PREFILED STAFF EXHIBIT 68

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DOE STANDARD

ACCIDENT ANALYSIS FOR AIRCRAFT CRASH INTO HAZARDOUS FACILITIES

U.S. Department of Energy
Washington, DC 20585

AREA SAFT

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2. Commercial Aviation Air Taxi.

Step 11. Refer to Appendix B, Table B-15, and obtain the appropriate site-specific or generic value for NPf(x,y).

Step 12. Multiply the value NPf(x,y) by the A value determined for air taxis in Step 5.

3. Large Military Aviation.

Step 13. Refer to Appendix B, Table B-15, and obtain the appropriate site-specific or generic value for NPf(x,y).

Step 14. Multiply the value NPf(x,y) by the takeoff effective area value, A, determined for large military takeoff in Step 5. The takeoff effective area, A, is used because it more closely represents in-flight crashes.

4. Small Military Aviation.

Step 15. Refer to Appendix B, Table B-15, and obtain the appropriate site-specific or generic value for NPf(x,y).

Step 16. Multiply the value NPf(x,y) by the takeoff effective area value, A, determined for small military takeoff in Step 5. The takeoff effective area, A, is used because it more closely represents in-flight crashes.

c. Helicopter Aviation. Based on an analysis of historical helicopter crash data, the contribution to impact frequencies associated with nonlocal helicopter overflights is insignificant and need not be considered in the impact frequency calculations. However, it is necessary to consider local overflights, either planned overflights associated with the facility operations, e.g., security flights, or flights associated with area operations, e.g., spraying flights. Thus, the calculation of in-flight helicopter impact frequencies is a site-specific calculation. For application of this standard, each facility needs to obtain (1) the expected number, N, of helicopter local overflights per year; (2) the average length, L, in miles, of the flights corresponding to the site-specific overflights; and (3) the effective area for helicopter in-flight crashes, using Equation B-4, assuming an impact angle of 60 degrees, i.e., $\cot\phi = 0.58$ (note skid length is assumed to be 0). For these calculations, as shown in Equation 5-3, the lateral variations in crash locations for a helicopter are conservatively assumed to be one-quarter a mile on the average from the centerline of its flight path.

The analysis for helicopter impact frequency calculations is as follows:

Step 17. Obtain N_H, the expected number of local helicopter overflights per year, and L_H, the average length of a flight.

Step 18. Compute the effective area, A_H, using Equation B-4.

Step 19. Using the values of the probability of a helicopter crash per flight, P_H, in Table B-1 in Appendix B, compute the helicopter impact frequency, F_H.

$$F_H = N_H \cdot P_H \cdot \frac{2}{L_H} \cdot A_H \qquad (5\text{-}3)$$

5.3.3 Calculated Impact Frequency.

Step 20. Sum the calculated impact frequency for airport and nonairport operations for each aircraft category or subcategory. For example, add up all the general aviation impact frequencies calculated in Steps 6 and 8. Rank the impact frequencies for all aircraft categories/subcategories in decreasing order. Sum the impact frequencies over the aircraft categories/subcategories to get the total impact frequency for the facility of interest.