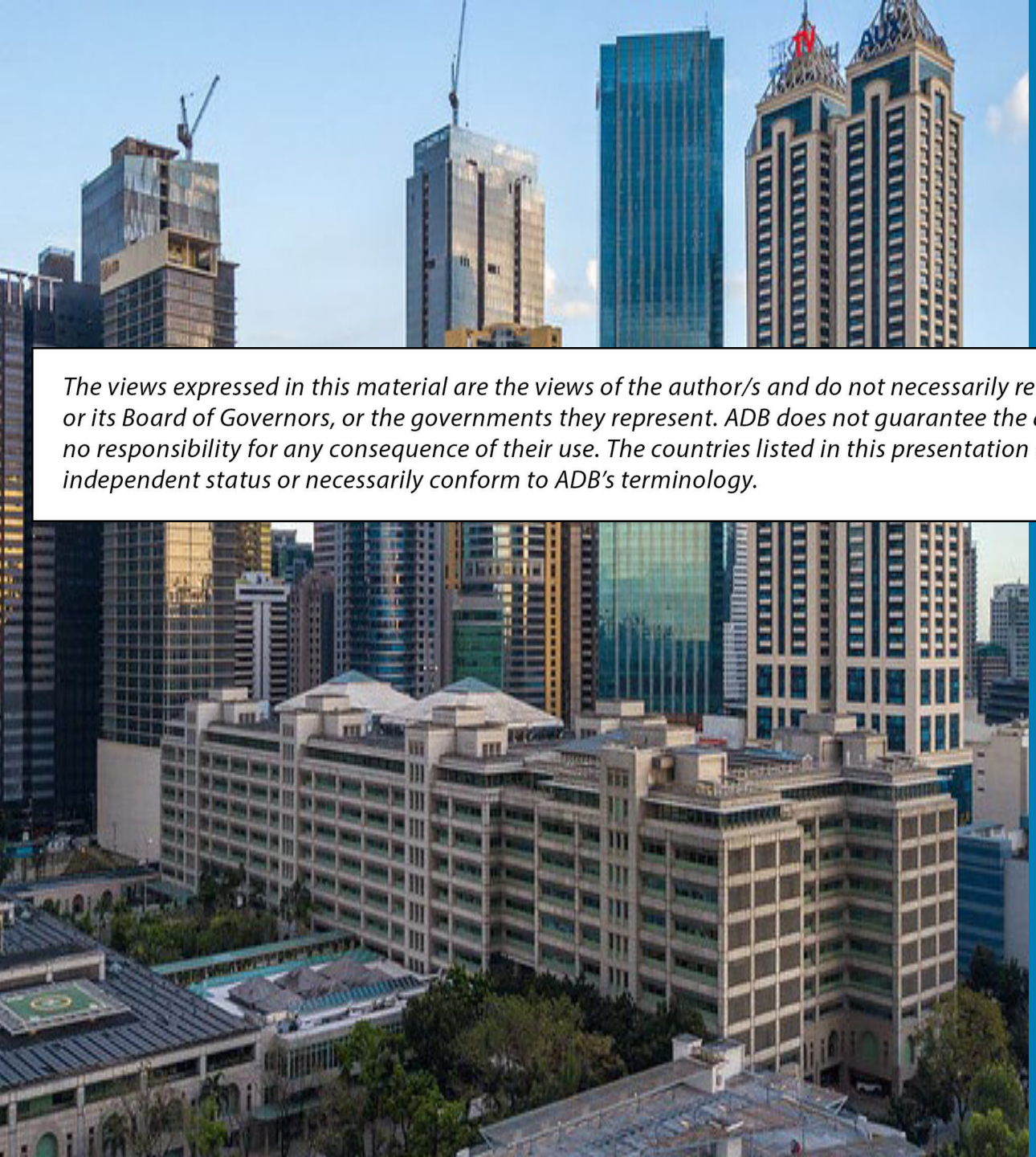

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ADB Health, Safety and Security (HSS)

Awareness Training Course

ADB

Training on Health and Safety in Pakistan

19–22 August 2024 • Islamabad, Pakistan

ADB

DAY 2

MODULE 3
Workplace Health & Safety

Understand your responsibility to keep yourself and others safe at work.

Identify safe working practices.

ADB

Roles and Responsibilities of Health & Safety Risk Management

Employers' Responsibilities

- worker safety
- machinery, work areas, and equipment kept in a safe condition
- provide training
- provide a safe workplace & PPE
- incident reporting, investigation & Corrective Actions

Employees' Responsibilities

- Everyone is responsible for their own safety and the safety of others...
- Follow OHS programs
- Identify and control hazards

Stop Work Authority

Every worker has the right to stop work where there is an unreasonable / unmitigated HSS risk – without fear of reprisal !

