APPENDIX D

Labeling Guidelines

1.0 Labeling and Demarcation

1.1 General

Proper demarcation and labeling can significantly improve an operator's ability to use a set of controls and/or displays. Demarcation of functionally grouped controls and displays reduces operator search time. Demarcation also aids in defining or reinforcing the relationship between controls and their displays. Labeling the functionally grouped and demarcated controls/displays can reduce the wordiness of individual component labels and can increase information transfer.

Groups of functionally similar controls/displays should be enclosed by demarcation lines. The demarcated area should be labeled with a descriptive title as to the system or function of the demarcated controls. Each individual component should be labeled with its alpha-numeric designator and/or its descriptive name. The descriptive title of the demarcated group should not be repeated in the individual component labels. Letter size, label color, abbreviations and material should conform to the guidelines set forth below.

1.2 Abbreviations

Refer to Appendix A for preferred abbreviations.

1.3 Color Conventions for Labels

Caution Labels
- Red labels with white letters: serious
- Yellow labels with black letters: less serious

Emergency Control or Power Sources (such as Rx Trip or Turbine Trip)
- White labels with red letters

ESF Manual Actuation Controls
- White labels with red letters

Identification Labels
- White labels with black letters
- Device names, instrument numbers, and system titles are all Identification (ID) labels as are functional (hierarchical) group labels.

Information Labels (including mimic source and destination)
- Black letters on light grey background

1.4 Component Designations

1.4.1 Nomenclature should be consistent with procedures and flow diagrams.

1.4.2 Controls and displays should be identified by a descriptive name and alphanumeric designator where available.

1.4.3 Controls and displays in a mimic may be identified by its alpha-numeric designator if its position in the mimic describes its function.

1.5 Demarcation

A thin strip of Warm Grey (Munsell No. 8.4Y 8.3/0.5) should be left in between systems or large groups of instruments demarcation shading colors. This strip should be used to designate a boundary of a system or a large group of instruments, whose background shading color is Olive Green (Munsell No. 7.8Y 7.7/3.1) for the NSSS and Grey (Munsell No. 7.4Y 6.7/0.5) for the BOP.

Width of the strip is as follows:
- For system or large group demarcation: 0.7 cm (0.28 inch)
- For subsystem or small group demarcation: 0.4 cm (0.16 inch)

Group labels should be centered on the demarcation

1.6 Labeling Format-Lettering (see Appendix 4U)

Style - Block Print

Character Height = 0.004 x Reading Distance = Minimum Character Height (@ 15 min. of arc)

Reading Distance = 93.4 cm

Width = 1.52 cm (Height)

Stroke Width = 0.42 cm (Height) for dark lettering on light background
= 0.31 cm (Height) for light letters on dark background

Descriptive name

Single Component - 0.5 cm (0.2 inch)
Group of Components - 1.0 cm (0.4 inch)
Panel or Cabinet - 1.27 cm (0.5 inch)
Safety Console Section - 2.54 cm (1.0 inch)

1.7 Material

Label plates and mimic lines should be made of low glare material. In areas where the plate may be abused, stronger, less scratchable material is recommended.

1.8 Mimics

A mimic is the use of lines to show the relationship between system and components or to show the direction of fluid flow or electrical distribution. Arrows, whose base is wider than the mimic line, should be used to show the direction of the fluid or electrical flow. Arrows should be used only when the flow is in one direction.

Fluid mimic lines should be black. Electrical mimic lines should conform to the following convention:

SY-765 KV	-	Orange
SY-154 KV	-	Silver
MP-22 KV	-	White
AP-13.8 KV	-	Red
AP-4.16 KV	-	Blue
AP-480 V	-	Yellow

The start and end of each mimic should be identified; and if it connects to another mimic or extends to another panel, this should be indicated. Mimics should be made (cut) from the same 0.16 cm (1/16") thick material as labels.

1.9 Channel Identification

Regarding identification of redundant Class 1E components, the following method of identifying separation group channelized controls and indicators on the safety console should be applied. This is in accordance with USNRC Reg. Guide 1.75 and in keeping with KEPCO's color-coding for related plant equipment. Each channel A, B, C, or D device on the safety console should be identified by the following color-coded nameplates.