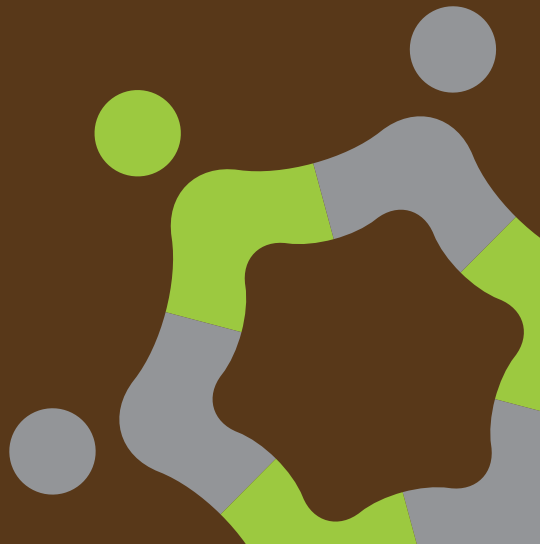


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Workplace Safety and Health Guidelines

Investigating Workplace Incidents for SMEs



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1. Introduction

1.1 Why you should Investigate Incidents

Incidents can be prevented or avoided if the situation(s) that caused the incident were known, and action was taken. Risk assessment is a tool to identify the hazards and risks in your work and the workplace. It is a safety management tool that must be used to prevent incidents from occurring.

Injuries, damages to equipment, structures and interruptions to work operations due to incidents can be costly. Therefore, as part of a good safety management system, you need to investigate incidents in a systematic way. This is to find out how they happened so that steps can be taken to prevent similar incidents from happening in the future.

Even incidents that did not result in injury or damages should be investigated. This would help workers regain confidence after the incident, and address any related worries.

1.2 Purpose of this Guide

This guide provides general guidance for incident investigation methods and their related tasks like information gathering, analysis, implementation and review for simple or direct incidents.

For major incidents, the authorities (i.e., the Ministry of Manpower, Singapore Civil Defence Force or the Singapore Police Force) will be involved. In such situations, please cooperate with the officers and follow their instructions. You can carry out your investigation while working with them.

2. What to Do when an Incident Happens

When an incident occurs, stay calm. Check the area for immediate danger and take steps such as switching off machinery involved and moving any injured persons to safety if need be.

You can consult Figure 1 for the course of action to be taken.

