# SECTION L -- DESIGNATION REQUIREMENTS

## CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>GENERAL</td>
<td>L-3</td>
</tr>
<tr>
<td>1.1.</td>
<td>Introduction</td>
<td>L-3</td>
</tr>
<tr>
<td>1.2.</td>
<td>Requirements</td>
<td>L-3</td>
</tr>
<tr>
<td>1.3.</td>
<td>Labeling (Refer to Figure L-3)</td>
<td>L-5</td>
</tr>
<tr>
<td>2.</td>
<td>EQUIPMENT TYPES</td>
<td>L-6</td>
</tr>
<tr>
<td>2.1.</td>
<td>Common Items</td>
<td>L-6</td>
</tr>
<tr>
<td>2.2.</td>
<td>Transport</td>
<td>L-7</td>
</tr>
<tr>
<td>2.3.</td>
<td>AC Power</td>
<td>L-8</td>
</tr>
<tr>
<td>2.4.</td>
<td>DC Power</td>
<td>L-11</td>
</tr>
<tr>
<td>2.5.</td>
<td>145 Tag Requirements for DC Power (Refer to Figure L-9)</td>
<td>L-13</td>
</tr>
<tr>
<td>2.6.</td>
<td>BITS Shelves</td>
<td>L-14</td>
</tr>
<tr>
<td>2.7.</td>
<td>Distributing Frames</td>
<td>L-15</td>
</tr>
<tr>
<td>2.8.</td>
<td>Grounding Designations</td>
<td>L-16</td>
</tr>
<tr>
<td>3.</td>
<td>FIBER OPTIC LASER WARNING LABELS</td>
<td>L-17</td>
</tr>
<tr>
<td>3.1.</td>
<td>Requirements</td>
<td>L-17</td>
</tr>
<tr>
<td>4.</td>
<td>OTHER DESIGNATIONS</td>
<td>L-18</td>
</tr>
<tr>
<td>4.1.</td>
<td>DSX</td>
<td>L-18</td>
</tr>
<tr>
<td>4.2.</td>
<td>FIBER</td>
<td>L-19</td>
</tr>
<tr>
<td>4.3.</td>
<td>Cable Hole Designations</td>
<td>L-21</td>
</tr>
<tr>
<td>4.4.</td>
<td>Retired In Place Equipment</td>
<td>L-21</td>
</tr>
<tr>
<td>4.5.</td>
<td>Information Services Equipment</td>
<td>L-21</td>
</tr>
<tr>
<td>Revision Date</td>
<td>Item</td>
<td>Action</td>
</tr>
<tr>
<td>---------------</td>
<td>--------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>03/01/2017</td>
<td>1.2.12 j)</td>
<td>Modification</td>
</tr>
<tr>
<td>03/01/2017</td>
<td>4.2.4, 4.2.5</td>
<td>Modification</td>
</tr>
<tr>
<td>03/01/2017</td>
<td>Table L-4</td>
<td>Modification</td>
</tr>
<tr>
<td>04/03/2017</td>
<td>1.2.2</td>
<td>Modification</td>
</tr>
<tr>
<td>06/08/2017</td>
<td>4.2.5</td>
<td>Modification</td>
</tr>
<tr>
<td>07/28/2017</td>
<td>4.2.6</td>
<td>Addition</td>
</tr>
<tr>
<td>09/01/2017</td>
<td>4.2.6</td>
<td>Modification</td>
</tr>
<tr>
<td>11/01/2017</td>
<td>4.2.6</td>
<td>Modification</td>
</tr>
<tr>
<td>11/01/2017</td>
<td>4.2.3</td>
<td>Modification</td>
</tr>
<tr>
<td>11/01/2017</td>
<td>2.1.7</td>
<td>Modification</td>
</tr>
<tr>
<td>12/04/2017</td>
<td>2.1.7</td>
<td>Modification</td>
</tr>
<tr>
<td>12/04/2017</td>
<td>2.2.3</td>
<td>Modification</td>
</tr>
<tr>
<td>12/04/2017</td>
<td>4.2</td>
<td>Modification</td>
</tr>
<tr>
<td>01/16/2018</td>
<td>2.2.3</td>
<td>Modification</td>
</tr>
<tr>
<td>09/04/2018</td>
<td>2.1.1, 2.1.2, 2.1.3</td>
<td>Modification</td>
</tr>
<tr>
<td>10/08/2018</td>
<td>Figure L-11</td>
<td>Modification</td>
</tr>
<tr>
<td>02/01/2019</td>
<td>1.3</td>
<td>Deletion</td>
</tr>
<tr>
<td>04/01/2019</td>
<td>2.5.2</td>
<td>Modification</td>
</tr>
</tbody>
</table>
1. GENERAL

Installation Supplier = Organization performing the requested work activity

AT&T Engineer = Person requesting the work activity.

1.1. Introduction

1.1.1. The Installation Supplier shall ensure, as part of the evaluation of the installation, that all equipment added, rearranged or modified is properly installed and in conformance with AT&T installation specifications.

1.1.2. The Installation Supplier shall ensure, as part of the evaluation of the installation, that all work has been done in accordance with the detail specifications or approved changes to the detail specifications.

1.1.3. This section contains requirements for and the description of the different classes of equipment designations

1.1.4. If complete designation information for any wiring, cabling, equipment or groupings of equipment is not provided, the Installation Supplier shall contact the AT&T representative to determine the required designation.

1.1.5. Changes in this issue of Section L are summarized in Table L-1.

1.2. Requirements

1.2.1. The Installation Supplier shall clean the surface to be designated. If necessary, touch up the painted surface with appropriate (type and color) paint.

1.2.2. All designations shall have the correct information, be at the proper location, be legible from a normal distance and viewing position, and be the proper color.

   a) Letters “FIC”, “RR”, or “FID” shall not be included in designations.

   b) All designation information shall be in order consistent with previous designations in the technical space or as depicted in this TP (e.g. Relay Rack, Shelf, Slot, Port or Jack #, TX or RX, and AT&T job order number) except when directed to do it differently in the Woodduck drawings and/or TEO.

1.2.3. All designations shall be sized per Table L-4.

1.2.4. All designations shall be properly aligned and spaced (e.g. fiber cable designation labels placed approximately three inches from the connector. Adjustment to suit the installation is allowed).

1.2.5. Designations shall not be hand written.

1.2.6. Stamping or labeling is the only approved method for designating equipment.
1.2.7. “Arial” font shall be used unless the labeling equipment does not support the Arial font. Alternative fonts may only be used if labeling equipment is not equipped or upgradable to “Arial” font.

1.2.8. Capital Text shall be used for all general labeling. Lower case font is to be used only when specifically required as part of system address or designations.

1.2.9. The minimum font size for labeling is 1/16”. Font size shall be increased to fit available space.

1.2.10. Transmit and Receive shall be used on designations requiring functional reference. Common abbreviations for these terms are TX and RX.

