INVESTIGATIONS

Training Guide

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SECTION 1: Purpose / Definitions / Law of Probability

Why do we investigate accidents/incidents?

- To identify as many causes as possible so that corrective actions may to taken to improve the health and safety program and prevent similar occurrences in the future.

Reasons to investigate a workplace accident include:

- most importantly, to find out the cause of accidents and to prevent similar accidents in the future
- to fulfill any legal requirements
- to determine the cost of an accident
- to determine compliance with applicable safety regulations
- to process workers' compensation claims

Incidents that involve no injury or property damage should still be investigated to determine the hazards that should be corrected. The same principles apply to a quick inquiry of a minor incident and to the more formal investigation of a serious event.

Definitions

What is an 'Accident'?

- A simple definition would be "An unplanned and unwelcome event which interrupts normal activity, an undesired event that results in physical harm to a person or damage to property or the environment"

What is an 'Incident', "Near Miss", "Event"?"

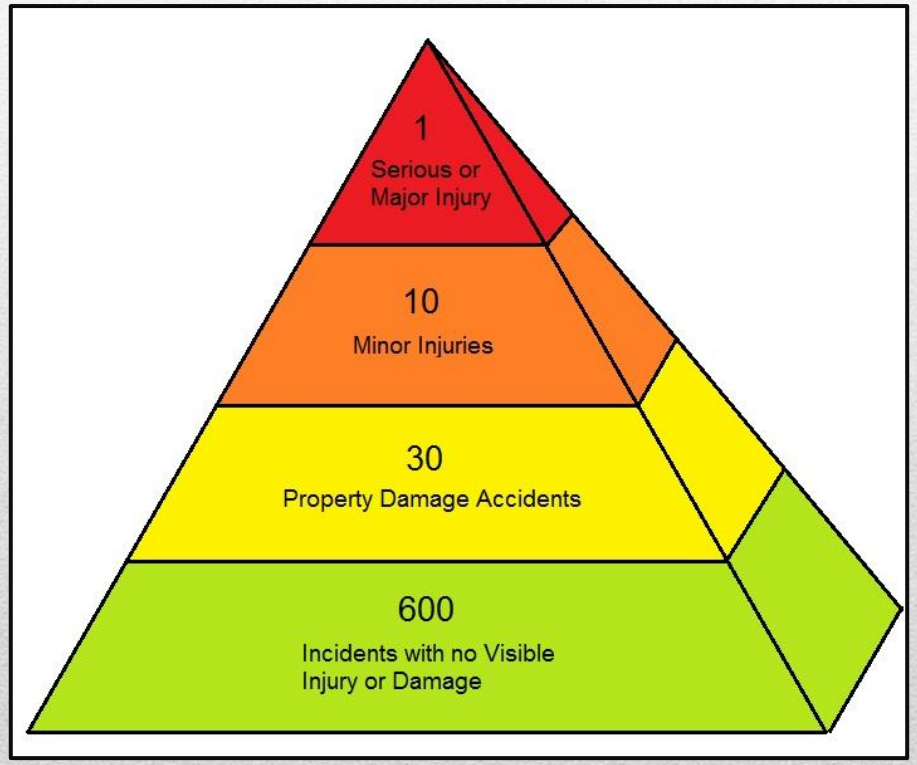
- An undesired event that, under slightly different circumstances, could have resulted in personal harm, property damage or loss"

What is an Accident Investigation?

- To define 'Accident Investigation' we would say that it is an analysis and account of an accident based on a detailed, systematic search to uncover the factors (who, what, when, where, why, how) of an accident and their relationships to one another to find the cause(s).

Law of Probability

Chance is often the only reason a property damage accident or near-miss incident does not result in personal harm. Chance alone often determines whether the consequences of the accident are minor, serious or catastrophic.



Probability Pyramid

The laws of probability make it inevitable that unsafe acts will eventually lead to an accident.

SECTION 2: Responsibilities / Concept / Types of Events

Responsibilities

Due to the small crew size at Swab Master Ltd, all employees who are on site in the event of an accident, incident or illness that requires an investigation are responsible for the following tasks:

- Coordinate all critical incident activities.
- Conduct regular team training to keep skills sharp. (ERP Drills)
- Liaise with the Senior Manager or their delegate
- Delegate tasks at a critical incident scene.
- Ensure reports are complete.
- Assist in determining the scene.
- Document observations.
- Assist in investigation activities.
- Minimize contamination, use PPE.
- Secure and preserve scene, control all individuals at scene.
- Assist with potential witnesses.

