

Process Safety



Process Safety involves more than complying with regulations. AECOM personnel have the expertise to both navigate the regulations, as well as assist in keeping your facility, your people and the environment safe.

Areas of Expertise

- Design and Planning
- Operation
- Process Safety Program Development
- Hazard Identification
- Emergency Response
- Risk Treatment and Control
- Off-site Hazard Assessment
- Technical Safety Studies
- Decommissioning
- Training

Key Reference Materials

Australia	National Standard for Control of Major Hazard Facilities
Canada	Environmental Protection Agency, Environmental Emergency Planning
European Union	Seveso Directive, REACH
Korea	Occupational Safety and Health Agency, Process Safety Management
Malaysia	Department of Occupation Safety and Health Ministry of Human Resources Malaysia
Singapore	Standards Council, Occupational safety and health (OSH) management systems
UK	COMAH Regulations
USA	OSHA's PSM Regulations, EPA's RMP Regulations

More Information

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Overview

For facilities handling, storing and processing highly hazardous toxic, flammable and reactive chemicals, developing a safe work environment and protecting the public is an ongoing challenge. The difficulty relates not only to complying with regulations, but also in verifying all aspects of a facility's design, work practices and emergency preparedness are sufficient to safeguard workers, neighbors and critical infrastructure.

Even before chemical safety regulatory requirements were established, AECOM was helping clients evaluate, prevent and mitigate hazards. As formal requirements were established around the world in the 1980s and 1990s, AECOM continued to assist in determining required elements of regulations focusing on both worker safety and environmental protection.

AECOM's team of professionals has extensive experience providing these services to a variety of industrial sectors.

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|---------------------------------------|---------------------|
| - Chemical/Pharmaceutical | - High Tech |
| - Commercial | - Industrial |
| - Education | - Mining and Metals |
| - Food/Cold Storage/ Refrigeration | - Oil & Gas |
| - Governments (Federal, State, Local) | - Power |
| - Healthcare | - Sports & Venues |
| | - Transportation |
| | - Water |

We serve a broad range of private and public sector clients:

Our Approach

As a fully-integrated consulting company, AECOM works with our clients to create comprehensive solutions. We provide a range of services for facilities storing and handling hazardous chemicals to assist with compliance for Workplace Health and Safety Regulations. We make sure that all aspects of a facility's design, work practices and emergency preparedness are sufficient to safeguard their workers, neighbors, critical infrastructure and the environment.

AREAS OF EXPERTISE

DESIGN & PLANNING

- Functional Safety – Safety Integrity Level Assessments
- Identification of Process Safety Risks During Design Phase
- Preliminary Hazard Analyses
- Safety in Design Studies
- Process Design
- CHAIR Studies

OPERATION

- Compliance Audits
- Dangerous Goods Storage and Handling
- Loss Minimization and Prevention

PROCESS SAFETY PROGRAM DEVELOPMENT

- Safety Precautions and Management Systems
- Standard Operating Procedures
- Operator Training
- Incident Investigation
- Process Hazard Reviews
- Maintenance and Mechanical Integrity
- Auditing
- Management of Change
- Pre-Startup Safety Review
- Employee Participation
- Hot Work Permits

HAZARD IDENTIFICATION

- Process Hazard Analyses: HAZOP, FMEA, What-If, Checklist, HAZID, Bowtie
- Layer of Protection Analysis
- Risk Assessment Workshops
- Major Accident Event Identification
- Safety in Design Studies

EMERGENCY RESPONSE

- Procedures for All Employees
- Training and Drills
- Public Notice Procedures
- Plans and Management

RISK TREATMENT AND CONTROL

- Safety Case Preparation
- Safety Critical Element Identification
- Asset Management through Performance Standard Development
- Dangerous Goods Management
- Safety Management System Development and Bridging
- Quantitative Threat, Vulnerability, and Risk Assessment
- Risk Identification and Ranking

OFF-SITE HAZARD ASSESSMENT

- Worst-Case Scenarios
- Alternative Releases Involving Realistic Circumstances

TECHNICAL SAFETY STUDIES

- Major Hazard Facility Studies
- Fire and Explosion Risk Analyses
- Quantitative Risk Assessments
- Fire Safety Studies
- Occupied Building Studies
- Combustible Dust Studies
- ALARP Demonstration Studies
- Hazardous Area Classification
- Consequence Analysis

DECOMMISSIONING

- Decommissioning Risk Evaluation
- Decommissioning Plans
- Waste Disposal Requirements

TRAINING

- Process Safety
- Mechanical Integrity
- Manager Level
- Refresher
- Process Hazard Analysis Techniques

INTEGRATION WITH

- ISO Standards
- Recognized and Generally Accepted Good Engineering Practices
- Management Systems
- Sustainability
- Document Control



KEY AECOM ATTRIBUTES

- **COLLABORATIVE INNOVATION.** Dynamic challenges require dynamic solutions. Because we bring the best minds together to push the limits of what's possible, our impact is unmatched.
- **AWARD-WINNING WORK.** AECOM has been the proud recipient of multiple Environmental Business Journal and other industry awards for our groundbreaking work.
- **INTER-DISCIPLINARY.** Our inter-disciplinary approach means we are able to assist with a wide range of projects from cradle to grave. We collaborate together via technology to deliver world-class solutions. We match the complexity our clients' challenges with the diversity of our expertise, spanning all phases of the development life cycle to deliver innovative solutions.
- **FLEXIBILITY.** Quick turnaround project? Special project requirements? International project? AECOM is flexible enough to handle it all!
- **VALUES.** Authentic and true to who we are, our values guide our behaviors and make our brand real. We anticipate client needs and inspire the market, our partners, and the world. We collaborate to make the impossible, possible. We safeguard our people, our communities, and our world.
- **CULTURE.** Our culture is fluid and dynamic: it is diverse in makeup, thinking, and disciplines. What we share is a passion to solve, to put the puzzle pieces together in a way that delivers a greater result, to make the world around us better.
- **CONFIDENTIALITY.** AECOM works with and supports many high-profile and confidential projects. We honor signed Non-Disclosure Agreements and respect our clients' wishes.
- **UNITY.** Combined, these elements create a powerful identity. It drives all of our interactions inside and outside the company, and underpins our business strategy.