

Work Safety Instruction Manual for Contractor

Department of Safety and Occupational Health

Introduction

In accordance with the ministerial regulation on the Standards of Occupational Health, Safety and Environment B.E. 2549 (2006), Section 1, General Provisions, No. 4, stating that the employer, with original or re-employed contractors who are assigned to work in the organization's designated area, shall prepare work safety instruction manual for the aforementioned contractors to ensure that each working process are conducted under the requirements of the ministerial regulation,

The Safety and Occupational Health Department of Airports of Thailand Public Company Limited (AOT) has therefore prepared work safety instruction manual to certify risk management for contractors' works and serve as guidelines for work safety in the AOT's designated areas in accordance with the specified ministerial regulation.

Department of Safety and Occupational Health

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Work Safety Instruction Manual for Hazardous Works

1. Objective

This work safety instruction manual for hazardous works is prepared to serve as guidelines on work safety for all contractors who are assigned to work in the AOT's designated areas complied with the regulatory requirements, with its principal provision on work safety and risk management procedures as well as incident reports to be informed to AOT's responsible officials.

2. Reference

- The Ministerial Regulation on the Standard of Occupational Health, Safety and Environment B.E. 2549 (2006).
- The Ministerial Regulation on the Standard of Occupational Health, Safety and Environment in relation to Construction Work B.E. 2551 (2008).
- The Ministerial Regulation on the Standard of Occupational Health, Safety and Environment in relation to Machines, Cranes and Boilers B.E. 2552 (2009)
- The Ministerial Regulation on the Standard of Occupational Health, Safety and Environment in relation to Electricity B.E. 2554 (2011).
- The Occupational Health, Safety and Environment Act B.E. 2554 (2011).

3. Work Safety Procedures

3.1 Requirements for Contractor's Head Company

- 3.1.1 The contractor's head company shall strictly comply with all regulatory requirements stated in this work safety instruction manual to ensure safety in the workplace for all of their employees and other people involved.
- 3.1.2 The contractor's head company shall arrange a team of safety officers to monitor and supervise works at different levels in accordance with the Ministerial Regulation on the Standard of Occupational Health, Safety and Environment B.E. 2549 (2006).
- 3.1.3 The contractor's head company shall provide a training program in accordance with the regulatory requirements for its employees who are assigned to work with machines, cranes and boilers as well as conduct their duties in risky locations including hot work permit, high area and confined space.

- 3.1.4 The contractor's head company shall provide personal protective equipment with higher or equivalent capacity comparing to the standards of work safety requirements for all of its employees.
- 3.1.5 The contractor's head company is required to conduct the assessment of its employee's working environment on a monthly basis to ensure no hazardous operations. In case of accident, the head company is required to submit an accident report with clearly explanation on the accident's cause, nature, damage and injury to the Safety and Occupational Health Department immediately.
- 3.1.6 The contractor's head company is compulsorily required to deploy only experienced and competent employees, particularly for the position of foreman and security officer, to work under the AOT's premises.
- 3.1.7 The contractor's head company shall notify its employees about the targeted goal of work safety and occupational health to all of their employees clearly and regularly.

3.2 Requirements for Foreman

- 3.2.1 Closely monitor and supervise working operations conducted by all workers to prevent possible hazards and accidents.
- 3.2.2 Provide suggestions on accident protection and work safety to all workers when necessary.
- 3.2.3 Advise all workers to wear security equipment and use protection tools when conducting any risky work.
- 3.2.4 Seek security and safety measures to ensure no hazardous operations. If any current measure is found to be insufficient or unsafe, it is compulsorily required to cancel such measure and seek a new solution for work safety.
- 3.2.5 Never allow any inexperienced worker to conduct any certain work alone as it can cause accident due to such unskilled or inexperienced manner.
- 3.2.6 Take intensive care of the health of all workers on a regular basis. If any worker is found to experience an undesirable symptom such as sickness, dizziness, faint, upset stomach or lack of sleep, the responsible foreman shall take responsibility to courteously allow such worker to have a rest or take a day-off if necessary.
- 3.2.7 Supervise all operations conducted at the working site on a regular basis to reflect the responsible foreman's assertiveness and goodwill in developing work safety procedures for all workers to pursue.