1.2.11. DESIGNATION TAGS
   a) Tags are of a preformed stamped fire retardant material that measures ¾” to 1” wide, by 1 ⅛” to 1¾” in length with rounded corners and a ¼ inch hole at one end. Tag shall be affixed with multi-strand waxed cord at a termination point to identify the far end termination, typically referred to as a 145 type tag and/or 145 type number plate as listed on the Minor Material list.
   b) Designation tags shall be installed so they are visible. Designation tags visibly placed behind equipment safety covers or cabinet doors are acceptable.
   c) Designations on tags shall be sized to allow for all information needed but shall be no smaller than 1/8 inch. Both sides of the tag can be utilized. (Refer to Figure L-3 for Requirements)

1.2.12. DESIGNATION MARKERS
   a) Designation markers shall be ½ to 1 inch in width tape, not to exceed 3 inches in length.
   b) Cable, wire or fiber patch cord < ¼ inch diameter shall be designated using a flag style marker.
   c) A designation marker shall not overlap itself.
   d) Multi-strand waxed cord shall not be used to affix a marker.
   e) Designations on ¾ to 1 inch markers shall be sized to allow for all information needed but shall be no smaller than 1/16 inch. (Refer to Figure L-2 for Examples)
   f) Designations on ½ inch markers shall be sized to allow for all information needed but shall be no smaller than 1/16 inch. (Refer to Figure L-2 for Examples)
   g) A designation marker on ½ inch tape shall have no more than 3 lines of information. (2 lines of information for Video Coaxial Cabling).
   h) Designation markers shall be installed so they are visible and legible. Markers must be staggered at high density applications to achieve visibility.
   i) Longitudinal markers shall not be deployed, except for Video Equipment installations where the following conditions will apply:
1. Cables identified with longitudinal markers shall have two longitudinal markers at each end. The first marker with the near end information shall be placed closest to the connection point, followed by the second marker with the far end information.

2. Longitudinal markers shall have the information printed three times and positioned so that the information can be read without having to twist the cable.

3. Longitudinal markers shall be of a self-laminating type to prevent the label from peeling. If the marker cannot be placed in a manner to keep it from peeling, the marker shall be protected with clear heat shrink.

4. Video equipment longitudinal labels shall be placed on Cat 5/6 and Coax cables.

5. The Brady-style label/sleeve system shall be utilized for all video applications.

6. Video equipment high density applications requiring the use of BNC and FConnector-removal tools.

7. Approved longitudinal labels used in video equipment installations shall be accessible and readable; the placement of the 1st label from the equipment connector shall be a minimum of 6 in. away and no further than 10 in. away.

j) Flag Markers (Refer to Figure L-2)

1. Flag markers shall not exceed 3 inches in length from the cable to the end of the flag.

2. No adhesive surface shall be exposed once flag markers are affixed.

3. Flag markers shall only have the designations stenciled on the non-adhesive side.

4. There is no requirement to place a flag marker on any fiber cross connect (cross connect being defined as fibers on the front of an FDP to another front side of a FDP).

k) Designations shall be orientated on the designation marker so that the lettering is perpendicular to the cable as shown in Figure L-2.

1.2.13. Designations shall not be modified by placing a designation label onto an existing label.

1.2.14. The Installation Supplier shall designate both ends of all miscellaneous type interbay cables, (e.g. Ethernet, alarm, COI LAN, etc.), with the applicable near-end (upper portion of the label) and far-end (lower portion of the label) termination information (bay number, shelf, slot, port, jack, etc.), and AT&T job order number. Refer to Figure L-2 for examples.

1.3. Labeling (Refer to Figure L-3)

1.3.1. Label identification and designation for all batteries, battery racks, primary power equipment and associated 145 type tags located in the power room or power plant vicinity shall be done with manufacturer recommended labeling or stamping. The labeling shall be applied as to adhere for the life of the equipment and use color stable, high contrast lettering. Stamping is also an approved method as required by AT&T.
1.3.2. All label background colors shall be in the monochrome family of whites, grays, blacks or clear. Lettering shall be black or white, in contrast to the backing material or underlying equipment color when clear backing is used. It is acceptable for labels, used to distinguish fiber racks, to be yellow with black characters.

1.3.3. Labeling shall not be placed where they are exposed to repeated physical contact.

1.3.4. When applying a label to a textured or smooth surface, a piece of plastic or rubber shall be used to press the label to conform to the textured surface. This can be visually verified when the label changes from a slight haze to a clear finish.

1.3.5. Labels shall be placed so that they do not peel or lift but remain permanently affixed.

1.3.6. Labels shall not be utilized to augment existing stamping, with exception of fuse and sync record books. The Installation Supplier may either add the new information with a stamp or remove all of the existing designation and replace it with a new label. On equipment units including end guards, consistent labeling or stamping shall be done on a line-by-line basis.

1.3.7. If adhesive labels are provided by the manufacturer, the Installation Supplier shall verify that the information shown is correct.

1.3.8. The use of thermal transfer technology tape systems is limited to applications on smooth, nonporous surfaces. This tape shall not be used on ripple-finished surfaces or any other irregular surfaces.

1.3.9. All bays shall be designated with a visible DC or AC power source label at the top (front/side) of the bay. For SHO/VHO applications, all DC chassis shall be designated with a DC source power label. (See Figure L-10)

2. EQUIPMENT TYPES

2.1. Common Items

2.1.1. The front and rear of frames and bays shall be labeled with the bay designation, per the floor plan. Required format is FFFAAA.BB, F=Floor, A=Aisle and B=Bay (e.g. 020214.03).

For more information, see the creLink master floor plan guide available in the "CRELink Drawing Read Only Job Aid" located in TDocs.

2.1.2. The front and rear of equipment positions shall be designated with name and number. For SHO/VHO applications the front and rear of equipment shelves and panels shall be labeled with the node name and aisle.bay.plate/panel/shelf designation.

2.1.3. When designation cards are furnished for the top of the bay, the bay designation shall be placed on the cards. Required format is FFFAAA.BB, F= Floor, A=Aisle, B=Bay (e.g. 020214.03).

2.1.4. When bay designation cards are not furnished, the bay designation shall be placed on the base cover if it is not blocked from view by equipment. If the bay designation cannot be placed on the base cover; it shall be placed on the left upright between 4½ and 5½ feet
above floor. For cabinets in order preference place label at the 1) Top of cabinet 2) Bottom
of cabinet 3) Left upright of the cabinet or 4) right upright of the cabinet

2.1.5. The plug-in identification information shall not be covered.

2.1.6. Within transport and power areas all equipment lineup end guards shall be identified with
their aisle designation only. Individual bay identifiers are not required. If applicable even/odd
identifiers are to be placed below the aisle identifier.

2.1.7. Dedicated cable racks reserved for specific purposes (power, un-fused power cable, fiber
optics, etc.), shall be designated except as noted below.

a) Designations shall be placed on the outside of both stringers at the beginning, end and
at intervals not to exceed 10 feet on horizontal cable rack.

b) These designations shall specify the purpose for which the cable rack is dedicated,
followed by the word “ONLY” (e.g., power cable only, un-fused power cable only, fiber
optic cable only, AC whip only, etc.).

c) Designations shall be made 4½ to 5½ feet from the floor on vertical cable rack.

d) Designations are not required if the cable rack is dedicated for fiber optic cables and is
either yellow or orange in color.

e) Designations are not required for switching equipment cable racks.

