please provide your Purchase Order or Job Number (if applicable)

Voltage (connection): From the drop down list please select the voltage which matches the connection voltage for the submission. For example if the utility supply is 27.6kV but you are only responsible from the load side of the transformer which is 347/600V, then you would select 347/600V from the drop down list. If you are responsible for both the high voltage 27.6kV, and the 347/600V, then you would select 27.6kV from the drop down list. If the voltage required is not listed in the drop down menu, please enter the appropriate voltage in the field located beside the drop down menu.

Configuration: Select only one box (either delta or wye).

Phase: Select only one box (3phase 3 wire, 3 phase 4 wire, single phase 2 wire or single phase 3 wire).

Project Type: Please select all that apply. For example, on a hospital addition, new construction, standby generation & health care may all apply to the same job. In this example all 3 of these boxes would be checked.

Transformer Information: There are three fields relating to transformer information. The first field is to indicate ownership of the high voltage transformer. **This field is very critical to the plan review process**. This field refers to who owns the high voltage transformer supplying power to the project. For example, if the customer owns and maintains the transformer, you would select customer owned. In some cases the customer pays the utility for the capital cost of the transformer, but the utility retains ownership. In that case you would select utility owned from the check boxes provided. The next two fields need only be filled in if the customer owns the transformer. We are looking to see if the transformer is Canadian approved (ie: CSA) (in the case of dry type transformers) or if not we need to know what standard it is built to, for example C227.4.

Panel Board Information: The next three fields deal with main distribution rating (main panel rating), main overcurrent rating (fuse size or breaker setting, not frame size) and the continuous rating of the main overcurrent (80 or 100%). For example if you have a 2000A rated main board with an 1800 amp 100% rated breaker you would enter the 2000A in the main distribution rating field, the 1800A in the main overcurrent rating field and the 100% check box would be checked in the overcurrent continuous rating field.

Note: The majority of breakers and fusible switches are 80% continuous load rated.

Feeder Information: In the next two fields we are looking for feeder information. The first field is to indicate the ownership of the feeders (main high voltage feeder from the utility supply to the transformer/high voltage equipment, or if the high voltage transformer is utility owned, this could be indicating the ownership of the low voltage (750V or less) feeder from the utility transformer to the customer owned distribution equipment). The second field is to indicate the size of the feeder being installed. For example if you are installing the feed from the utility supply to a customer owned high voltage transformer you indicate "customer owned" in the first field and the size of cable and conduit in the second field (e.g. 4 – #2/0 alum 100% concentric neutral). If for example the feeder is low voltage and customer owned between the utility transformer and customer switchboard, then you would indicate customer owned in the first field, and the size of the cable and conduit in the second field (e.g. 4 x 4 500mcm in 4" conduit). If for example the feeder is existing and you are only working installing equipment connected to the existing feeders, then you would indicate "existing", and in the second field, indicate the size and configuration of existing conductors (if available).

Scope/Additional Information: A brief scope of the work being performed must be included in this field. Try to be as specific as possible without leaving out relevant information. You may also indicate in this field any other relevant information or comments relating to the project or the submission documents. You are limited to 1500 Characters in this field.

The following will provide section by section direction for filling out the drawing/information checklist (second page) of the submittal documentation.

Failure to complete this section may result in the submittal not being registered or reviewed.

Single line diagram, associated schedules and drawings including the following info: This check box should always be checked as every submission to plan review requires a single line diagram. The sub categories off this section may or may not apply to your submission but require some indication. The options are to select ground fault protection or no ground fault protection required, trench details or not applicable, and site plan or not applicable. There **must** be a check mark in either one of the boxes per line in this section.

For new construction projects and service upgrades: This section should be checked only if the project is new construction and/or a service upgrade (increase in service ampacity, or a change from single phase to three phase). If this project is an addition to a building, renovation or any other type of construction, please do not check this section. The sub categories in this section are all required items. The demand load calculation/number, the available short circuit and the equipment short circuit rating fields all require input of the appropriate values. Failure to complete the sub categories may result in the submittal not being registered or reviewed.

