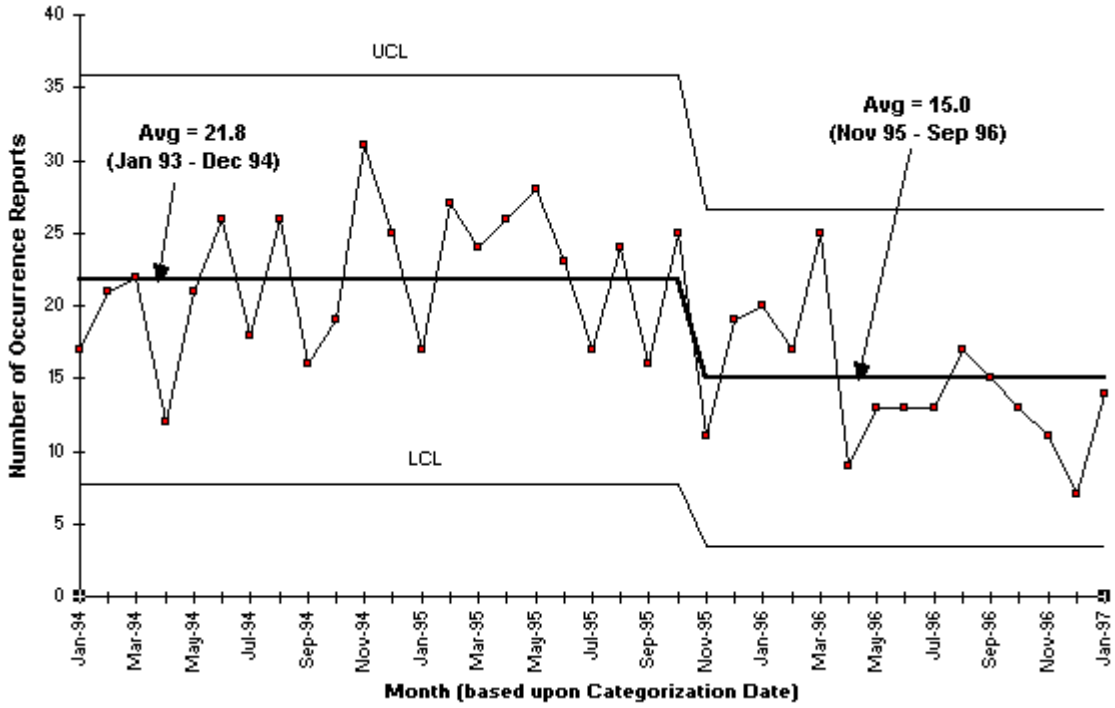
EXAMPLE C-CHART

The C-chart

The chart below is an example of a C-chart. It is counting the number of occurrence reports per month. Since there are multiple dates on Department of Energy occurrence reports (discovery date, categorization date, final report date), the date used for the basis of the graph is identified on the x-axis label.

The c-chart is used when counting discrete events, as in a random arrival process. Counting events is a good example of a random arrival process, as long as each of those events are independent from each other, and overall occur at a constant rate. This is also known as a Poisson process.

In this graph, an initial 24 month baseline was established at the end of 1994 for January 1993 through December 1994. This baseline remained valid until the end of 1995. Then a shift occurred, with 10 of the next 11 points below average (starting with November 1995). A new baseline was established for November 1995 through September 1996. Note the gap in the two baselines from January 1995 through October 1995. This is acceptable. One does want to avoid overlaps between adjoining baseline averages, however.



The current baseline (Nov 95 - Sep 96) was based on much less than 25 points. It does appear that the new data is coming in lower than the new baseline (but so far, no statistically significant difference has been detected). If a statistically significant difference does generate, perhaps the choice of November 1995 through September 1996 was insufficient. A better alternative may turn out to be to continue to 21.8 average through March 1996, and calculate a new baseline starting in April 1996. This serves to illustrate how control charts can evolve over time, and baselines with less than 25 points may prove to need to be readjusted.