HAZARD IDENTIFICATION, RISK ASSESSMENT AND CONTROLS

MP15

McGEE
A Specialist Engineering Contractor.

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Amendment History

Version No	Date	Section/s Amended	Amendment Details
00	26/05/10	5.2, 5.5 & 6.0	Update following internal review
V1	22/02/10	4.0, 5.2, 5.3 & 5.5	Update routine & non routine activities, activities, capabilities, outside hazards, ref RA's on Livelink
V2	06/11/12	5.3, 5.5, 5.6 & 6.0	Revised RA proforma, review and clarify MS methodology
V3	23/01/13	5.6	Added incident / accident as a trigger to review RA
V4	28/02/13	4 & 5.3	Responsibilities and review of RA
V5	16/06/15	6	Added link to GD-SHE001
V6	14/06/16	5	Note added on corporate risk

1. Purpose

This procedure describes the processes for ongoing hazard identification and risk assessment in relation to McGee Group (Holdings) Ltd activities, products and services, including those of contractors / visitors.

This procedure also includes the process for the determination of controls in relation to the hazards and risks identified.

2. Scope

This procedure contains the following sections:

- General Requirements
- Hazard Identification
- Risk Assessment
- Determination of Controls
- Ongoing Review

3. Glossary and Definitions

SHE	Safety, Health and Environmental
IBPD	Integrated Business Process Director
HSQEM	HSQE Manager
HSA	Health and Safety Advisor
IA	Internal Auditor
RA	Risk Assessment

4. Responsibility

It is the responsibility of the SHE Director to ensure compliance with this procedure. The Health & Safety team is responsible for planning and overseeing the identification and assessment of hazards and their subsequent control.

Site management is responsible for the carrying out of risk assessments for the work on their projects. The SHE Director and the Heads of department are responsible for ensuring that hazards are identified, risks assessed and control measures implemented for the activities and premises each of them oversees. They should seek advice from the Health and Safety team if necessary, particularly the HSQEM and the HSA.

Also the McGee Manager responsible for the work being assessed, should ensure that they utilise the skills of a cross section of their team and include any specialist contractor involved (if applicable) and produces the risk assessment with their input. This should ensure that issues that could arise from parties working under the risk assessment are dealt with during the production process and not when work is about to commence.

The Internal Auditors (IA) are responsible for the monitoring of Integrated Business Process' effectiveness through audit and process review.

5. Procedure

5.1. General

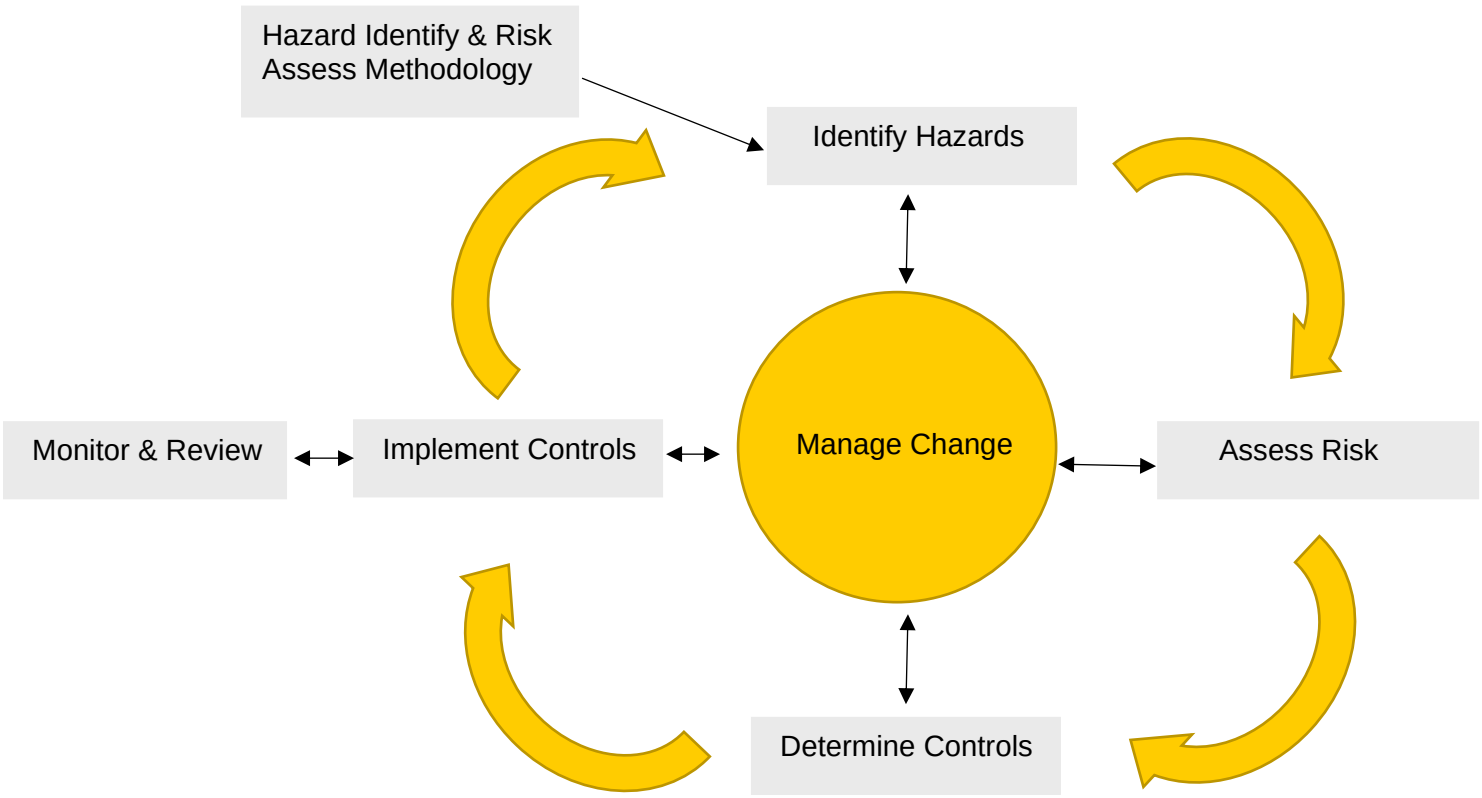
Hazards have the potential to cause human injury or ill health. Therefore they need to be identified before the risk associated with the hazard can be assessed. If no controls exist or existing controls are inadequate, effective controls will be implemented according to the hierarchy of controls given in section 5.4.