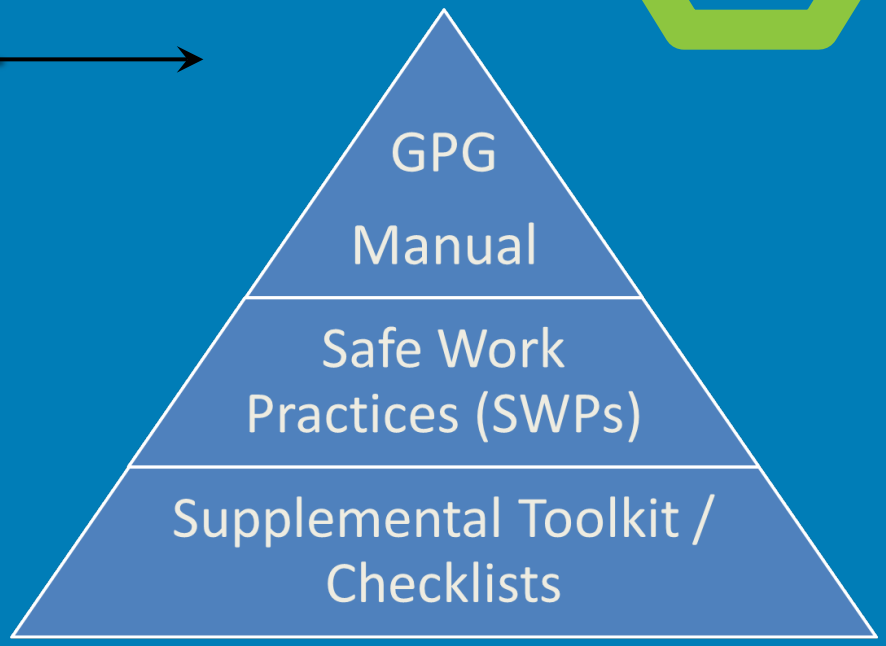
ADB HSS Good Practice Guide (GPG)

Safeguard Policy Statement

Peer reviewed by the UK based: "**Institution of Occupational Safety & Health" - IOSH**

Outline of Draft HSS GPG

Chapter No.	Chapter Title	Topics Covered
1	**Introduction**	• describes the ADB commitment to occupational and community health and safety (OCHS) • identifies OCHS receptors • introduces the concepts of safety culture and life-saving rules • outlines OCHS roles and responsibilities • addresses OCHS monitoring and improvement
2	**OCHS Risk Management**	• outlines a comprehensive approach to OHS Risk Management, lending its application to the full scope of activities to be carried out by borrowers, clients, and contractors • clarifies the differences between hazards and risks • education and awareness for general application of risk management principles applicable to the management of risk in any form it may present itself • introduces the plan-do-check-act cycle for risk management • introduces the concept of using a risk matrix to rank risks • common risk management techniques at various levels • risk mitigation and the hierarchy of controls
3	**Workplace Safety**	• OCHS rights and responsibilities of employers, employees and contractors, and the workplace safety responsibility system • common occupational hazards, worksite safety, health and industrial hygiene, OCHS training and awareness, personal protective equipment, and proactive HSSE promotion • contractor management with audits and inspections to ensure compliance verification • safety protocols which are not sector specific and can be found useful for workers (employees/contractors) in many sectors
4	**Community Health and Safety (CHS)**	• interactions between the workforce and local population with a discussion of CHS application through the various project phases • review of CHS risk assessment through mitigating accidental and natural hazards • infrastructure and community service safety • community disaster and emergency preparedness and response
5	**Site Security**	• security standards • security planning and risk assessment for project sites • assessing and managing security risks and impacts • project security measures • fragile conflict affected states
6	**OCHS Incident Reporting and Investigation**	• borrower reporting requirements under loan agreements • common incident classifications • initial response to injuries and incident notification • necessity of incident investigations and reporting • recordkeeping practices
7	**Emergency Preparedness and Response**	• Incident Command System (ICS) and emergency response principles • emergency classification • roles and responsibilities • emergency preparedness and emergency response plans and bridging documents • communication and response activation, exercises, and drills • public health risks and pandemics



Sample format of HSS GPG Manual

More information on ICS roles and responsibilities is found in section 7.6 of this chapter.

