

## Engineering and Construction



**When planning for engineering and construction projects, the standards of the company’s SHMS should be incorporated from the beginning.** Any health and safety impacts resulting from projects on site should be considered and action plans developed.

### Engineering and Construction is the process of:

- Designing, procuring, constructing and commissioning new mines, facilities and modifications to existing facilities to promote good safety and health performance throughout the operational life of the facility.
- Integrating the “hierarchy of controls” and good design principles to minimize new mine, facility or modification risk to the lowest level reasonably achievable.

### How it works

New operations and modifications to existing facilities should be designed, procured, constructed and commissioned to promote good safety and health performance throughout the operational life of the operation, mine and/or processing facility by applying recognized engineering standards, procedures and management systems.

Facilities should be operated and maintained within the approved design to ensure performance and compliance with all applicable laws and regulations. This also means ensuring the technical standards for design, construction and commissioning adhere to industry codes and standards and regulatory requirements.

Safety and health management requirements should be incorporated as a part of all relevant design review for construction, operation and maintenance for new fixed installations, mobile equipment and systems.

MODULE  


Where feasible, companies should work with original equipment manufacturers (OEM) to ensure purchased equipment and systems are designed to be as safe as practicable. Engineers and designers should be aware of the company’s safety and health expectations, standards and management system in advance of completing design or engineering work.

### Flow of the Process

- Safety and health management, operations and maintenance expertise are integrated into project planning processes from the inception.
- Where engineering and design codes and standards and/or regulatory compliance are inadequate or absent, management should develop its own with external validation.
- Design and construction for any project with safety and health management considerations should target regulatory as the minimal allowable risk.
- Deviations from standard and accepted design are reviewed and approved by senior management. Variances are documented with adequate justification details.
- The S&H management aspects of construction work conducted on company property should conform to the company’s SHMS standards and expectations.
- Pre-start up safety review should be conducted on all new operations, mines, processing facilities, major mobile and fixed equipment, and control systems. See Module 4 for details.
- Ensure that Engineering and Construction are fully integrated with Module 4 and 20.

## Workbook Materials For Module 19

### Engineering/Construction Project

Responsible Department: \_\_\_\_\_

Team Leader: \_\_\_\_\_

Members: \_\_\_\_\_

Safety & Health Responsibility: \_\_\_\_\_

Project Description: \_\_\_\_\_

\_\_\_\_\_

Project Source:

In House: \_\_\_\_\_

Contractor: \_\_\_\_\_

OEM Supplier: \_\_\_\_\_

Site Location: \_\_\_\_\_

Department: \_\_\_\_\_

Supervisor: \_\_\_\_\_

Risk Register Tasks Associated: \_\_\_\_\_

(Module 4) \_\_\_\_\_

\_\_\_\_\_

Mitigating Effect on Task Risk: Yes \_\_\_\_\_ No \_\_\_\_\_

Risk Ranking Prior: \_\_\_\_\_

Risk Ranking After: \_\_\_\_\_

MODULE



Industry Code or Regulatory Standard Compliance Required: Yes \_\_\_\_\_ No \_\_\_\_\_

Agency: \_\_\_\_\_

Standard: \_\_\_\_\_

Code or Standard meets minimum requirement of site compliance: Yes \_\_\_ No \_\_\_

Company Policy Compliance Required: Yes \_\_\_\_\_ No \_\_\_\_\_

Policy: \_\_\_\_\_

Deviations Required: \_\_\_\_\_

Equivalent Controls Applied: \_\_\_\_\_

Approvals and Sign Offs:

Department: \_\_\_\_\_ Position: \_\_\_\_\_

Department: \_\_\_\_\_ Position: \_\_\_\_\_

Department: \_\_\_\_\_ Position: \_\_\_\_\_

Department: \_\_\_\_\_ Position: \_\_\_\_\_

Pre-Start Safety Review:

Review Team:

Department: \_\_\_\_\_ Position: \_\_\_\_\_

Department: \_\_\_\_\_ Position: \_\_\_\_\_

Department: \_\_\_\_\_ Position: \_\_\_\_\_

Department: \_\_\_\_\_ Position: \_\_\_\_\_

Inspection Date: \_\_\_\_\_

Inspection Plan: \_\_\_\_\_

Findings: \_\_\_\_\_

Actions Needed: \_\_\_\_\_

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