The overall purpose of the risk assessment process is to recognise and understand the hazards that might arise in the course of McGee activities and ensure that the risks to people arising from these hazards are assessed and controlled to a level that is acceptable.

The results of the risk assessment process are used to prioritise procedures, resources and methods to ensure effective risk management.

The outputs from the hazard identification, risk assessment and determination of controls process have been used in the development and implementation of the McGee Health and Safety management system. An overview of the Hazard Identification and Risk assessment Process is shown below:

Risk assessments do not need to be limited to risks resulting in injury or ill health but can be utilized when assessing risk of a corporate nature. The same risk assessment process can be implemented with the outputs implemented to control or reduce risk to the organisation.



5.2. Hazard Identification

When seeking out and identifying hazards, adequate information is necessary and reference should be made to relevant sources such as:

- Legislation and approved codes of practice;
- Health and Safety Executive Guidance;
- Product information - manufacturer guidance;
- Personal knowledge of managers, colleagues and safety representatives;
- Accident records and reports;
- Expert advice.

In the simplest cases hazards can be spotted by observation and questioning. They may be identified by individual activities, people or work areas depending on the nature of the area(s) being assessed. Some tasks may be undertaken by several people in the same department so an assessment covering the task or activities would be more appropriate than one covering each individual. Individual aspects about the people carrying out the activity may also need to be taken into account i.e. one person may be 5 feet tall the other 6 feet 2 inches, therefore further risks may be applicable to one employee rather than the other.

The hazards presented by the activity should be identified. This is done using the following prompts:-

- contact with machinery (such as during normal operation, setting, cleaning or maintenance);
- struck by objects during the activity;
- striking against objects during the activity;
- manual handling involvement;
- slips, trips or fall hazards present;
- hazards from hand tools used;
- contact with electricity during the activity;
- contact with chemicals / hazardous agents (e.g. asbestos) during the activity;
- transport or vehicle movements involved in the activity;
- fire and/or emergency conditions that could increase the hazards present.

For new projects, hazard identification is carried out through Health and Safety Plans (including Rail specific plans), Safety Method Statements and Plan of Works. These are available as standard templates through the Enterprise system.

When making a hazard / risk assessment of an activity, this includes an awareness that judgments can be influenced by:

- previous experiences;
- knowledge (or lack of it) of the hazards present;
- an optimistically low expectation of the likelihood of the hazard being realized;
- an over willingness to accept a level of risk which should not be tolerated due to other influences such as time constraints.