7.4 Emergency Response Principles

In an emergency, allocate resources to maximize the effectiveness of the response and minimize the negative effects. ADB borrowers should, at a minimum, be committed to the following measures:

- providing first aid access to the injured, and initiating third party medical aid when needed;
- promptly contacting outside agencies for assistance when needed;
- ensuring regular worksite emergency drills occur to continuously improve the on-site ability to respond to incidents;
- following an effective ICS to ensure all workers are aware of their role in the event of an emergency;
- minimizing damage to communities, equipment, assets, public and private property;
- supporting and bridging to contractor emergency management systems as necessary;
- preserving records and evidence for use in post-incident investigations;
- effectively using the combined resources of contractors, the government and other external services; and
- providing factual information to news media and other stakeholders on a timely basis.

7.5 Classification of Emergencies

This chapter uses a simple outline to define three levels of emergencies. Other emergency classification systems can be used if they are suitable for the project.

Level 1 – Any unplanned event that does not escalate into a serious hazard to life, property or the environment and that can be managed with onsite resources.

The response to Level 1 emergencies is described in Chapter 6 on Incident Reporting & Investigation.

Level 2 – Any unplanned and uncontrolled event that can escalate into serious hazard to life, property or the environment and is contained on-site, but which requires external assistance to manage.

Level 2 emergencies may escalate to Level 3 if control of the emergency is not imminent.

Level 3 – This is a crisis level event, that has serious effects on and outside the site, as well as the external resources typically utilized in a large scale emergency.

7.6 Emergency Roles and Responsibilities

The following table outlines the emergency preparedness and response planning roles and responsibilities of the key stakeholders in ADB-financed projects.

Role	Responsibility
ADB Project Director	• Responsible for ensuring that the project leadership understand the importance of emergency preparedness and have an ERP in place.
Borrower Implementing Agency (IA)	• Ensuring that an up-to-date ERP is in place and made available to all workers.

The first aid equipment on site should be suitable for the number of personnel, type of operation, and the degree of treatment likely to be required prior to transportation to medical facilities.

3.9.3 Competency Assurance

Competency assurance is the process of training, coaching, tracking, monitoring and assessing the competency of workers. Competent workers are more likely to perform their tasks successfully and to have fewer incidents. Competency assurance programs help to identify when workers need further training to do their jobs safely. Competency includes the health and safety aspects of a role as well as the operational aspects of a role.

Supervisors are responsible for coaching workers who are new to their positions or who are given new assignments.

Supervisors may notice that urgent training is required to ensure continued safety of a worker. In such cases, workers should be stopped from continuing in their tasks until they are trained and experienced enough to safely complete the task without direct supervision.

Training provision can be internal or external.

Internal training can be provided by experienced personnel within the organization, skilled in the area of responsibility. Internal OHS training can be in the form of job shadowing, on-the-job-training (OJT), demonstrations, written work instructions, or other form of instruction as deemed appropriate by a Safety Advisor.

External training can be provided by an outside subject matter expert. External training may be selected by the Safety Advisor on the basis of experience with the provider, references to the provider by others, consultation with Supervisors, provider certifications, price, and other factors.

Training should be scheduled and delivered in a timely manner that fits with the operation. Training may be scheduled off-site or on-site. At the end of any training process, the Supervisor forwards copies of any certificates, diplomas, training cards, or attendance sheets to the Safety Advisor and/or HR for record keeping.

All records related to worker training should be retained on file for a period of not less than five years unless otherwise specified by contract or applicable jurisdiction.

3.9.4 Training Matrix

A training matrix keeps track of worker training experience and qualifications. Each member of the workforce is listed on the training matrix along with a record of the training they have received, and whether the qualification is still valid, expiring, or past expiration. The matrix allows for quick identification of training gaps or required refresher training.

3.10 Personal Protective Equipment

PPE is equipment that protects workers exposed to workplace hazards. PPE should always be used in conjunction with other facility controls and safety systems. Examples of PPE items include gloves, helmets (hard hats), goggles, high-visibility clothing, harnesses, and other gear. PPE is the last resort after all other forms of protection in the hierarchy of control have been implemented (PPE is the last line of defence).

Detailed guidance on PPE is provided in Appendix 2.

