CHECKLIST: DISPLAYS				
CRITERIA	YES	NO	N/A	COMMENTS
1. Is the CRT screen refreshed at a rate of at least 60 Hz to insure a stable (flicker free) display?				
2. Since high-persistence phosphors tend to produce trains or after-images behind moving elements, and low persistence phosphors are more likely to cause flicker, are CRTs, intended for general purpose use, medium-persistence phosphors?				
3. Are display update rates compatible with the information needs of the user and the processing capabilities of the system used?				
4. When light characters are used on a dark background are the characters amber or green instead of white?				
5. Are highly saturated colors used to maximize differences between colors where possible and where hue saturation combinations are used to provide different values for color code are changes in saturation avoided that produce colors difficult to see?				
6. Do color codes adhere to the accepted conventions which require red, green and/or yellow being used to code alphanumerics, white for peripheral signals, and blue to be either not used or limited to large symbols where symbol identification is not a problem?				
7. Have color combinations that might interfere with display function been avoided?				
8. Are display colors with dominant wavelengths above 650 nm avoided?				
9. When orange is used for attention-getting is the selected hue readily distinguishable from red, yellow, and white?				
10. Is the color magenta avoided or used only for attention-getting where other means are not practical?				
11. Is pure blue on a dark background avoided?				
12. Are color combinations that may result in a three-dimensional effect avoided unless the effect is intentional?				
13. Is the maximum displacement of any point from its correct position on the projected display less than 5% of picture height?				
14. Is the achievable luminance for either character or background, whichever is higher, greater than 35 cd/m^2?				
15. Does the ambient illumination contribute through diffuse reflection and phosphor excitation less than 25% of screw brightness?				
16. Is the CRT provided with a control to vary the luminous symbol/dark background or dark symbol/luminous background contrast ratio?				
17. Is the CRT provided with a brightness control having a range from 10% to full CRT luminance?				
18. When the detection of faint signals is required and when the ambient illumination may be above 2.7 lux, is the CRT provided with a hood or shield or is it recessed?				
19. Is the luminance range of surfaces immediately adjacent to CRTs between 10% and 100% of screen background luminance?				

CHECKLIST: DISPLAYS				
CRITERIA	**YES**	**NO**	**N/A**	**COMMENTS**
20. Is the ambient illumination in the CRT area appropriate for other visual functions such as setting controls, reading instruments, or maintenance activities?				
21. When ambient illumination near the CRT is in the medium to high range does the display use dark characters/symbols on a light background and with low illumination does it use light signals on a dark background?				
22. Is reflected glare minimized by proper placement of the CRT relative to the light source, and/or by use of anti-glare treatments?				
23. Do surfaces adjacent to the scope have a dull matte finish?				
24. Is an appropriate viewing distance that is visually compatible with the task, operator position, and illumination provided?				
25. Is the CRT screen placed in front of the viewer's normal position such that line-of sight to the center of the screen is from 10º-20º below horizontal?				
26. When alphanumeric characters appear on CRT displays does the display font allow clear discrimination of similar characters such as letter "I" and the number "1"?				
27. Do the screen character heights meet the recommended minimum subtended viewing angle for black-on-white or color or information types?				
28. Is the luminance ratio of character/background screen have minimums of 1:6 for dark characters and 6:1 for light characters?				
29. Do alphanumeric characters have a minimum of 10 resolutions elements per character height and are high-resolution monitors (35 pixels/in.) used when high reading speeds are required?				
30. Is pictorial or situation data presented as luminous symbols/dark background?				
31. When a target of complex shape is to be distinguished from a non-target of complex shape does the target signal subtend at least 6 of visual angle (12 mrad preferred) and do complex shaped targets subtend at least 10 lines of resolution elements?				
32. If the CRT is used for displaying complex symbols and graphic detail does it have a minimum resolution of 100 pixels per inch?				
33. For constant width characters is the height-to-width ratio between 1:0.7 to 1:0.9 except for lines requiring more than 80 characters (minimum 1:0.5) and proportionally spaced presentations (maximum 1:1)?				
34. Is the stoke width to character height ratio within the range of 1:5 to 1: 12?				
35. Is the spacing between characters at least 10% of character height?				
36. Is at least one character width used between words?				
37. Is the between-line spacing at least two stroke widths or 15% of character height (whichever is greater)?				
38. When using large-screen displays, do the spatial and environmental conditions allow observational geometry to insure that all critical operators have appropriate visual access in terms of viewing distance, angle, intervening objects, intervening personnel, and ambient lighting?				