In addition to the above, the hazard identification process will also consider the following:

- Application of the process to both routine and non-routine (e.g. periodic, occasional or emergency) activities and situations;
- Consideration of all persons having access to the work area, e.g. customers, visitors, contractors, delivery personnel as well as staff;
- Human behaviour, capabilities and other human factors (e.g. potential for operational error, operator stress and user fatigue);

- Hazards that could occur outside of the workplace that could impact on individuals with the workplace areas (e.g. release of toxic materials from neighbouring operations – Note: these are generally included in the McGee Environmental Management System).

The hazard identification activity is to be conducted by persons with competence in relevant hazard identification methods and techniques and appropriate knowledge of the work activity.

- The following work activities MUST have a risk assessment carried out for them:
- Demolition
- Steel erection
- Roofing works and other work of operatives at height
- Work in confined spaces
- Work with asbestos and toxic or harmful materials
- Work with highly flammable materials (Fire and explosion)
- Hot works within buildings or on plant where a fire risk exists (particularly on partially fitted out buildings)
- Work under/adjacent to electrified overhead lines
- All excavation work and piling
- Significant lifting operations
- Erection of temporary works or falsework or structures
- Hoist and crane erection and dismantling
- Work over water
- High pressure water jetting/cutting/grit blasting/thermic lancing
- Use of lasers and site radiography
- Pipe and cable freezing
- Ground treatment
- Work on or adjacent to public or client's roads
- Installation or underground plant
- Work adjacent to/or over railways
- Airside works at airports
- Tunneling or heading works
- Ductwork
- Pipework
- Young persons at work
- Lone Working
- Using Display Screen Equipment (use self check list SMS 008)
- Office Working
- Working at Heights
- People and plant interface
- Any other lifting operations

The above list is non-exhaustive.

The following hazards MUST also have a risk assessment carried out:

- Fire
- Hazardous substances (COSHH)

NB: If in any doubt about the activity about to be undertaken, contact the safety department for guidance.

5.3. Carrying Out Risk Assessment

Risk is the likelihood of the occurrence of a hazardous event / exposure and the severity of injury or ill health that can be caused by that event / exposure, occurring.

Risk assessment is the process of evaluating the risk arising from a hazard, taking into account the adequacy of any existing controls and deciding whether the risk is acceptable. Note: An acceptable risk is one that has been reduced to a level that meets McGee requirements with respect to legal obligations, H&S policy and H&S objectives.

Risk assessment is carried out using the following severity and likelihood evaluation categories and scoring matrix:

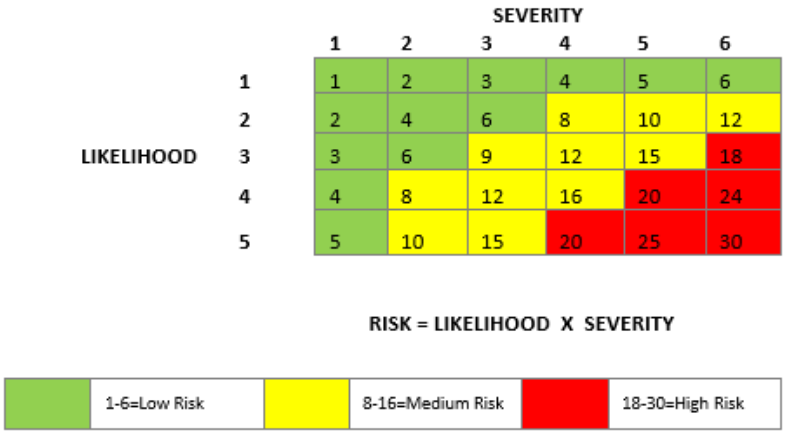
Severity

Level	Description
6	Multiple Deaths, major disruption to the local area
5	Death of one person or Permanent Disability, amputations (such as loss of finger). This may include injuries such as multiple fractures caused by situations involving machinery.
4	Major injury or time off (over 7 day), Burns, fractures, serious disabling back injuries, serious eye injuries. This may include injuries such as fractures caused by situations involving machinery.
3	First Aid injury, cut requiring attention, sprains and strains, minor burns. There may be a loss of time. This may include slips and trips
2	Trivial Injury, Scratch, bruise, minor cut. Injury will allow normal work but may include first aid attention. Typically there is no loss of time.
1	No injury, loss or damage

Likelihood

Level	Description
5	Highly Likely: If conditions continue an accident or incident is almost certain to occur.
4	Frequent: Under normal conditions with current procedures being maintained an accident or incident is probably likely.
3	Occasional: Under normal conditions with current procedures being maintained an accident or incident may not be likely, however, this situation only requires a fault or abnormality for conditions to change.
2	Possible: Several factors probably need to be present for an accident or incident to occur. This may indicate that there are still areas that could be improved.
1	Unlikely: There is very little risk present. Only under exceptional circumstances would there be an accident or incident.

