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| Ref: NTU/OHS/SOP/5.5a | Date of issue: 19 Jan 2015 | Next review date: 18 Jan 2018 |
| Title : Standard Operating Procedure on Workplace Incident Investigation and Reporting | | |
| Audience : All Faculty, Staff, Students and Contractors | | |

1. **Aim**

This SOP outlines the procedure for reporting workplace incidents¹ and carry out appropriate investigations so as to reduce any potential workplace risks.

2. **Scope**

This SOP covers all incidents in NTU workplaces and is applicable to all faculty, staff, students, contractors and visitors to NTU, but excludes injuries sustained from or due to:

- a) workplace violence (unless the injury is sustained when stopping the incident as part of work);
- b) deliberate acts of misdeeds, including suicide attempt and self-inflicted injuries;
- c) commuting between place of residence and workplace and vice versa; and/or
- d) non work-related vehicular accidents on NTU campuses.

3. **Definitions**

- 3.1 **Accident** is a workplace incident which has given rise to injury, ill health or fatality.
- 3.2 **Corrective Action** refers to step(s) taken to rectify the immediate cause of an incident or accident in anticipation of preventing reoccurrence.
- 3.3 **Dangerous Occurrence** is a serious workplace incident, which no one is killed or injured. This category of incident requires immediate notification to Ministry of Manpower (refer to Appendix 1).

¹ Incidents - accident, near miss, occupational disease and dangerous occurrence. Please refer to para 3 for definitions.

- 3.4 **Incident** refers to work-related event(s) in which an injury, ill health or fatality occurred, or could have occurred. An incident where no injury, ill health or fatality occurs may also be referred to as a 'near miss' or '[dangerous occurrence](#)'. An emergency situation, e.g. fire is a particular type of incident.
- 3.5 **MOM** refers to Ministry of Manpower, Singapore.
- 3.6 **Occupational Disease** is illness, acute or chronic, attributed to exposure to hazardous substances during the course of work as diagnosed by a medical practitioner (refer to Appendix 2).
- 3.7 **Person-In-Charge (PIC)** is a person, being a NTU staff, in charge of contractors working on site.
- 3.8 **Preventive Action** refers to step(s) taken to address the root cause(s) to a potential incident or accident.

4. **Responsibilities**

- 4.1 **Chair/HoD** is to implement the accident/incident reporting and investigation procedures according to this SOP and to initiate any accident/incident investigation soonest possible. If the incident/accident occurs in a common area, then the responsibility of the investigation lies with the Chair or HOD of that area and he may direct any member of the school/department to conduct the investigation on his behalf.
- 4.2 **Reporting Officer (RO)** is to:
- involve in the investigation into any accidents, incidents and near misses;
 - implement corrective and/or preventive actions;
 - complete an investigation report through the on-line Incident Investigation & Reporting Form (IIRF) and submit this to OHS within the stipulated time line - Appendix 3;
 - re-conduct and review risk assessment and related safe work procedures; and
 - update the school/department management and OHS if his/her injured staff has any extended medical leave resulting from the accident
- upon the occurrence of any workplace accidents/incidents in his area as soon as reasonably practicable.
- 4.3 **Safety committee members (SCs) and/or safety representatives (SRs)²** are to assist in the incident investigation.
- 4.4 **School/Department Safety Officer (SO)** is to provide support, facilitate and guide the investigating team in their investigation and may assist in documentation, where necessary.

² Safety Committee members are safety point persons from the high risk groups whilst safety representatives are point persons from the low risk groups.

- 4.5 Office of Health and Safety (OHS) is to submit incident report to MOM, if necessary, and to ensure appropriate measures are in place to mitigate future occurrence of the accident/incident. OHS may be involved in any investigation at the instruction of Chief Health and Safety Officer or circumstances listed in para 5.2.
- 4.6 PIC shall ensure that he:
- is notified of any incident and accident where the contractors are at work;
 - instruct the employers of the contractor to conduct a review with the appropriate corrective and preventive actions; and
 - notify OHS of any incident and accident, attaching the contractor's accident/incident report to MOM, if any.
- 4.7 All faculty, staff and students are to report any workplace accident, incident, near miss, dangerous occurrence or occupational disease using the online IIRF within 24 hours upon the occurrence of any incident.

