

# Health and Safety Standard

# MAJOR PROJECTS

# HSE MANAGEMENT STANDARD

## 1. PURPOSE

The Major Project Health, Safety and Environment (HSE) Management Standard supports SaskPower's Health, Safety and Environment Policy and is the application of management principles for major projects. These principles are applied to protect the health, safety and well-being of workers and the public, as well as the environment and SaskPower assets.

## 2. SCOPE

The SaskPower Major Project HSE Management Standard is for the effective execution of a project with a high-risk profile, also involving construction or other high-risk work, related to health and safety. It includes requirements that align with SaskPower's Safety Management System and Environmental Management System. The Major Project HSE Management Standard also references other SaskPower programming, such as project management, commissioning and operations processes.

This standard outlines the minimum requirements that shall be met or exceeded by SaskPower workers and contractors. Failure to comply may result in injuries, damage to equipment and property, environmental harm, performance management or any combination thereof.

The use of the word "shall" within this standard denotes a mandatory action, whereas the use of the word "should" or "may" denotes a recommended action.

## 3. DEFINITIONS

The following definitions apply to this standard:

**Critical Equipment** - is equipment upon functional failure presents an unacceptable level of risk with respect to health, safety, environment, production, regularity and / or costs.

**Hazard and Operability Study (HAZOP)** – This methodology may be used to assess projects that involve development of a manufacturing process, such as building a new power plant. It is a systematic method by which potential operating hazards or issues are identified, using a series of established guidewords.

**Inherent Safety** – is an approach that eliminates or greatly reduces hazards by design. Where possible, strategic decisions typically must be implemented early in the design stage, but are inherent, passive and thus less prone to failure. Tactical decisions can be implemented but are characterized by repetition and high costs. Being active and procedural in nature, they need continuous supervision to remain effective.

**Major Project** – is a significant SaskPower capital expenditure proposal, whose activities are not part of regular ongoing operations and maintenance and have a finite life (defined start and stop). It would be considered a Tier 4 CPMO Project Tiering System. The magnitude of the project would align with SaskPower’s Decision Item criteria for high risk projects and would include elements such as:

- Materiality of the risks involved
- Number of stakeholders that will be impacted
- Level of approvals required (CIC, Minister, Premier’s etc.)
- Financial impact
- Significant resources required
- Significant impact to corporate reputation

**Process Hazard Analysis/Reviews (PHAs/PHRs)** – is the action of identifying undesired events within a project involving a manufacturing process (such as generation of electricity), which could lead to the materialization of a hazard. PHAs/PHRs are completed prior to the HAZOP so the designer considers hazards including, but not limited to fire, explosion, spills, hazardous materials, shock and radiation.

**Process Safety Management** – is the application of management principles and systems to the identification, understanding and control of manufacturing process (such as generation of electricity), and its hazards to prevent process-related injuries and incidents.

**QMS Program** – a means to establish and monitor the integrity and compliance to legislative and SaskPower requirements. Examples include regulations for SaskPower owned boilers, pressure vessels, and pressure piping systems, where the end user is the Operations Business Unit.

**Risk Profile** - the risk rating/profile determination, which among other risks, considers potential for injury, damage to property or the environment, is intended to provide an early assessment of a major project (or business case or initiative) under consideration and is to be supported by a more comprehensive assessment and analysis of key risks and mitigation plans. In addition, the risk profile is intended to identify any new risks to be considered. To determine a risk profile, refer to the Decision Item Template’s Appendix A.

**High Risk Work** – is defined by SaskPower as:

- Activities reflected in *The Occupational Health and Safety Regulations, 2020* (Saskatchewan):
  - Prescribed Place of Employment, Table 7;
  - High Hazard Activities, Table 8;
- Activities in *The Occupational Health and Safety Regulations, 2020* (Saskatchewan), that have a dedicated section (Part 10- Part 32).

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## 4. REQUIREMENTS

The key elements (shown in Appendix A), are aligned with the SaskPower Safety Management System and Environmental Management System, which provide guidance on compliance with legislative and SaskPower requirements and this Standard. The major project's vision and mission shall be aligned with corporate strategic plan's vision and mission, taking into consideration the criteria used to define what a major project is.

### 4.1. CORPORATE COMMITMENT

A major project's health, safety and environmental requirements shall have a high priority with the Executive and be consistently demonstrated.

