

9. Continuous improvement

Purpose: to detect opportunities and warning signals about fabrication site risks and risk controls and to adapt accordingly to prevent serious injuries.

Objectives:

- to identify sources of learning opportunities and weak signals
- to identify high potential consequence events

Expectations

9.1 Sources of learning opportunities and weak signals

Some risk exposures are common to all fabrication sites (e.g. working at height) and some risk exposures only occur in specific locations (e.g. frostbite or malaria).

- Know the risks that are present at the location
- Implement checking and reporting systems to review the effectiveness of risk controls and collect incident data.
- Consider multiple sources of information, including from subcontractors, for example:
 - Behaviour Based Safety observations (e.g. working at height without fall protection, working under a suspended load, walking in a forklift blind spot)
 - Verification activities (e.g. checking on IOGP Report 577 compliance, or workers following site Life-Saving Rules)
 - Hazard reports (e.g. open pits, missing handrails)
 - Incident and near miss reports
 - Major milestone audits
 - Ad-hoc observations (e.g. management walk-arounds)
 - Site and industry sharing of learning from incidents

9.2 Defining potential consequence

Injuries are events with an actual consequence (i.e. lagging indicator), but for every injury there are many unsafe behaviours, near misses, workplace hazard reports, and failures to follow procedures.

- Have a systematic way of identifying the potential consequence of leading and lagging indicators, such that high potential consequence events are brought to management attention. This can be achieved by:

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- Defining potential consequences based on the type of injury
- Flagging 'High potential consequence' from a wide range of leading and lagging indicators such as:
 - Behavioural Based Safety observations
 - Hazard reports
 - Verification results
 - Audit results
 - Worker care survey observations
 - Management walkthrough
 - Incident report
 - Near miss report
 - Competency verification results
 - Site inductions
 - Worker feedback

9.3 Responding to high potential consequence events

- Have a process to recognize high potential consequence events and promptly bring them to management for action. Desirable features of the corrective action management system specific to high potential consequence events include:
 - Have higher urgency of notification and a higher level of management notified
 - Monitor the number or rate of high potential consequence events (note: care should be exercised to prevent under-reporting)
 - Require a more rigorous level of investigation
 - Have a higher level of management responsible for determining proper corrective action to be taken, if any. This decision is documented
 - Have corrective action set at two levels
 - a "quick fix" to prevent an incident in the short term, and
 - a longer term corrective action to provide a sustained improvement
 - Address corrective action at a higher priority and quicker when compared with lower potential consequence events
 - Involve senior management, who are responsible for more rigorous and transparent follow up of corrective actions, at a higher level than when compared with lower potential consequence events
 - Have management define key performance indicators

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Principal contractor or client may require periodic feedback regarding high potential consequence events, signals, and corrective action taken

9.4 Learning from high potential consequence events

- Have a process for learning from high potential consequence events. Desirable features of the lessons learned process specific to high potential consequence events are:
 - Relevant lessons are summarized from the investigation in a clear and concise format
 - In order to maximize learning, the lessons learned summaries are shared and utilized across the organization

Further reading:

- IOGP 552 *Components of Organizational Learning*
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