5. Incident Reporting and Investigation Procedures

- 5.1 Upon the occurrence of any workplace incident, the informant shall notify OHS via the IIRF within 24 hours from the occurrence.
- 5.2 For serious workplace incident as listed in 5.3 which requires immediate attention, the Informant shall contact **NTU Emergency hotline 6790-5200 and follow by an investigation report as per procedure stipulated in para 5.5.**
- 5.3 The types of workplace accidents/incidents are reportable to the authorities (e.g. MOM) and require immediate investigation are:
- Death of person(s) as a result of work (including any incidental activities) at a workplace;
 - Accidents leading to a serious injury that requires emergency medical attention in a hospital such as, but not limited to, loss of limbs, loss of consciousness, excessive bleeding, embedded object to any parts of body, high impact injuries, severe fracture, injury to eye(s), contact with corrosive or burns (both hot and cold) to more than 5% of the body, ingestion or inhalation of hazardous substances requiring immediate medical treatment at hospital, including smoke from fire;
 - Fully developed fire or incidents with significant property damage (e.g. SCDF had been called in for assistance or sprinklers are discharged);
 - Release of hazardous material beyond the laboratory confines that may endanger the public or any other person(s);
 - Immediate notification to MOM is required for Dangerous Occurrence (Appendix 1) that had occurred within NTU compound, regardless it is a greenfield status or otherwise;

Note: For serious incident, the scene to be condoned off for investigation and no one shall tamper at the incident scene (unless for rescue work or work necessary for the general safety for life and property).

- A member of the public who is injured as a result of works done by NTU or its contractor and is sent to a hospital for treatment;
- Occupational diseases diagnosed by a medical practitioner;
- Injuries where the person is given more than 3 calendar days of medical leave, inclusive of rest days and public holidays, granted consecutively or otherwise, attributed to the same accident.

Note: Two or more medical certificates may be issued by different medical practitioner(s)³ and/or hospitals which collectively, add up to 3 or more calendar days. This includes any work-related traffic accident. **Refer to FAQ in Appendix 5**

In event that additional medical leave is given or extended after the IIRF report is submitted, the school/department shall update the IIRF on the database or informed OHS by email referring to the same accident.

- Person injured is hospitalized for at least 24 hours, including work-related traffic accidents.
- 5.4 The occupier or their nominated representatives shall investigate all accidents/incidents that happened in NTU, including areas under the control of NTU such as buildings in Biopolis, Novena, One-North or CleanTech Park.
- 5.5 Investigation report (for incidents mentioned in para 5.3 above) shall be submitted to OHS within 7 days after the occurrence of the incident. OHS will lodge an iReport report to MOM as required in WSH (Incident Reporting) Regulations within 10 days after the occurrence of the incident.
- 5.6 OHS will investigate the case with relevant parties, if necessary, as mention in 4.5.
- 5.7 Accident/incident involving **persons at work**⁴ within NTU must be properly investigated and documented. The PIC shall oversee that the investigation is done and the reported submitted via IIRF.

Following an accident/incident in NTU, the manager/supervisor of contractor shall:

- inform NTU PIC immediately upon the occurrence who in turn will notify the SCs ,or in the absence of a SC, SR;

³ Medical practitioners registered with Singapore Medical Council or hospitals listed Ministry of Health, Singapore.

⁴ **Workers of Contractor and inclusive of his sub-contractors awarded for jobs within NTU**

- SC/SR is to witness the investigation conducted by the contractor (or sub-contractor whichever the case maybe) and understand the circumstances leading to the accident/incident so that any lapse in school/department management system, if any, contributing to the accident/incident can be addressed;
- PIC shall:
 - obtain the report of the accident/incident as soon as reasonable practicable within 7 days;
 - file the IIRF;
 - ensure the implementation of the corrective and preventive action(s) so determined; and
 - In the case of reportable workplace injury, ensure the contractors furnish a copy of MOM iReport filed through their own company to SC and OHS.