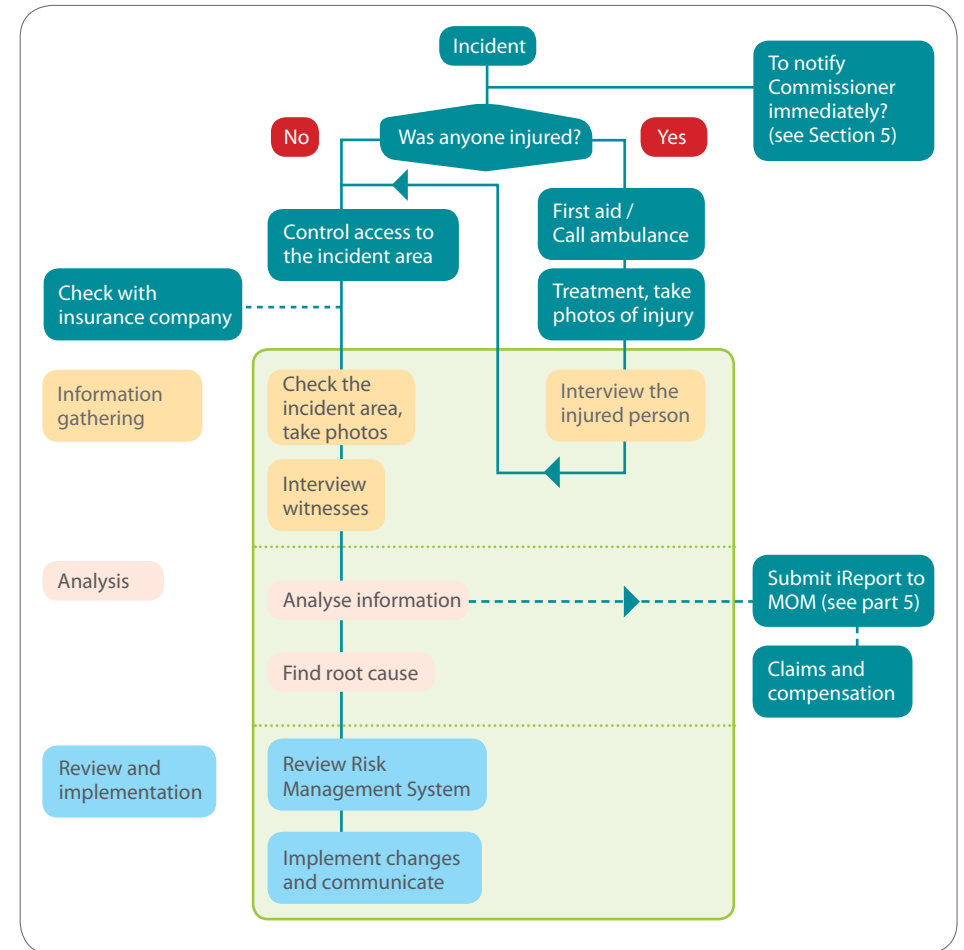


Figure 1: The Incident Investigation Process: What to do after an incident.

Refer to Section 5 of this publication, "Reporting to the Ministry of Manpower," for details on the types of incidents that need reporting and the amount of time you have to make the report.

3. Investigation Guide

3.1 Who should Investigate?

The person leading the investigation should be one with authority to put in place immediate corrective action when the investigation is completed. The person carrying out the investigation must be neutral and not belong to the team involved in the incident.

Depending on the size and complexity of the incident, the investigation team can include people from different levels of the company (e.g., worker, supervisor, engineer, etc.).

The supervisor needs to be involved because he knows the work area and processes well; he also represents the first-level management of the company.

Incident investigation should take place after the immediate tasks (first aid, sending injured to hospital, etc.) have been performed after the incident.

3.2 How to Do it?

It is good to prepare a kit with instructions in advance so that there is no confusion when investigation is needed. Go to Section 4 for details.

Some insurance companies may need you to get permission from them before starting any investigation work. Check with them if you are not sure.

The investigation process has three main parts:

1. information gathering;
2. analysis; and
3. review and implementation.

Part 1: Information Gathering

- Stop work in that area.
- Cordon off the incident area and make sure that people who are not involved in the incident do not remain there.
- Make sure that the area is safe for investigation (e.g., turn off the power to the machinery or wear the necessary personal protective equipment [PPE] such as safety boots in areas with sharp or broken objects on the floor).

- Note the position of tools and equipment; and the state of housekeeping and work environment at the scene. Take photos if necessary.
- Interview each witness privately, asking open-ended questions.
- It is important to listen and not assign any blame at this point.

Part 2: Analysis

- Write down what happened during the incident.
- Clearly record any unsafe acts and conditions.
- Look through the information gathered.
- Review current related documents, such as:
 - Safe work procedures (SWPs; see Figure 2);
 - Safety data sheets (SDSs; see Figure 3);
 - Maintenance logs; and
 - Employee records.
- Check for gaps and lapses in the current system by comparing the unsafe acts and conditions during the incident with the current documents.
- Note: Well-known methods like the “Root Cause Analysis” or “Program Protection Plan” will not be outlined in this publication.