3.2.8 Nurture all details of work safety procedures as well as working equipment and tools as follows:

- Be careful with all temporary equipment or constructions such as lumber or other alternative tools.
- Take care of repaired or modified equipment such as drill or grinder.
- Keep away from hand injury.
- Make appropriate use of all temporary transportation vehicles such as forklift, cart or small crane.
- Prepare sufficient supportive tools such as rope, string or pulley to reduce the possibility of any facing problem.

3.3 Requirements for Pre-operations

3.3.1 The contractor's head company shall notify the starting and completing time and time period of work preparation prior to the actual working operations under the contract. The contractor's head company shall also submit the name list of workers who are assigned to work in the AOT's compound prior to the preparation of authorized access cards required to be displayed to the security department under the AOT's premises.

3.3.2 The contractor's head company shall arrange teams of skillful and experienced workers who possess positive attitude towards work safety and occupational health, particularly to conduct daily operations in a safe and secure manner.

3.3.3 For extra operations where risk can be expected, all workers are required to attend an intensive training program on work safety, particularly to deal with possible risks such as fire, hot work permit, confined space, high location, application of chemicals and use of machine, crane, boiler or forklift.

3.3.4 The contractor's head company shall provide a team of safety officers, with the minimum requirements stated below.

Number of workers	Level of safety officer
2-19 workers	Supervisory and executive
20-49 workers	Technical, supervisory and executive
50-99 workers	Higher technical, supervisory and executive
100 workers or above	Professional, supervisory and executive

3.4 Authorized Entry and Exit

- 3.4.1 The authorized access, for both entry and exit, in the compound of AOT shall be granted at the designated locations only.
- 3.4.2 All workers are required to strictly pursue the security measures determined by the security department.

3.5 Security Card

All workers are required to pursue the security measures strictly and efficiently. As both entry and exit are monitored and controlled by a security team, all workers are suggested to wear a security card on a certain position of a shirt which can visibly and clearly be seen at all time, particularly when conducting their working operations in the AOT's compound prompted for the security team's inspection.

3.6 Passage of Vehicles

- 3.6.1 Any incoming or outgoing vehicle is required to be inspected by a security team to comply with the AOT's security measures.
- 3.6.2 The driver shall possess a valid driving license in accordance with the registered motor vehicle under the law. The driver shall not exceed the speed limit determined by AOT.
- 3.6.3 Any vehicle that requires a passage through the airside or restricted area shall strictly pursue the rules and regulations specified by AOT. In particular, the driver who requires driving access through the airside shall pass a special driving training program provided by AOT.

3.7 No Smoking and Non-Flammable Areas

Smoking and using of flammable substances are strictly prohibited in no smoking and non-flammable areas (Please notice the sign of 'No Smoking' or 'Smoking Area').

- 3.7.1 Match, lighter, mobile phone, walkie-talkie, cigarette lighter receptacle and other flammable substances are never allowed in the restricted areas. If any mentioned flammable substance is brought with a contractor, it is advised to keep it with the security team stationed at the entry of such restrict areas.
- 3.7.2 AOT shall allow smoking in the designated smoking areas only.

