

19 Engineering and Construction

Projected Implementation Date: December 2015



This module includes:

- 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.

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 reviews for construction, operation and maintenance for new fixed installations, mobile equipment and systems.

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.

Expectations

19.1 Safety and health management, operations and maintenance expertise are integrated into project planning processes from the inception.

19.2 Where engineering and design codes and standards and/or regulatory compliance are inadequate or absent, management should develop its own with external validation. ¹

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19.3 Design and construction for any project with safety and health management considerations should target regulatory as the minimal allowable risk.

19.4 Deviations from standard and accepted design are reviewed and approved by senior management. Variances are documented with adequate justification details.

19.5 The S&H management aspects of construction work conducted on company property should conform to the company's SHMS standards and expectations.

19.6 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.

19.7 Ensure that Engineering and Construction are fully integrated with Module 4 and 20.

Footnote

¹ Using external professional engineers to validate the engineering specifications and design.

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Regulation

Partial or full MSHA and/or OSHA regulatory requirement: Yes No

Metrics

To be determined

Resources

CORESafety resources can be found with the latest updates at:
coresafety.org/resources/module19

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Notes