The Rig Supervisor will always take the role of Lead Investigator if there are no Managers on site.

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Concept

Investigation of accidents and incidents (near misses) involves the methodical examination of an undesired event that did, or could result in harm to people, damage to property or loss of equipment or process.

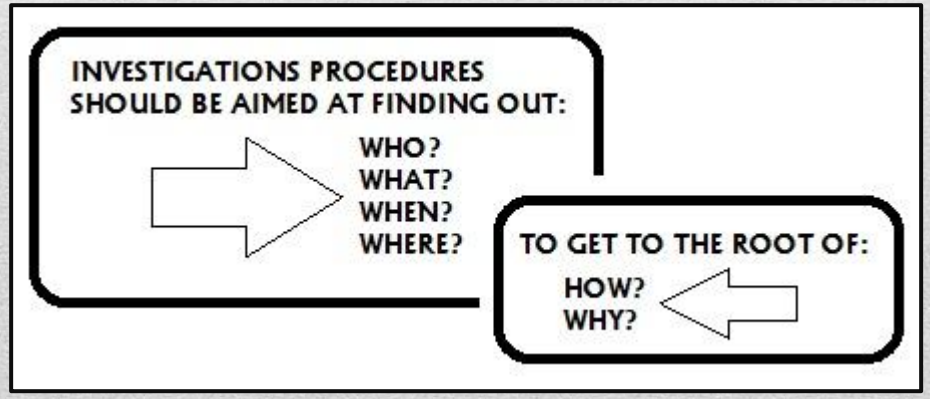
THREE BASIC FACTS TO REMEMBER ARE:

❶ Accidents are caused.

❷ Accidents can be prevented if the causes are eliminated.

❸ Unless the causes are eliminated, the same accident will happen again.

At Swab Master Ltd, we generally employ the "5 W's" method of investigating accidents, incidents or illnesses.



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Investigation Questions May Include:

WHO?

…was injured?
…was working with the injured worker at the time of the accident?
…witnessed the accident?
…was involved in the accident?
…moved items, equipment or machinery at the scene of the accident?
…was responsible for supervising the injured?
…provided job training to the injured?
…developed the Safe Work Procedures or Practices?
…performed an unsafe action?
…left things in an unsafe condition?

WHERE?

…exactly did the accident happen?
…was the injured at the time of the accident? (What position were they in?)
…were the eyewitnesses at the time of the accident?
…were other people (involved in the accident) at the time of the accident?
…was the injured person's supervisor at the time of the accident?
…is the best place to take photos; before evidence is moved or lost?
…are the warning signs positioned - are they in an appropriate position?

WHAT?

…happened?
…were the injuries?
…potentially could have happened - could it have been worse?
…obvious design factors were involved in the accident?
…obvious work methods, procedures and or systems were involved in the accident?
…obvious behavioral factors were involved in the accident?
…was the injured doing at the time of the accident?
…equipment or machinery was being used?
…tools were being used?
…did eye witnesses actually see?
…did the other witnesses actually see?
…safe systems of work were in place?
…safe work procedures were in place?
…safety rules were in place?
…personal protective equipment was required to be worn?
…pre-start or operational checks were required to be done?
…instructions had the injured been given?
…training had the injured received?
…training was the injured required to do?
…systems failed?
…safety controls failed?
…other factors caused the unsafe action or unsafe condition to result?
…"warning signs" were there prior to this accident i.e. what near misses have previously occurred?
…actions resulted from the near misses?

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Continued…

WHEN?

…did the accident happen?
…did the injured receive emergency treatment?
…did each main event in the accident's "sequence of events" occur?
…was the injured trained to do the job?
…did the injured receive instructions about the job?
…did the supervisor last speak to the injured about the job?
…did the supervisor last speak with the injured about problems associated with the job?
…did the supervisor last speak with the injured about the hazards of the job?
…was the equipment, machinery last checked for faults
…was the safe work system developed?
…were the job safety procedures developed?
…was the job safety procedures last reviewed?
…was the supervisor notified of the accident?
…was management notified of the accident?

