

PLANT SUPERVISION REQUIREMENTS

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The following directive is being issued by a provincial safety manager pursuant to section 30 of the Safety Standards Act (the Act) to interpret the requirements for plant supervision and how immediate vicinity is to be defined and documented.

Definitions

Chief engineer: means a power engineer who is designated by the owner to be responsible for the operation and maintenance of a plant and who is responsible for ensuring that all regulated work in the plant is performed by appropriately qualified persons.

Owner: includes a lessee, and as further defined in directive [D-BP 2024-03](#).

Person in charge: means the power engineer, operator or other individual present on the premises during a period of time and designated by the owner or chief engineer to be responsible for and in control of the plant while it is in operation.

Plant: means a power plant, heating plant, low temperature, low pressure fluid plant, low pressure thermal fluid plant, high pressure thermal fluid plant, refrigeration plant, oil well plant, unfired plant or pressure plant.

General Details

Sections 11 (2) and 45 of the Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation (the Regulation) establish the requirement for the person in charge of a plant to be present, while the plant is in operation, in either:

- the boiler room, refrigeration machinery room, engine, or turbine room; or
- the immediate vicinity within the plant premises.

The Regulation does not define or establish a process for defining the limitations of each location which has led to uncertainty as to how compliance is to be maintained. This directive addresses the following:

- provides an interpretation of section 11 (2) and 45 of the Regulation and establishes definitions for the terms used within these clauses; and
- outlines the operation of these requirements including roles and responsibilities for defining plant operating parameters and the documentation of these activities.

Specific Details

The intent of sections 11 (2) and 45 of the Regulation are to set supervision requirements for the safe operation of a plant. To meet these requirements, the qualified individual designated as in charge of the plant must remain within an area where control of the plant can be maintained at all times while it is in operation.

Due to the unique characteristics of each plant, it is not possible for the Regulation or this directive to prescribe a specific physical distance or boundary that will achieve this objective in all circumstances. Therefore, the Regulation requires the person in charge of the plant to be in the “immediate vicinity within

the plant premise". This is intended to allow for flexibility so that the requirements of the Regulation may be applied to a broad range of plant types, sizes, configurations, etc.

The extent to which the person in charge of a plant may leave the boiler room, refrigeration machinery room, engine room, or turbine room, while still being considered in the "immediate vicinity within the plant premises" must be assessed on a case-by-case basis and defined by those responsible for the overall safety of the plant and associated technical systems.

In order to meet the requirements for plant supervision set out in the Regulation, the following definitions and objectives must be addressed when evaluating the acceptable boundaries that the person in charge must remain within while the plant is in operation.

Boiler room, refrigeration machinery room, engine room, or turbine room

The boiler room, refrigeration machinery room, engine room, or turbine room is interpreted as the room or area in which regulated equipment is installed and operated. (See also CSA B52 definition "machinery room" for refrigeration systems and equipment).

Plant Premises

Premises is defined within the Safety Standards Act as:

"the land, a building or a structure in, on or under which a regulated product is located or where regulated work is done"

Plant premises is interpreted as the land, building, or structure in, on, or under which a boiler room, refrigeration machinery room, engine room, or turbine room is located. This area shall extend no further than the legal land parcel on which the plant is located.

Immediate Vicinity

Immediate vicinity is interpreted as the area, within the plant premises, where the person in charge can maintain control of the plant and provide timely response to any upset conditions while the plant is in operation.

"In control" of the plant includes, but is not limited to, having the ability to:

1. Monitor all critical plant operating parameters and plant safety alarms.
2. Respond to all alarms and/or operational upsets in a timely manner to prevent operational disruption, safety shutdown, or failure of regulated equipment.
3. Initiate appropriate corrective actions to maintain stable operation, protect plant personnel, and prevent equipment failure.
4. Perform routine inspections of plant equipment.
5. Perform other relevant duties and responsibilities with regard to plant operation.

In all cases, if a plant is operated with the person in charge being away from the boiler room, refrigeration machinery room, engine room, or turbine room, it must be equipped with automatic controls and safety devices to ensure safe operation and allow for emergency shutdown of the plant without operator intervention (i.e. ASME CSD-1 or other applicable standards).

Responsibilities and Documentation

The owner and chief engineer is responsible for the safe operation and maintenance of the plant which includes establishing appropriate procedures to ensure plant personnel can fulfill their duties safely.

In cases where the person in charge of the plant is permitted to leave the boiler room, refrigeration machinery room, engine room, or turbine room, written procedures must be developed. These procedures must address how the requirements for plant supervision, including the previously stated definitions and objectives will be achieved. They must also define the specific boundaries within which the person in

charge must remain while the plant is in operation, as well as the required activities (i.e. periodic inspections, safety testing, etc.) needed to maintain the safe operation of the plant.

The development of procedures must include an operational safety analysis to identify all potential hazards associated with plant operations that could lead to equipment failure, incidents, or other undesirable conditions. Identified hazards must be addressed with appropriate mitigation measures within the procedure(s).

Procedures may be subject to inspection by a safety officer at any time. If an inspection determines that the procedure(s) do not provide for safe operating conditions in accordance with this directive, changes/updates will be required.

Provincial Safety Manager – Boilers, Pressure Vessels, and Refrigeration

References:

Power Engineers, Boiler, Pressure Vessel and Refrigeration Safety Regulation