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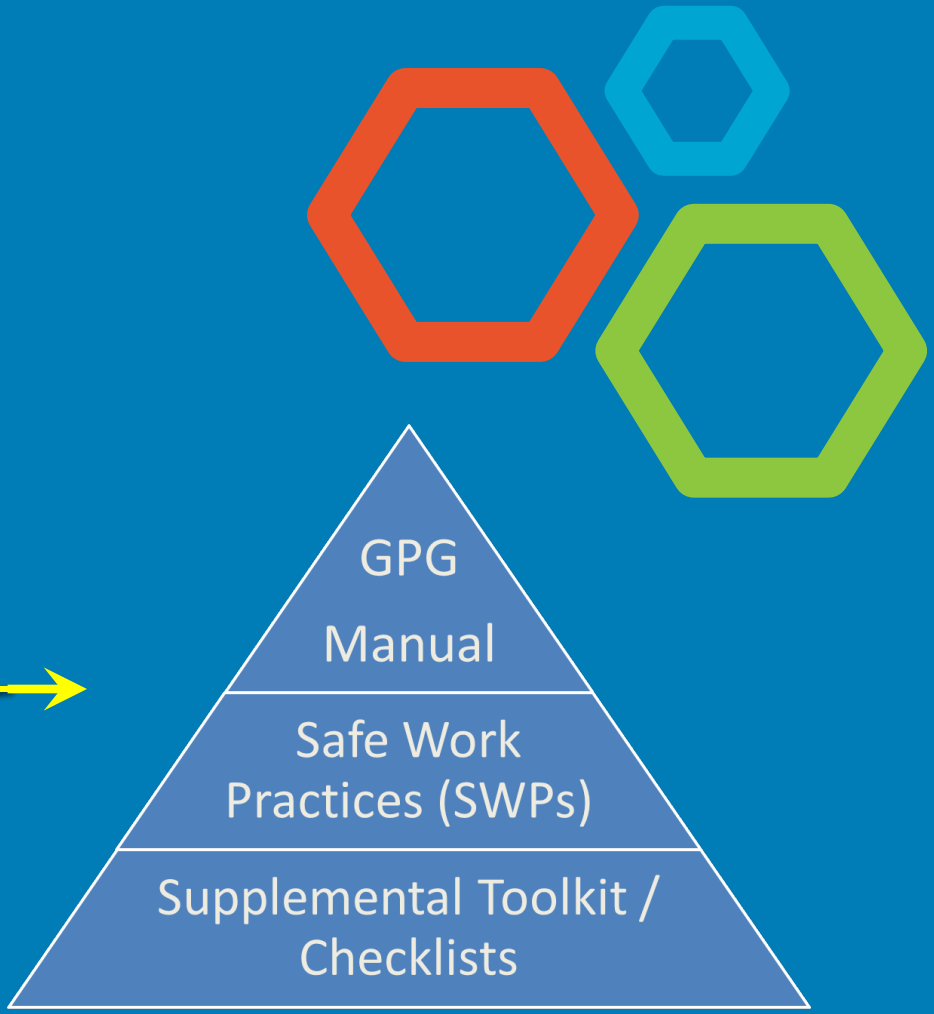
- Industrial Hygiene
- Work at Height
- Chemical and Hazardous Materials
- Confined Spaces
- Hotwork
- Excavation, Trenching and Backfilling
- Mechanical Lifting and Rigging
- Scaffolding
- Energy Isolation/Lockout-Tagout
- Permit to Work
- Housekeeping / Worksite Sanitation
- Hand and Power Tool Use
- Working Alone
- Heavy Equipment Operations
- Manual Lifting
- Vehicle Safety and Traffic Control