2.1.8. The AT&T job order (TEO) number shall be stamped or labeled on the front of all new
equipment bays and units on the left side. If space does not permit the placement of this
information on the front of the unit, then the information may be placed on the frame upright
adjacent to the equipment unit. The AT&T job order (TEO) number shall be placed on each
unit of a partially equipped bay. If placed only once on a fully equipped bay this information
shall be placed on the top left or bottom left upright of the bay. It shall be placed on each
unit of a partially equipped bay. Plug-ins, Distribution frame blocks and other minor items do
not require the placement of a job order number.

2.1.9. Equipment mounted in cabinets, or cabinetized racks that have removable doors, covers, or
finishing details, shall have the designation stamped on both the cabinet framework, and
the doors, covers, and finishing details. The designation shall be placed on the doors,
covers, or finishing details in approximately the same location as it would be on the
framework.

2.1.10. Flag markers with near and far-end termination details shall be placed on the un-terminated
end of wire that is reserved for future use.

a) Does not apply to intra-bay wiring (i.e. switchboard cable and p-wire, etc.)

2.2. Transport

2.2.1. When communication panels are to be added, which are to be multiple to an existing panel,
the multiple destinations shall be designated on the rear of both the new and existing
panels.
2.2.2. Designation(s), with near and far-end termination details (e.g., shelf/bay/DF block, circuit number, TX/RX, etc.), shall be placed on both ends of un-terminated cables reserved for future use (by AT&T) or for collocation interconnection (by the CLEC). (Refer to Figure L-2) Note: In the case of CLEC cables, the DS0 cable tag needs to include what is designated at the MDF block. CLEC cable name and Line Splitter if designation includes Line Splitter, e.g., XXX01 (cable name) 1-100, 101-200, etc. (pairs), OE 001(bay). 01 (shelf)-001-100 (ports), CP001 (bay). 01 (shelf)-001-100 (ports). For Fiber, DS1 and DS3 cables, the Transmit and Receive leads shall be tagged separately. (For MDF Example Refer to Figure L-2)

2.2.3. The Installation Supplier shall designate both-ends of all inter-bay transport cables, alarm cables/wires, Ethernet cables, etc. with the applicable near-end and far-end termination information (bay number, shelf, slot, port/jack/WL#, etc.), and AT&T job order number. Refer to Figure L-2 for examples. Technology Center Ethernet ties do not require cable labeling as patch panels are cabled completely in pairs and only the patch panel is labeled. Installations with only one patch panel shall have at minimum, far end information, on the patch panel.

2.2.4. The Installation Supplier shall designate terminations associated with CLEC interconnection cabling, showing the minimum label requirements as reflected in Table L-2.

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Term Type</th>
<th>Minimum Label Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>DS0</td>
<td>100 PR Block</td>
<td>Refer to Drawing ATT-E-01891, Figure 3</td>
</tr>
<tr>
<td>DS1</td>
<td>84 Term Panel</td>
<td>ACNA / Panel / Jack (i.e. SUV 04 01 – 56)</td>
</tr>
<tr>
<td>DS3</td>
<td>24 Term Panel</td>
<td>ACNA / Panel / Jack (i.e. SUV 05 01 – 03, 8, 10 – 12)</td>
</tr>
<tr>
<td>Fiber</td>
<td>72 Fiber Term Panel</td>
<td>ACNA / Panel / Jack (i.e. SUV 03 01 – 24, 49 – 72)</td>
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2.2.5. The Installation Supplier shall designate the TID (Target ID) on the added equipment shelf when the NMA TID or equivalent (e.g. Granite Shelf ID, CLLI code) is included in the TEO and shall follow the format as specified in the equipment drawings when provided. The TID designation shall be placed on the front center portion of the shelf. If the front center portion of the shelf is not available, the designation shall be placed on any available space of the shelf or on the left bay upright.

2.3. **AC Power**

2.3.1. Power Service Cabinets (PSC’s) shall be supplied from the House Service Panel and are used for building distribution loads.

2.3.2. Power Distribution Service Cabinets (PDSC’s) shall be supplied from the House Service Panel and are dedicated to DC power plants.

2.3.3. Protected Power Service Cabinets (PPSC’s) shall be supplied from the UPS or inverter systems and serve AC protected power network elements.

2.3.4. AC building-type loads shall not be commingled with critical loads in PDSC’s and PPSC’s
2.3.5. Power Distribution Service Cabinets (PDSC’s) and Power Service Cabinets (PSC’s) shall be designated with name, number, voltage, phase and type of service, e.g., PWR DISTG SERVICE CAB 101 200A 240/120V 1PH/3W FED BY PANEL “X - CB#,” or PWR SERVICE CAB 101 200A 240/120V 1PH/3W FED BY PANEL “X - CB#,” (Refer to Figure L-6)

2.3.6. Protected Power Service Cabinets shall be designated with the PPSC cabinet designation, UPS system number or inverter system, voltage and phase. Refer to Figure L-7 and Figure L-8 for examples.

2.3.7. AC power service cabinet circuits shall be designated (labeled or stenciled, not handwritten) beside the circuit breaker or on the designation card with the location of the circuit being served and the circuit breaker amperage.

2.3.8. All hardwired AC powered equipment shall be designated with a 145 type tag (within six inches of the connection) with the location of power source and the circuit breaker number of the power source.

2.3.9. All AC outlets and light switches shall be designated with the location of the power source and circuit breaker number or inverter frame location. AC power strips with multiple outlets (such as those used with data mountings) shall be designated same as above once near the first outlet on the strip.

   a) Disconnected switches left in place because blank plates are not available shall be designated “DISCONNECTED” or “INACTIVE”.

   b) Lighting and equipment switches and AC circuits associated with the building facility not in place to provide service and illumination in the work environment (e.g. Thermostats, wall outlets, fluorescent ceiling lights, etc) are exempt of the TP requirements and shall follow the circuit designation requirements of the building management organization.

2.3.10. Voltage on all AC outlets shall be designated on or adjacent to the cover plate above the outlet for all voltages greater than 120 volts AC.

2.3.11. New end guards and existing end guards for all retrofitted lighting aisles controlled by motion sensors shall be designated at a height of between 5’ and 6’ with the location of the power source and circuit breaker number for the lighting circuit and a direction arrow to indicate to which aisle the information applies. See example below:

**Lighting (Motion Sensor Controlled)**

<table>
<thead>
<tr>
<th>Panel #</th>
</tr>
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<tbody>
<tr>
<td>Circuit #</td>
</tr>
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</table>

These arrows indicate which side, or both sides, of the line up that the lighting is controlled by motion sensors
Use a 1” Brother P-Touch or similar labeling device with three rows of text per label as illustrated by the photograph below.

2.3.12. “Disconnect AC Before Opening” shall be designated or labeled on trolley coupling or end cap.

2.3.13. All AC circuits originating in miscellaneous or building electrical panels (PSC’s) shall be designated (labeled or stenciled, not handwritten) on the panel schedule card.

