

containing numerous POL storage tanks. Thus, a POL target with 10 POL tanks would be a single target "type" with 10 target "elements". A kill of this POL target would result in up to 10 target elements killed. A theater can contain many target types and multiples of each type with each type having one or more elements.

The targets selected for this analysis contained 61 different target types resulting in 3720 total targets and 34930 total elements. Table 1 gives a breakdown of these targets by type and quantity. No personnel or mobile targets were included in this target set.

Target Type	Number of Types	Total Number of Elements
Hard, Fixed	22	1458
Soft, Fixed	32	19828
Relocatable	7	522

**Table 1. Target List by Type and Quantity**

**4.3 Loadout**

Various loadout configurations were used with each of the appropriate weapons in this study. Loadouts of 1 and 2 were used for the 1000-lb (454 kg) munition while a for the SSB the loadouts were varied between 2, 4, and 8. By varying the loadout options it was possible to investigate the effect of loadout and to determine an optimum loadout quantity. 2000-lb (908 kg) munitions were not used.

**4.4 Methodology**

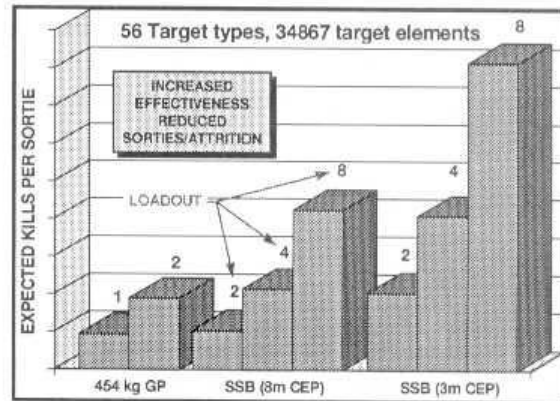
Analysis was accomplished using accepted procedures as defined by the Joint Technical Coordinating Group for Munitions Effectiveness (Air-to-Surface). Standard Joint Munitions Effectiveness Manuals and the

"Open-End Methods" (Reference 2) were used throughout.

**5.0 RESULTS**

Prior to reviewing the results of the analysis it is important to understand the figure of merit used to draw conclusions. The term Expected Kills per Sortie (EKS) represents the ability of a delivery platform to defeat multiple targets on a single sortie and is indicative of the number of weapons that can be carried and deployed by that platform. The average EKS is simply the total number of elements in the target set divided by the total number of sorties needed to kill all the elements in that same target set. It should be remembered that some munitions will be more efficient at defeating some target type/elements, and much less efficient at others. Computing an average will result in a loss of this fidelity, however an average is an indication of the pervasiveness of a munition's effectiveness across all targets

The following figures will provide insight as to the UTA loadouts necessary to achieve a desired level of effectiveness against the complete target set.



**Figure 4. Expected Kills/Sortie for UTA**

From Figure 4, we see that to achieve the effectiveness of two 454 kg GP munitions would require a minimum of four SSBs with