while operating under the conditions required by the permit. Some of the more common methods of reducing the PTE are:

- Limiting production (e.g., amount of material processed),
- Limiting operation (e.g., hours, fuel type, raw material type),
- Limiting emissions by adding air emission control equipment, and/or
- Limiting emission rates (must be used with a production or operation limit).

How Do I Ensure that the Limitation on PTE Is Federally Enforceable?

In general, "federally enforceable" means that the conditions in a permit are enforceable in a practical manner. Practicable enforceability for a source-specific permit means that: (1) the permit's provisions must specify a technically accurate limitation and the portions of the source subject to the limitation, (2) the time period for the limitation (hourly, daily, monthly, and annual limits such as rolling annual limits), and (3) the method to determine compliance including appropriate monitoring, record keeping, and reporting.

Safety Factor Sample Calculation

The following procedure could be used to extrapolate limited datasets of emissions information used to derive an emissions factor. The method yields an estimate of a selected upper percentile value of the emissions factor, assumes a constant coefficient of variation, and is independent of the number of data points considered. The most statistically valid estimate of an upper percentile value is a maximum likelihood estimator that is proportional to the population geometric mean. If you assume the population of data fits a lognormal distribution, this relationship is given by:

$$EF_p = EF_{mean} \cdot \exp (Z_p \cdot \sigma - 0.5 \cdot \sigma^2)$$

$$\sigma^2 = \ln (CV^2 + 1)$$

Where Z_p = normal distribution factor at the p^{th} percentile
CV = coefficient of variation

The coefficient of variation should be calculated from the data used to develop the original emissions factor, considering how it is to be applied. For example, a CV for an entire "source category" may be very different from the CV for a particular type of emissions unit or individual "model" of emissions unit. For the purposes of this example, assume that CV = 0.6, then σ^2 = 0.307. The following safety factors can then be calculated as shown in Table 2.

Table 2. Ratio of Upper Percentiles to Geometric Mean

Percentile P	Normal Distribution Factor Z	Safety Factor EF_p/EF_{mean}
90	1.283	1.74
95	1.645	2.13
99	2.386	3.11