2.3.14. Foundation Distribution Cabinets (FDC’s) shall be supplied from the UPS or inverter systems and serve AC protected power network elements.

2.3.15. Inverter fed AC power service cabinets shall be designated with name, number, voltage and type of service, e.g., Protected Power Service Cabinets, PPSC CAB 001 208V AC 60 HZ 3PH 4W. Refer to Figure L-7 and Figure L-8 for examples.

2.3.16. All AC powered equipment with power cords greater than 6 feet long shall have the power cords labeled at both ends with a 145 type tag. Designations shall include the near and far end information.
2.3.17. All AC powered equipment with power cords less than 6 feet long shall have the power cords labeled at the plug end with a 145 type tag. Designation shall include the near and far end information.

2.3.18. All 145 type tags shall be secured with multi-strand waxed cord, with a sufficient pigtail to allow the tag to be rotated for viewing. Tags equipped with metal rings shall have the ring removed. The tag size shall be between ¾" to 1" wide, by 1¼" to 1¾" in length.

2.4. DC Power

2.4.1. Power Boards (PBDs)

a) All fuse and circuit breaker positions shall be designated with frame location, fuse/circuit breaker size, load, and, if applicable, fuse panel number or equipment unit.

b) Fuse or circuit breaker numbers shall be designated on the front and back of the panel.

c) The numbering convention for existing power plants shall be matched.

1. A supplemental PBD added to an existing power plant shall follow the numbering convention already in place for that plant.

2. Panels added to an existing PBD shall follow the numbering convention already in place for that plant.

d) New power plant PBDs shall be numbered in \textit{bay}.\texttt{panel.fuse} format. The \textit{panel and fuse} sequence will be similar to BDFBs; bottom to top, left to right (viewed from front), on a per bay basis. Reference standard drawing ATT-05400-E for typical PBD configurations.

1. PBD individual bays shall be designated with the bay floor plan location per the standard \texttt{FFLLLL.BB} designation. E.g., if the PBD bay is located at 010100.08, then that PBD bay shall be designated as \texttt{08.panel.fuse} in the database of record. Each supplemental PBD bay shall be numbered similarly, using its floor plan bay location.

2. Each panel position shall be designated as its peak mounting height in either inches or rack units (RU). e.g., if a panel occupies inches 1 thru 8 of the power distribution bay, it will be designated panel number 8. A second panel that occupies inches 9 through 16 will be designated as panel number 16.

3. The bottom left fuse position on each panel shall be designated as 1. For vertical split panels, the fuse positions will be counted in odd increments on the left, and even increments on the right (viewed from the front of the PBD).

\textit{Exception:} When a PBD manufacturer hard codes a fuse position number convention in the power plant controller, then the manufacturer dictated convention shall be followed. The AT&T format of \textit{bay}.\texttt{panel.fuse} shall still be in effect.

2.4.2. Miscellaneous Fuse Bays and Panels

a) The Installation Supplier shall designate fuse panels in a miscellaneous fuse bay with row designation in configurations with multiple fuse panels and voltage designation.
2.4.3. Power Distribution Units (PDUs, aka Fuse and Alarm Panels (FAPs))

a) The Installation Supplier shall designate fuse panels in a single bay with row designation in configurations with multiple fuse panels and voltage designation.

b) The Installation Supplier shall ensure that miscellaneous bay mounted fuse panels have a fuse record book, fuse assignment card or plate mounted on the bay upright adjacent to the fuse panel.

c) The Installation Supplier shall record equipment additions, amperages and fuse positions on the fuse designation card, record book, or bay mounted designation plate.

d) Fuse record book covers shall be designated with “Fuse Record” and bay location.

e) Fuse record card covers in PDUs shall be designated with the bay location and if applicable, the fuse panel number.

f) The Installation Supplier shall stamp, label or type added circuits on fuse record book sheets with black ink, or use lettering guide with permanent black ink. A marking pen may be used.

g) Correction fluid shall be used to remove circuit information from the fuse record book for circuits removed from fuse panels.

h) The fuse record sheet shall be retyped after a maximum of 5 handwritten additions, removals or corrections. Replacing pages shall be of the same size as existing pages.

2.4.4. BDFBs and Secondary Power Distribution Units (SPDUs)

a) Alarm fuses in BDFBs/SPDUs not mounted adjacent to the discharge fuse shall be designated to associate them with discharge fuses.

b) All fuse and circuit breaker positions shall be designated with frame location, fuse/circuit breaker size, load, and, if applicable, fuse panel number or equipment unit.

c) Fuse or circuit breaker numbers shall be designated on the front and back of the panel.

d) At the BDFB/SPDU, power load (e.g., A, B, C or D) shall be designated on the shelf (panel).

e) The Installation Supplier shall designate on the front of the BDFB/SPDU (under meter, if applicable) the size and location of the primary fuse or circuit breaker feeding the BDFB/SPDU. (See AT&T Drawing ATT-P-05410-E for an example of the labeling designation.)

f) The actual engineered one way voltage drop shall be designated on the BDFB/SPDU near the power board designation per ATT-P-05410-E Figure #6.

g) BDFBs/SPDUs shall be numbered from bottom to top, starting with “1.” On horizontal panels the count will start at the bottom left and go to right. Each fuse position shall be designated with its panel and fuse position number, e.g., 2.15 (fuse panel 2, fuse position 15). See AT&T Power Drawing – ATT-P-05400-E for specific BDFB/SPDU designation requirements.
Exception: When an SPDU/BDFB is provided as part of a turnkey solution and the SPDU/BDFB is dedicated to the turnkey solution it may follow the numbering convention assigned by the manufacturer.

In these instances, the SPDU/BDFB shall be stenciled as being dedicated to the specific piece of equipment and if entered into a capacity tracking system (e.g. TAB/db, Irma), notes shall be placed in the inventory system that the SPDU/BDFB is not available for assignment to any equipment other than the equipment for which it was installed.

h) External BDFB/SPDU battery return bus bars or the supporting auxiliary framing shall be stamped with the BDFB/SPDU number associated with the bus bar. If the auxiliary framing is designated, the designation shall be located directly above or below the return bus (within 12 inches) and shall also include arrows.

2.4.5. Bus bars outside the power plant area shall be designated with potential and group designation (such as 
-48V Load A, Battery Return, etc.) in 3/4-inch lettering.

2.4.6. Battery Racks

a) The battery rack shall be designated with:
   1. Polarity, Voltage (e.g. -48V) and String ID
   2. Battery cell manufacturer, model and capacity
   3. Battery manufactured date
   4. Date installed
   5. AT&T job order number
   6. Battery rack manufacturer and model number

b) The designation shall be placed on the right side of the rack upright or shelf as to match existing applications where applicable; if the right side of the rack is against the wall, the front of the upright shall be used. (See Figure L-11)

c) All characters shall be 3/8 inch, with the exception of string identification which shall be ¾ inch.

d) The battery stand shall be designated to indicate the selected pilot (P) cell and the position number of each cell.