6. Documentation

All incidents reporting and investigation must be documented, and made available to management/supervisors to review risk assessment. Records of accidents/incidents must be kept at both school and department level for a minimum period of 6 years.

7. Incident Reporting

All incidents to be reported using the online reporting form (see Appendix 3) located in OHS website at <http://www.ntu.edu.sg/ohs/Pages/default.aspx>

8. Investigation Report

- All incidents are to be investigated to determine out the root cause(s) with the corrective and preventive actions identified (see Appendix 4).
- The risks assessment(s) and any safe work procedure (SWP) shall be reviewed to incorporate these new control measures.
- For reportable incident (see para 5.3 above) a detailed report including all relevant documents and interviews shall be produced and given to OHS in the event that authorities conducts any investigation.

Appendix 1 - List of Dangerous Occurrences which requires immediate notification to MOM under the Workplace Safety and Health Act applicable to NTU.

1. Bursting of a revolving vessel, wheel, grindstone or grinding wheel moved by mechanical power.
2. Collapse or failure of any lifting equipment:
 - Lifting equipment refers to a crane, winch, hoist or appliance used to raise/lower persons or goods;
 - Lifting equipment's load-bearing part(s), other than the breakage of the chain or rope slings, is also deemed a dangerous occurrence; and
 - In addition to the above, any instance of a crane overturning will also be deemed a dangerous occurrence.
3. Explosion or fire in a room/place in which persons at work, resulting in damage to, the structure of the room/place; or any machine or plant in the room/place. The explosion or fire must have been caused by the ignition of dust, gas, vapour or any substance that is/contains celluloid. The incident must also have resulted in the complete suspension of normal work in the room/place or stoppage of machinery/plant for at least 5 hours.
4. Electrical short circuit or failure of electrical machinery, plant or apparatus, resulting in explosion, fire or structural damage and causing its stoppage for at least 5 hours.
5. Explosion or fire in a room in which persons are at work, resulting in the complete suspension of normal work in a room for at least 24 hours.
6. Explosion or failure of the structure of a steam boiler, receiver or container used to store (at greater than atmospheric pressure):
 - Any gas(es) including air; or
 - Any liquid/solid resulting from the compression of gas(es).
7. Partial or complete collapse of:
 - A scaffold exceeding 15 metres in height; or
 - A suspended or hanging scaffold from which a person may fall more than 2 metres.
8. Failure/collapse of formwork or its supports.

Appendix 2 - Occupational Diseases

Occupational disease is any disease specified in the Second Schedule of the WSH Act. The examples of occupational diseases that may occur in NTU are:

1. Poisoning and diseases due to chemicals such as cyanide, benzene, cadmium, hydrogen sulphide or mercury.
2. Diseases caused by ionizing radiation.
3. Diseases caused by excessive heat.
4. Compressed air illness or its sequelae, including dysbaric osteonecrosis.
5. Noise-induced deafness.
6. Occupational asthma.
7. Occupational skin diseases.
8. Musculoskeletal disorders of the upper limb.

Appendix 3

Office of Health & Safety - On-line Incident Investigation & Reporting Form (IIRF)