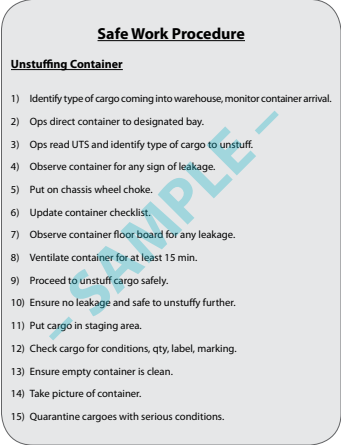


Figure 2: Safe work procedures.

Part 3: Implement and review

- Choose corrective actions to plug the gaps you identified.
- Discuss with management who would be in charge of implementing each control measure and record it down clearly.
- Implement suitable control measures as soon as possible.
- Review the effectiveness of the new control measures.



Figure 3: Safety data sheets.

4. Investigation Kit

Having a pre-prepared bag or box of items to use during incident investigation can help make things operationally smoother when an incident happens. Items in the kit should include:

- Investigation checklist or flowchart (see Annex A);
- Investigation form (see Annex B); and the following (see Figure 4)

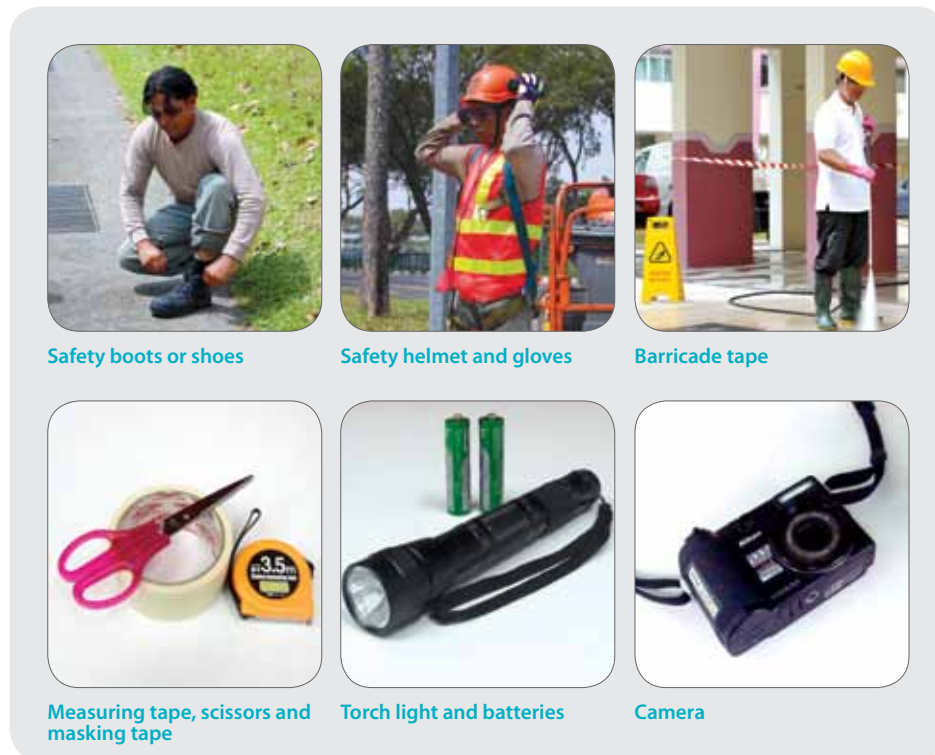


Figure 4: Items to be included in the pre-prepared incident investigation kit.

5. Reporting to the Ministry of Manpower

Under the Workplace Safety and Health (Incident Reporting) Regulations, employers are required to report workplace accidents, dangerous occurrences and occupational diseases to the Ministry of Manpower.

