## CHECKLIST: SCALE INDICATORS

| CRITERIA | YES | NO | N/A | COMMENTS |
| :---: | :---: | :---: | :---: | :---: |
| 1. Are fixed-pointer, moving-scale indicators used only when approved by the design review process or procuring activity? |  |  |  |  |
| 2. Is the scale indicator coding used to convey information such as desirable operating range, caution, undesirable condition, inefficient operation, or dangerous operating level? |  |  |  |  |
| 3. Are standard or usual operating ranges identified by means of pattern or color coding applied to the face of the instrument? |  |  |  |  |
| 4. Do colors applied conform to specification and standards and are they distinguishable under all expected lighting conditions? |  |  |  |  |
| 5. When the indicator must be viewed in blackout stations or where the illuminant color will cause difficulty in color band discrimination are the zone scales shape coded? |  |  |  |  |
| 6. Are scale indicators used to display qualitative and quantitative information where there is no requirement for printers or counters? |  |  |  |  |
| 7. Are linear scales used in preference to non linear scales except where system requirements clearly dictate non-linearity? |  |  |  |  |
| 8. Do scale graduations progress in either units or decimal multiples of 1,2 , or 5 ? |  |  |  |  |
| 9. Is the number of minor or intermediate marks between numbered scale pointers nine or less? |  |  |  |  |
| 10. Are whole numbers used for major graduation marks except for measurements which are normally expressed in decimals? |  |  |  |  |
| 11. Do display scales start at zero except where this would be inappropriate? |  |  |  |  |
| 12. Do control or display pointers extend to the shortest scale graduation marks without overlapping them? |  |  |  |  |
| 13. Is the pointer tip tapered to form an angle of $20^{\circ}$ to $40^{\circ}$ and terminated in a flat tip equal in width to minor scale graduations? |  |  |  |  |
| 14. Is the pointer mounted as close as possible to the face of the dial? |  |  |  |  |
| 15. Is the pointer distinguishable from the background? |  |  |  |  |
| 16. Is the luminance contrast between the scale face and the markings and pointer $>3.0$ ? |  |  |  |  |
| 17. Can calibration information be placed on the instruments without degrading dial legibility? |  |  |  |  |
| 18. Do fixed scales read clockwise, from left-to-right, or from bottom up depending on display design and orientation? Are the numbers on stationary scales oriented in the upright position? |  |  |  |  |
| 19. Are the numbers on stationary scales oriented in the upright position? |  |  |  |  |
| 20. Does the magnitude of the circular scale reading increase with clockwise movement of the pointer? |  |  |  |  |
| 21. When positive and negative values are displayed around a zero or null position is that point located at either the 12 or 9 o'clock position? |  |  |  |  |

## Human Factors Engineering Design Guide Scale Indicators Checklist

## CHECKLIST: SCALE INDICATORS

| CRITERIA | YES | NO | N/A | COMMENTS |
| :---: | :---: | :---: | :---: | :---: |
| 22. Is there an obvious break of at least $10^{\circ}$ of arc between the two ends of the scale except on multi-revolution instruments such as clocks? |  |  |  |  |
| 23. On the indicator faces where precise readings are required are no more than two coaxial pointers mounted? |  |  |  |  |
| 24. When a stable value exists for given operating conditions, in a group of circular-scale indicators, are the indicators arranged either in rows or columns so that the points line up in either the 9 or 12 o'clock positions? |  |  |  |  |
| 25. Are the circular scale markings and associated numbers located and arranged to prevent pointers from covering any portion of the scale marks or numerals, when reading time and accuracy are critical? |  |  |  |  |
| 26. Does the magnitude of the scale reading increase with movement of the pointer up or to the right? |  |  |  |  |
| 27. When positive and negative values are displayed around a zero point does the magnitude of positive values increase with movement of the pointer up or to the right? Also, does the magnitude of negative values increase with movement of the pointer down or to the left? |  |  |  |  |
| 28. Are pointers located to the right of vertical scales and at the bottom of horizontal scales? |  |  |  |  |
| 29. Are numerals placed on the side of the graduation marks away from the pointer? |  |  |  |  |
| 30. When a stable value exists for given operating conditions in a group of indicators are the indicators arranged either in rows or columns so that the points line up? |  |  |  |  |
| 31. On fixed-pointer, moving scale indicators, do the numbers progress in magnitude in a clockwise direction on circular dials and in a bottom to top or left to right on vertical or horizontal straight moving scales? |  |  |  |  |
| 32. Are numerals on moving scales upright when in the reading position? |  |  |  |  |
| 33. For circular scales is the alignment of the pointer or fixed reference line in the 12 o'clock position for right-left directional information, and in the 9 o'clock position for up-down information? |  |  |  |  |
| 34. If the display will be used for setting a value is the unused portion of the dial face covered and is the open window large enough to permit one numbered graduation to appear at each side of any setting? |  |  |  |  |
| 35. If the display will be used for tracking is the whole face of the dial exposed? |  |  |  |  |
| 36. If the moving tape scale format is used, does the scale length required exceed the limits of the display package capacity? |  |  |  |  |
| 37. Does the design of significant reference features conform to the required general specifications and criteria? |  |  |  |  |

