Auckland Transport
HS03-01 Risk and Hazard Management

(Procedure uncontrolled when printing)

Relating to Standard: HS03 Risk and Hazard Management Standard

December 2016

Contents

1 Background and Purpose

The purpose of this procedure is to set out Auckland Transport's (AT) process for effective management of risk and hazards. AT recognises that the identification of health and safety (H&S) risks and associated hazards that arise from our operations is vital to the H&S of our workers and others. This procedure ensures that controls are effective in their management.

A H&S duty imposed under the Health and Safety at Work Act 2015 requires the person to eliminate risks to health and safety, so far as is reasonably practicable; and if it is not reasonably practicable to eliminate risks to health and safety, to minimise those risks so far as is reasonably practicable. A person must fulfil this requirement to the extent that they have, or would reasonably be expected to have, the ability to influence and control the matter to which the risks relate.

This procedure supports AT in meeting this obligation and supports AT's belief that the proactive management of its most critical risks (CR) and hazards is the first step in incident and injury prevention.

AT will use Bow Tie Methodology for assessing and controlling its CR's.

2 Scope

This procedure applies to all AT divisions, and suppliers who undertake activities on behalf of AT except where they are operating under their own H&S Management System. It has been completed to align with the AT Standard on H&S Risk and Hazard Management.

This procedure is to be read in conjunction with the Risk and Hazard Management Standard and the Audit and Assessment Standard.

3 Procedure

The process below sets out the steps to identifying, assessing and managing H&S CR and hazards.

3.1 Health and Safety Critical Risk and Hazard Management Implementation Model

The model below shows the process that AT will follow to establish its CR and Hazard Management programme. Once the development and implementation phases are complete, this procedure should be updated to reflect CR and Hazard Management as normal operations.

The development of Bow Tie control plans for CR does take time and this procedure acknowledges that AT will need a period for this development to take place and for AT to move into ongoing operational management.

AT also acknowledges that development and implementation may overlap with initial CR Bow Tie control plans being assessed while others are still being developed. AT's plan is to have completed development and implementation by March 2018.

Critical Risk and Hazard Management Process Flow
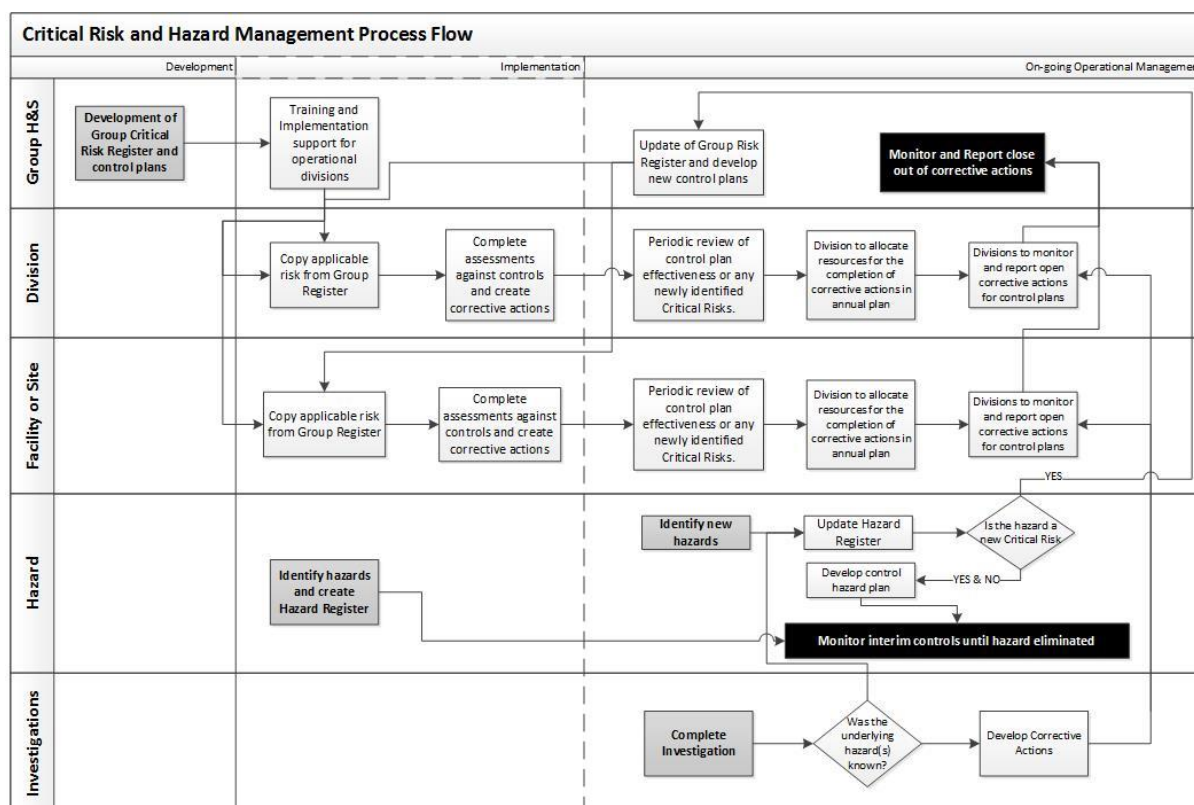
Bow Ties will be developed using a similar process to that used by the Risk and Audit team within AT. The Bow Tie will use the event associated with a CR to demonstrate prevention controls and mitigation controls. These controls will sit along cause lines (sometimes referred to as threats) that are potential causes for the event or on consequence lines where they can mitigate the outcome should the event occur.

