



IGO GROUP SAFETY STANDARD 12 - OPERATIONAL & PROJECT RISK MANAGEMENT

INDEPENDENCE GROUP NL





DOCUMENT APPROVAL FOR USE

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1. INTENT

The purpose of this Standard is to define IGO's requirements for risk management at a site or project level (known as the Operational & Project Risk Management Processes).

Note: IGO uses a three-tiered Risk Management Model. Refer to IGO Common Management System Standard 3 – Risk Management.

2. APPLICATION

This standard shall apply to all IGO sites and projects (exploration, construction and development) and to all IGO employees and contractors (including sub-contractors) on IGO sites and projects.

3. OVERVIEW

This standard addresses IGO's risk management processes related to:

1. Site or Project Risk Registers
2. Operational Risk Assessments
3. HAZIDs and HAZOPs

4. SITE OR PROJECT RISK REGISTERS

Each site or project must ensure that a Site or Project Risk Register:

- is documented using the 'IGO Operational Risk Assessment Template';
- captures the most significant risks faced by the site or project (This includes risk of any type inclusive of HSEC, management and technical risks);
- is based on, and supported by, such discipline specific operational risk assessments as determined as necessary by site or project management (eg supply, geotechnical, structural integrity, customer satisfaction, industrial relations, HSEC, etc, etc);
- is reviewed at least annually by the site or project management team. The site or project management team must explicitly identify the top 10 risks faced by the site or project, and assess the adequacy of the controls;
- is approved by the site or project's registered manager;
- secured in **IGO's Meerkat enterprise risk database** and
- is provided to corporate for incorporation into the all-of-business Business Critical Risk Review.

5. OPERATIONAL RISK ASSESSMENTS

Any significant change to operations, plant or mine design must be subject to either internally facilitated 'Operational Risk Assessments' or, in the case of very large scale changes, externally facilitated Hazard Identification Studies (see Section 7).

Additionally and specifically, Operational Risk Assessments must be completed for:

- Confined Spaces. Site's must determine which spaces can be effectively managed with the site's generic access and emergency response plans, and those that present specific complexity requiring additional space specific planning.
- Mine Design. The geotechnical and inrush prevention elements of mine design and management (refer to IGO GSS 39 - Ground Control and Inrush).
- Traffic Management. Site's must specifically examine hazards and controls associated with pedestrian, light vehicle and heavy vehicle interactions. The outcomes of this risk assessment must be used to inform the development of the site Traffic Management Plan. (Refer to IGO GSS9 - Traffic Management Planning).

Operational Risk Assessments must be documented using the 'IGO Operational Risk Assessment Template'.

6. HAZARD IDENTIFICATION STUDIES (HAZIDS)

Sites and projects must complete Hazard Identification Studies (HAZID) as part of the design process for any new mine, or processing and related facilities, or where material changes to a mine or processing and related facilities are planned.

Hazard Identification Studies follow a widely used methodology that must be led by a trained facilitator. Central to the process are structured brainstorming sessions typically involving both contractor and IGO personnel from the engineering disciplines, project management, commissioning, operations and HSEC personnel.

Hazard Identification Studies must be completed as early in the project cycle as practical. Typically, this is as soon as process flow diagrams, draft heat and mass balances, and plot layouts are available. Existing site infrastructure, weather, and technical data is also required, as these are a source of external hazards.

7. HAZARD & OPERABILITY STUDIES (HAZOPS)

Hazard and operability studies (HAZOPs) must be completed following the substantial completion of process plant design or production processes where:

- Such studies are required in law
- The plant is designated a 'major hazard facility' or similar
- The plant incorporates 'non-standard' design elements.

HAZOPs are applied to 'complex' processes and only once designs are unlikely to change significantly. HAZOPs focus on the foreseeable variations within the process, the hazards that may arise and the likely efficacy of the hazard control measures.

Responsibility for determining the need or otherwise for the completion of HAZOPs shall rest with the Project or Site Registered Manager.

HAZOPs adhere to defined methodology based on a facilitated expert team review. HAZOPs can only be completed once piping and instrumentation diagram (P&IDs) have been completed. HAZOP teams use lists of standardised guide-words and process parameters to identify potential deviations from the design intent. For each deviation, the team identifies feasible causes and likely consequences then

decides whether the existing safeguards are sufficient, or whether additional controls must be added to reduce the risks to an acceptable level.

At IGO HAZOPs must be overseen by an independent, trained HAZOP facilitator who is responsible for the overall quality of the review.

8. TRAINING & COMPETENCE

All senior site and project staff shall be:

- trained in the facilitation of Operational Risk Assessments,
- educated as when HAZID and HAZOP studies are required,
- educated as to purpose Site or Project Risk Register, and its relationship of the corporate Business Critical Risk Register.

9. RECORDS

Copies of the following documents must be retained in the IGO DMS:

- Site or Project Risk Register (NB Additionally, IGO will progressively move to capturing the Site/Project Risk Register in INX)
- Operational Risk Assessments,
- HAZIDs and HAZOPs

Training records shall be kept as per IGO CMSS 6 - Training, Competence and Awareness.

10. RELATED DOCUMENTS

10.1 Common Management System Standards

- CMS ST-03 Risk Management
- IGO CMSS 6 - Training, Competence and Awareness.

10.2 HSES Standards and Guidelines

- IGO GSS 39 - Ground Control and Inrush
- IGO Operational Risk Assessment Template