1.1 **GENERAL**

1.2 **Related SFU Technical Requirements**

.1 ANSI 13.1 Scheme for Identification of Piping Systems.

.2 **Division 20**

   - *Section 20 00 08.1 Pipe Colour Code Standards.*
   - *Section 20 00 08.2 SFU Identification and Labeling Standards.*

1.3 **Coordination Requirements**

.1 Coordinate with SFU Facilities.

.2 Coordinate with other design disciplines.

1.4 **Description**

.1 Identification of mechanical systems and components in all University buildings, facilities and tunnels.

.2 The identification system is composed primarily of nameplates, labels, tags and engraved on Lamacoid nameplates and shall include at minimum:

   .1 Manufacture’s name or recognized trademark
   .2 Model identification and serial number
   .3 Approval seals
   .4 Warranty contact information
   .5 TMA files
   .6 Lacmoid labels
   .7 Building number
   .8 SFU Equipment Code Number and Building Number
   .9 Unit Number
   .10 EL. Supply

2.1 **MATERIAL AND DESIGN REQUIREMENTS**

2.2 **Identification Logic**

.1 Identify each system and system component following the “SFU Identification and Labeling Standard” which should be followed from original design inception. Identification to be consistent throughout the project. Should the SFU Identification and Labeling Standard contradict this Section 20 00 08, it will take precedence.

.2 When identifying systems and components in existing buildings, the new items shall be numbered sequentially with existing systems include the zone or building area serviced by each system.

2.3 **General**

.1 Submit list of system and component labels to be Consultant and Facilities Services for review prior to engraving.

2.4 **Labels (Identification)**

.1 Provide and apply lacmoid plastic labels according to SFU Identification and Labeling Standard:
.1 Gauges and Panels engrave with 6 mm high lettering. Note for electrical switch gear, coordinate with Division 16.

.2 Systems engrave with 25 mm high lettering.

.3 Fume Hoods engrave with 10 mm high lettering.

.4 Apply labels to the following systems within the Mechanical Rooms and Penthouse:
  .1 Water.
  .2 Natural Gas.
  .3 Steam.
  .4 Fire Protection.
  .5 Condensate.
  .6 Compressed Air.
  .7 One label to be affixed to the system and a second applied to the associated switch gear.

.5 Gauges and Panels.

.2 All fume hood systems shall be identified with lamicoid labels. Identical labels are to be affixed to each fume hood and associated fan and motor starter (note that three labels are required for each system). The wording which will identify the specific fume hood and associated fan will be supplied by the owner.

.3 Lamicoid labels shall be mechanically fastened to the identified system and components in a conspicuous location.

2.5 Labels for Perchloric Fume Hoods

.1 Provide lamicoid plastic labels with "fire red" face and white centre 135 mm x 65 mm x 2.5 mm thickness to act as a warning to Fume Hood users.

.2 For label layout refer to Standard Detail in Section 20 00 08.2 Identification and Labeling Standards. This label is in addition to that required above.

.3 Perchloric fume hood labels shall be secured to the upper front panel adjacent to the static pressure gauge.

2.6 Piping Colour Codes

.1 Piping will adhere to Pipe Colour Code Standards found in Section 20 00 08.1 Pipe Colour Code Standards.

2.7 Color Coded Dots

.1 Color Coded Dots
  .1 Provide self-adhesive color coded dots 13 mm in diameter.
  .2 Dots shall be Avery TR808 or an alternate approved by the Owner. Colors shall be yellow, black, red and green.

.2 Doors and ceiling panels providing access to devices mounted in concealed locations shall be identified by color coded dots.

.3 Color coding shall be to the following schedule:

  .1 Mechanical equipment and cleaning access Yellow.
  .2 Control equipment, dampers, valves and sensors Black.
  .3 Fire, smoke and sprinkler equipment Red.
  .4 Pipe mounted equipment other than above Green.
.4 Where access is through a suspend T-Bar ceiling affix dot to exposed T-Bar frame closest to the concealed equipment.

2.8 Valve Tags

.1 Tags shall be 40 mm diameter brass with 10 mm stamped alpha-numeric coding filled with black paint.

.2 Tags shall be complete with non-ferrous chain or "S" hooks.

.3 Tags shall be as supplied by W.H. Brady or an alternate approved by the Owner.