Typically, the controls on the left side of a Bow Tie diagram are called the prevention controls and on the right side are called the recovery controls. The diagram below is a simple explanation of a Bow Tie control plan.

CAUSES — Event — CONSEQUENCES

Minimise Likelihood — CONTROLS — Mitigate Consequence
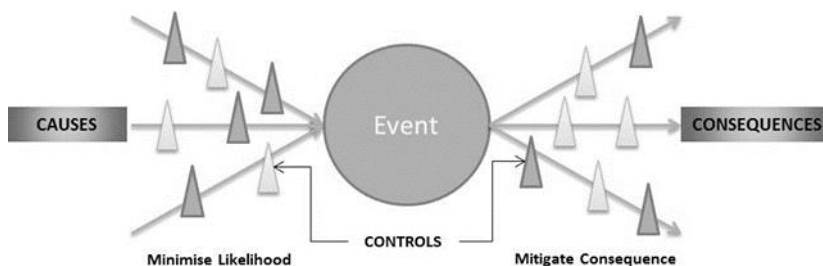
3.2 Critical Risk and Bow Tie Overview

AT will identify and document H&S CRs and will, along with its key suppliers, manage them in a Master Critical Risk Register. AT's CRs are the risks that are most likely to cause single or multiple significant or disabling injuries, and/or a fatality. CRs are most often inherent in the work and process we undertake as a business and do not become hazards until there is a direct exposure to an individual.

For each CR, AT will develop Bow Tie control plan(s) to demonstrate its method for ensuring it can manage that risk and associated events. Bow Ties will be developed in line with the process used with AT Audit and Risk function, and using the H&S Bow Tie development template.

A CR will be a risk that has an assessed risk score of 15, 16, 20 or 25 on the AT Risk Matrix.

Each Division, facility or site will create its own Risk Register by copying the items of risk it manages from the Master Critical Risk Register, including the control plan, and will complete an assessment against the control plan to determine compliance. Corrective actions will be established for any gaps in controls plans or non-effective controls.

3.3 Hazard Management Overview

The identification and control of hazards is the responsibility of the facility or site. Hazards will be managed through the use of a hazard register. Hazards should have interim controls put in place to ensure the safety of workers and others in line with the hierarchy of controls. Hazard controls should be monitored on an ongoing basis to ensure they are effective. Frequency of monitoring will be determined by hazard itself and should be noted in the hazard register. Hazards will be controlled through the register until they are eliminated at which point they can be removed.

If the hazard is linked directly to an identified CR in the facility or site risk register then the controls associated with the Bow Ties for that risk should be reviewed for effectiveness and corrective actions developed as required.

3.4 Participation in Hazard and Risk Process

Consultation with workers is necessary in undertaking the implementation and management of the AT hazard and risk management process. The collective knowledge, experience and ideas of our workers will significantly assist with the identification and implementation of effective control measures.

3.5 Overlapping Duties in relation to Hazard and Risk Management

If the responsibility for an H&S matter is shared with other business operators (PCBUs) who are involved in the same activities or share the same workplace, discussions on the CRs and existing or introduced hazards associated with the work must be undertaken and plans developed to manage those risks prior to work commencing.

For work sites that are constantly changing due to work being carried out by multiple PCBUs, all parties must be constantly vigilant for new risk and hazards. AT encourages all parties to practice co-operation, consultation and co-ordination within these workplaces to ensure people are constantly informed of the work being undertaken and advised of the hazards involved.

