1.0 GENERAL

1.1 Related UBC Guidelines & Documents

.1 Section 23 00 00 HVAC (and all subsections)
.2 Section 20 00 00 Mechanical - General Requirements
.3 All other Tech Guidelines as may be applicable to a given project.

1.2 Related Documents External to UBC

.1 BC Plumbing Code and all references contained there within
.2 BC Building Code and all references contained there within
.3 Work Safe BC Occupational Health and Safety Regulation

1.3 Description

.1 The Guidelines apply to all work completed within UBC Vancouver Campus Buildings.
.2 In instances where conflicts are found between these guidelines and provincial regulations or codes, please notify UBC Mechanical Engineer.
.3 These guidelines are intended to be read by designers and their content integrated into construction drawings and specifications. Construction documents are not to reference the technical guidelines directly.
.4 It is the requirement of the mechanical designer to coordinate these requirements with other disciplines.

2.0 MATERIAL AND DESIGN REQUIREMENTS

These are requirements specific to UBC that may not exist in code or other jurisdictions. Any deviation from these guidelines requires a variance be granted.

2.1 Design Requirements

.1 Where Machine Room ventilation is installed as a requirement of Refrigeration Code CSA B-52, UBC’s Building Management System (BMS) shall monitor the status of the refrigerant leak detector panel and the status of the exhaust fan.

2.2 Equipment Requirements

.1 See section 23 21 00 – Hydronic Systems for building level chiller requirements

.2 Use of domestic water cooled condensing units (i.e. once through cooling) is not permitted. This includes HVAC equipment as well as specialty lab equipment, cold rooms, ice makers and other similar devices.

.3 When VRF or split systems (neither of which are preferred) they must be integrated into BMS (as with all heating/cooling equipment). This varies from manufacturer to manufacturer but may require ordering additional components such as a "digital thermostat converter".
2.3 Construction and Material Requirements

.1 Brazed joints are required for all field installed refrigeration joints. Compression couplings aren’t acceptable.

3.0 LESSONS LEARNED & COMMON MISSES ON UBC PROJECTS

Items in this section are not specific requirements of UBC but are code or industry best practices which have been missed on past jobs. These items should be considered in mechanical designs at UBC. However, if they’re not applicable then a variance is not required.

.1 Unitary refrigerant equipment such as terminal heatpumps, split systems and especially VRF systems often have higher maintenance cost and lower reliability compared to chilled water systems. Applications where these systems are being considered should be carefully reviewed to determine if they provide the lowest lifecycle cost.

***END OF SECTION***