2.4.7. In order to provide a reference for PDSC assignments, plug-in rectifier bays shall be labeled to indicate rectifier slot assignments using the G1, G2, G3 format. If sufficient room does not exist on the front of the bay for the labels then a sheet designating the assignments will be placed in a plastic holder and attached to the front of the bay (not obstructing airflow).

2.5. 145 Tag Requirements for DC Power (Refer to Figure L-9)

2.5.1. All 145 type tags shall be secured with multi-strand waxed cord, with a sufficient pigtail to allow the tag to be rotated for viewing. The tag size shall be between ¼” to 1” wide, by 1¼” to 1¾” in length.
2.5.2. Except as noted below, the Installation Supplier shall place 145 type tags with the far end designation, on all battery and battery return leads. For leads connected to the battery return bus bar, the associated fuse number shall also be designated on the 145 type tag.

a) When a network element is installed in a bay and the battery and battery return leads run to a fuse panel within the same bay, the Installation Supplier shall update the fuse designation card or fuse record book, indicating designation of shelf. 145 type tags or equivalent are not required on battery and battery return leads at the network element or fuse panel.

b) When a network element is installed in a bay and the battery and battery return leads run outside the bay to a fuse panel in a different bay, the Installation Supplier shall place 145 type tags or equivalent on the battery and battery return leads at the rear of the network element showing far end designation. When battery and battery return leads utilize 16 gauge or smaller wire, one 145 type tag can be used for both leads. 145 type tags or equivalent are not required at the fuse panel if the fuse panel is equipped with designation card or fuse record book. The designation card or fuse record book shall be updated.

c) Battery and battery return leads internal to switching systems do not require 145 type tags.

d) When the cables in question do not utilize a typical cable routing system, i.e. ladder type cable rack, and both ends of said cables are visually traceable.

2.5.3. Any un-terminated ends of power cable shall be equipped with a 145 type tag designating the far end termination.

2.6. BITS Shelves

2.6.1. Building Integrated Timing Supply (BITS) shelves shall be designated in accordance with AT&T Standard Equipment Drawings.

2.6.2. Shelf labels shall be placed on the front face panel of the wire wrap panel above each BITS shelf in accordance with Table L-4. SHO/VHO Shelf labels shall be placed on the front face panel of the BITS shelf in accordance with Table L-4.

2.6.3. Designation markers for "near and far-end identification" shall be placed on each BITS to NE timing cable 2 to 6 inches from the butted end of the cable at both the BITS end of the circuit and at the network element end of the circuit. (Refer to Figure L-2). SHO/VHO Designation markers for "far-end identification" shall be placed on the cable 2 to 6 inches from the butted end of the cable at both the BITS end of the circuit and at the network element end of the circuit. (Refer to Figure L-2)

2.6.4. All cable markers shall be white with black letters.

2.6.5. BITS record books shall be maintained only where they currently exist. BITS records books shall not be created for locations for which they do not currently exist. The Installation Supplier shall type, stamp, or label (never handwritten) all designations on the designation markers. Where BITS record books are maintained, the installation supplier shall type or stamp all entries in the BITS record book, or shall supply an updated hard copy of
assignments from the regionally approved record keeping system (e.g. TAB/db, SyncTrac, or GeoLink). See 2.6.10 for additional information on BITS record books.

2.6.6. “P” or “S” shall indicate Primary and Secondary designations. Primary is equal to Lead A, Secondary is equal to Lead B.

2.6.7. The designation marker at the network element end of each BITS to NE timing cable shall contain the near and far-end terminating location of the BITS shelf including the bay, shelf, slot/Group, port, and primary or secondary. (Refer to Table L-4) SHO/VHO designation markers at the network element shall contain the far end terminating location of the BITS shelf including the bay, shelf, slot, port, and primary or secondary. (Refer to Table L-4) The designation marker at the BITS shall contain the far end terminating location. For a single timing lead to an entire bay (i.e. D4, SLC 96 bays etc.), the bay location designation is sufficient. If multiple leads are supplied for timing within a single bay (i.e. SONET ADMs, SLC SERIES 5 bays etc.), each termination shall be individually addressed. SONET ADM designations shall include the bay and shelf locations.

2.6.8. The designation marker at the BITS end of each BITS to NE timing cable shall contain the near and far-end terminating location. For a single timing lead to an entire bay (i.e. D4, SLC 96 bays etc.), the bay location designation is sufficient. If multiple leads are supplied for timing within a single bay (i.e. SONET ADMs, SLC SERIES 5 bays etc.), each termination shall be individually addressed. SONET ADM designations shall include the bay and shelf locations.

2.6.9. When replacing a Timing Signal Generator (TSG) and reusing the existing wire wrap panels, the cables between the new TSG and the wire wrap panels shall be labeled on each end per the instructions included in the Engineering Requirements documents.

2.6.10. For existing BITS record books the Installation Supplier shall designate the far end termination in the record book. If a database record is placed as the designation in the BITS record book, it shall be fastened in the book using the securing screws of the book. Plastic pouches and sleeves shall not be used.

2.7. Distributing Frames

2.7.1. The vertical side of distributing frames shall be designated as follows:

a) Designate the first, last, and each fifth vertical (i.e. 1, 5, 10, 15…) with the shelf letter (i.e., A, B, C …P) on the vertical stiffening bar between the transverse arms for each shelf. The label or stamp shall be placed between the transverse arm of the vertical being identified and the next higher vertical (i.e. the label for vertical 5 would be placed between the transverse arms of verticals 5 and 6). When the frame block is added, designate the shelf letter on the lower right front of the frame block.

b) Designate the 7th (G) shelf from the floor with the vertical number at the end of the transverse arm for each vertical (i.e. 1, 2, 3…). When a frame block is added, designate the vertical number on the lower right front of the frame block.
c) Where the shelf and vertical designations intersect, designate the location with the vertical number first, followed by the shelf letter, (i.e., 1G, 5G, 10G…).

2.7.2. The horizontal side of the distributing frame shall be designated as follows:

a) Designate the first, last, and each fifth vertical (i.e., 1, 5, 10, 15…) with the shelf letter (i.e., A, B, C …P) on the horizontal stiffening bar between the transverse arms for each shelf. When the frame block is added, designate the shelf letter on the lower right front of the frame block.

b) Designate the fourth (D) and the tenth (K) shelf with the vertical number on the horizontal stiffening bar between the transverse arms. When the frame block is added, designate the vertical number on the lower right front of the frame block.

c) Where the shelf and vertical designations intersect, designate the location with the shelf letter first, followed by the vertical number, (i.e., D1, D5, D10…).

2.7.3. On the vertical side of distributing frames, circuit numbering within the block shall be from top down. Vertical block placement, low count to high count, shall follow the existing pattern unless directed otherwise by the TEO. On the horizontal side, circuit numbers shall be numbered from left to right (facing the front of the terminal strip).

2.7.4. Cable board designations shall include vertical number, cable number, cable pair count, pair gain number and pair gain count.

2.7.5. The Installation Supplier shall stamp or label distributing frame blocks and/or covers as instructed in the TEO or drawings. The minimum requirements are:

a) Functional lead designation for each circuit type (at least one row per terminal strip)

b) Circuit designation (by name or drawing number)

c) Equipment location (relay rack number, etc.)