Accidents that need to be reported under the Regulations include:

| Who and When to Report | | | | |
|------------------------|---|----------------------------------|--|--|
| Category | What needs to be reported | Who to report | Need to notify Commissioner immediately? | Need to submit report within 10 days from accident/diagnosis of disease? |
| Work accident | Employee was injured in an accident and: <ul style="list-style-type: none"> • died; or • was hospitalised for more than 24 hours; or • was given MC/ medical leave for more than 3 calendar days in a row. | Employer | Yes | Yes |
| | | | No | Yes* |
| | | | No | Yes* |
| Work accident | A member of public or self-employed contractor was injured and <ul style="list-style-type: none"> • died; or • was sent to hospital for treatment. | Workplace occupier | Yes | Yes |
| | | | Yes | Yes |
| Disease | Employee contracted an occupational disease in the List of Occupational Diseases ⁺ . | Employer | No | Yes |
| | | Doctor who diagnosed the disease | No | Yes |
| | Employee contracted a disease due to work exposure to biological or chemical agent. | Employer | No | Yes |
| Dangerous occurrence | Any event in the List of Dangerous Occurrences [#] . | Workplace occupier | Yes | Yes |

* If the employee subsequently dies from the injury, the employer must notify the Commissioner for Workplace Safety and Health as soon as he knows of the death.

+ For a List of Occupational Diseases, go to <http://www.mom.gov.sg>

For a List of Dangerous Occurrences, go to <http://www.mom.gov.sg>

For more details on the types of incident that need reporting, go to:
<http://www.mom.gov.sg/workplace-safety-health/incident-reporting/Pages/default.aspx>

For examples on what needs to be reported, go to:
<http://www.mom.gov.sg/workplace-safety-health/incident-reporting/Pages/what-to-report.aspx>

For incidents that require immediate notification:

Notify the Commissioner of Workplace Safety and Health by calling +65 6317 1111 or sending a fax to +65 6317 1220.

Provide the following information when reporting:

- date and time of the incident;
- place of the incident;
- name and identification number of the injured or deceased, if any;
- name of the employer and occupier;
- brief description of the incident; and
- name and contact details of the person making the notification.

For any incidents reportable under the Regulations, you are required to keep a record of any notification or report made under these Regulations. Each record made must be kept at the place of business for a period of at least 3 years from the time of report.

As an employer or occupier, if you fail to make a report as required under the Regulations, you will be liable to:

- a fine of up to \$5,000 for a first offence;
- a fine of up to \$10,000, or a jail term of not more than 6 months, or both for the second and subsequent offence.

Any person who makes a false notification or report of any workplace accident, dangerous occurrence or occupational disease to the Commissioner will be liable to a fine of up to \$5,000, or a jail term of not more than 6 months, or both.

For more information on incident reporting, go to:
<http://www.mom.gov.sg/workplace-safety-health/incident-reporting>

6. Sample Investigation Process

The following sample incident investigation will provide an idea of how an investigation should be carried out. Note that this hypothetical situation does not take into consideration the changing environment that an incident may occur in and serves only as an example of one of the many ways to carry out an investigation.

You heard a loud crashing noise just outside your office. You ran out and saw Ah Meng, a technician, lying on the floor in pain.

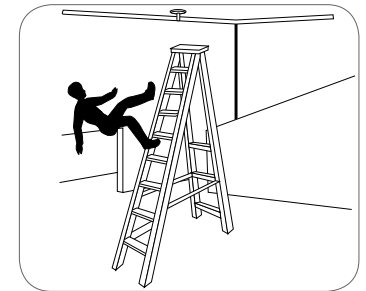


Figure 5: Ah Meng fell while climbing up the ladder.

Who should investigate the incident?

- Earlier, you were tasked by the Manager to investigate any incident that occurs in the office. This was a straightforward fall from heights incident so you investigated the incident alone.

Part 1: Information Gathering

A. Investigate and check the scene

- Ah Meng suffered some cuts and bruises on his arms and legs. You instructed Tian Beng, who was trained in first aid, to attend to Ah Meng and ensure that he was taken care of.
- You checked the accident area for any CCTV camera that may have captured the footage, but there was none.
- As the ladder and the toolbox were the only items on the scene, you secured the accident area using the barricade tape to prevent people from entering.
- Tian Beng and Stephanie, an office worker, were the only two witnesses to the accident.
- The ladder was leaning against the wall, while the toolbox was on the floor. A screwdriver was found next to Ah Meng.
- The corridor was brightly lit, even though Ah Meng was supposedly changing one of the light tubes. The condition of the floor was good as it was cleaned in the morning and the corridor was not exposed to rain.
- You proceeded to take photos of the ladder, toolbox, screwdriver, the lighting tube Ah Meng was supposed to change, and the view of the corridor from different angles.

