

DIAGRAM REQUIREMENTS FOR ROTATING MACHINERY

SUPPLEMENTARY INFORMATION

Diagrams and information specified below are to be specifically prepared for APS' use, and to be submitted in pdf format for all rotating machinery based projects. APS will not accept any copyrighted, proprietary, confidential or "construction" drawings. These must be site specific regarding the information requested below, without extraneous information. All diagrams are to be professionally drawn, using only black print on white paper, and not to be color or shaded. Free hand drawn, photocopies and faxed diagrams will not be accepted by APS. All diagrams must include the project name and street address as well as updated diagram revision numbers and dates.

Standard industry accepted electrical symbols shall be used on the diagrams. The required size for all drawings is 11"x17".

(a) Electrical One-Line Diagram:

Diagram(s) must show generators and all major associated electrical components including protective relaying and associated trip paths, any interlocks and control functions, as well as the electric service entrance, utility meter, connection points of facility loads, any transformers, generator metering, and Utility Disconnect Switch including any required dedicated metering phone lines, transfer trip communication path(s) along with the associated relaying and trip circuits, and any APS required Remote Terminal Unit (RTU) with associated communication channels and trip/block close/close permissive circuitry. Any interlocks or permissive functions and / or control paths shall be clearly indicated on the drawing (e.g. as dashed lines). The electrical ratings of the equipment shall be shown.

(b) AC & DC Control Schematics:

Diagram(s) must show the detailed phase wiring of all electrical equipment as specified above for the Electrical One-Line Diagram, including protective relaying, associated instrument transformers, breaker control circuitry, and additional control schemes. Include control power source and all associated AC and DC connections.

(c) Plant Location Diagram:

Diagram must show major cross streets and location of facility. Include a North arrow.

(d) Site Plan:

Diagram must clearly show the individual major GF equipment components and their locations, including the electric service entrance section and utility meter, location of generator(s), interface equipment, Utility Disconnect Switch and location of any lock-boxes, etc. Include building structure location and any walls, fences and gates etc, to clearly indicate unobstructed access to APS equipment including any required special metering and the Utility Disconnect Switch. Include a North arrow.

(e) Relay Setting Sheet(s):

Setting sheet(s) for the APS-required minimum protective relay functions must show the trip setpoints and times. Settings may be provided after the initial APS review, once the final system configuration has been determined.

(f) Sequence of Operations:

Following a preliminary review of the Interconnection Application and associated diagrams, APS may, in certain instances, require the Customer to further submit a description of any sequence of operations or other operational controls of a particular system or control scheme.