3.6 Hazard Management Methodology

Step 1: Identify H&S Hazards

Hazard identification involves finding situations and things that could potentially cause harm to people. They generally arise from the one of the following aspects of work and their interaction:

- Physical work environment.
- Equipment, materials and substances used.
- Work tasks and how they are performed.
- Work design and management.

Hazard Categories

Hazards will generally fit into one of the categories below and these can be used to consider all the hazards in the workplace or when designing/planning work:

- Physical: vibration, noise, temperature, lighting, radiation, mechanical, electrical.
- Chemical: fumes, vapours, gases, explosives, acids, flammable substances, oxidising agents.
- Biological: viruses, bacteria, fungi, pollen, insect, contaminated body fluids, contaminated air.
- Psychosocial: workload, stress, harassment, discrimination, shift work, inappropriate work assignments.
- Ergonomic: poor design or tools, equipment, task, environment. Ergonomics has both Safety and Efficiency components. If poor design of tools and equipment is improved and the work environment is well designed, this will contribute to a reduction in incidents and probably improve efficiency.

The interaction between people, tasks, and the work environment also needs to be kept in mind when considering each hazard.

Method of Hazard Identification

Hazards or situations with potential risk can be identified in a number of ways, generally by using a combination of the following:

- Talk to staff or others who are or have been involved in the process.
- Do physical inspections or assessments of workplaces and work activities.
- Do a Job Safety Analysis.
- Review existing AT records e.g. incident data/incidents.
- Use your own experiences/knowledge.
- Consult with employees, external suppliers or specialist consultants.
- Make use of information/advice provided by Government authorities/agencies.
- Look at experiences in other similar organisations/industries.
- Seek expert opinion (internally or externally).
- Review supplier and manufacturer data.
- •Refer to legislative standards, guides and codes.
- •Perform health surveillance as appropriate.

Once hazards have been identified they must be reported through the online Health and Safety Information Management System ("Synergi Life"). All hazards will require reporting into this system as soon as reasonably practicable.

Risk Rating and Hazard

The first step in analysing hazards is assessing the risk rating. This assessment will determine what level of risk a hazard has and determine what priority it should take when determining management controls.

The technique used is the combination of likelihood and consequence on a 25 point scale moving from a very low to very high risk category. Refer to the table on the next page to assess health and safety hazards for risk level.

LIKELIHOOD CONSEQUENCE						
CONSEQUENCE RATING	**5** **VERY HIGH** Fatality or multiple life threatening injuries.	**HIGH** **Class B** **(5)**	**HIGH** **Class B** **(10)**	**VERY HIGH** **Class A** **(15)**	**VERY HIGH** **Class A** **(20)**	**VERY HIGH** **Class A** **(25)**
	4 **HIGH** Life threatening injuries or multiple person injuries. All notifiable injuries.	**MEDIUM** **Class C** **(4)**	**MEDIUM** **Class C** **(8)**	**HIGH** **Class B** **(12)**	**VERY HIGH** **Class A** **(16)**	**VERY HIGH** **Class A** **(20)**
	3 **MEDIUM** Injuries requiring medical attention or hospitalisation.	**LOW** **Class D** **(3)**	**MEDIUM** **Class C** **(6)**	**MEDIUM** **Class C** **(9)**	**HIGH** **Class B** **(12)**	**VERY HIGH** **Class A** **(15)**
	2 **LOW** Minor injuries or first aid treatment.	**LOW** **Class D** **(2)**	**LOW** **Class D** **(4)**	**LOW** **Class D** **(6)**	**MEDIUM** **Class C** **(8)**	**HIGH** **Class B** **(10)**
	1 **VERY LOW** Minor injuries not requiring treatment and near misses.	**VERY LOW** **Class E** **(1)**	**VERY LOW** **Class E** **(1)**	**VERY LOW** **Class E** **(1)**	**LOW** **Class D** **(1)**	**MEDIUM** **Class C** **(2)**
		Very Low May occur but only in exceptional circumstances 1 in 100000	**Low** Could occur but doubtful 1 in 100000	**Medium** Might occur sometime in the future 1 in 1000	**High** Will probably occur 1 in 100	**Very High** Is expected to occur in most circumstances 1 in 10

The higher the risk rating (representing the level of risk), the higher its management needs to be prioritised.

Scaling mechanisms are arbitrary and should only be used to identify which hazards require priority attention. All hazards will still require some form of control and management as specified in Step 3.

Health and Safety Risk Classes and Priority

The table below is intended to provide a statement of the general approach at each class level, noting that each risk must still be assessed for treatment individually.