CHECKLIST: DISPLAYS				
CRITERIA	**YES**	**NO**	**N/A**	**COMMENTS**
39. Is the large-screen display placed no further from the observer than will provide resolution of critical detail and no appropriate closer than 1/2 the display width or height, whichever is greater?				
40. Is the large-screen display located so that the view of the display is not obscured regularly by persons moving about or by normal traffic patterns?				
41. Do the controls of large-screen group display system ensure that critical information cannot be modified or deleted inadvertently or arbitrarily?				
42. Is the content of displayed information evident to a trained observer without requiring reference to display control settings?				
43. When large-screen optical projects are used, is rear projection used where physical obstructions may block front projections or where high ambient illumination is required for other activities?				
44. Does the viewing distance/image width relationship and off-center viewing of optical projection displays conform to the preferred limits				
45. Does the image luminance and light distribution conform to the preferred limits?				
46. Is a simple style of numerals and letters used?				
47. Is the height of letters and numerals no less than 3 mrad of visual angle from the longest anticipated viewing distance with the preferred angle greater than 4.5 mrad?				
48. Does the luminance ratio conform to stated standards by image type and projection conditions?				
49. For subtractive superposition it the data presented as dark marking on a transparent background and for additive superposition is light marking on an opaque background used?				
50. Is the misregistration of superimposed alphanumeric data or symbols minimized?				
51. Does the projector-screen arrangement minimize the "keystone effect", e.g., distortion of projected data proportions due to non-perpendicularity between projector and screen?				
52. When segmented displays are used for applications requiring only numeric information, are there at least seven segments?				
53. Do light emitting diodes, (LED) displays meet the standards for transilluminated displays?				
54. Are LED displays bright enough to be readable in the environment of intended use?				
55. Does LED color coding conform to color coding standards?				
56. Is the dimming of LEDs compatible with the dimming of incandescent lamps?				
57. Is the LED lamp test feature omitted for indicator lights with mean time between failure (MTBF) of 100,000 hours or more?				
58. When red warning lights are present are red LEDs separated and not grouped with the warning lights?				
59. When using liquid crystal or gas discharge displays are dot matrix symbols at least 5 by 7 dots, and if symbol rotation is required are they a minimum of 8 by 11 dots?				

CHECKLIST: DISPLAYS				
CRITERIA	**YES**	**NO**	**N/A**	**COMMENTS**
60. When using liquid crystal or gas discharge displays are alphanumeric and symbolic characters subtending at least 5.8 mrad of visual angle?				
61. Are dot matrix or segmented displays always presented for viewing at an angle less than 300 off axis?				
62. When using monochrome displays is the color selected by the following order of preference: green; yellow; orange; and red; with blue avoided?				
63. When applicable are dimming controls provided to maintain appropriate legibility and operator dark adaptation level?				
64. Is the lamp test feature omitted for indicator lights with MTBF of 100,000 hours or more?				
65. When using electro-luminescent displays is the height of alphanumeric characters and geometric or pictorial symbols at least 4.4 mrad of visual angle?				
66. Are mechanical counters used for presenting quantitative data only when a continuous trend indication is not required and a quick precise indication is required?				
67. Are counters mounted as close as possible to the panel surface to minimize parallax and shadows, and maximize the viewing angle?				
68. Is the horizontal separation between numerals consistent and between 1/4 and 1/2 the numeral width?				
69. Does the counter design conform to the following criteria: snap action; rate not faster than 2 seconds; direction clockwise; and reset automatic with provision for manual?				
70. Are counters self-illuminated when used in areas in which ambient illumination will not provide display luminance below 3.5 cd/m^2?				
71. Is the surface of the counter drams and the surrounding areas a dull finish to minimize glare?				
72. Does the color of the numerals and background provide high contrast?				
73. When monitoring of printers is required is the printed material unobscured in any manner that impairs direct reading?				
74. Is there a minimum luminance ratio of 3:1 between the printed material and the background it is printed on?				
75. If the printed matter is not legible in the operational illumination is the printer provided with internal illumination?				
76. Is a take-up device for printed material provided?				
77. Where applicable is the printer mounted so that the printed matter is easily annotated while still in the printer?				
78. Is the printed output free from character line misregistration, character tilt or smear?				
79. When printers are used for recording trend data, computer alarms, and critical status is the printing capability at least 300 lines per minute and if it is used to interact with the computer is the speed at least 400 lines per minute?				
80. When information is printed on tapes can it be read as it is received from the machine without requiring cutting or pasting?				

CHECKLIST: DISPLAYS				
CRITERIA	**YES**	**NO**	**N/A**	**COMMENTS**
81. Does the printer(s) conform to the criteria for control, replenishment and service?				
82. When a visual record of continuous graphic data is necessary or required are plotters and records used?				
83. Are critical graphics unobscured by hardware elements and do they have sufficient resolution so significant changes am apparent?				
84. Is there a minimum luminance ratio of 2:1 between plotted functions and the background it is drawn on?				
85. Is a take-up device (paper tray) for extruded plotting material provided?				
86. Are graphic overlays provided where they may be critical to proper interpretation of graphic data and do these aids not obscure or distort the data?				
87. Is the plot resistant to smudging or smearing under operational use?				
88. Does the plotter or recorder have adjustable paper speeds to accurately portray time-event relationships?				
89. Where applicable is the plotter or recorder mounted so that the printed matter is easily annotated while still in the plotter/recorder?				
90. Do the plotters and recorders conform to criteria for control, replenishment, and service?				
91. Are flags mounted as close to the surface of the panel as possible without restricting their movement or obscuring necessary information?				
92. Do the flags operate by snap action (Click or otherwise indicate they are in place)?				
93. Is there a minimum of 3.0 luminance contrast between flags and their background under all expected lighting conditions?				
94. When flags are used to indicate the malfunction of a visual display does the malfunction position of the flag obscure part of the operators view of the malfunctioning display and is it readily apparent to the operator under all expected levels of illumination?				
95. When a legend is provided on the flag does the lettering appear upright when the flag assumes the active or no-go position?				
96. Is a convenient means provided for testing the operation of flags?				