For projects including renovations and building additions: This section shall be checked only if the project meets the criteria of a renovation or addition to an existing site. The sub category in this must be checked and will also act as a reminder to ensure that the plan review department will be able to identify what part of the installation is existing, and what is new on the single line diagram.

For projects including stand by generation and life safety loads: This section shall be checked only if the project installation includes stand by generation **and** life safety loads. The sub category in this section must be checked and the information required will ensure that the plan review department can verify that the transfer switch scheme and the life safety emergency distribution is code compliant.

For health care facilities: This section shall be checked only if the project meets the criteria of a health care facility. The sub categories in this must be checked and will ensure that the plan review department can identify the patient care areas and that these areas are code compliant.

For projects including hazardous areas: This section shall be checked only if the project includes a classified/hazardous area. The sub category in this must be checked and will also act as a reminder to ensure that the plan review department will receive the drawings that indicate the hazardous areas. This will allow us to confirm that the wiring methods within the hazardous areas are code compliant.

For projects including high voltage installations (anything operating above 750V): This section **must** be checked if any of the high voltage equipment in the project is owned and maintained by the customer. If your project includes any customer owned high voltage equipment then you must provide (and indicate on the checklist) grounding details for the high voltage installation and High voltage equipment and cable specifications or design criteria. The transformer impedance must be provided on any installation that includes customer owned high voltage transformation. The substation equipment layout must also be provided on projects that include more than just high voltage cable replacement. The substation elevation details must be provided if the installation involves any open type equipment (for example, an H frame substation). A ground potential rise study (GPR) is required on any installation that operates at 27.6kV delta or voltages above 27.6kV. An installation fed from a 27.6 kV wye (grounded) system does not require a GPR study to be submitted.

For projects including generation equipment (non life safety for example solar, wind): This section shall be checked only if the project meets the criteria of a project (any type) that includes generation that is not for life safety systems. The sub categories in this must be checked and will provide the plan review department the proper information to ensure the connection of the generation equipment to the utility system is code compliant.

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Site Name: Please provide a proper site name for the project where one is available. The more information you can provide in this field the better. For example “Acme Waste Water Treatment Plant, Phase 3”. Please try to avoid using site names such as “New Commercial Building” or “Commercial Development” as this will make searching for these projects at a later date very difficult.

Voltage (connection): From the drop down list please select the voltage which matches the connection voltage for the GPR submission. If the voltage required is not listed in the drop down menu, please enter the appropriate voltage in the field located beside the drop down menu.

Configuration: Select only one box (either delta or wye).

Utility Fault Level: Please provide the fault levels obtained from the supply authority.

Size of Ground Grid Conductor: Please provide the awg or kcmil size of the bare copper conductor used in the ground grid.

Number of Ground Rods: Please provide the total number of ground rods used in your ground grid design.

Final Ground Grid Measurement in Ohms: Please provide the desired ground grid final resistance in ohms.

Burial Depth of Conductor: Please provide the designed burial depth of the ground grid conductor.

Length of Short Side of Grid: Please provide the length in meters of the longest side of your ground grid design.

Length of Short Side of Grid: Please provide the length in meters of the shortest side of your ground grid design.

Spacing of Grid: Please provide the spacing in meters between ground conductors and or ground rods in your ground grid design.

Total Length of Conductor: Please provide the total length of bare copper conductor in meters for the ground grid design.

Surface Layer: Please provide in mm the thickness of the surface layer above the ground grid.

Designed Grid Resistance in Ohms: Please provide the designed grid resistance in ohms for the ground grid.

Soil Resistivity in Ohms: Please provide the measured soil resistivity at the location of your ground grid.

Switching Station Fault Level: Please provide the fault level at the switching station (if applicable), based on the utility fault plus the total collector station fault input (see diagram below)

Collector Station Fault Level: Please provide the fault level at the collector station (if applicable), based on the switching station fault plus the total generator fault input (see diagram below)

Interconnect Voltage: Voltage at which the connection between the utility and the generation system will occur.

Collector Voltage: The voltage at which the collector circuits will be, prior to transformation (if applicable).

Number of Generators: Please provide the total number of generators connected in the system.

Fault Levels at Each Generator: Please provide the fault level at each generator in the system based on the generator fault plus the collector fault (see diagram below).