| Incident Investigation & Reporting Form | |
|--|---------------------------------|
| - Office of Health and Safety | |
| Please choose one * required field | |
| Reporter's Particulars * required field | |
| Click this <input type="checkbox"/> button to auto-fill the particulars below. You do not need to manually key in the information except your Staff/Student card number. | |
| Name | <input type="text"/> |
| Staff/Student Card Number | <input type="text"/> |
| School/Dept | <input type="text"/> |
| Designation | <input type="text"/> |
| Contact No | <input type="text"/> |
| Email | <input type="text"/> |
| Injured's Particulars | |
| Are there any injured person in this accident/incident? <input type="text" value="Select..."/> | |
| Date/Time/Location of Incident * required field | |
| Date (DD/MM/YYYY) | <input type="text" value="DD"/> |
| Time | <input type="text"/> |
| Location (e.g. Block/Unit/Lab) | <input type="text"/> |
| Briefly describe what happened & how it happened. Please continue on an attachment, if there is insufficient space. Please note that a detail investigation report should be submitted within 7 calendar days to determine if there are any other root causes, preventive measures implemented and corrective actions taken. | |
| <input type="text"/> | |
| Attachment(s) Put in your attachments here (Do not attach more than 2MB each) | |
| S/N | Attachment(s) |
| <input type="checkbox"/> | <input type="text"/> |
| <input type="button" value="Add Attachment"/> | |
| Reporting Officer / Supervisor's Particulars *required field | |
| Enable this checkbox <input type="checkbox"/> to auto-fill the particulars. You do not need to manually key in the information. Follow the steps carefully. | |
| Name | <input type="text"/> |
| School / Department | <input type="text"/> |
| Designation | <input type="text"/> |
| Email | <input type="text"/> |
| Account Name | <input type="text"/> |
| Safety Officer / Representative Particulars * required field | |
| Enable this checkbox <input type="checkbox"/> to auto-fill the particulars. You do not need to manually key in the information. Follow the steps carefully. | |
| Name | <input type="text"/> |
| School / Department | <input type="text"/> |
| Designation | <input type="text"/> |
| Email | <input type="text"/> |
| Account Name | <input type="text"/> |
| Chair (for school) / Head of Department Particulars * required field | |
| Enable this checkbox <input type="checkbox"/> to auto-fill the particulars. You do not need to manually key in the information. Follow the steps carefully. | |
| Name | <input type="text"/> |
| School / Department | <input type="text"/> |
| Designation | <input type="text"/> |
| Email | <input type="text"/> |
| Account Name | <input type="text"/> |

Important Note:

1. Please ensure that all the information in the fields are correct.
2. You will receive an acknowledgement email after you have submitted the form.
3. Click the submit button once you have completed.

Appendix 4

Office of Health & Safety - Investigation Report

IIRF No.: _____

Date of Investigation: _____

| Investigation Team | |
|---------------------------|--|
| Team Leader | |
| Team Members | |

| | | | |
|------------------------------------|--|---|--|
| Description of Accident/Incident | | | |
| Name of Injured | | Contact No. of Injured | |
| Body Parts Injured | | Location where Accident/ Incident/ happened | |
| Date & Time of Accident/ Incident/ | | | |

Injury / Illness

a. Happened in the workplace? (Yes/No) _____

b. Injury/illness is work-related? (Yes/No) _____

Property Damage (describe) _____

Others (please specify) _____

1) Chronology of events:

Investigation Findings: _____

2) Direct Cause of accident/ incident

3) Indirect cause of accident/incident

4) Systemic lapse(s) (tick where applicable, may have more than 1 systemic lapse)

- Lack of management or implementation of SOPs Lack of procedures or provisions
- Lack of training Lack of communication
- Lack of supervision and control Lack of knowledge
- Lack of PPE Lack of maintenance
- Substandard conditions (e.g. wear & tear & etc.) Substandard actions (e.g. carelessness, etc.)
- Environmental issues (e.g. dim, noisy & etc.) Others (please specify)

Corrective Action Review:

| S/No. | Action | To address (2) & (3) | Date & Person Responsible |
|-------|--------|----------------------|---------------------------|
| | | | |
| | | | |
| | | | |
| | | | |

Preventive Action Review:

| S/No. | Action | To address (4) | Date & Person Responsible |
|-------|--------|----------------|---------------------------|
| | | | |
| | | | |
| | | | |
| | | | |

Prepared by: _____

Designation: _____

Date: _____

Appendix 5

Frequently Asked Questions

Q1. How many days of medical leave is reportable under new amendments

A: Any workplace accidents which render the injured employees unfit for work for more than three days, regardless of whether these were consecutive days. Some examples to illustrate the changes are as follow:

