



CI-0703

### TAB 7: TECHNICAL DISCIPLINES

#### Electrical

A wall mounted cooling thermostat (set at 22°C) shall be installed approximately 1700 mm above floor level and be marked "Heat Pump". Thermostat should be on interior wall whenever possible. Thermostat must have auto-changeover capability. If heaters are installed in same room they should be interlocked with HVAC to prevent heating and cooling at same time.

A Dual Temperature Sensor, for a high and low room temperature alarm, shall be installed for connection to The Security Monitoring System. The dual sensor shall be of the approved type that is appropriate for this specific application.

A carbon monoxide sensor shall control the ventilation system and shall be able of sending an alarm to the Security Monitoring System in case of higher CO concentrations.

All equipment shall have nameplates indicating model, capacity and electrical data. The wall mounted thermostats shall be supplied with the units (for field wiring).

The air conditioning equipment and heater shall be supplied by a reputable manufacturer. Install equipment in accordance with manufacturer's recommendation.

#### Emergency Cooling

##### Provisions for emergency cooling in communication and electrical rooms:

- Provide a 6" vent opening provision, secured from inside, for portable A/C unit in both electrical and communication rooms, venting to the outside.
- Provide dedicated 120V, 20A, 5-20R and 120V, 30A, 5-30R power receptacles (generator backed-up) from dedicated circuit breakers for portable A/C unit, in Electrical and Communication rooms. Receptacles to be mounted at 300mm height above finished floor. Contractor to provide Labels above receptacles stating: the respective Amps, panel and circuit numbers and "DEDICATED FOR PORTABLE A/C UNIT"
- Provide an exhaust fan controlled by a reverse acting thermostat and an override switch.
- High/low temperature alarm.

##### The sequence of operations should be as follows:

1. When A/C unit fails and temperature starts rising, the high temperature sensor sends an alarm to the current corporate supplier of security and monitoring services.
2. Station Operations will be notified to send a portable A/C unit and the HVAC service contractor is notified to repair the broken A/C unit.
3. The ventilation system will then kick-in to help reduce the temperature until a portable A/C unit is installed.



CI-0703

**TAB 7: TECHNICAL DISCIPLINES**

Electrical

4. Station Ops will install the portable A/C unit and switch off the ventilation system.

**Noise/Vibration**

Isolators and vibration control devices shall be specified as required to ensure that equipment-noise and vibration do not interfere with operations, as well as to protect adjacent properties from noise and vibration.

**Grounding**

A common 50 mm wide x 6 mm thick copper bus shall be connected to the door and frame and encircle the Electrical Room and Communications Room.

Conductors shall be securely fixed, recessed in floor grooves or niches, or fixed to walls by appropriate staples. Ground bar or loop shall be securely fixed to building wall with copper or brass saddles.