.4 Consecutively number all valves and controllers installed by Division 15 on a system basis using tags. Coordinate between the various mechanical trades to prevent duplication.

.5 Identification coding is to start with a utility description followed by a maximum of three numerals:

<table>
<thead>
<tr>
<th>Code Description</th>
<th>Coding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>WXXX</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>GXXX</td>
</tr>
<tr>
<td>Steam</td>
<td>SXXX</td>
</tr>
<tr>
<td>Fire Protection</td>
<td>FPXXX</td>
</tr>
<tr>
<td>Condensate</td>
<td>CXXX</td>
</tr>
<tr>
<td>Compressed Air</td>
<td></td>
</tr>
</tbody>
</table>

.6 The first tag number in each series will be supplied by the Owner.

.7 For installations in existing buildings the valve and controller numbers shall be numerically sequential with the existing series.

.8 Provide six identification flow diagrams for each system incorporating the tag schedule stating the designation number, the service function and location of tagged items and normal operating position of valves. Flow diagram shall be on maximum size 11" x 17" sheets having a 3/4" border on the left side to permit insertion into a ring binder.

.9 Mount one copy of the flow diagram in a glazed frame.

.10 Provide copies of flow diagram for the Operating and Maintenance Manuals.

2.9 Stenciled Letters

.1 Black stenciled letters and numbers 25 mm high, to sign painting standards.

.2 Black stenciled direction arrows shall be 175 mm long by 56 mm wide.

.3 Duct Work and Access Panels: Use the system designators stated on the drawing and specification.

.4 Duct Identification and Direction Arrows shall be located on all duct runs in Mechanical Rooms and Penthouses.

<table>
<thead>
<tr>
<th>Code Description</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum distance</td>
<td>8 meters</td>
</tr>
<tr>
<td>Where ducts pass</td>
<td>Through walls or partitions identify ducts on both sides of the section.</td>
</tr>
<tr>
<td>Beside each access</td>
<td>panel.</td>
</tr>
</tbody>
</table>

.5 Perchloric Fume Exhaust

<table>
<thead>
<tr>
<th>Code Description</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify each duct</td>
<td>&quot;Danger-Perchloric&quot; using 50 mm high black letters in the following locations as described above in “Duct Identification and Direction Arrows”:</td>
</tr>
</tbody>
</table>
.1 Adjacent to all major changes in direction.
.2 At least once in each room. Where duct is concealed in a chase, shaft, gallery or other confined space, identify at points of entry and leaving and at each.
.3 At access openings.

.6 Radioactive Isotope Fume Exhaust
.2 Identify each duct "Danger-Radioactive Isotope" using 50 mm high black letters in the following locations as described above in "Duct Identification and Direction Arrows":
.1 Adjacent to all major changes in direction.
.2 At least once in each room. Where duct is concealed in a chase, shaft, gallery or other confined space, identify at points of entry and leaving and at each.
.3 At access openings.

.7 Access Panels
.1 Panels shall be identified according to the following schedule of functions:

<table>
<thead>
<tr>
<th>Access Function</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleaning and Service</td>
<td>C.A.</td>
</tr>
<tr>
<td>Controls including Sensors</td>
<td>C.</td>
</tr>
<tr>
<td>Dampers – Back draft, Balance and Control</td>
<td>D.</td>
</tr>
<tr>
<td>Fire Dampers</td>
<td>F.D.</td>
</tr>
<tr>
<td>Smoke Dampers</td>
<td>S.D.</td>
</tr>
</tbody>
</table>

2.10 Manufacturer's Nameplates

.1 Each piece of equipment shall have an original factory installed metal nameplate with raised or recessed characters.

.2 The nameplate shall fully describe the component as to manufacturer, size, model, serial number, voltage, cycle, phase, power, pressures, volume, etc.

.3 Locate nameplates so that they are easy to read. Do not insulate or paint over.

.4 Provide standoffs where nameplates cannot be located on cool surfaces.

.5 Ensure that regulatory registration plates are also attached to equipment - Pressure Vessel Rating, Underwriter's Laboratory Approval, CSA Approval, etc. An additional copy of the regulatory registration plate is to be provided for inclusion in O&M Manuals and/or SFU records.

***END OF SECTION***