SURVICE
ENGINEERING COMPANY

SYSTEM SAFETY ENGINEERING

BACKGROUND

The SURVICE Engineering Company is a small business that has specialized for three decades in applying a systems engineering approach in support of the design, development, testing, and fielding of systems that are safe, survivable, and effective. Through the effective integration of system safety with survivability requirements early in a development effort, increased mission rates and considerable cost savings can be realized over the system life cycle. And because survivability and system safety often involve managing a common threat or hazard, trade studies can account for the effects on successful mission accomplishment across both disciplines.

SYSTEM SAFETY CAPABILITIES

SURVICE's vast experience working with the system safety community enables us to assist our customers in the evaluation of system safety and survivability enhancements for existing and developmental systems. Various hazard analyses can take advantage of our capabilities in modeling and simulation, creating an integrated survivability and system safety solution. Additionally, with the increased reliance on software to accomplish system functionality, our experience in information assurance can be applied to enhance software safety. And SURVICE's core competencies in studies and analyses and test and evaluation can be leveraged readily against system safety engineering problems.

Some DoD systems, such as fuzes and initiation systems, have specific requirements, including a validated fault tree analysis as part of the safety certification data package. SURVICE

can independently verify and validate fault tree analyses for prime contractors. And with over a decade of experience with the Navy Weapon System Explosives Safety Review Board (WSESRB), SURVICE is eminently qualified to assist in the preparation of data packages required for various WSESRB reviews. We understand that proper preparation of these data packages is critical to ensuring a successful system safety program presentation to the WSESRB.

SURVICE'S SYSTEM SAFETY PRODUCTS

- System Safety Program Plan (SSPP)
- Safety Critical Requirements Analysis (SCRA)
- Preliminary Hazard Lists (PHL)
- Preliminary Hazard Analysis (PHA)
- Sub-system Hazard Analysis (SSHA)
- System Hazard Analysis (SHA)
- Safety Assessment Report (SAR)
- Hazard Tracking Databases
- Safety Trade Studies
- Safety Test Plans
- Risk Acceptance Recommendations

RECENT EXPERIENCE

SURVICE recently developed a successful system safety program strategy for an urgent need weapon to meet insensitive munitions (IM) requirements, hazard classification, and other munitions safety requirements while supporting the program's rapid development, acquisition, and deployment schedules.

Additionally, using SURVICE's fire modeling capabilities, a fast cook-off model is being developed to help weapons designers understand the effects of design changes on fast cook-off reaction time and to also predict time-to-reaction of existing weapons involved in fire-related mishaps.

Other recent system safety project experience includes support on aircraft programs such as the JSF, H-47G, and MMA. And our weapons experience includes various gun and ammo systems (NAVAIR PMA-242); missiles such as Sidewinder, Sparrow, and TRIDENT; and MK80 series bombs.

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