As shown below the shaded areas present the level of risk.



All risks rated at medium or above are considered to be significant and therefore require action to reduce that level of risk.

Once the initial risk rating has been calculated on the Risk Assessment Form, control measures are listed and the risk re-assessed to give a Residual Risk Rating. The form then requires Further Controls to be applied to reduce the risk rating still further, leaving a Final Residual Risk Rating that must fall in the Low category.

Additional information in relation to the McGee risk assessment process is included in the SOP-SHE005 Health and Safety Management System Guidance document, section 3.16 Link to document: http://mcgeenet.mcgee.co.uk/Livelink/livelink.exe/Open/180836

5.4. Determination of Controls

The measures which will be required to minimise or remove risk are considered by applying a hierarchy of risk control measures. This is the important part of every risk assessment as it is here where McGee are required to take action to reduce the risk of injury. Consideration is given to reducing the risk according to the following hierarchy:

1. **Eliminate the Risk** e.g. is it possible to stop using the chemical or piece of equipment?
2. **Substitute** e.g. Can we use a less hazardous substance?
3. **Engineering Controls at Source** e.g. Guards and safety devices
4. **Warning Signs / Administrative Controls** - these do not eliminate the risk but do raise awareness
5. **Personal Protective Equipment** - As a last resort as the hazard is not completely removed.

In addition to the above, the following control measures are also considered:

- **Re-design** workplace or task
- **Safe Systems of Work** e.g. Staff Operating Procedures which are communicated, method statements and briefings.
- **Training & Supervision** - If employees are trained, supervision will be needed to ensure the training is followed
- **Maintenance of equipment** - to prevent accidents due to defective equipment
- Good Housekeeping - having clear access routes, safe storage
- **Personal Hygiene**

Additional details in relation to McGee control measures are included in the generic and project risk assessment records.

The Health & Safety Management System Guidance document also includes specific hazard and risk guidance in relation to the Safe Systems of Work, section 4. Additional hazard and risk guidance in relation to COSHH, Display Screen Equipment, Working at Heights and Lone Working are also documented in guidance procedures.

5.5. Method Statements

A method statement identifies and details how a particular activity will be carried out in a safe logical sequence. When being prepared it assumes that the risks have been eliminated as far as possible from the activity, therefore a risk assessment will have been carried out before a method statement is written.

A method statement (MS) should be a practical indication that proper emphasis has been placed on safety and health at the planning stage. It must involve the logical setting down of a work

procedure which enables the persons concerned to know in advance what precisely is to be done and how it is to be carried out.

The Manager/Supervisor then has the duty to ensure compliance with the MS and its communication with the operatives concerned prior to work commencing.

The actual contents of a method statement will depend largely upon the task to be undertaken. Additional details in relation to method statement content are included in SOP-SHE005 McGee Health and Safety Management System Guidance section 3.16. Link to manual: http://mcgeenet.mcgee.co.uk/Livelink/livelink.exe/Open/180836 . This is also supported by SHE guidance document SHE 01 – "How to Write a Method Statement".

Where a risk assessment has been prepared to be read in conjunction with a method statement, the method statement reference number must be noted on the risk assessment.

5.6. Ongoing Review and/or Revision

Risk assessments are periodically reviewed to ensure that the existing controls remain effective & adequate and that any new hazards identified or organisational changes have been responded to. Review of any Risk Assessment will be triggered by:

- Any change of condition, circumstances, scope and management of the work covered;
- Quarterly review
- After an incident, accident or near miss has occurred.

Risk assessment forms are to include a re-assessment date and internal audits are to be used to ensure that hazard identification, risk assessment and controls are in place and up to date. Audits can also be used to check that current assessments reflect actual workplace conditions/practices.

Performance monitoring and measurement is also conducted in accordance with MMI procedure MP14. All incidents and near misses are also recorded so that the potential to cause serious harm can be analysed to give a better idea of the severity and likelihood of harm.

6. Related Documents

- McGee Group Limited Health and Safety Policy and Procedures
- Health and Safety Management System Guidance Document
- Risk Assessment Proforma SMS004
  http://mcgeenet.mcgee.co.uk/Livelink/livelink.exe/Open/175435
- Monitoring, Measurement and Improvement Procedure MP14
  http://mcgeenet.mcgee.co.uk/Livelink/livelink.exe/Open/577520
- Guidance Document: GD-SHE 001 – Risk Assessment, Hazard and Controls
  https://mcgeenet.mcgee.co.uk/Livelink/livelink.exe?func=ll&objaction=overview&objid=2701241

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