



US DEPARTMENT OF DEFENSE
BLAST INJURY RESEARCH PROGRAM
COORDINATING OFFICE

Internet Applications for Predicting Blast Damage Simplified Survivability Assessment Overhead Cover Design Application

Researchers at the Army Engineer Research and Development Center (ERDC; Vicksburg, Mississippi) developed the Simplified Survivability Assessment (SSA) Overhead Cover Design Application which was completed in November 2016 (Figure 1). This application can be used by the Service member for bunker and shelter roof design to protect from common indirect-fire threats. The application calculates protection against specific weapons based on explosive threat, soil depth, and stringer spacing. SSA Overhead Cover Design Application also produces plots of the spacing of roof support beams versus explosive charge weight. The procedure is derived from roof cover systems used in Army Technical Pamphlet 3-37.34. Research to update the SSA Overhead Cover Design Application was completed in FY17. A new version of the SSA Overhead Cover Design Application will be released in FY18. Updates will allow bunker and shelter roofs to be designed with a pre-detonation layer above the protective structure which allows for reduced materials, time to construct and overall cost.

The SSA Overhead Cover Design Application provides an alternative to laborious hand calculations to design bunker and shelter roofs to protect the Service member from indirect-fire threats.

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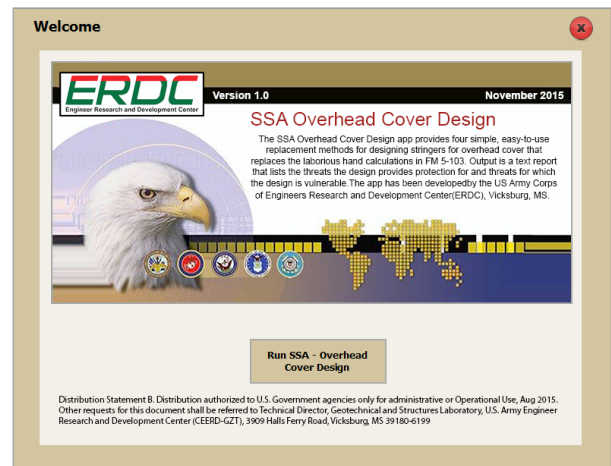


FIGURE 1: Opening screen of the SSA Overhead Cover Design Application (Figure used with permission from the authors)

