

GARY D. DODDS

Chemical Engineer/Technical Safety Specialist

AREAS OF SPECIALIZATION

- ▲ General Explosives Process Design
- ▲ Hazards Analysis and Risk Assessment of Energetic Material/ Chemical Processing
- ▲ Management of Safety Programs for Energetic Material and Large Rocket Motor Processing
- ▲ Process Design and Safety Support for Demilitarization of Explosive Ordnance
- ▲ Safety Support and Technology Design for Environmental Remediation of Explosives Contaminated Sites
- ▲ Process Design and Technical Safety Support for Propellant Manufacturing (Slurry, Single Base, Double Base) Processes
- ▲ Process Design and Technical Safety Support for Large/Small Solid Rocket Motor Manufacturing, Handling, and Testing
- ▲ Accident Investigation Involving Explosives and Hazardous Chemicals
- ▲ OSHA, EPA, DoD Regulatory Compliance
- ▲ Training of Personnel in Energetic Material Processing

EDUCATION

B. S., Chemical Engineering, Brigham Young University, 1983

Mr. Dodds is the Vice President of Safety Management Services, Inc. He has 17 plus years of experience in the practical application of technical safety disciplines in combination with explosives processing experience. His experience spans a variety of industries such as explosives/propellant manufacturing, processing and demilitarization, rocket motor manufacturing, handling, testing, and demilitarization, chemical processing and environmental remediation.

DIRECTLY RELATED EXPERIENCE

Propellant and Explosives Process Design

Assisted in the design and construction of various propellant and explosives processes including an automated slurry propellant manufacturing process to support large rocket motor manufacturing, explosive device manufacturing (e.g. squibs, detonators, boosters, inflators, etc.) processes, demilitarization processes, rocket motor manufacturing, handling, and testing processes, and environmental remediation processes.

Technical Safety

Performed process hazards analysis, qualitative and quantitative risk assessment, and probabilistic risk assessment, system and subsystem hazards analysis for a variety of processes. Examples of the technical safety support effort includes:

- Process hazards analysis of automobile air bag inflator manufacturing process (driver side, passenger side, and side impact)
- Qualitative and quantitative risk assessment of an initiator manufacturing process
- Probabilistic risk assessment of rocket motor manufacturing process
- System and subsystem hazards analysis of large rocket motor static test facility

Regulatory Compliance

Performed numerous third party regulatory audits for a variety of industries, including explosives manufacturing, chemical processing, petroleum processing, propellant manufacturing, mining and metals processing, etc. Audits were performed to OSHA (Particularly 29 CFR 1910.119 and 109), BATF, EPA (Particularly 40 CFR Part 68), DoD, DOT, etc. Assisted OSHA with the performance of a "Process Safety Management (PSM)" compliance audit of an explosives manufacturing facility. In addition performed a site wide explosives safety audit of a propellant and explosives manufacturing plant in Australia.

Assisted in the development and implementation of PSM programs at a variety of facilities. Examples of these activities include:

- Implementation of contractor safety program at an initiator

GARY D. DODDS

Chemical Engineer/Technical Safety Specialist

(continued)

- manufacturing facility
- Development and implementation of an energetic material training program at an automobile airbag inflator manufacturing facility
- Operating procedure development at a commercial explosives processing facility
- Development of process safety information for an automobile airbag inflator manufacturing facility

Accident Investigation

Performed and assisted in the performance of several accident investigations involving energetic materials including the following:

- 90 cubic foot HMX dryer explosion
- 1800 gallon propellant mixer explosion involving 1.3 propellant
- 8 inch projectile explosion involving ammonium picrate
- Twin screw extruder explosion involving sodium azide based propellant
- 1.3 stick propellant drier fire in Belarus

Safety Management

Currently acting as Vice President of SMS, Inc a safety consulting and energetic material testing company. Acted as site safety manager for a large rocket motor (Titan IV) static test facility. Acted as an interim director of Environmental, Health and Safety for an initiator manufacturing company. Acted as the manager of a safety group that supported Demilitarization and Environmental Remediation activities. Acted as a deputy System Safety manager for a large rocket motor manufacturing project.

EMPLOYMENT HISTORY

- ▲ Safety Management Services, Inc., West Jordan, UT, 1998-Present, Vice President, Chemical Engineer, Technical Safety Specialist.
- ▲ Alliant Techsystems Inc./ Global Environmental Solutions., Magna, UT 1995-1998, Safety Manager, Hazards Analyst.
- ▲ Hercules Inc. / Global Environmental Solutions., Magna, UT 1992-1995, Safety Manager, Hazards Analyst.
- ▲ Hercules Inc., Magna, UT 1984-1992, Hazards Analyst.

GARY D. DODDS

Chemical Engineer/Technical Safety Specialist

(continued)