Terminal Kill Probability (TKP)

Terminal Kill Probability takes warhead reliability into account, and is expressed as follows:

TKP=SSKP x OAR (OAR=overall reliability)

Reliability as a statistic is not readily available in any public sources and must be estimated from general knowledge. Because of the difficulties involved in measuring reliability, however, it is safe to assume that even official estimates are only educated guesses. TKP and SSKP can be used in comparing the capabilities of different missile systems. They are obviously essential in assessing the 'silo-busting' capabilities of each side. Before examining some of the data presented in Table 2, it is important to note uncertainties and problems in the use of these variables.

Accuracy

Measurement of CEP is based on the distribution of a number of test firings. The number of test firings carried out is usually not large and their measurement is subject to significant uncertainties. The Military Balance has estimated that the range of error in CEP figures may be as high as $\pm$ 50%[12]. Use of CEP further assumes that the conditions and trajectories under test firing and battlefield conditions will be the same, and that the bias is zero. A bias means that the distribution of test firings was significantly to one side of the target.[13] This can occur as a result of a number of conditions or factors during the flight of the missile. Because the conditions affecting the bias are different in each case, and because its occurrence and effects are extremely difficult to measure, for convenience sake it is always assumed to be zero (CEP is then more correctly a measure of precision). While this may be necessary in

[12] IISS, "Estimating the Soviet-US Strategic Balance" The Military Balance 1982-1983 p. 139

[13] For a discussion of bias, see K. Tsipis, Arsenal (New York: Simon&Schuster, 1983), p. 142