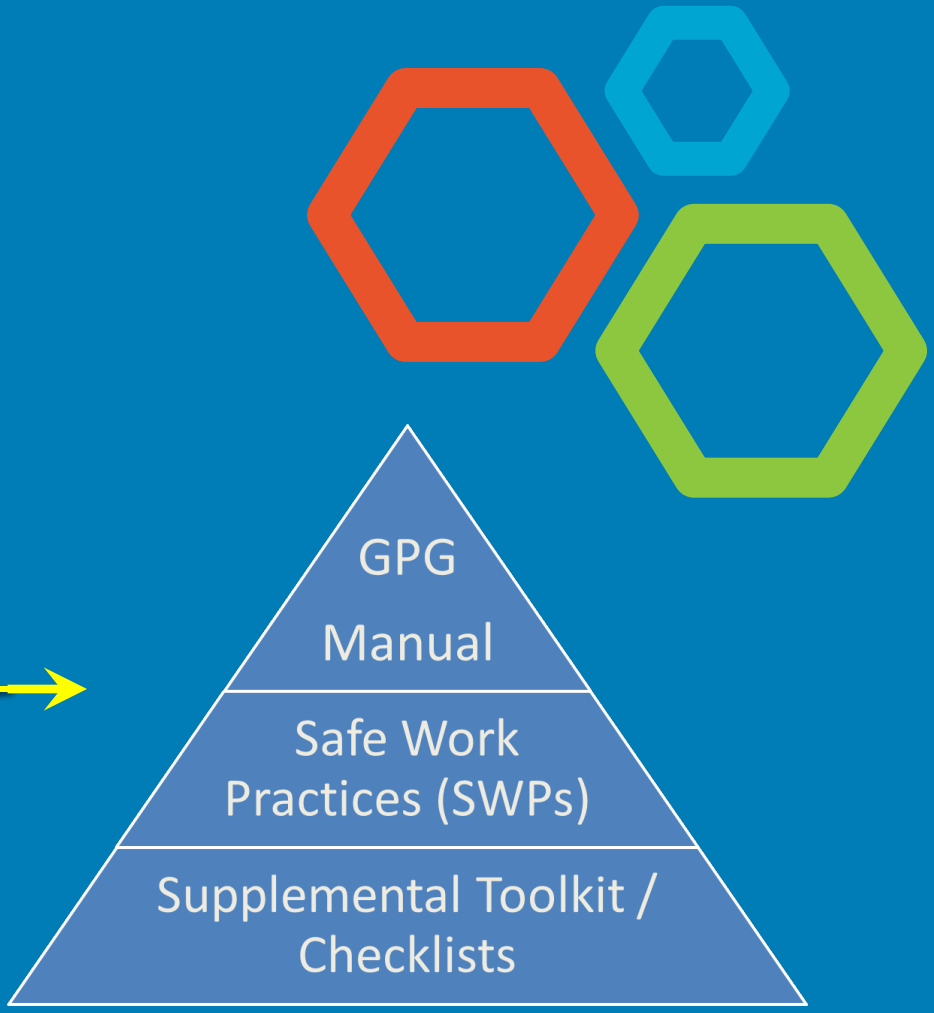
List of ADB Draft Safe Work Practices



ADB

- Emergency Response
- Security Measures
- Fire Plan Guidance
- Waste Management
- Disease Prevention
- Indoor Air Quality
- Coldwork
- Office Safety
- Working in the Warehouse/Yard
- Wildlife Encounters and Avoidance
- Marine Work Operations
- Compressed Gas Cylinders
- Working Around Open Holes
- Use of Portable Fire Extinguishers
- Abrasive Blasting
- Industrial Painting