| Examples | MOM | | NTU |
|---|---|--|-----------------------|
| | Compulsory to report before 6 Jan 2014? | Compulsory to report after 6 Jan 2014? | Compulsory to report? |
| <p>The reporting requirement for the less severe injuries has been removed but the obligation to compensate an injured employee remains.</p> <p>For example, if an employee is granted 3 days (or fewer) of medical leave, the employer is not required to report the accident. However, the employer remains liable to pay compensation to the employee.</p> | No | No | Yes |
| A staff cuts his/her finger while at work. He/she is given a total of two (2) days of medical leave. | No | No | Yes |
| <p>A staff cuts his finger while working. He/she is initially given two (2) days of medical leave.</p> <p>He/she went back to work for one day.</p> <p>He/she is later given another two (2) days of medical leave for the same injury.</p> | No | Yes | Yes |
| A staff cut his/her finger while working. He/she is given 4 days of medical leave. | Yes | Yes | Yes |
| <p>An employee met with a traffic accident*:</p> <ol style="list-style-type: none"> 1. While traveling during work or for work (e.g. travel from workplace to venue for meeting), regardless of the mode of transport. 2. While taking company transport paid by university to and fro between home and workplace. The vehicle is not a public transport. 3. While traveling in own car/friend's car/public transport to and fro between home and workplace. | N.A | Yes* | Yes |
| | N.A | No | No |

Note: * This is on condition that the other reporting criteria are met, i.e. employee injured in accident:

- Died, or
- Was hospitalised for at least 24 hours, or
- Given MC for more than 3 calendar days (consecutive or otherwise).

Q2: Is the 3 days of medical leave** based on working days or calendar days?

A: The incident reporting requirement is still based on calendar days. The 3 days of medical leave will be inclusive of any medical leave issued for public holidays, rest days and non-working days.

| Examples | MOM | NTU |
|--|----------------------------|-----------------------|
| | Require to report? | Compulsory to report? |
| MC granted for 3-5 Jan (Mon-Wed). | No (3 days of MC) | Yes |
| MC granted for 12-15 Jan (Thu-Sun). Sun is rest day. | Yes. (More than 3 days MC) | Yes |

**Any workplace accidents which render the injure employees unfit for work for more than three days.

Q3: How should the number of days of medical leave is counted for the purposes of reporting?

A: A workplace accident needs to be reported when the injured employee is first granted more than 3 days of medical leave, consecutive or otherwise, due to a single workplace accident.

This means employers are to report incidents to MOM from the 4th day of the medical leave. When filling the incident report, the total number of days of medical leave granted as a result of the single workplace incident should be used.

| Examples | Require to report? | Timeline for reporting | Number of days of MC to be filled in incident report | MOM | NTU |
|---|--|---|--|--------------------|-----------------------|
| | | | | Require to report? | Compulsory to report? |
| MC granted for 3-4 Feb (Mon-Tue) Work on 5 Feb (Wed) Given further 2 days MC for 6-7 Feb (Thu-Fri). | Yes. 4 days of MC (consecutive or otherwise). | Report within 10 days from 7 Feb. Therefore employer should report the incident to MOM by 16 Feb (Inclusive). | 2 + 2 = 4 days | Yes | Yes |
| MC granted for 3 Feb (Mon). Went for medical follow up and given further MC for 7-10 Mar (Fri-Mon). Sun is rest day. | Yes. 5 days of MC (consecutive or otherwise). | Report within 10 days from 9 Mar. Therefore employer should report the incident to MOM by 18 Mar (Inclusive). | 1 + 4 = 5 days | Yes | Yes |

Appendix 6 - Types of workplace incident reportable to MOM

| Category | What needs to be reported? | Who to report? | Need to notify MOM as soon as reasonably practicable? | Need to submit report within 10 days from accident/diagnosis of disease? | NTU |
|--|--|----------------------------------|---|--|-----|
| Work accident | Employee was injured in accident and: | Employer (School & Department) | | | |
| | Died, or | | Yes | Yes | Yes |
| | Hospitalised for at least 24 hours; or | | No | Yes* | Yes |
| | Given MC for more than 3 calendar days (consecutive or otherwise) | | No | Yes* ,Within 10 days from the 4th day of medical leave | Yes |
| Work accident | A member of public or self-employed contractor was injured and | Workplace Occupier | | | |
| | Died, or | | Yes | Yes | Yes |
| | Sent to hospital for treatment | | Yes | No | Yes |
| Disease | Employee contracted an occupational disease in the List of Occupational Diseases Employee contracted a disease due to work exposure to biological/ chemical agent and given MC for more than 3 calendar days (consecutive or otherwise) | Employer (School & Department) | No | Yes | Yes |
| | | Doctor who diagnosed the disease | No | Yes | Yes |
| | | Employer | No | Yes | Yes |
| Dangerous Occurrence | Any event in the List of Dangerous Occurrences | Workplace Occupier | Yes | Yes | Yes |
| *If the employee subsequently dies from the injury, the employer must notify MOM as soon as he knows of the death. | | | | | |
| Table obtained from MOM website: click here | | | | | |