3.8 Work Safety Requirements

- 3.8.1 The contractor shall strictly take into account the work safety, occupational health and carefulness in operating risky tasks.
- 3.8.2 If the contractor is unsure about the safety or appropriateness of any assigned work, he/she is allowed to stop conducting such work immediately, proceed with the improvement or repair of malfunctioned equipment or seek further appropriate working process to ensure the safety before continuing to conduct such work.
- 3.8.3 The contractor shall possess complete understanding on all assigned works. If any doubt arises, the contractor shall stop conducting such work and seek further information from related people and sources before continuing to conduct such work.
- 3.8.4 The contractor shall be familiar with the location where safety equipment and fire extinguisher are kept.
- 3.8.5 The contractor is required to recognize the emergency exit in the workplace.
- 3.8.6 The contractor shall wear personal protective equipment when conducting a certain work with regard to the necessity of such work.
- 3.8.7 All personal safety equipment shall comply with the standards specified by the law or the international standards.
- 3.8.8 For any work to be conducted on a higher location, it is required to use the safety harness (double lanyard). For working on a higher location where safety rails are firmly installed, it is suggested to use the safety belt when necessary.
- 3.8.9 For any work related to the use of electricity, gas, forklift or machine specified by the law or AOT, the contractor who deals directly with the aforementioned matters shall pass a full training program specified by the regulatory requirements.
- 3.8.10 Any installation, repair or inspection of the machine or the machine's protection equipment, it is required to display a notification sign at the location that can easily and appropriately be seen.

3.9 Fire Extinguisher

Any contractor whose work is related to welding, grinding, fixing of engine and dealing with other heating substances shall arrange a dry chemical fire extinguisher at the minimum requirement of 15 pounds certified with 6A 20B standards and shall be inspected by the fire and occupational safety department. The certified fire extinguisher shall possess a promptness sign. However, if such fire extinguisher is not

maintained in ready-to-work condition, the contractor will not be allowed to conduct any work under the AOT's premise.

Other Requirements of Fire Extinguisher

- The fire extinguisher shall be placed in a certain working area prompting for emergency use at all time.
- The contractor is not allowed to bring or borrow the AOT's fire extinguisher except for emergency case. After the use of the AOT's fire extinguisher, the contractor is required to notify AOT at all time.
- The contractor is compulsorily required to notify AOT whenever the fire extinguisher is used.

3.10 Personal Protective Equipment (PPE)

For the use and maintenance of the personal protective equipment, it is required to pursue the following requirements.

- 3.10.1 All workers are required to wear personal protective equipment during the entire working hours, particularly when conducting work in a certain working area.
- 3.10.2 All workers are required to select the personal protective equipment in accordance with the suitability and risk level of each work specified in the working license.
- 3.10.3 All personal protective equipment shall be certified with the required standards under the law or the regulatory requirements of a local government organization.
- 3.10.4 All personal protective equipment shall be maintained in ready-to-work condition at all time.
- 3.10.5 It is prohibited to wear black-lens glasses when conducting work at nighttime.
- 3.10.6 It is required to use the safety harness when conducting work on high location.
- 3.10.7 The use of chemical filter shall comply with the suitability of chemical level applied in each work.

3.11 Work Safety Requirements for Hazardous Area

Conducting certain works in hazardous areas such as high location or low-pressure condition is required to preliminary be inspected by the AOT's officials and shall comply with the following procedures.

3.11.1 Hot Work Permit

1. The foreman is required to pass a training program on hot works and heat-related issues.
2. It is compulsory to inspect the percentage of LEL required to be approved at 0 percent for the hot work area.
3. The contractor shall arrange at least 1 standby person to monitor 1 working area to ensure no case of fire.
4. The contractor shall prepare sufficient amount of fire extinguisher with the fire rating of not less than 6A 20B at the minimum requirement of 15 pounds.

5. In conducting the work related to welding or grinding, it is required to prepare the fire-retardant fabric without the combination of plastic or asbestos-based substances.

3.11.2 Confined Space

1. All workers (AOT officials inclusive) are required to get permission prior to conducting a certain work in the confined space.
2. The standby person, at least 1 person for 1 main door, assigned to work in the confined space shall pass a training program specified by the law and comply with the AOT's regulatory requirements.
3. For the confined space where toxic gas exists, it is required to apply the inspection of hazardous atmosphere. In conducting any work in the confined space for the first time, it is required to receive the LAB test results to ensure no toxic gas prior to conducting such work.
4. The contractor shall prepare the electric light system with the maximum requirement of 24 volt (AC/DC) to be used in the confined space. The contractor is required to prepare the transformer, air blower, exhaust fan and air ejector used for ventilation in the confined space.
5. The contractor is not allowed to use any utility system such as electricity, air or nitrogen belonged to AOT. In case of necessity, the contractor shall be granted an approval from AOT prior to the use of such utility system.
6. The contractor shall possess a name list of skillful and experienced workers assigned to work in the confined space. All workers are required to wear an authorized security card during the working hours at all time.
7. All workers, including those of AOT, assigned to work in the confined space shall be certified with the training program and personal health check specified by AOT.
8. In case that extra air is required to be used in the confined space, it is compulsory to use air obtained from the breathing apparatus, not the air compressor.