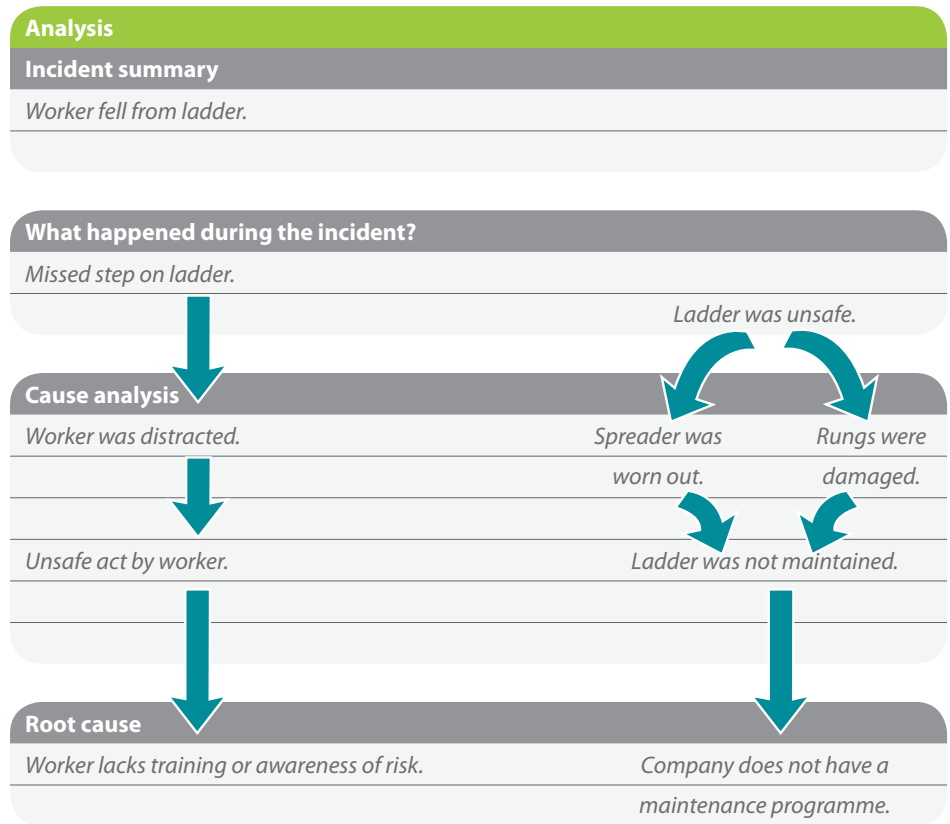
B. Interview (Refer to Annex B – Sample Accident Investigation Form for interview details)

- Tian Beng had finished bandaging Ah Meng. You asked Tian Beng to keep the first aid kit then interviewed Ah Meng privately in your office.
- After Ah Meng’s interview, you then asked Tian Beng into your room for his account of the incident.
- Lastly, you proceeded to interview Stephanie to gain a better understanding of the incident.

Part 2: Analysis

C. Write down the information

You gathered the information and reviewed all related documents (e.g., maintenance logs) and proceeded to write down what happened (see Annex C). The “root cause analysis” showed that:



D. Recommendations and Key Learning Points

Looking at the root cause analysis and company records, you see that the company’s training and maintenance programmes need to be strengthened. Employees also need to check ladders before using them, this should be added to the SWP. You plan how to carry this out (e.g., source for trainers, plan a system for ensuring maintenance for ladders). Safer work methods, like using a step platform, are considered.