WHY?

…did the accident happen?
…did the safe work system fail?
…did the design fail?
…did the equipment/machinery fail?
…did safety controls fail?
…did the injured do it this way?
…hasn't anyone else been injured?
…did communication break down?
…didn't anyone recognize the unsafe actions/condition/design and stop them?
…weren't checks in place to identify problems with the system/method of work?
…if there were checks in place, why didn't these prevent the accident?
…didn't anyone recognize the unsafe design?
…wasn't the injured adequately trained?
…are unsafe conditions accepted as part of the job?
…don't people change things?

HOW?

…did the injured contribute to the accident?
…did the supervisor contribute to the accident?
…did management contribute to the accident?
…did others contribute to the accident?
…can we ensure everyone is adequately trained?
…can we ensure production pressure does not precedence over a person's safety?
…can we change our workplace safety culture?
…could this accident have been prevented?
…could the injuries have been avoided?
…could the damage have been avoided?
…can we make the job/task safer?
…can we make the design safer?
…can we make the safe work systems safer?
…can we detect faults and hazardous situations earlier?

Types of Events to Investigate

① All accidents and injuries with the potential for loss which includes events that occur over an extended time frame such as hearing loss from exposure to high noise levels, or illness resulting from exposure to chemicals.

② Serious / Major events – causing injury and/or damage to equipment or property (i.e. forklift dropping a load or someone falling from a ladder).

③ Minor and Near Miss events – indicators that point to a condition or practice, which, if it continues could cause injury or equipment damage.

REMEMBER:
An event does not "have to" already have caused physical injury in order to justify an investigation. The intent of an investigation is to "catch" the situation at the "lowest" level on the probability pyramid.

THE KEY RESULT SHOULD BE TO PREVENT A RECURRENCE OF THE SAME ACCIDENT.

Section 3: Reporting / Procedure & Process

Reporting

As per Element 7: Accident/Incident Investigation in the Safety Manual, accident incident reporting system will ensure that all industrial accidents, incidents, injuries, the onset of illness or sickness during the working shift of an employee and circumstances that have the potential for the development of occupational diseases will be:

- Reported, immediately to management
- Recorded; and
- Investigated in each instance within 72 hours, by the Management responsible for day-to-day operations, safety coordinator and / or safety committee, according to the regulations of the Occupational Health and Safety, or the regulations of the federal or provincial health and safety authority having jurisdiction and according to this policy and procedures herein.

All employees at Swab Master Ltd shop, office and/or work sites are to report and record immediately to the Office.

To investigate – Management, Safety Coordinator and employees who have formal training in Investigations are responsible for investigations of accidents, incidents or illnesses.

Procedure & Process

Initial Response

1. TAKE CONTROL OF THE SCENE
• Start by getting everyone's attention.
• Never blame anyone.
• Send someone to get help so you can keep control of the scene.

2. ENSURE FIRST AID AND EMERGENCY SERVICES…
• Assign someone to keep the injured calm and still until help arrives to reduce further injury.
• Send someone to call the first aid team.
• Be specific in what you want communicated when asking for emergency services; to whom the communication is to be given, and what type of emergency services are required.
• Ensure specific information is then provided to the emergency services.

3. CONTROL SECONDARY ACCIDENTS…
• Stop others from stepping into a situation which could result in a second accident/injury.
• Assign someone the responsibility of keeping curious on-lookers from entering a potentially dangerous area.

4. IDENTIFY SOURCES OF EVIDENCE…
• Identify the need to block off the area to preserve the scene.

5. PRESERVE EVIDENCE....
• Request an employee stand in front of a potential hazard such as fluids/spills so others are not injured, also to preserve the evidence at the scene.
• Have the entire area blocked off to ensure all evidence is preserved.
• Send for a camera, notepad and paper to record original location of position evidence.

6. DETERMINE THE LOSS POTENTIAL…
• Taking action to preserve evidence will assist in determining the loss potential. Could it have been worse?

7. NOTIFY APPROPRIATE MANAGERS…
• Send someone to notify the department manager in person.
• Ask someone to meet the emergency services at the property entrance to provide direction to the correct area. This will help to reduce the amount of time to get medical attention to the scene.
• Department manager's role in the investigation is necessary, by receiving accurate information and facts from the beginning will prove beneficial.