2.7.6. When new equipment is added, the inside and outside cover(s) of the frame blocks shall be updated.

2.7.7. For cables going to CLECs, the Installation Supplier shall designate distributing frame blocks and/or covers per drawing ATT-E-01891-E Figure 3.

2.7.8. “Tip” designation shall always precede the “Ring” designation.

2.7.9. The cable pair information shall be designated on COSMIC frames designation cards.

2.7.10. For COSMIC frames blocks, labels are created manually unless the frame is owned by one of the Telco legal entities. For Telco jobs the FRAMEMATE program can be used to create the labels.

2.8. Grounding Designations

2.8.1. The Installation Supplier shall place 145 type tags or equivalent on ground cable terminations; however, grounding conductors do not require identification of short runs when both ends are clearly visible from a point on the floor. The tag shall be designated to show the far end termination.
2.8.2. The Installation Supplier shall designate bars associated with the CO grounding system or isolated bonding network with the functional designation of the bar in 3/4-inch lettering. This includes the CO Ground Bar, Main Ground Bar (MGB), Office Principal Ground Point Bus (OPGPB), etc., and collection bars or splice plates such as Common Bonding Network (CBN) collection bar, Integrated Ground Splice Plate (INGSP), Frame Bonding Equalizer (FBE), etc. A sign at the bus bar may be used instead of stamping at the discretion of the ATT Representative.

2.8.3. The MGB shall be identified with minimum 3/4" letters by way of stamping, stenciling or a designation plate. The designation shall be located so that it is easily visible from the floor. The designation may be directly on the bus bar or on the supporting cable rack or ironwork adjacent to the MGB.

2.8.4. The MGB portion of battery return bars shall be identified using stenciling or an identification plate. Lines and arrows shall also be used to identify the boundaries of the MGB.

2.8.5. The Installation Supplier shall designate the CBN side of the MGB with "Common" and the isolated side of the MGB with "Isolated". A separation line shall be designated on the MGB to delineate the two sides. [SHO/VHO terms used in designations for IS POP/VHO GRD bus bars shall be either "POP/VHO GRD", "POP GRD", "VHO GRD". For OPGP bus bars, the terms used in the designations shall be "OPGP", "O.P.G.P." or "Office Principal Ground Point". Terms such as "Telco Ground" or "Telephone Ground" shall not be used.]

2.8.6. Certain CO grounding system conductors shall be equipped with a brass or plastic laminate tag with the phrase "DO NOT DISCONNECT" designated on the tag. The letters shall be 3/16" minimum. The following conductors shall always be equipped with this tag:
   a) Conductors from earth electrodes
   b) Grounding conductors at a water pipe
   c) Grounding electrode conductors from a house service panel or other source of a separately derived system (transformer, UPS, etc.)
   d) Horizontal equalizer connections at a bus bar
   e) Vertical equalizer connections at a bus bar
   f) Both ends of a power plant's DC system grounding conductor
   g) Both ends of grounding conductors between a protector frame and an office bus bar.
   h) Conductor serving a cable entrance facility.

3. FIBER OPTIC LASER WARNING LABELS

3.1. Requirements

3.1.1. Manufacturer supplied fiber optic warning labels shall be applied to the equipment per manufacturer's specifications.
4. OTHER DESIGNATIONS

Cables or jumpers installed but not designated for anything shall be flagged with the "from" location, "to" location and the word "SPARE" followed by a unique number (e.g. Spare #1, Spare #2, etc).

4.1. DSX

4.1.1. Digital system cross connect (DSX) panels equipped with manufacture supplied front designation strips/panels shall be designated with far-end connection information. [SHO/VHO Digital system cross connect (DSX) panels shall be designated on the front of the panel with network element connection information as leads are terminated on the panel (not required on rear).] The following information shall be provided on designation strips of the DSX panel:

a) Frame/module name and number or relay rack number.
b) Circuit number (such as channel, bank, repeater, multiplexer, fiber terminal, etc.).
c) Jack positions shall be labeled with the first, last, and at least every fifth jack with its associated circuit number within the group.
d) On DSX-3 panels, one designation area shall be reserved for AT&T use.
e) Place a circuit limit designation (brackets) when designating frame terminal strips or DSX jacks. This designation shall indicate the beginning and end of circuit terminations. It shall also be used to separate group, sub-group, functional and numeric designations.

4.1.2. Cables carrying DS-0 and DS-1 signal shall have at both ends of the cable identified with a single flag style designation with near and far-end designations at the cable butting point. The designation shall contain the Near-End information (located on the upper portion of the label), the Far End information (located on the bottom portion of the label), the RR code, Jack #, and AT&T job order number.

4.1.3. Multiple DS-3 cables under one sheath (6 pack, 8 pack, etc.) shall have at both ends of the cable identified using a single flag style marker with near and far-end designations. The designation shall contain the Near-End information (located on the upper portion of the label), the Far End information (located on the bottom portion of the label), the FIC, Jack #, AT&T job order number and the Engineered Coaxial Cable Length from the Network Element to the DSX-3 panel or the Engineered Coaxial Cable Length from the Network Element to the Network Element if no intermediate DSX-3 panel exists in the circuit. [Example: 245ft] to be placed at the right side of the marker as, shown in Figure L-2.

a) The designation shall be applied at the point where the cable is butted (to allow for each individual cable to be easily identified).
b) If the cable sheath is not butted upright at a point level with the cable termination as stated in 4.1.3.a) the designations shall be applied to each individual cable.

4.1.4. Individual cables carrying DS-3 signal shall have at both ends of the cable flag style markers with near and far-end designations. The designation shall contain the Near-End
information (located on the upper portion of the label), the Far End information (located on the bottom portion of the label), the FIC, Jack #, AT&T job order number and the Engineered Coaxial Cable Length from the Network Element to the DSX-3 panel or the Engineered Coaxial Cable Length from the Network Element to the Network Element if no intermediate DSX-3 panel exists in the circuit. [Example: 245ft] to be placed at the right side of the marker, as shown in Figure L-2.

a) When an individual cable is disconnected, it shall be designated accordingly to insure it may be properly reconnected.

4.2. FIBER

With respect to this section reference section O 1.2 for acronyms and definitions.

4.2.1. Fiber distribution frame shelves shall be designated according to manufacturer’s specifications.

4.2.2. If the manufacturer does not provide designations, the fiber terminations will be identified every 6 couplers top to bottom i.e. 1-6, 7-12 etc. left to right on the front and right to left on the rear of the shelf covering the full count of the shelf.

4.2.3. Fiber termination panels shall have far end termination designations (frame location, panel and port) placed on the following.

a) At the front of the panel or manufacturer provided assignment card.

b) If the fiber termination panel is for dedicated use, (e.g., tie pairs, tie cable, OSP Cable, etc.), the far end frame location, panel and port shall be indicated on the front of the cover. If inventoried in the provisioning inventory database (e.g., TiRKS, Granite, etc.), the cable name along with the “A” CLLI code and cable count shall be labeled on the front of the panel.

The “Z” CLLI code, if provided, shall also be included.

