SPC Chart Use Procedure

X-bar & Range chart:

1. Collect a minimum of 25 subgroup averaged data points from the process to be monitored or controlled. The number of actual measurements required will depend on the subgroup size.

2. These points should have what is known in statistical terms as a normal distribution. You can check for this by making a histograph. A normal distribution will be bell shaped. If this is not the case check for errors in the way the measurements are being done. A measurement study is highly recommended. Check for other causes that may contribute to process instability and have them corrected.

3. If the distribution is normal, average the subgroup averaged data points to give the mean for this process. Plug this value into the appropriate space on the control chart.

4. Subtract the lowest value from the highest value for each subgroup. Average these differences to get the range mean. Plug this value into the appropriate space on the control chart.

5. This chart has automatic calculators for the control limits based on the subgroup size. When the control limit box is highlighted on the control chart, index number and a series of formulas will pop up. Plug in the subgroup size in the *index number* window. Repeat for all the control limits.

6. Scale the chart in a symmetrical fashion so that the means are near the centre of the charting areas and the control limits envelope over 50% and no more than 75% of the available charting areas.

7. The rows on the computer-generated chart are designed to have a height of 1. Expand to an appropriate height to get access to the minor axis's. Plot the mean line using a heavy solid line and the control limits using a dashed line. Re-shrink the line height back to 1.

8. Print out copies of the blank chart and commence controlling or monitoring the process in question using these charts.

X-bar and moving range chart:

1. Collect a minimum of 25 data points from the process to be monitored or controlled

2. These points should have what is known in statistical terms as a normal distribution. You can check for this by making a histograph. A normal distribution will be bell shaped. If this is not the case check for errors in the way, the measurements are being done. A measurement study is highly recommended. Check for other causes that may contribute to process instability and have them corrected.

3. If the distribution is normal, average the subgroup averaged data points to give the mean for this process. Plug this value into the appropriate space on the control chart.

4. Subtract each data point form the adjacent one to get each range point ignoring the sign. The data points must be in the order they were collected. Average these differences to get the range mean. Plug this value into the appropriate space on the control chart.

5. This chart has automatic calculators for the control limits so nothing else need be done.

6. Scale the chart in a symmetrical fashion so that the means are near the centre of the charting areas and the control limits envelope over 50% and no more than 75% of the available charting areas.

7. The rows on the computer-generated chart are designed to have a height of 1. Expand to an appropriate height to get access to the minor axis's. Plot the mean line using a heavy solid line and the control limits using a dashed line. Re-shrink the line height back to 1.

8. Print out copies of the blank chart and commence controlling or monitoring the process in question using these charts.

Attribute charts:

1. Collect a minimum of 100 data points from the process to be monitored or controlled.

2. These points should have what is known in statistical terms as a normal distribution. You can check for this by making a histograph. A normal distribution will be bell shaped. If this is not the case check for errors in the way, the measurements are being done. A measurement study is highly recommended. Check for other causes that may contribute to process instability and have them corrected.

3. If the distribution is normal, average the subgroup averaged data points to give the mean for this process. Plug this value into the appropriate space on the control chart.

4. This chart has automatic calculators for the control limits based on attribute chart type. When the control limit box is highlighted on the control chart, index number and a series of formulas will pop up. Plug in the number referenced to the chart type in the *index number* window. Repeat for both the control limits.

5. Scale the chart in a symmetrical fashion so that the mean is near the centre of the charting area and the control limits envelope over 50% and no more than 75% of the available charting area.

6. The rows on the computer-generated chart are designed to have a height of 1. Expand to an appropriate height to get access to the minor axis's. Plot the mean line using a heavy solid line and the control limits using a dashed line. Re-shrink the line height back to 1.

7. Print out copies of the blank chart and commence controlling or monitoring the process in question using these charts.