Collecting Evidence

POSITION EVIDENCE

Includes the position of people, equipment, materials, and the environment.

- Location of materials and equipment before and after the accident
- Note any removal or disturbance of evidence
- What problems could have been created by the removal of key pieces of evidence?

SCENE PHOTOGRAPHY

WHY PHOTOGRAPH?

A picture is worth a thousand words and the scene will may only be available to you for a short time due to the nature of the situation. Elements may be moved to allow the removal of injured people. Other agencies such as OH&S or local Police may seize exhibits. Photos taken by you can be entered in evidence by you at a trial. Photos will also become a permanent visual record of the event and may help in determining new policy and will most definitely help in further staff training.

HOW SHOULD YOU PHOTOGRAPH?

Your scene should be photographed as soon as possible. In all cases, the scene should be photographed from all four sides, north, south, east & west. Use digital camera if available, but cell phone pictures will suffice. Start with long range "perspective photos". Move in to about half the distance and take mid-range photos, all four sides. Lastly, contact point photos again from all four sides. Use a small ruler when taking close up shots to give perspective. If no ruler is available, use a common measurable object to allow perspective. (For example, $5 Bill, Coins, Lighters, Pens, etc.

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PEOPLE EVIDENCE

List responses on paper or recording if the witness will allow it. Always note behaviors, time frame, and location of interviews.

HINTS FOR CONDUCTING SUCCESSFUL INTERVIEWS

- Put the person at ease.
- Reassure each person of the investigation's main purpose. (to determine root cause & prevent reoccurrence)
- Ask the person to relate their account in their own words.
- Listen and do not interrupt.
- Have the person relate their account again, this time:
  - Take notes
  - Ask questions, but do not interrupt
- Go over notes with the person to ensure accuracy.
- Ask for suggestions to prevent recurrence.
- Thank the person for their help.

PARTS EVIDENCE

Includes the machinery and other equipment that could have contributed to the accident.

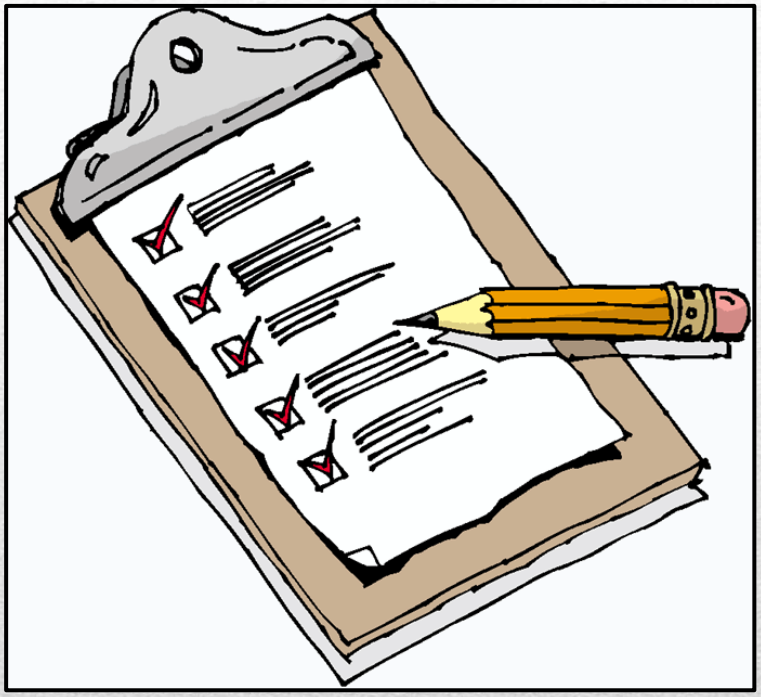
- Note tools
- Types of equipment involved
- Materials involved
- Look at facility

PAPER EVIDENCE

Documentation is a very important step in the investigation process must be thorough and complete.

Examples of paper evidence:

- Notes taken at the scene
- Witness statements
- Maintenance logs
- Work Schedules
- Drawings and sketches of the scene
- Training records
- Orientation information
- Procedures and practices



Using a checklist style investigation helps ensure no information is over looked and left out or forgotten. Upon completion of this module you will be issued an Investigation Handi-Guide to keep with you at all times.