3.11.3 High Location

1. The contractor shall provide the scaffold for working on the high location that requires 2 workers or above.

2. If working on the high location requires not more than 2 workers, the contractor shall consider the use of scaffold as unnecessary, but prefer the assistance of other safety equipment such as ladder, cabin or hanger roller. However, for working on the high location with the height above 4 meters and the use of scaffold is not determined, it is required to apply the use of the full body harness (double lanyard) that possesses desirable strength instead.
3. Female workers are never allowed to work on the high location.
4. In case that the area below the high location is reserved for traffic or passage of people, it is necessary to install the safety net to prevent the falling of objects that will damage or injure properties and lives under the high working location.
5. It is required to place a warning sign or barrier tape to prevent people from getting near or into the working location.
6. The worker who conducts a particular work on the high location shall always realize that there are some people in the space below.
7. All equipment, materials and tools used for the work on the high location shall be kept neatly and appropriately at all time.
8. The transfer of any equipment, material and tool shall be conducted with the use of the pulling sling. It is prohibited to throw such equipment, material and tool down to the ground.
9. Working on the high location shall be stopped immediately when there is rain, wind or thundering storm.

3.11.4 Scaffold

1. Before the installation or demolition of the scaffold, it is required to notify the responsible safety officer to assess the level of safety and security.
2. The scaffold shall be installed in accordance with the regulatory requirements and it is also required to place a warning sign at a visible position stating that the installation of scaffold is in progress.
3. When the installation of the scaffold is completed, it is required to notify the AOT's responsible official about such completion in order to proceed with the safety inspection prompted for further work processes.
4. When the demolition of the scaffold is completed, it is required to notify the AOT's responsible official about such completion in order to proceed with the safety inspection prompted for further work processes.

5. The installation of the scaffold with the height above 21 meters shall be monitored and supervised by a responsible civil engineer aiming for accurate design, calculation and inspection of such scaffold.
6. For the high working location where the lower location is reserved for traffic or passage of people, it is compulsorily required to install the safety net to prevent the falling of objects.

3.11.5 Welling

1. Before all types of welling work, it is required to notify the responsible welling supervisor to assess the level of safety and security.
2. The responsible workers shall be skilled and experienced in welling tasks and complete such work in accordance with the regulatory requirements approved by the safety officer.
3. If any untoward incident such as the discovery of underground objects or cables is found during the welling, it is required to report to the responsible welling supervisor and stop the welling work immediately. The welling work can be resumed after the approval of the responsible welling supervisor.

3.11.6 Crane

1. Crane and other lifting equipment shall be certified with required standards approved by the professional engineer.
2. The crane controller, signaler and other workers involved in the crane operations are required to pass a special training program in accordance with the law.
3. The responsible supervisor shall regularly evaluate the weight of lifting objects and slings to ensure no hazardous operations.

3.11.7 Gas Compressor

1. Gas compressor and other related equipment shall be certified with the industrial standards.
2. It is prohibited to use oxygen to substitute the compressed air in all respects and it is never allowed to release oxygen in the restricted area.