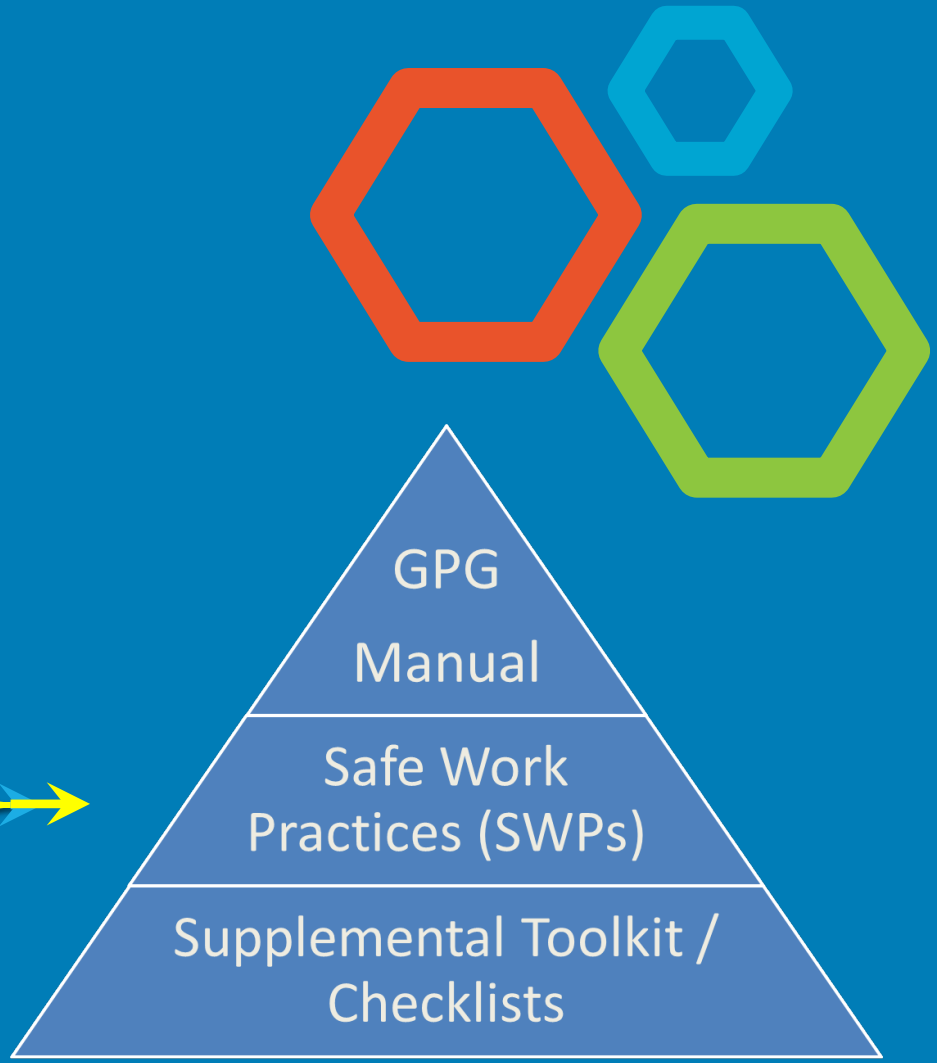
List of ADB Draft Safe Work Practices



ADB

- Site Safety Inspection
- Work at Height
- Hot Work
- Cold Work
- Permit to Work
- Lifting and Rigging
- Scaffolding
- Lockout-Tagout
- JSA/TRA/FLHA
- Confined Space Entry
- Incident Notification
- Incident Root Cause Analysis
- Corrective Action Template

List of ADB Draft Checklists



ADB

Safe Work Practice

General site safety checklist

GENERAL SITE SAFETY CHECKLIST

For detailed guidance on safety requirements, refer to the relevant ADB safe work practices (SWPs).
Mark "N/A" in the YES column for any line items that are Not Applicable for the area being inspected.

Project:		**Location:**	
Date:		**Inspector:**	

GENERAL SAFETY	YES	NO
Is the site health and safety plan available to workers?		
Is the site properly secured at all times of the day and the night?		
Is the work site tidy and orderly?		
Is there enough light for workers to perform work safely?		
Is an emergency response plan available to workers?		
Are there clearly indicated muster points on the site?		
Is a site traffic safety plan in place?		
Is adequate potable drinking water available on site?		
Are there sufficient, clean lavatory facilities on site?		
Are worker rest and eating areas provided where workers are not exposed to hazards?		
Is worksite signage appropriate and sufficient?		
Is a record of worker training available?		

PERSONAL PROTECTIVE EQUIPMENT	YES	NO
Are workers wearing high-visibility safety clothing?		
Are workers wearing safety glasses or goggles?		
Are workers wearing safety footwear?		
Are workers wearing hard hats?		
Are workers wearing hearing protection where required?		
Are workers wearing appropriate gloves or other hand protection for their tasks?		
Are workers wearing respiratory protection where required?		

WORK AT HEIGHT	YES	NO
Are ladders safe and inspected as appropriate?		
Do extension and straight ladders extend >1 metre beyond the landing area?		
Are workers using three points of contact when climbing ladders?		
Are appropriate fall protection devices being used where required?		
Is scaffolding safe and inspected as appropriate?		
Is scaffolding designed by a qualified person?		
Is scaffolding tagged?		

HAZARDOUS MATERIALS	YES	NO
Are safety data sheets available to all workers?		
Are all hazardous materials appropriately labeled?		
Are all hazardous materials appropriately stored?		
Are spill kits available for hazardous material spills?		
Are compressed gas cylinders stored upright and properly secured?		

EXCAVATION	YES	NO
Is a competent person on site when excavation / trenching work is occurring?		
Are ladders in place for excavations deeper than 1.2 metres?		
Is protection from cave-ins in place for excavations deeper than 1.5 metres?		
Is any sloping or benching appropriate for the soil type?		
Is a daily inspection carried out for all excavations on site?		
Is ventilation in place in excavations where combustion equipment is used?		

