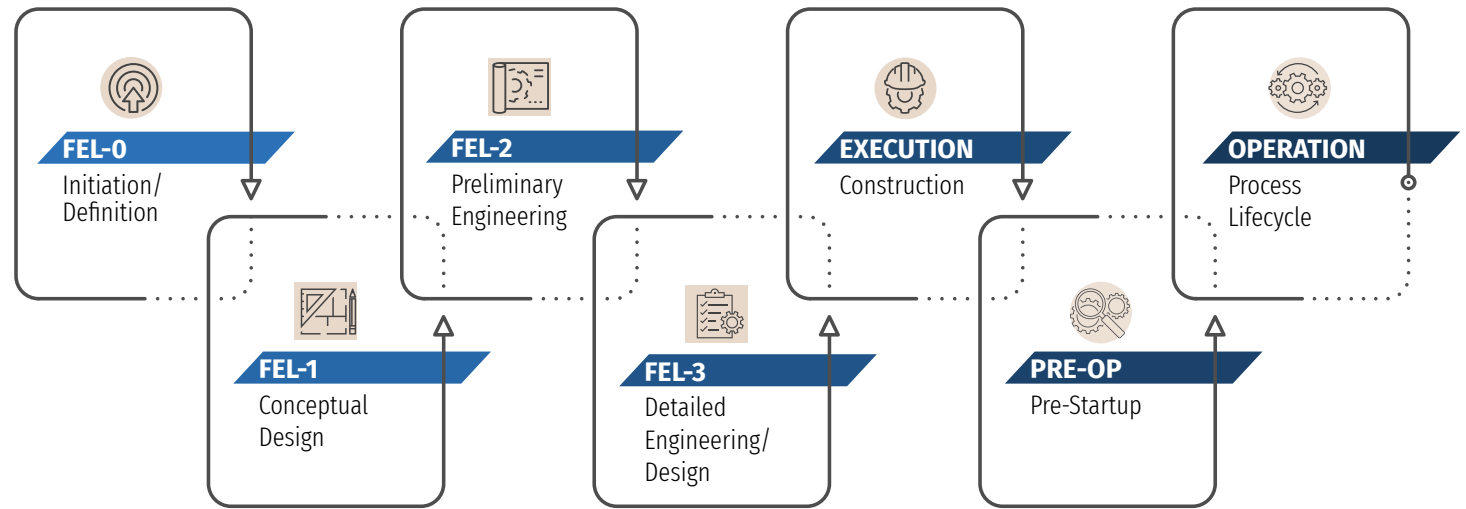


PROCESS SAFETY SERVICES

For All Project Phases

Process Safety Management needs exist during every project phase. The PSM experts within Trinity and Provenance Consulting provide targeted support where and when you need it most.



Our PSM Services in each Project Phase

FEL-0: Initiation/Definition

- ▶ Provide budgetary estimates for all aspects of a PSM implementation or for impacts to your PSM program
- ▶ Perform compliance audit for existing regulatory programs to identify necessary areas of improvement

FEL-1: Conceptual Design

- ▶ Generate process simulations
- ▶ Perform relief systems revalidations for existing systems to ensure accurate baseline
- ▶ Aid in selection of appropriate metallurgies

FEL-2: Preliminary Engineering

- ▶ Facilitate Project PHAs
- ▶ Evaluate mitigations for existing relief systems concerns
- ▶ Design or evaluate impacts to relief systems

- ▶ Perform flare/disposal system analysis
- ▶ Create QA/QC inspection plans
- ▶ Create PFDs and Equipment/Line Lists

FEL-3: Detailed Engineering/Design

- ▶ Provide Designers and Drafters
- ▶ Support Materials Management and Vendor selection
- ▶ Facilitate Project PHA for any changes
- ▶ Fine-tune QA/QC inspection plans

Execution/Construction

- ▶ Initiate and manage project MOCs
- ▶ Provide Construction Management personnel
- ▶ Perform QA/QC inspections, including vendor surveillance
- ▶ Oversee/evaluate vendor QA/QC process

- ▶ and documentation
- ▶ Perform Permit & Field Safety Audits

Pre-Operation

- ▶ Facilitate PSSRs
- ▶ Redline/sketch P&IDs
- ▶ Redline/sketch inspection isometrics
- ▶ CAD drawings (PSI/General PSM)
- ▶ Obtain baseline thickness readings
- ▶ Populate your Inspection Data Management System (IDMS)

Operation

- ▶ Aid in all elements of your PSM program (e.g. MOC lifecycle, IPL lifecycle, relief systems daily support, PHA revalidations, etc)

IDENTIFY the hazards

Identification of hazards is the first major step. If the hazards aren't known, they can't be addressed. These first 3 PSM elements create a foundation for all of the other elements.

COMMUNICATE the hazards

Once the hazards are identified, it's important to communicate them in an intentional way with all potentially affected personnel.

PROTECT AGAINST the hazards

After hazards are identified and communicated, protection measures and procedures can be implemented to protect people and assets from harm.

RE-EVALUATE the hazards

Re-evaluation of the hazards should occur routinely to incorporate new information from improvements, changes, or incidents.

TRANSPARENCY about the hazards

Transparency about the hazards is about being open and honest internally and externally regarding hazards and concerns.

A New Way to Understand OSHA's Process Safety Management of Highly Hazardous Chemicals Standard (29 CFR 1910.119)

Process Safety Management at a facility involves a complex array of processes and procedures, but the intent behind the OSHA PSM regulation is surprisingly simple and direct.

Provenance Consulting, a Trinity Consultants Company, has distilled OSHA's 14 elements down into the Five PSM Mindsets™ to help each employee improve, contribute and recognize how they can participate and bring PSM into their everyday work.

Contact us today to discuss how we can help support process safety training for your employees.

Trinity
Consultants

Provenance
Consulting

ProvPSM.com/PSM-mindsets
trinityconsultants.com

IDENTIFY THE HAZARDS

Employee Participation
Process Safety Information
Process Hazard Analysis (PHA)

COMMUNICATE THE HAZARDS

Operating Procedures
Training
Contractors

PROTECT AGAINST THE HAZARDS

Pre-Startup Safety Review
Mechanical Integrity
Hot Work Permit

RE-EVALUATE THE HAZARDS

Management of Change (MOC)
Incident Investigation
Emergency Planning & Response

TRANSPARENCY ABOUT THE HAZARDS

Compliance Audits
Trade Secrets