Version History

This Table below reflects the summary of changes made to the document. The full change information is indicated with yellow highlight in the document content.

| Revision | Section | Details of Change | Document Author | Effective Date | Approved By |
|----------|---|--|-----------------|----------------|-----------------|
| 5.0 | N.A | Initial Release | Chua Hoe Guan | 12 Aug 2009 | Dr Lee Kien Wah |
| 5.1 | N.A Appendix II | Change of Documentation format Revision of IIRF form format | Chua Hoe Guan | 24 Mar 2010 | Dr Lee Kien Wah |
| 5.1a | 5 | Inclusion of OHS emergency reporting number | Tan Can Yu | 2 Jul 2010 | Dr Lee Kien Wah |
| 5.2 | 1 5 Explanatory note 1 Appendix II | Revision of Scope Revision of Incident Reporting Procedure Revision of Occupational Diseases Revision of IIRF | Liew Ching Boon | 15 Jul 2010 | Dr Lee Kien Wah |

| Revision | Section | Details of Change | Document Author | Effective Date | Approved By |
|----------|-------------|--|-----------------|----------------|-----------------|
| 5.3 | 1 | Revision of Aim | Chua Hoe Guan | 6 Oct 2013 | Dr Lee Kien Wah |
| | N.A. | Removal of Introduction | | | |
| | 2 | Revision of Scope | | | |
| | 3 | Revision of Definition | | | |
| | 4 | Revision of Responsibilities | | | |
| | Appendix I | Revision of Occupational Diseases | | | |
| 5.4 | 2 | Revision of Scope | Wong Zhi Hao | 15 Nov 2012 | Dr Lee Kien Wah |
| | 3 | Revision of Definition | | | |
| | 5 | Revision of Incident Reporting and Investigation Procedure | | | |
| | 7 | Revision of Incident Reporting | | | |
| | 8 | Inclusion of Investigation Report | | | |
| | | Appendix I | | | |
| | Appendix II | Revision of Occupational Diseases | | | |

| Revision | Section | Details of Change | Document Author | Effective Date | Approved By |
|------------|--|---|-----------------|----------------|-----------------|
| 5.4 | Appendix III | Revision of IIRF | Wong Zhi Hao | 15 Nov 2012 | Dr Lee Kien Wah |
| | Appendix IV | Inclusion of Investigation Report | | | |
| 5.5 | 2 | Revision of Scope | Eng Cher Sing | 4 Apr 2014 | Dr Lee Kien Wah |
| | 3 | Revision of Definitions | | | |
| | 4 | Revision of Responsibilities | | | |
| | 5 | Revision of Incident Reporting and Investigation Procedures | | | |
| | 7 | Incident Reporting | | | |
| | 8 | Revision of investigation Reporting | | | |
| | Appendix 1 | List of Dangerous Occurrences | | | |
| | Appendix 2 | Revision of IIRF | | | |
| Appendix 5 | Inclusion Frequently Asked Questions (FAQ) | | | | |
| Appendix 6 | Type of workplace incident reportable to MOM | | | | |

| Revision | Section | Details of Change | Document Author | Effective Date | Approved By |
|-----------------|----------------|--|------------------------|-----------------------|--------------------|
| 5.5a | 5.2 | Revision of OHS emergency contact number to 6790-5200 Inserted: "and follow by an investigation report as per procedure stipulated in Clause 5.5" | Chia Teck Beng, Benny | 19 Jan 2015 | Dr Lee Kien Wah |
| | 5.3 | Inclusion of sentence - "Refer to FAQ in Appendix 5" | | | |
| | Appendix 2 | Replacement of Appendix 2: "Revision of IIRF" with "Occupational Diseases" | | | |