Cable name, A/Z CLLI, and cable count formatting examples:
CABLE 7002/OKLDC00A03/OKLDC00A03 (1-72)
CABLE HY01/HYWRCA01 (73-144)
CABLE W3601/SNFCCA01/SNFCCA01W36 (1-144)"

4.2.4. Labeling conditions for non-terminated fiber cables/patch cords.

a) Individual patch cords or cable breakouts at the NE equipment location shall have both Near-End (at the top) and Far-End (at the bottom) applicable termination information placed as a flag style designation label on each individual conductor/breakout.

b) Duplex Type Jumpers/Patch cords shall have a single flag style designation label on one leg of the duplex with both Near-End (at the top) and Far-End (at the bottom) applicable termination information.

c) TX and RX fiber designations are not required for fibers that carry bidirectional traffic (e.g. PON ports on OLT devices).

4.2.5. Labeling conditions for terminated fiber cables/patch cords
a) All fiber terminations at the rear of the FDF, except for fiber cable with 900μ breakouts, shall not require a label.

Fiber cable with 900μ breakouts at rear of the FDF shall have a single flag style designation label. The designation shall include the Near-End (at the top) and Far-End (at the bottom) information containing the Relay Rack, Shelf, and AT&T job order number. This label is to be placed on outer jacket of fiber cable, not on individual 900μ strands/breakouts.

b) All fiber patch cords at the NE equipment location shall have a single flag style designation label. The designation shall include the Near-End (at the top) and Far-End (at the bottom) information containing the Relay Rack, Shelf, Slot, Port or Jack #, TX or RX, and AT&T job order number.

c) All fiber cable with 1.6mm or 2.0mm breakouts at the NE equipment location shall have a single flag style designation label in each fiber strand/breakout. The designation shall include the Near-End (at the top) and Far-End (at the bottom) information containing the Relay Rack, Shelf, Slot, Port or Jack #, TX or RX, and AT&T job order number.

Note: Fibers used for bidirectional traffic shall not include TX or RX designations on the label.

d) Duplex Type Jumpers/Patch cords at the NE equipment location shall have a single flag style designation label on one leg of the duplex (TX) with the tags at the terminated ends. The designation shall include the Near-End (at the top) and Far-End (at the bottom) information containing the Relay Rack, Shelf, Slot, Port or Jack #, TX, and AT&T job order number.

If each leg terminates on different NEs, or different cards within the same NE then both ends shall have their own label.

e) Multi-stranded cables that terminate on the front side of the OSP LGX/FDP (1.6/2.0mm breakouts) shall have a single flag style designation label in each fiber strand/breakout at both, the OPS NE equipment location and the front side of the OSP LGX/FDP. The designation shall include the Near-End (at the top) and Far-End (at the bottom) information containing the Relay Rack, Shelf, Slot, Port or Jack #, TX or RX, and AT&T job order number.

Examples of the equipment in question are the CIENA 6500 and the CORIANT NSN hiT 7300. These are normally two (2) fiber riser cables.

4.2.6. Fiber panel designations (except NG4 product line) for SM (Single-Mode) and MM (Multi-Mode) use.

a) Fiber panels dedicated for MM fiber shall have a label on the front of the panel designating it “For Multi-Mode use only”.

b) Fiber panels sharing SM and MM fiber shall have a label on the front and the rear of the panel designating it “ports 1-x for Single-Mode use only” and “ports y-z For Multi-Mode use only”.
c) Fiber panels sharing SM and MM fiber shall get their label updated every time the SM and MM range is changed.

4.2.7. There is no requirement to place a flag marker on any fiber cross connect (cross connect being defined as fibers on the front of an FDP to another front side of an FDP).

4.2.8. The TX and RX designation is not required when both sides of the fiber assembly are terminated to rear of a fiber panel (e.g. cross aisle fiber tie).

4.2.9. Typical Fiber Termination Information (See Figure L-2 for other examples).
   a) Fiber Panel (Generic):
      FFAAAA.BB, Panel PP, Jack ZZ (TX or RX or neither)
   b) Fiber Panel (NG4 Style):
      FFAAAA.BB, Panel P, Tray T, Jack ZZ (TX or RX or neither).
   c) Network Element:
      FFAAAA.BB, Shelf XX, Slot YY, Port ZZ (TX or RX or neither)

Fiber distribution frame shelves shall be designated according to manufacturer's specifications.

4.3. **Cable Hole Designations**

Cable hole and wall designations are documented in the floor plan by the COLD Engineer.

4.3.1. Through-penetrations shall be uniquely identified as follows;
   a) The cable hole designation shall be stamped on the top steel cover(s) and face of sheathing channel of floor openings.
   b) The cable hole designation shall be stamped on both sides of wall openings. Where multiple covers are involved all covers shall be stamped.
   c) Cable hole designations shall be centered horizontally approximately 2 inches from front edge of cover (bottom edge of wall covers).
   d) Designations on cable hole sheathings shall be centered horizontally just below the top of the sheathing assembly. Note: Cable hole numbering conventions can be found in Section 4 of ATT-TP-76400

4.4. **Retired In Place Equipment**

4.4.1. Equipment retired in place shall be clearly marked, "RETIRED IN PLACE" with black lettering on a white background. Equipment staged for reuse shall be clearly marked, "DECOMMISSIONED EQUIPMENT" and shall have black lettering on a white background. Follow instructions provided in APEx document ATT-JA-000-003-812, Process to Retire In Place (RIP) or Stage it for Reuse.

4.5. **Information Services Equipment**
4.5.1. When communication panels are to be added, which are to be multiple to an existing panel, the multiple destinations shall be designated on the rear of both the new and existing panels.

4.5.2. 145 type tag(s), with near and far-end termination details (e.g., shelf/bay/DF block, circuit number, TRMT/RCV, etc.), shall be placed on the unterminated end of cables reserved for future use. (Refer to Figure L-3)

4.5.3. The Installation Supplier shall designate terminations showing the minimum label requirements as reflected in SHO/VHO Table L-3.

**SHO/VHO TABLE L-3**

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Term Type</th>
<th>Minimum Label Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>DS1</td>
<td>84 Term Panel</td>
<td>Relay Rack / Panel / Jack (e.g. 0201.01 / 3 / 1 - 84)</td>
</tr>
<tr>
<td>DS3</td>
<td>24 Term Panel</td>
<td>Relay Rack / Panel / Jack (e.g. 0201.01 / 3 / 1 - 24)</td>
</tr>
<tr>
<td>Fiber</td>
<td>72 Fiber Term Panel</td>
<td>Relay Rack / Panel / Jack (e.g. 0202.05 / 8 / 1 - 72)</td>
</tr>
</tbody>
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TABLE L-4 – MINIMUM SIZES OF CHARACTERS (inches) FOR COMMON APPLICATIONS ON FRAME AND RACK-MOUNTED EQUIPMENT

(See TP76300 Section L 1.2.9)

