1.1 **GENERAL**

1.2 **Coordination Requirements**

.1 Coordinate with SFU Facilities.
.2 Coordinate with other design disciplines.

1.3 **Description**

.1 Additional SFU design and approval requirements for Refrigeration systems.

2.1 **MATERIALS AND DESIGN REQUIREMENTS**

2.2 **General**

.1 All compressors 5 tons and smaller shall be hermetic type.

.2 Where Machine Room ventilation is installed as an requirement of Refrigeration Code CSA B-52, SFU's Building Management System (BMS) shall monitor the status of the refrigerant leak detector panel.

2.3 **Condensing Units & Cooling Towers**

.1 Use of domestic water cooled condensing units is not permitted.

.2 Equipment Location

.1 Fan Coils/DX Coils need to be positioned to have access to service all components.
.2 Outdoor condensing units shall not be located adjacent to fume hood areas or less than 10 ft (3,0000 mmm) from roof edge without guard rail fall protection.

.3 Server/Communication Rooms

.1 Avoid placing equipment in ceiling above communication equipment.
.2 Floor mounted units are preferred.

.4 Larger systems shall utilize dry coolers.

.5 Open cooling towers shall be installed with full flow filtration systems.

.6 Cooling towers over 8 ft high shall have service platforms with permanent ladders.

.7 Multicell cooling towers with separate sumps shall have equalizing line of sufficient size to maintain water level in all sumps. Provide sump isolation valves in equalizing line.

2.4 **Chillers**

.1 Specify minimum five year warranty.

.2 Use of packaged air cooled water chillers shall be supported by favorable life cycle cost.

.3 Installed chillers must follow BC Safety Authority Directives.
3.1 **REFRIGERATION INSTALLATIONS**

.1 Modular chillers or heat pumps must be installed with isolation valves on condenser and chilled water heat exchangers.

.2 Brazed joint connections are preferred for all refrigerant systems.

***END OF SECTION***