3. It is totally prohibited to place the gas compressor adjacent to hot substances or in the area of electric circuit. The gas compressor is required to be placed with a stable basement and safety cap.
4. For the transfer of the gas compressor, it is required to use a specially designed cart to be used for such transfer. The gas compressor shall be transferred in a straight-up position fastened firmly to the cart.
5. The oxygen compressor shall be kept separately from the acetylene compressor or other flammable compressors at the minimum distance of 6 meters or 1.5 meters for vertical position.
6. In case that several types of gas compressor are necessarily kept within the same area, the contractor shall classify those gas compressors into categories, with the notification and requirement for each type of gas compressor.
7. It is totally prohibited to use the sling or chain to lift the gas compressor. If necessary, it is advised to use the lifting vehicle with protective basement closely monitored by a responsible controlling person.
8. It is compulsorily required to handle all types of gas compressor with special care. No one is allowed to drop the gas compressor heavily as it can directly cause the valve to be broken.
9. When the gas hose is required to be dangled over the travelling space, it is necessary to hang the hose above the head level with the use of wooden bars on both sides of the hose.
10. It is totally prohibited to place the gas compressor in the vessel except when good ventilation is guaranteed.
11. The gas hose shall always be maintained in good condition and is required to be connected tightly to the body of the gas compressor with the use of a ring or clamp.

3.12 Monitoring of Contractor's Work Safety Procedures

Supervision and monitoring of work safety are considered as one of the highly effective measures of safety and occupational health at work required to be conducted by the contractor aiming for the highest work safety and most appropriate safety procedures. The contractor is required to pursue the following requirements.

3.12.1 The contractor shall submit a report on work safety to AOT on a monthly basis or a regular period of time specified by AOT, which shall explain principal details as below.

- The starting and finishing period of work under the contract.

- Number of workers assigned to work in different areas of the AOT's compound.
- Accident report during working hours (in case that an accident incurs).
- Untoward incident report or equipment damage notification.

AOT will use the aforementioned reports to evaluate the contractor's work safety procedures and shall consider them as preferable requirements and conditions in selecting the contractor to provide further services for new projects in the future.

3.12.2 The inspection of work safety shall be conducted on a regular basis by the contractor's supervisor and the safety officer.

3.12.3 The inspection of work safety shall be considered by both physical and behavioral aspects of the contractor, which shall include several security measures described below.

1. Official request for conducting work in the airside or restricted area.
2. Compliance with specified requirements such as Job Method Statement, Job Safety Analysis (JSA), etc.
3. Wearing of personal protective equipment.
4. Use of warning signs in the construction area.
5. Tidiness and cleanliness of the working area.
6. Dealing with emergency situations.
7. Promptness of equipment, machine and other work-related materials.
8. Behaviors related to work safety.

The evaluation results of work safety shall be notified to all parties involved in order to ensure prevention of possible accidents and untoward incidents in the future.

3.13 Dealing with Emergency Situation

When the alarm sound, whether it is for fire or other emergency cases, is heard, the contractor and other workers shall pursue the following safety procedures.

1. Stop working immediately when the alarm sound is heard.
2. Switch off electrical devices or cut the main power generator immediately.
3. Gather at the designated muster point with the supervision of the contractor's safety officer and supervisor.

4. Worker team leader or safety officer shall consider the presence of all workers according to the name list and report to the AOT's safety officer immediately.
5. Work operation shall be resumed when the emergency situation is completely kept under control.
6. Any unauthorized person is not allowed to enter the damaged area maintained for further investigation.
7. All emergency situations shall fully be responsible by the AOT's officials and AOT shall request for assistance on manpower or equipment from the contractor's head company.

3.14 Report and Investigation of Accident/Untoward Incident

1. The contractor's head company shall submit an unofficial report on accidents and untoward incidents occurred during the working hours to the AOT's responsible officials in a speedy manner followed by an official report.
2. The contractor's head company shall consent to facilitate the AOT's officials in investigating and assessing certain accidents or untoward incidents.
3. The contractor's head company shall submit a summary of accidents, untoward incidents and illnesses due to occupational operations as well as the total number of working hours to AOT on a monthly basis.
4. The contractor shall seek prevention, improvement and solution to reduce accidents and untoward incidents within the specified time period with regard to the investigation and is required to share the information on such accidents and untoward incidents to the AOT's officials and other related parties.
5. The contractor's head company shall strictly pursue all enforced laws and regulatory requirements on work safety and occupational health.

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