<table>
<thead>
<tr>
<th>Designation Location</th>
<th>Size</th>
<th>Designation Location</th>
<th>Size</th>
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<tbody>
<tr>
<td>Aisle End Guards</td>
<td>3/4</td>
<td>HMDF</td>
<td>1/8</td>
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<tr>
<td>RR/Bay Designations</td>
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<td>Terminal Covers - Outer</td>
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<tr>
<td>Bay Name (OC 48, D4 CXR etc.)</td>
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<td>Terminal Covers - Inner</td>
<td>1/8</td>
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<tr>
<td>Equipment Designations</td>
<td></td>
<td>Cable Racking (Power Cable Only, etc.)</td>
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<tr>
<td>Shelf/Panel/Unit Numbering/Lettering</td>
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<td>TID</td>
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<td>CLEI Codes</td>
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<td>Fiber Protection System</td>
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<td>Fuse Panel Assignments</td>
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<td>AC Assignments</td>
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<td>BDFB, PBD, PDB, PDF etc.</td>
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<td>Fuse Position</td>
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<td>Outlet / Switches</td>
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<td>Panels</td>
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<td>AC Panels</td>
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<td>145 type Tags (see Para 1.2.11c for more info)</td>
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<td>Terminal Covers - Inner</td>
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<td>Clock Assignments</td>
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FIGURE L-2

FLAG LABEL EXAMPLES:
*Note: Not mandatory format

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<tr>
<th>FRONT</th>
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<th>REAR</th>
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<tbody>
<tr>
<td>0.50</td>
<td>NEAR: 010101.01 PNL01 JK01RX</td>
<td>FAR: 010202.02 TEO ***</td>
</tr>
<tr>
<td>0.75</td>
<td>NEAR: 010101.01 PNL01 JK01RX</td>
<td>FAR: 010202.02 PNL03 JK01TX</td>
</tr>
<tr>
<td>1.00</td>
<td>NEAR: 010101.01 PNL01 JK01</td>
<td>CARD 04 TX</td>
</tr>
</tbody>
</table>

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<tr>
<th>FRONT</th>
<th>ONE SIDE</th>
<th>REAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.50</td>
<td>EQUIPMENT NAME 245FT</td>
<td>NEAR: 010101.01 PNL01 JK01RX</td>
</tr>
<tr>
<td>0.75</td>
<td>NEAR: 010101.01 PNL01 JK01RX</td>
<td>FAR: 010202.02 PNL03 JK01TX</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
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<th>TWO SIDE</th>
<th>REAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.50</td>
<td>EQUIPMENT NAME 245FT</td>
<td>FAR: 010202.02 PNL03 JK01TX</td>
</tr>
<tr>
<td>0.75</td>
<td>NEAR: EQUIPT NAME 010101.01 PNL-01 JK-01 TX</td>
<td></td>
</tr>
<tr>
<td>1.00</td>
<td>NEAR: EQUIPT NAME 010101.01 PNL-01 JK-01 TX</td>
<td>CARD 04 TX</td>
</tr>
</tbody>
</table>
FIGURE L-3

145 STYLE DESIGNATION TAGS
*Note: Not mandatory format
MINIMUM

FRONT NEAR REAR FAR

010101.01
01 01 RX
1.25
010202.02
03 01 TX

MAXIMUM

FRONT NEAR REAR FAR

EOPT NAME
010101.01
01 01 RX
1.75
EOPT NAME
010202.02
03 01 TX

FIGURE L-6 -- POWER SERVICE CABINET LABEL EXAMPLE

PSC 101
120V/240V - 1P/3W

200A Fed By
Panel H10 - CB#3
FIGURE L-7 -- PROTECTED POWER SERVICE CABINET LABEL EXAMPLE

PPSC 01
120V/208V - 3P/4W
200A Fed By UPS 1-A

FIGURE L-8 -- PROTECTED POWER SERVICE CABINET LABEL EXAMPLE

PPSC 03
120V - 1P/3W - 200A
Fed By Inverter
000.28
FIGURE L-9

SOURCE

[load name] [load location FFLLLL.BB] [load panel or shelf] [load designation for this ckt] “BATT”

LOAD

[source name] [source location FFLLLL.BB] [source panel] [source fuse position] [load desig for this ckt] “BATT”

BATT

RTN

[load name] [load location FFLLLL.BB] [load panel or shelf] [load designation for this ckt] “RTN”

[source name] [source location FFLLLL.BB] [source panel] [source fuse position] [load desig for this ckt] “RTN”

Notes:

1) An SPDU (BDFB, FAP, etc.) can be a Source or a Load.
2) FFLLLL.BB is bay / relay rack / cabinet designation where:
   FF is the floor,
   LLLL is the lineup, and
   BB is the bay / rack / cabinet.
3) Typical Abbreviations:
   PBD – Power Board
   BDFB – Battery Distribution Fuse Board
   BDCBB – Battery Distribution Circuit Breaker Board
   FAP – Fuse and Alarm Panel
   PDU – Power Distribution Unit
   PEM – Power Equipment Module
   PNL – Panel
   SH – Shelf
   FS – Fuse
   LD – Load
   BAT or BATT – Battery
   RTN - Return
4) “LD-A”, “LD A”, and “LDA” are equivalent and acceptable.
5) Sequence of information and number of lines used may be adjusted to fit within the 145 tag space.
6) “XYZ” is a generic example of a network element name.
Examples – Primary Feeds (PBD as the Source):

- **PBD**
  - BDFB
    - 020110.00
    - PNL 5 LD-E
    - BATT
    - 020110.00
    - RTN LD-E
- **PBD**
  - PBD
    - 00010001
    - PNL 24 FS 1
    - LD-E BATT
  - PBD
    - 00010001
    - PNL 24 FS 1
    - LD-E RTN
- **PBD**
  - FAP-2 LD-A
    - 020112.04
    - BATT
  - FAP-2 LDA
    - 020112.04
    - RTN
- **PBD**
  - XYZ SH1
    - 020112.06
    - PEM 0-0 LDA1
    - BATT
  - XYZ SH1
    - 020112.06
    - PEM 0-0
    - RTN LD-A1
Examples - Secondary Feeds (SPDU as the Source):

SPDU / BDFB

020112.02
FAP LD A BATT

020112.02
FAP LD A RTN

SPDU / BDFB

XYZ SH-1
020112.08
LD-A1 BATT

XYZ SH1
020112.08
LD-A1 RTN

SPDU / FAP

BDFB
020110.00
PNL 5 FS 1
LD A BATT

BDFB
020110.00
PNL 5 FS 1
LD A RTN

NE

BDFB
020110.00
PNL 5 FS 2
BATT LD-A1

BDFB
020110.00
PNL 5 FS 2
RTN LD-A1

NE (not in same bay)

XYZ
020112.12
SH 1 LD-A BATT

XYZ
020112.12
SH1 LD-A RTN

FAP FS 8
020112.10
BAT LDA

FAP LD-A
020112.10
FS 8 RTN
FIGURE L-10

BAY POWER SOURCE LABEL EXAMPLES

POWER SOURCE
-48V BDFB 103.01
LD-A FS 112

1/2"-1" TAPE

POWER SOURCE
-48V BDFB 103.01
LD-B FS 512

FIGURE L-11

Battery Stand Installation Markings
[END OF SECTION]