By plotting the risk likelihood and consequence on a risk classification matrix, the risks are appropriately represented.

Treatments in respect of Class A and B risks are expected to be addressed immediately. Notification should occur by phone with a follow-up email. Reporting of CRs and any significant hazards and their status will occur monthly and shall be addressed in the Measuring and Monitoring procedure (HS16-01). Reporting will change as the CR process is implemented across AT as described in 3.1 of this procedure.

H&S Risk Class	Significance	Consequence Rating	Prioirty for Treatment
Class A	Very High	• Fatality or life threatening injuries • Catastrophic loss to business >$1,000,000 damage • Toxic environmental Damage	• Immediate notification to Group Manager – H&S for decision on whether a bowtie control is required or if the Hazard/Risk is already covered. • Cease work until assessment completed and control measures are in place • Sign-off by General Manager of operating division on interim controls prior to recommencement of work • On-going monthly monitoring of hazard
Class B	High	• Life threatening injuries or multiple person injuries. Any notifiable injury. • Critical loss of property <$1,000,000 damage • High environmental damage	• Immediate notification to the Divisional H&S Manager/Advisor • Short and longterm actions developed and implemented • On-going monthly monitoring of hazard
Class C	Medium	• Injuries requring medical attention or hospitalisation • Moderate property damage <$100,000 • Notifiable Environment Damage	• Notification to Divisional H&S Manager /Advisor • Controls identified and Actions are developed and implemented within one month • Interim controls have regular monitoring
Class D	Low	• Minor Injuries or First Aid treatment • Slight damage to property <$10,000 • Low environmental damage	• Consider interim controls • Hazard logged in register and controls noted • Status change required for any actual injruy that occurs that requires medical treatment.
Class E	Very Low	• Minor injuries not requring treatment • Minor or no damage to property • No environmental damage.	• Logged in local hazard register.

Step 3: Control Hierarchy

AT will use a common hierarchy of control for its hazards. The hierarchy shall be used when determining what controls are necessary for each risk.
Hierarchy of Control

Level 1

The first level of control and most effective is eliminating the hazard and, therefore, taking away the risk of injury. The best way to identify CRs and hazards before they are introduced is through assessment of the supply chain for each business operation, process and/or piece of equipment used and considering if elimination through introduction of a different process is possible.

AT acknowledges its often not possible to eliminate risk and therefore it is important to attempt to use the highest level of control when elimination is not possible.

Level 2

If it is not reasonably practicable to eliminate a hazard and the associated risks, it must be minimised using the following approaches (controlling the CRs and hazards at the source:

Isolate the hazard from people (separate people from the source of harm):

- Substitute the hazard with something safer; or
- Apply engineering controls, i.e. using machinery instead of manual handling.

Level 3

These control measures do not control the hazard at source but rely on supervision and behaviour management to minimize the risk and are less effective than Level 2 controls. Level 3 controls must only be used as a last resort. Level 3 controls include:

- Administrative controls such as safe work methods or procedures/processes to minimise exposure to a hazard;
- Personal Protective Equipment (PPE) such as hard hats, hearing protection, gloves, fall arrest and fall restraint systems etc.

Management Controls

In addition to the above hierarchy of controls, management controls must also be considered when managing CRs and hazards. There are a number of basic management control activities that are common to all hazards, although some hazards may require more. These include:

- Involvement of employees in the development of health and safety procedures;
- Information systems to ensure employees are informed and understand the risks from hazards they work with;
- An incident reporting and investigation system;
- Regular inspections of the workplace;
- Responsibilities assigned to ensure hazard controls are implemented and remain effective;
- An audit system to ensure that controls for specific hazards are in place and working;
- An adequate training programme and adequate supervision for all staff;
- Implementing emergency procedures, perhaps in conjunction with local emergency services, to limit the consequences of an emergency; and
- Responsibilities assigned to ensure that the existence of each hazard is made known to all those exposed to it, and that they are instructed in the correct procedures when exposed to the hazard.

All CRs and hazards must be identified and have management controls in place to ensure they are comprehensively assessed and all steps are taken to reduce the potential risk of injury.

Step 4: Review Control Measures

All control measures must be reviewed regularly to ensure they are still relevant and are working. A review will be required under the following situations:

- When the control measure is no longer effective in controlling the risk (usually triggered by a near miss or incident);
- Before a change in the workplace takes place that may give rise to new or different risks;
- When a new hazard or risk is identified;
- When an inspection or audit of the workplace or work activities highlights the need to review CRs and hazards;
- If a health and safety representative requests a review and this has been agreed through the local Health and Safety Forum; and/or
- Annually as part of the overall Health and Safety systems review to support continuous improvement.

