

ISO Rules

Part 500 Facilities

Division 503 Technical & Operating Requirements

Section 503.12 Grounding and Surge Protection



Applicability

- 1 Section 503.12 applies to:
 - (a) the **legal owner** and **operator** of a **generating unit, aggregated facility, or energy storage resource** that is directly connected to the **transmission system** or to **transmission facilities** within the City of Medicine Hat, including a **generating unit, aggregated facility, or energy storage resource** situated within an industrial complex that is directly connected to the **transmission system**;
 - (b) the **legal owner** of a load facility, where for purposes of this Section 503.12:
 - (i) “**legal owner**” refers to:
 - (A) the **legal owner** of an **electric distribution system**;
 - (B) a **person** who has entered into an arrangement directly with the **ISO** for the provision of **system access service** under subsection 101(2) of the **Act**;
 - and
 - (ii) “load facility” refers to a facility connecting industrial load or distribution load to the **transmission system**;
 - and
 - (c) the **legal owner** of a **transmission facility**.

Requirements

Grounding

- 2(1)** The **legal owner** of a **generating unit, aggregated facility, or energy storage resource** must design the **generating unit, aggregated facility, or energy storage resource** to operate within a **transmission system** that operates as an effectively grounded system.
- (2)** The **legal owner** of a load facility, or the **legal owner** of a **transmission facility** to which the load facility is connected to, must design the load facility and the **transmission facility** to operate within a **transmission system** that operates as an effectively grounded system.

Lightning and Other Surge Protection

- 3(1)** The **legal owner** of a **generating unit, aggregated facility, or energy storage resource** must equip any associated substation equipment with surge protection that operates under the following conditions:
 - (a) lightning, including the average ground flash density level, for the **generating unit, aggregated facility, or energy storage resource** location;
 - (b) switching surges;
 - (c) neutral shifts;
 - (d) **electrical islands**; and
 - (e) temporary over-voltages.
- (2)** The **legal owner** of a **generating unit, aggregated facility, or energy storage resource** must coordinate insulation levels with the **legal owner** of the **transmission facility** to which the **generating**

ISO Rules

Part 500 Facilities

Division 503 Technical & Operating Requirements

Section 503.12 Grounding and Surge Protection



unit, aggregated facility, or energy storage resource is connected, taking into account the surge protection referred to in 3(1).

(3) The **legal owner** of a load facility must coordinate insulation levels with the **legal owner** of the **transmission facility** to which the load facility is connected to, taking into account the average lightning ground-flash density level for the site location of the load facility and compatibility with the connecting **transmission facility**.

Revision History

Date	Description
2024-04-01	Initial release.