**ELECTRICAL GENERAL REQUIREMENTS**

## 1. GENERAL

### 1.1 Purpose and Scope

.1 This document serves as a basis of supply only of the electrical supply, distribution and power utilization.

### 1.2 Language

.1 All correspondence, labelling and documentation shall be in English.

### 1.3 Units of Measure

.1 SI units shall be used except for motors which are in hp, and wire size in AWG.

### 1.4 References

.1 CSA: Canadian Standards Association

.1 CSA C22.1 Canadian Electrical Code, Part I Safety Standard for Electrical Installations.

.2 CSA CAN/CSA-C22.2 No. 0, General Requirements - Canadian Electrical Code Part II.

.3 CSA CAN3-C235, Preferred voltage levels for AC systems, 0 to 50 000 V - Second Edition; General Instruction No 1.

.2 NRC: National Research Council Canada

.1 National Building Code of Canada (2010).

.2 National Plumbing Code of Canada (2010).

.3 Regulations of Manitoba

.1 124/2015, Manitoba Electrical Code.

.2 31/2011, Manitoba Building Code.

.3 32/2011, Manitoba Building Code.

.4 City of Winnipeg Water & Waste Department

.1 Electrical Design Guide.

### 1.5 Design Requirements

.1 Comply with all laws, ordinances, rules, regulations, codes, and orders of all authorities having jurisdiction relating to this Work.

.2 Comply with all rules of the Manitoba Electrical Code, CSA C22.1, the applicable building codes and City of Winnipeg Electrical Design Guide in **Appendix E**.

.3 Operating voltages: to CSA CAN3-C235.

.4 The available voltage in this facility is 600 V, 3-phase, 3-wire.

.5 Equipment to operate in maximum capabilities operating conditions established in above standard without damage to equipment.

.6 Convenience Receptacles if required on the THPS skid will be 120 V single phase unless otherwise specified.

.7 Motors, electric heating, control and distribution devices and equipment to operate satisfactorily at 60 Hz within normal operating limits established by CSA CAN3-C235.

### 1.6 Submittals

.1 Submittals: in accordance with Section 01300.

.2 In addition, address the following:

.1 Provide shop drawings showing floor plan with area classifications identified by hatching and legends and use Zones as defined in CSA C22.1 Section 18.

.2 Provide shop drawings showing floor plan with area categories identified by hatching and legends and use Categories as defined in CSA C22.1 Section 22.

.3 Submit wiring diagrams and installation details of equipment indicating proposed location, layout and arrangement, control panels, accessories, piping, ductwork, and other items that must be shown to ensure coordinated installation.

.3 Quality Control:

.1 All products used must be certified to CSA CAN/CSA-C22.2 No. 0 standards by a Standards Council of Canada (SCC) accredited Certification Organization (CO), and be marked with that Certification Organization's certification mark.

.2 Submit test results of installed electrical systems and instrumentation to Contract Administrator.

.3 Submit certificate of acceptance from Authority Having Jurisdiction upon completion of Work to Contract Administrator.

## 2. PRODUCTS

### 2.1 General Requirements

.1 All Products provided shall be CSA Certified.

.2 Provide certified to CSA CAN/CSA-C22.2 No. 0standards by a Standards Council of Canada (SCC) accredited Certification Organization (CO), and marked with that Certification Organization's certification mark.

.3 Where certified to CSA CAN/CSA-C22.2 No. 0 standards by a Standards Council of Canada (SCC) accredited Certification Organization (CO), is not available, submit such equipment and material to authority having jurisdiction for approval and submit copies of approval documents before delivery to site.

.4 Assemble equipment, control panels and component assemblies in the factory to the maximum extent possible.

**END OF SECTION**