

**KIRT N. SASSER**  
*Mechanical Engineer*

**AREAS OF  
SPECIALIZATION**

- ▲ Risk Assessments of Energetic Material Handling and Manufacturing
- ▲ Conduct HAZOPS (Hazard and Operability Studies) and Safety Reviews
- ▲ Complete Hazard Analyses for RMP Development
- ▲ Air Dispersion Modeling and Impact Studies
- ▲ Design of Energetic Containment Units
- ▲ Quantitative Risk Assessment
- ▲ Mechanical Integrity Program Design, Development, and Implementation
- ▲ Ergonomics Risk Assessments and Evaluations

**EDUCATION**

B. S., Mechanical Engineering, Brigham Young University, 1994

M.E., Mechanical Engineering, Ergonomics Emphasis, University of Utah, June 1998

**AFFILIATIONS**

Member American Society of Mechanical Engineers (ASME)

Mr. Sasser is an experienced hazards analyst for Safety Management Services, Inc. in the West Jordan, UT office with a background in engineering. He has 7 plus years experience in the chemical, energetics, aerospace, and nuclear industries performing variety of projects in process safety including hazards analysis, quantitative risk assessment, process engineering, and research and design engineering.

**DIRECTLY RELATED EXPERIENCE**

**Propellant and Explosive Manufacturing**

Performed PHAs for propellant manufacturing processes utilizing FMEA, HAZOP, Fault Tree, Risk Assessment techniques to identify hazardous conditions associated with reactors, pumps, valves, filters, ingredient feeding, propellant handling, presses, etc. Materials analyzed: Nitrocellulose and double-base propellants.

Designed contained burn vessel for thermal treatment of pyrotechnic materials.

Developed Ergonomic Failure Modes and Effects Analysis methodology and performed ergonomic evaluations of rocket motor case, propellant, and airbag manufacturing facilities.

**Demilitarization of Un-Exploded Ordnance**

Performed hazards analysis on explosive removal from 750 lb Bombs (waterjet and autoclave) consisting of identifying potential hazards, evaluating the design for adequate hazard mitigation and recommending equipment design and procedure changes to help eliminate potential hazards.

**Mining**

Performed Facility Siting and Off-Site Consequence Analysis for chemical processes. Worst case scenarios were analyzed according to RMP definition. Alternate scenarios identified from the process hazards analysis were used to determine a level of exposure for receptors on and off the facility to vapor release, fireball effects, plume conditions, and blast overpressure.

Performed PHA for natural gas mining operation.

Designed, developed, implemented a company wide Ergonomic Program for open pit mining operation.

**KIRT N. SASSER**  
*Mechanical Engineer*  
(continued)

**Specialty Chemical Manufacturing**

Designed, developed, implemented, and managed Mechanical Integrity Programs for hazardous chemical processes including non-destructive testing data interpretation and remaining life calculations.

Project manager of subcontractors providing mechanical integrity non-destructive (NDT) inspections and testing for Mechanical Integrity Programs.

**R&D Nuclear Industry**

Responsible for designing and overseeing procurement, construction, and installation of chemical waste disposal systems for government and commercial applications.

Performed radiological laboratory testing of electro-chemical organic destruction systems.

Responsible for operating and maintaining pilot scale chemical plants.

**Various Facilities and Operations**

Completed hazards analyses using a variety of evaluation procedures including HAZOP, FMEA, logic diagrams, and hazards testing. These evaluations have been completed for the preparation of safe operating practices driven by OSHA regulation, RMP regulation, and the desires of facilities to maintain safe operating practices.

These analyses have been completed for Propellants, Explosives and Pyrotechnics, Petroleum, Chemical Processing, Aerospace, Automotive, Environmental, and Utilities. The materials reviewed include ammonia, chlorine, propane, sodium dioxide, acids and a wide variety of explosives.

**EMPLOYMENT HISTORY**

- ▲ Safety Management Services, Inc., Salt Lake City, UT, 1998-Present, *Mechanical Engineer*
- ▲ Alliant Techsystems Inc./Global Environmental Solutions, Magna, UT 1995 - 1998, *Mechanical Engineer*
- ▲ Battelle, Pacific Northwest Laboratories, Richland, WA 1991-1994, *Mechanical Engineer Intern, Waste Management Engineering*