Safe Work Practice

Hot work checklist

SAFE WORK PRACTICE:
HOT WORK

ADB

APPENDIX 1: HOT WORK CHECKLIST

DATE: _____ **LOCATION:** _____

Person Performing the Hot Work	**Initials**
I have completed a hazard inspection of the worksite **in a minimum 10 m (33 ft) radius**, to ensure that there is no hazard from direct or indirect heat transfer by spark or open flame. Including but not limited to the following areas (as applicable): • above the worksite • behind the worksite • on top of the worksite • below the worksite • in front of the worksite	
I have completed a hazard inspection of the worksite **in a minimum 10 m (33 ft) radius**, to ensure that there is no hazard from direct or indirect heat transfer by spark or open flame. Including but not limited to the following areas (as applicable): • void spaces between ceilings • bulkheads • pressurized pipework or hoses • pressure vessels • paint lockers • electrical cables • deck plates • fuel tanks • vents	
I confirm that all electrical cables, pressurized pipework or hoses, fuel tanks or pressure vessels have been isolated and/or purged, or have been removed or shielded (e.g., **energy isolation**).	
I have inspected all welding equipment, accessories, and tools to be used for the hot work, and confirm that they are fit for purpose.	
If adjacent areas that may be affected by the hot work cannot be monitored by one person, then additional Fire Watchers have been assigned. Yes ☐ N/A ☐	
I confirm the following requirements (as applicable): PTW is required: Yes ☐ N/A ☐ Isolation is required: Yes ☐ N/A ☐ CSE is required Yes ☐ N/A ☐ Work can be conducted in a safe welding area: Yes ☐ N/A ☐	
A competent gas tester has confirmed the area is clear of flammable gas or explosive atmospheres. Explosive Gas Reading: _____ **% LEL** (LEL Limit 0 – 10 for general CSE; <1 for hot work CSE)	

We have identified the hazards associated with the proposed work.
We will implement the control measures before and during the work.
WE WILL CALL A TIME OUT IF THIS WORK PLAN OR THE HAZARDS CHANGE.

	Name	**Sign**
Supervisor		
Fire Watcher		
Relieving Fire Watcher		
Persons Performing the Work		
PTW # (if applicable)		
Energy Isolation Certificate # (if applicable)		

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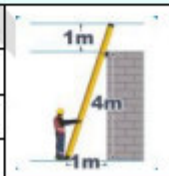
Safe Work Practice

Work at height checklist

SAFE WORK PRACTICE:
WORK AT HEIGHT

ADB

APPENDIX 1: WORK AT HEIGHT CHECKLIST

Name:	Signature:	Date:	
		YES	NO
Determine whether a permit to work is required, and if so, obtain it.			
Complete a written fall protection and rescue plan when working over 7.3 metres or 21 feet.			
Are all workers competent and trained for work at height?			
Is the equipment positioned on a level, stable surface?			
Has proper barricading been put in place?			
Is the equipment in good condition with a suitable load rating, and made from acceptable material?			
Is the work being conducted at a safe distance from high voltage cables?			
Ladders			
The ladder is tied off or a co-worker is holding the ladder.			
The top of the ladder extends 1 metre above the edge of the work.			
The ladder is at a suitable angle (3-4:1 ratio)			
There is a minimum overlap of 1 metre for extended sections.			
Power Elevated Platforms			
The platform annual inspection certificate is available and current.			
The man basket has been inspected for safety.			
A daily inspection is completed prior to use.			
In a bucket lift, workers are tied off at all times to an engineered point with a lanyard and shock absorber. In other lifts, workers are tied off with a maximum 2-metre lanyard without a shock absorber when in motion.			
Scaffolds			
Fall protection is used when erecting or dismantling scaffold at heights over 1.8m.			
Proper top guardrails, mid rails, and toe boards are installed.			
The working platform is fully decked, properly secured, and/or cleated.			
Each level is locked in place before installing the next level.			
Tie-ins are installed when the total height to base ratio exceeds 3:1.			
Scaffolds are erected by competent personnel and are tagged prior to use.			
Access to the scaffold is only made using a properly installed ladder or stairs.			
No work is permitted under the scaffold - only authorized workers in the work area.			
Equipment is lifted and lowered by rope, hoist, or worker-to-worker.			
Work Within 2.0 Metres of an Unguarded Edge			
Approved safety harnesses, lanyards, and/or lifelines are being used with suitable anchor points.			
All workers are wearing harnesses and are tied off at all times.			
The fully extended lanyard will prevent the worker from striking the ground (fall arrest).			
Lanyards are used to prevent workers from reaching the unguarded edge (fall restraint)			
Installing proper top guardrails, midrails, and toe boards has been considered.			

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PPE – the last line of defense !

Head Protection

Purpose

Safety headwear protects workers from:

1. impact from moving or falling objects
2. splashes from harmful substances
3. contact with energized objects and equipment

Recommendations

4. Use safety headwear that meets an international safety standard.
5. Use safety headwear made up of two parts:
6. the shell (light and rigid to deflect blows), and
7. the suspension (to absorb and distribute the energy of the blow).
8. Do not alter safety headwear in any way, such as drilling holes, carving, etching, or painting them, which can reduce its protection qualities.
9. Adjust and maintain the suspension system to ensure that the hat shell does not touch the head.
10. Replace safety headwear every five years, even if no damage has occurred, and replace immediately after any severe impact.
11. Use a chin strap when working in high wind conditions or any other situation that could cause the safety headwear to fall off.
12. Never use varsol or other organic solvents or degreasers on the plastic surfaces of safety headwear.

