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## Notice

### Archive Variance 21-ECV-006-112

#### Date issued

March, 2024

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#### Summary

Mast sizes are addressed in the Canadian Electrical Code Part I and there is not sufficient evidence to support the use of smaller rigid steel conduit systems. Variance 21-ECV-006-112 does not consider increased energy demands or increased frequency of extreme weather events and will not be renewed when the Canadian Electrical Code Part 1-2024 is adopted in Alberta. National Research of Canada (NRC) and Canadian Standards Association (CSA) have put forward several considerations to improve the integrity of electrical systems so they can better withstand diverse exposure to extreme weather phenomena. These considerations have been incorporated into the Canadian Electrical Code Part I (CE Code Part I) 2024, to improve the sturdiness of new installations.

Existing installations under variance 21-ECV-006-112 remain compliant and do not need to be replaced. Once the CE Code-2024 is adopted, new installations will be required to meet the requirements of that code.

For clarification regarding existing installations and maintenance, please refer to STANDATA bulletin 21-ECB-002. Electrical STANDATA's can be accessed via [alberta.ca/electrical-standata](https://alberta.ca/electrical-standata).

#### Background

- In 2000 a variance was issued to permit the usage of smaller rigid conduit systems, for service masts. No record exists for why this allowance was made.
- In 2020, an official submission to the CSA Part 1 committee was made to implement Alberta's variance and permit this installation nationally. At a vote of 36 to 1 it was strongly rejected.

#### Factors considered in this decision

##### Sturdiness of the raceway

NRC and CSA have identified that extreme weather poses a significant risk to electrical distribution systems. It has also been identified that mast conduit is not tested to the same criteria as rigid steel conduit.

- Rigid steel conduit is approved to: CSA C22.2 No 45.1 Electrical Rigid Metal Conduit-Steel
- Mast conduit & mast kit components are tested and approved to: CSA C22.2 No 82 Tubular Support Members and Associated Fittings for Domestic and Commercial Service Masts

Ultimately, the smaller rigid steel raceway is less able to withstand the weight from heavy ice or snow and lateral force from wind and storms in comparison to the larger conduit permitted by the CE Code Part I.

##### Additional Notes

When Alberta adopts the 2024 CE Code, which is anticipated April 1, 2025, Variance 21-ECV-006-112 will **no longer be accepted on new installations.**

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