



Therefore, pulling all of these characteristics into one chart, I present the weapons assessment nomograph. In general, it's a circular-type mapping structure where you plot from quadrant to quadrant in a circular fashion to arrive at the point of interest. Breaking it down further, the upper right quadrant shows CEP along the horizontal scale with specific yield lines plotted across the quadrant. The upper left portion shows PD horizontally with specific hardness curves plotted in psi. The lower left quadrant plots PLS and the lower right quadrant plots WSR and PTP with a common line at 1.0. To better understand the layout, I'll quickly trace through the example shown on the model.

Suppose we start at 300 feet CEP, move down to a yield of 100 kilotons, then over to 6000 PSI, down to .9 PLS, over to .9 WSR, down to .9 PTP, and finally over to a DE of about .50. The essence of the model is not simply to calculate values of DE, but more importantly to evaluate tradeoffs with any parameter to see its net effect on the weapon's capability. Since the model is based on damage expectancy, it can be viewed in two parts: the upper portion is related to PD, focusing on the target area; the lower portion is related to PA, focusing on getting the weapon to the target area. Thus the model can be used in a number of ways to arrive at the user's primary point of interest. The next slide shows one possibility.

As previously mentioned, the hardness curves are based on a 1 MT yield and a K-factor of 7. The rationale for these follows.