### 4.2 OBJECTIVES

A major project shall consider HSE requirements when establishing project objective(s) and goal(s), which are aligned with SaskPower's corporate strategy.

### 4.3 LEGAL AND OTHER REQUIREMENTS

SaskPower shall consider HSE requirements for the procurement of goods / services and comply with legal and SaskPower requirements when planning for and implementing a major project. For work that is being contracted out, safety specifications and environment specifications included in RFPs and supporting contracts state HSE requirements that are specific to the work, along with the obligations of the contractor to comply.

### 4.4 HAZARD/ASPECT IDENTIFICATION AND RISK ASSESSMENT

SaskPower shall proactively identify, evaluate and manage hazards/aspects associated with major projects.

### 4.5 RESOURCES, ROLES AND RESPONSIBILITIES

Resources for major projects shall be determined and provided. Roles and responsibilities for major projects shall consider HSE requirements, as well as other priorities and deliverables for a successful project.

#### 4.6 TRAINING AND AWARENESS

Key personnel in a major project shall have the required knowledge, skills and abilities to perform the work.

#### 4.7 COMMUNICATION AND CHANGE MANAGEMENT

A Communication Plan shall be in place for major projects that has a means to relay information internally within SaskPower and externally with interested parties.

A Change Management Plan shall be in place for major projects and shall incorporate changes to operating procedures, technology, equipment, facilities and/or organizational structure.

#### 4.8 DOCUMENTATION AND CONTROL OF DOCUMENTS / RECORDS

All project related documentation and records shall be controlled and be located in accordance with established requirements, including, but not limited to the Record and Information Management (RIM) Policy and SMS/EMS procedures.

#### 4.9 OPERATIONAL CONTROL

Control measures shall be taken to manage health, safety, environment and other related risks associated with a major project, throughout the project and as it transitions into operations.

Assets and facilities of a major project shall be operated in compliance with all relevant regulations and SaskPower requirements. Control measures include engineering controls, personal protective equipment (PPE), and administrative controls (such as permits, operation manuals, operating procedures, change management, training and supervision).

#### 4.10 EMERGENCY PREPAREDNESS AND RESPONSE

Documented emergency response plan(s) is required for major projects under construction and as it transitions into operation.

#### 4.11 INCIDENT INVESTIGATIONS

All incidents involving a major project, that did or could have resulted in injury, damage, loss, adverse environmental impact, shall be reported and investigated in accordance with established requirements, including but not limited to the Incident Investigation Process, Health and Safety Incident Reference Chart for Employees and Contractors, and Environment Incident Reference Chart for Employees and Contractors.

**4.12 PERFORMANCE MEASUREMENT AND MONITORING FOR COMPLIANCE**

Key performance indicators shall be used to monitor and report (among others) HSE performance, to ensure planned objectives and targets are achieved. Verification for effectiveness is achieved during testing of equipment and processes, which may include internal, as well as third party groups.

**5. RESOURCES**

**5.1. INTERNAL RESOURCES**

|                                |   |
|--------------------------------|---|
| <b>Related Policies:</b>       | Hazard/Aspect and Risk Assessment (HARA) Policy   |
| <b>Related Standards:</b>      | <ul style="list-style-type: none"> <li>• Hazard/Aspect and Risk Assessment (HARA) Standard</li> <li>• Emergency Response Plan Standard</li> </ul>   |
| <b>Additional Information:</b> | <ul style="list-style-type: none"> <li>• Incident Investigation Process</li> <li>• Change Management Process</li> <li>• Internal and External Communication Process</li> <li>• Health, Safety and Environment Rulebook</li> </ul> |

**5.2. EXTERNAL RESOURCES**

|                             |   |
|-----------------------------|---|
| <b>Related Legislation:</b> | <ul style="list-style-type: none"> <li>• <i>The Saskatchewan Employment Act</i></li> <li>• <i>The Occupational Health and Safety Regulations, 2020</i></li> </ul> |
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**Ownership**

|                          |   |
|--------------------------|---|
| <b>Division:</b>         | Health and Safety                                       |
| <b>Department:</b>       | Safety Performance & Planning                           |
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**Document History**

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| K. Hammond                   | Scheduled Review Cycle | June 12, 2019     |
| Health and Safety Department | Scheduled Review Cycle | December 17, 2017 |

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