

CRYSTAL GAYLE THOMAS, CSP

SUMMARY

Ms. Thomas is a mechanical engineer and certified safety professional specializing in accident investigation in the transportation and oil & gas industries. Her work experience crosscuts private company, governmental and military sectors.

As an incident investigations advisor for a major operating company Crystal has managed investigations of health, safety, security and environmental (HSSE) incidents and incident investigation programs, including development of policies, practices and training procedures. Her work for the National Transportation Safety Board involved high-profile investigations into major domestic and international railroad, aviation, highway, marine and pipeline accidents concerning the transportation of hazardous materials. As a ballistics test engineer at the Naval Surface Warfare Center she provided primary engineering support for the explosives test area and project engineering for Air Force & Navy programs within the in-service life branch.



Ms. Thomas earned a bachelor degree in mechanical engineering from Penn State University. She has completed additional training in areas of project management, pressure vessel design, failure analysis, accident investigation, and evidence response team operations. She maintains membership in several national safety organizations.

REPRESENTATIVE PAST PROJECTS

- BP, Houston, TX, Incident Investigations Advisor (2011 – 2016). Managed investigations of health, safety, security and environmental (HSSE) incidents and incident investigation program, including development of policies, practices and training.
 - Worked closely with leadership, internal departments, service providers and external agencies to complete comprehensive investigation and analysis of HSSE incidents to determine the root causes and identify deficiencies, hazards and opportunities for improvement.
 - Developed strategies and actions to address deficiencies and opportunities for improvement in safety management systems to reduce risk, improve personnel safety, decrease repeat incidents, and improve overall safety performance.
 - Authored high-quality incident investigation reports to ensure clear and concise communication of investigations to leadership and responsible parties.
 - Developed and implemented incident investigation, notification and reporting policies and practices to ensure regulatory compliance and achievement of company objectives.
 - Developed, implemented and delivered incident investigator training course to achieve company objectives of increasing investigation capability and improving quality of investigations.



- Authored incident investigations guidance document to supplement investigator training courses.
 - Coached, mentored and assessed competency of investigators in training to support them in goal of achieving incident investigator certifications.
 - Developed tracking and reporting system to ensure proper and timely completion of investigations and identify deficiencies in process.
 - Designed investigations website to ensure readily available database of resources for investigators, leadership and interested parties.
- National Transportation Safety Board, Washington, D.C., Hazardous Materials Accident Investigator (2005-2011). Managed high-profile investigations into major domestic and international railroad, aviation, highway, marine and pipeline accidents that involved the transportation of hazardous materials.
 - Worked closely with responsible parties, federal agencies, safety professionals and industry experts to complete comprehensive investigation and analysis of accidents to determine the root causes and identify safety hazards, deficiencies, regulatory compliance issues, and opportunities to improve transportation safety in the United States.
 - Identified failures in tank cars, cargo tanks, pipelines and other pressure vessels that enabled unintended hazardous material releases, and conducted engineering analysis to determine failure mechanisms and identify opportunities for improvement.
 - Developed safety recommendations for regulatory bodies, industry groups, manufacturers, responsible parties, etc. to address deficiencies, hazards and failures, improve transportation safety and prevent accident reoccurrence.
 - Authored comprehensive, high-quality accident investigation reports to ensure clear and concise communication of investigations to Safety Board members, responsible parties, regulatory bodies and the general public.
 - Served on technical panel for Public Hearings related to major domestic transportation accidents to obtain information from expert witnesses during public testimony.
 - Commented on proposed federal rulemakings regarding transportation of hazardous materials to assure consideration to the Safety Board's views were documented and expressed.
 - Acted as Safety Board representative at Association of American Railroads (AAR) Tank Car Committee meetings, responsible for providing status updates on Safety Board investigations.
- Naval Surface Warfare Center, Indian Head, MD, Ballistics Test Engineer (2003-2005). Provided engineering support for explosives test area and project engineer for Air Force & Navy programs within in-service life branch.
 - Engineered new test equipment and fixtures for small explosive devices based on feedback from technicians, making them more user-friendly and reducing the time necessary to complete tests.
 - Authored standard operating procedures governing testing of explosive devices resulting in more consistent processes and informed technicians.
 - Developed and implemented new test report and electronic customer notification system resulting in standardized reporting and communication of test results.



EMPLOYMENT HISTORY

2016 to Present **Accumyn Consulting**, Associate Consultant
2011 to 2016 **BP**, Incident Investigations Advisor
2005 to 2011 **National Transportation Safety Board**, Hazardous Materials Accident Investigator
2003 to 2005 **Naval Surface Warfare Center**, Ballistics Test Engineer

EDUCATION, CERTIFICATIONS AND APPOINTMENTS

- Bachelor of Mechanical Engineering, Penn State University, University Park, Pennsylvania, 2002
- Certified Safety Professional (CSP), Board of Certified Safety Professionals
- Member, American Society of Safety Engineers
- Member, Board of Certified Safety Professionals

PROFESSIONAL DEVELOPMENT

- Leadership and Management Skills, Global Knowledge
- Project Management, College of Southern Maryland
- Principles of Failure Analysis, ASM International
- Advanced Design and Fabrication of Pressure Vessels, ASME
- Cognitive Interviewing for Accident Investigators, NTSB Academy
- Conducting Effective Technical Presentations, NTSB Academy
- Evidence Response Team Training, FBI