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ANALYSIS

When all pertinent evidence has been collected, analysis of the event can begin. Potential causes can be reviewed. Some things to consider when evaluating the cause are:

1. The Task
- Was an incorrect job procedure used?
- Was there anything unusually dangerous about this particular task?
- Was lack of protective equipment/safety devices a contributing factor?

2. Materials / Equipment
- Was any of the equipment poorly designed for the job?
- Was any equipment unguarded?
- If controlled products were used, were any inadequately labelled?

3. Environment
- Were weather conditions a contributing factor?
- Was general ventilation inadequate?
- Was the worker inexperienced with respect to the task being done?

4. Organization
- Was supervision for the job in way inadequate?
- Was lack of regular safety inspection a possible contributing factor?
- Has any hazards concerning the job and the accident been reported previously?

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Other factors to consider when analysing an investigation can include:

Ergonomic Factors - Work areas and equipment with dimensions and designs not suited to the human body can play a significant role in accident causation. Poorly designed work areas can force employees to perform tasks beyond their physical capabilities.

Environmental Conditions - Environmental factors, such as noise, cleanliness and lighting, play a role in most accidents. The work environment can affect a worker's system to the point where he or she cannot function at a normal level.

Company Factors - Poor morale leads to accidents. If people do not care about their work, concentration decreases and injuries and accidents increase. Often an accident indicates a weakness or failure in an accident prevention program.

Employee Factors - Normal sleep patterns can be disrupted by shift work; and lighting and other environmental conditions can change with certain shifts. Many young workers are assigned to jobs without being properly trained, while many older people are now working longer and doing jobs unsuited to their physical condition. Focus on the worker's experience in performing a particular duty, or whatever action was being completed when the incident occurred. Employees must recognize that problems at home are often brought into the workplace. A person with a drug problem, or who is going through a divorce, or who has a death in the family can not be expected to perform at par.

Section 4: Completion / Root Cause / Information Sharing

CORRECTIONS

Development of Remedial Actions

1. Temporary actions typically correct only immediate or visible causes.
2. Permanent actions typically remedy the basic or root causes.

Temporary Corrective Actions	Permanent Corrective Actions
Clean Area	Change Procedure
Lockout / Tagout equipment	Worker Training
Remove Tools	Re-evaluate Inspections
Install guards	New Equipment
Replace PPE	Workspace changes
Modify the task	Disciplinary Actions

The final investigation report can only be completed by a manager. When root cause has been determined, the manager will sign off on the completed report and complete an Opportunity Report to ensure any deficiency is corrected. The opportunity report will be attached to the incident report and investigation report and followed through by the Safety Coordinator. All measures will be taken to ensure the accident, incident or illness will not happen again.

Complete Investigation & Determine Root Cause

With the situation in hand, all appropriate agencies notified, evidence collected and corrective actions applied – you can now complete the investigation and determine root cause. The Manager you initially reported the incident to, along with the Safety Coordinator may assist you in analysing and determining root cause.

Report Findings to All Staff & Discuss Prevention

Once the investigation is complete and root cause is identified, we now need to determine how to prevent this event from happening again. The results of the investigation will be released to all staff members as promptly as possible.

The opinions of our workers have great influence on how we handle controls. The results will be discussed at the next safety meeting to settle which control will help prevent recurrence. If the event caused catastrophic, critical or serious loss to person or equipment – the investigation results will be shared immediately via email or phone call.

Implement Permanent Corrections

When the investigation has been shared and employees have given input as to which control will ensure prevention – the control will be implemented as soon as reasonably possible. Until such time, the temporary control will be assessed for effectiveness and addressed with all staff to ensure they are aware of the potential hazard.