Part 3: Review and Implement

You inform the management about your plan and get approval to carry it out. You then inform all employees of this. The plan was implemented within a reasonable timeframe. The measures you implemented are reviewed and revised accordingly to feedback from employees. Changes to the measures are recorded and kept along with the original plan.

7. Other Resources

- Investigating Accidents and Incidents – A Workbook for Employers, Unions, Safety Representatives and Safety Professionals
<http://www.hse.gov.uk/pubns/priced/hsg245.pdf>
- The Safety Library – Accident Investigation
<http://www.thesafetylibrary.com/lib/accidentanalysis/accidentinvestigation.php>
- A Guide to Workplace Safety and Health (Incident Reporting) Regulations
<http://www.mom.gov.sg/legislation/occupational-safety-health/Pages/default.aspx>
- Singapore Civil Defence Force – Guidelines for Company Emergency Response Plan
http://www.scdf.gov.sg/content/dam/scdf_inter/Guidelines%20to%20ERP.pdf

Annex A – Sample Checklist for Incident Investigation

First response

| Action | Done? | Remarks |
|--|--------------------------|---------|
| First aid for injured (if any). | <input type="checkbox"/> | |
| Control access to the scene. | <input type="checkbox"/> | |
| Shut off power to machinery (if needed). | <input type="checkbox"/> | |
| Record names of witnesses. | <input type="checkbox"/> | |

Notification

| Action | Done? | Remarks |
|--|--------------------------|---------|
| Police or Civil Defence (if needed). | <input type="checkbox"/> | |
| Facilities manager. | <input type="checkbox"/> | |
| Safety officer or manager. | <input type="checkbox"/> | |
| Ministry of Manpower (if needed, e.g., death or hospitalisation, see Section 5). | <input type="checkbox"/> | |

Scene investigation

| Action | Done? | Remarks |
|--|--------------------------|---------|
| Make sure that area is safe for investigation. | <input type="checkbox"/> | |
| Wear PPE (if needed). | <input type="checkbox"/> | |
| Taken note of: | | |
| • environment (lighting, floor, etc.); | <input type="checkbox"/> | |
| • housekeeping; and | <input type="checkbox"/> | |
| • location of equipment. | <input type="checkbox"/> | |
| Took relevant photos of scene, equipment, and so on. | <input type="checkbox"/> | |

Interviews

| Action | Done? | Remarks |
|---|--------------------------|---------|
| Assure interviewees of the “no blame” approach. | <input type="checkbox"/> | |
| Interview injured person (if any). | <input type="checkbox"/> | |
| Interview witnesses. | <input type="checkbox"/> | |

| Analysis | | |
|---|--------------------------|---------|
| Action | Done? | Remarks |
| Use form to do cause analysis. | <input type="checkbox"/> | |
| Come up with recommendations and key learning points. | <input type="checkbox"/> | |
| Come up with corrective actions and plan how to carry them out. | <input type="checkbox"/> | |
| Get management approval and carry out plan. | <input type="checkbox"/> | |

| | |
|---|---------------|
| Date approval given: | Done by: |
| Date of implementation of corrective actions: | |
| Date of completion of implementation: | Signature: |
| Next review date: | Confirmed by: |
| | Signature: |

Annex B – Sample Incident Investigation Form (Blank)

| For all incidents | | | |
|-------------------|--|--------------------------|-----------------|
| Incident details | | | |
| Location | | <input type="checkbox"/> | Injury |
| Date | | <input type="checkbox"/> | Property damage |
| Time | | <input type="checkbox"/> | Near miss |

Work activity involved

Incident description

Equipment, tools or PPE involved (include serial numbers, if any):

| |
|--|
| |
| |
| |
| |
| |
| |
| |
| |

For use only where there is an injury

Particulars of injured person

| | | | |
|------------|--|-----|--|
| Name | | Age | |
| Department | | | |
| Job title | | | |