To complete this review, each location must ensure that they annually review their hazard register and the current state of their controls. Actions should be created for any controls which are not at an acceptable level and these should be tracked for completion. This review should include workers involved at the location.

Health and Safety Hazard Register

Once the hazards have been identified, assessed and controls put in place, they are required to be listed in the location H&S Hazard Register.

The minimum requirements contained within a Hazard Register are:

- A list of all specific hazards for the location;
- The control measures hierarchy for each hazard, i.e. eliminate, minimize;
- A risk rating for each hazard;
- Control measures or mitigation strategy for each identified hazard;
- Monitoring methods for each control measure;
- The person responsible for controlling the hazard; and
- Review dates for each hazard.

The Hazard Register must be available and communicated to all employees and suppliers, and reviewed at least annually. The annual review of the Hazard Register must detail:

- How and when the control measures were implemented, monitored, and reviewed;
- Who was consulted as part of the review;
- Any relevant training records associated with the review; and
- Any plans for changes.

4 Responsibilities

Chief Executive

- Accountable for the organisation's compliance with AT's Health and Safety Policies and Standards.
- Accountable for reporting and providing assurance to the Board.
- Ensures allocation of competent resources and accountabilities across the organisation to meet the requirements set out in this procedure.
- Ensures there is a process in place to identify, assess, manage and review CRs and hazards. Ensure all risks have strategies in place to eliminate or minimise them so far as is reasonably practicable.
- Ensures the Enterprise CR Register is established and a process in place to keep this updated.
- Ensures there is a process in place to report all CRs and hazards, and that they are entered into the company risk register.

Divisional Managers

- Accountable for implementing and maintaining the H&S Hazard and Risk Management procedure requirements.
- Ensure there are sufficient competent resources within their area of responsibility to undertake hazard and risk assessments as per the requirements in this procedure.
- Ensure all CRs and hazards are reported and investigated in line with the requirements set out in this procedure.
- Undertake monthly reviews of non-conformance inspections/audit trends including a review of new and current CRs and hazards. This will be done in consultation with the H&S Manager.
- Put plans in place to mitigate risks for their area of responsibility.
- Ensure all risk assessment mitigation strategies and corrective actions are implemented and closed out in a timely manner.
- Communicate Lessons Learnt and Safety Alerts relevant to all risk assessments.

Health and Safety Manager

- Ensure that AT's H&S Management System provides effective processes and procedures with tools to support management in meeting their H&S responsibilities.
- Support management with establishing a monitoring and review process to ensure this hazard and risk management procedure is continually improved.
- Ensure that all information gathered from hazard and risk assessments across AT is analysed and reported to management.
- Review hazard and risk assessment outcomes to share Safety Alerts/Lessons Learnt across AT and with other stakeholders as appropriate.
- Support management in establishing governance systems to assess compliance with H&S legislation, policies and procedures.
- Provide H&S risk management training for line managers and other personnel responsible for hazard and risk management.

Line Managers

- Assist the Divisional Managers with identifying, assessing, and managing CRs and hazards.
- Report and provide assurance to division managers on the outcome of hazard and risk management activities.
- Ensure that suppliers' H&S hazard and risk management systems comply with the requirements set out in AT's H&S Management System.
- Ensure hazards and their risks are effectively managed with prioritised corrective or mitigated action aimed at preventing incidents and injuries.
- Ensure all CRs and hazards are reported, and that systems are in place to notify key internal and external stakeholders within specified timeframes set out in this procedure.
- Ensure that adequate H&S hazard and risk management activity records are retained and filed.
- Ensure self-assessments and declarations of compliance are undertaken annually.

Employees

- Comply with the H&S Hazard and Risk Management procedure.
- Comply with H&S risk management controls for all work activities undertaken.
- Only undertake tasks for which they have been trained and are competent and authorised to undertake.
- Report all CRs and hazards involving themselves or others that they are aware of in accordance with this procedure and the Risk and Hazard Management Standard.

5 Other Information

- H&S Definitions (HS01-01-01).
- Full table of Procedures (HS01-01-02).
- Risk and Hazard Management Standard (HS03).
- Critical Risk Management Procedure (HS03-02).
- Critical Risk Documents (HS03-01-01).

6 Document Control

Document Number	HS03-01
Document Owner	Group Manager – Health and Safety
Document Approver	Chief People Officer
Original Issue Date	July 2016 (version one)
Date Issued	December 2016
Review Date	December 2018