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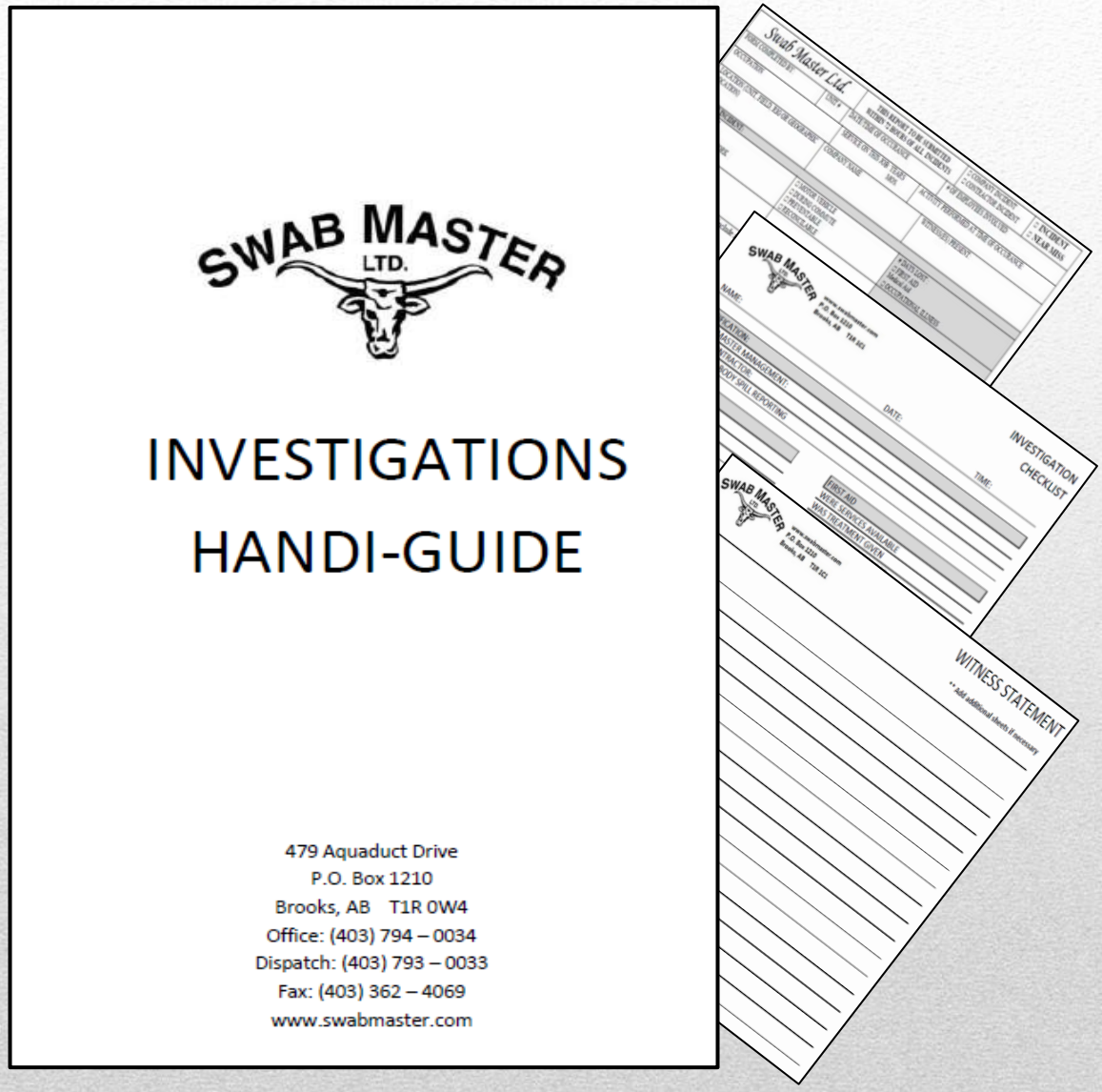

The Paperwork

1. Use your Investigations Handi-Guide to help complete an investigation

2. Complete the incident report package

3. Witness statements for other people involved in the event

4. Prepare an Opportunity Report for identified areas of improvement

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Near Misses are to be reported and recorded using the Incident Report Package. Only page 1 & 2 of this package will be required for near misses. A copy of the forms can be retrieved from the office.

IMPORTANT NOTE:
You must call a Manager immediately to report an accident, incident, illness or near miss.

Incidents are to be reported and recorded using the Incident Report Package. The nature of the incident will determine which pages of the form will need to be completed.
Contents of the package include:

- Incident Report
- Incident Cause Form
- Injury Report
- Property/Equipment Damage Form
- Investigation Report
- Spill Report
- Motor Vehicle Accident Report
- Incident Witness Statement

INCIDENT REPORT PACKAGE