Injury description

| |
|--|
| |
| |
| |
| |
| |

Injured person's account

| |
|--|
| |
| |
| |
| |

Witness's account

| | | | |
|------|--|-------------|--|
| Name | | Contact no. | |
| | | | |
| | | | |

| | | | |
|------|--|-------------|--|
| Name | | Contact no. | |
| | | | |
| | | | |

| | | | |
|------|--|-------------|--|
| Name | | Contact no. | |
| | | | |
| | | | |

Scene observations

| |
|--|
| |
| |
| |
| |
| |

Analysis

Incident summary

What happened during the incident?

Cause analysis

Root cause

Corrective measure(s) to prevent repeat of incident

| | | | |
|-----------------------------|--|-----------------------|--|
| Person to put this in place | | Due date | |
| Investigator's name | | Date of investigation | |

Annex C – Sample Incident Investigation Form

For all incidents

Incident details

| | | | |
|----------|-----------------------|-------------------------------------|-----------------|
| Location | Admin office corridor | <input checked="" type="checkbox"/> | Injury |
| Date | 14/3/2010 | <input type="checkbox"/> | Property damage |
| Time | 2:45pm | <input type="checkbox"/> | Near miss |

Work activity involved

Changing corridor light tube.

Incident description

Ah Meng was found lying on the floor of the admin office corridor. He had been standing on a ladder to change the fuse of the light tube of the corridor.

Equipment, tools or PPE involved (include serial numbers, if any):

Ladder, toolbox, screwdriver.

No PPE worn, no Safe Work Procedure (SWP).

For use only where there is an injury**Particulars of injured person**

| | | | |
|------------|--------------------|-----|-----------|
| Name | <i>Tan Ah Meng</i> | Age | <i>30</i> |
| Department | <i>Facilities</i> | | |
| Job title | <i>Technician</i> | | |

Injury description

Bruising on the arms and legs.

Injured person's account

Ah Meng said he climbed up the ladder to replace the lighting tube fuse.

When he climbed down to reach his toolbox, he missed a step on the ladder and fell to the ground.

Witness's account

| | | | |
|------|-----------------------|-------------|-----------------|
| Name | <i>Chew Tian Beng</i> | Contact no. | <i>9xxxxxxx</i> |
|------|-----------------------|-------------|-----------------|

He saw some ceiling lights blinking and wanted to tell Ah Meng about them. When he walked closer, he saw Ah Meng climb down the ladder, miss a step and fall off the ladder's 4th last step (1.5m).

| | | | |
|------|-----------------------|-------------|-----------------|
| Name | <i>Stephanie Seah</i> | Contact no. | <i>8xxxxxxx</i> |
|------|-----------------------|-------------|-----------------|

She saw Ah Meng climbing down his ladder when she came out from the office and said hello to him. When Ah Meng turned his head quickly to see who was talking to him, the sudden movement caused the ladder to wobble. Ah Meng then missed a step on the ladder and fell down.

| | | | |
|------|--|-------------|--|
| Name | | Contact no. | |
|------|--|-------------|--|

Scene observations

Corridor was reasonably well-lit, floor was clean and dry.

Analysis

Incident summary

Worker fell from ladder.

What happened during the incident?

Missed step on ladder.

Ladder was unsafe.

Cause analysis

Worker was distracted.

Spreader was worn out.

Rungs were damaged.

Unsafe act by worker.

Ladder was not maintained.

Root cause

Worker lacks training or awareness of risk.

Company does not have a maintenance programme.

Corrective measure(s) to prevent repeat of incident

Conduct ladder safety lessons for workers.

Use logbook to track ladder's age and repairs, add in SWP for workers to check ladders for damages before using.

| | | | |
|-----------------------------|-----------------|-----------------------|-----------|
| Person to put this in place | Chew Teck Chong | Due date | June 2010 |
| Investigator's name | Wang Ah Kim | Date of investigation | 20/3/2010 |