Hearing Protection

Purpose

Hearing protection prevents high levels of sound energy reaching the inner ear.

Recommendations

1. Use hearing protection that meets an international safety standard.
2. If workers cannot carry on a conversation at a normal level of voice when they are standing one metre apart, hearing protection should be used. However, any sound over 80 dB requires hearing protection, depending on the amount of time the worker is exposed.
3. Use barricades and signage to identify areas where workers must wear hearing protection.
4. Clean earplugs or muffs to prevent ear infection.
5. Do not reuse single use earplugs as this increases risk of ear infection.
6. Dry cotton batting, wax-impregnated cotton batting, and earplugs with metal inserts **do not work** to protect against hearing loss.
7. Earmuffs are more effective than earplugs.
8. Earplugs can become loose due to talking or chewing, so periodically re-insert the earplugs.
9. Hypo-allergenic earplugs are available if required.

Safety Clothing

Purpose

Safety clothing helps keep workers visible and protects their body from various kinds of exposure that can occur at the work site, such as (but not limited to):

1. exposure to fire,
2. exposure to splashing hazardous liquids,
3. exposure to temperature extremes,
4. body impacts from falling or moving objects, and
5. cuts from sharp objects or abrasive materials.

Recommendations

6. Safety clothing that should be considered based on job exposures and hazard types includes:
7. flame and chemical resistant clothing,
8. boot covers and overshoes,
9. specialty hand pads and grips,
10. leather aprons and leg protection,
11. leg, chin, arm, and belly guards, and
12. full body protective suits.
13. Workers should never wear synthetic fabrics where explosions or fires could occur.
14. Loose and dangling clothing is a safety hazard and is not permitted at work sites.
15. Safely dispose of any clothing that becomes contaminated with hazardous chemicals.
16. Wear high visibility vests at the work site.

Eye Protection

Purpose

Eye protection prevents eye injuries resulting from:

1. flying objects and particles,
2. splashing liquids, including molten metals, and
3. ultraviolet, infrared, and visible radiation.

Recommendations

4. Eye protection is available in two formats: basic eye protection and face protection.
5. Basic eye protection includes eyecup and monoframe goggles and spectacles with or without side shields.
6. Face protection includes plastic face shields that are chemical and impact resistant, metal face shields, welder's shields and filter plates and lenses.
7. Use eye protection that meets an international safety standard.
8. Eye protection should usually be worn at all times on a work site, but especially when doing any work that produces flying or falling particles.
9. Safety goggles must be worn near sandblasting operations or when moving chemicals.
10. Welders must use welding helmets with shaded lenses. Welder helpers must wear safety glasses and a full-face shield.
11. To prevent fogging of eye protection devices, use antifogging solutions on lenses.
12. Do not wear contact lenses at the work site.

Training and Awareness

Training should include:

- Regulatory requirements
- Site Orientations HSS topics
- Hazards and Controls (SWPs)
- Emergency Response
- Certifications & Competency Assurance
- “OJT” & Supervision

Safety Training Matrix – by Position

Training/Competency	First Day Critical Issues	Safety Orientation - Office	Safety Orientation - Field	Emergency Response - Office	Emergency Response - Field	Emergency Response - Laboratory	Emergency Response - Shop	Gas Monitor Training	Incident Investigation	Fit Testing	PPE Training	Client Site Orientations	Hazard ID / Pre Job Hazard Analysis	Safety Inspection	Spill Response	Load Securement / Hours of Service	CES Mud School	TDG Training	WHMIS	Common Safety Orientation (formerly PST)	H2S Alive	Standard First Aid & CPR	Bear Awareness	Confined Space Entry	Fall Arrest	Journeyman Certificate	Forklift Training	Ground Disturbance	Drivers License	1A License	Advanced Driver Training	All-Terrain Vehicle Training	Cargo Tank Inspection & Testing	SGI Accreditation	Level 1 OHS Committee Training	Level 2 OHS Committee Co-Chair Training	Drug & Alcohol Supervisor Training
Frequency (Years)	L	L	L	A	A	A	A	3	C	2	3	A	L	L	3	3	A	3	3	L	3	3	L	3	3		3											
Positions																																						
Mud Technicians	M		M		M			M		M	M	M	M	M	S		M	M	M	M	M	M	M						M		S							

C = Coaching
A = As Required
L = Lifetime

Mandatory = M
Situational = S

Health and Safety Committees

- Provide a forum for discussing OHS issues
- Terms of Reference
- Management & Worker Reps
- Minutes – Action Tracking