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Project Barricades and Signs Procedure



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Project Barricades and Signs Procedure

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Project Barricades and Signs Procedure

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Project Barricades and Signs Procedure

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Project Barricades and Signs Procedure

1.0 PURPOSE

This procedure describes the installation and maintenance of barricades and key essential types of safety signs, projects and work entities will restrict entry into and/or provide warning about areas that contain safety hazards, abnormal conditions, or in which unusual operations are being performed.

It is important to remember that safety signs are intended to warn people of any residual risk following a proper Risk-Control process and not as a substitution for other means on the hierarchy of controls.

2.0 SCOPE

The scope of this procedure applies to all works performed under the National Project Management Organization throughout the Kingdom of Saudi Arabia.

3.0 DEFINITIONS

Definitions	Description
Barricade	System designed to warn of a hazard and physically identify the hazard's parameters. Barricades (also referred to as barriers) can be "soft" or "hard" in construction, depending on the intended use and the nature of the hazard being protected
Tape barriers (soft barricades)	Typically, a color-coded plastic tape that provide temporary warning or restricted access and must not be used as edge protection.
Solid barriers (hard barricades)	A solid barricade is a wooden, metal or similar material guarding device, capable of withstanding a 90.7kg force from any direction, that is placed around a floor/ground hole or floor/ground opening to keep persons from walking into said hole or opening during anytime the hole or opening cover must be removed. Hard barricades are used to protect against exposure to long-term hazards, restriction of access, and/or fall protection.
Signs (or tags)	Signs are used in conjunction with barricades to provide specific warnings and/or other essential information about the hazard(s) that exist beyond the barricade.
OSHA	Occupational Safety and Health Administration
CFR	Code of Federal Regulations

4.0 REFERENCES

- OSHA 29 CFR 1926 Subpart G Signs, Signals and Barricades.
- EPM-KSS-PR-000032 Project Excavation and Trenching Procedure
- EPM-KSS-PR-000028 Project Floor and Wall Openings Procedure
- EPM-KSS-PR-000037 Project Powder Actuated Tools Procedure
- EPM-KSS-PR-000001 Project General Safe Working Requirement Procedure
- EPM-KSS-PR-000022 Project Non-Destructive Examination Procedure

5.0 RESPONSIBILITIES

5.1 Project Manager

Project Manager's responsibilities include the following:

- Overall responsibility for this procedure and for supporting this process and verifying all Project entities actively participate.
- Providing the personnel, facilities, and other resources necessary to effectively accomplish this procedure.



5.2 Site Construction Manager

The Site Construction Manager is responsible for monitoring that the site is in compliance with applicable Health, Safety, Security and Environment HSSE requirements by:

- Providing the resources to implement the requirements of this procedure.
- Communicating with management concerning Project HSSE expectations concerning barricades and signs expectations.
- Providing leadership regarding HSSE requirements and expectations for Managers, Project Supervisors, Superintendents and other leadership.

5.3 HSSE Manager

Site HSSE Manager's responsibilities include the following:

- Auditing this procedure.
- Confirming that this procedure meets the government requirements and regulations in the location of the Project facility.

5.4 Project Personnel

Project personnel's responsibilities include the following:

- Knowing and understanding the Environmental Safety and Health requirements of this Procedure that apply to the work they perform.
- Requesting additional information and further clarification before starting work if personnel receive assignments they do not understand.
- Complying and abiding by this Barricades and Signs Procedure for any work they perform.

6.0 BARRICADES

6.1 General Requirements

- Imminent danger areas will be barricaded using appropriate red and black (or international equivalent) barrier tape. Only personnel working to eliminate a problem may be inside a barricaded area. Entry by other personnel is prohibited.
- Where hazards are expected to exist for more than 24 hours (e.g., excavations), a physical barricade shall be erected using wooden or metal guardrails. A tag or sign shall be attached or posted to indicate the hazard, the supervisor responsible for the area and other pertinent warnings.
- Permanent barricades will surround permanent hazard areas. Gates will be provided. Permanent warning signs will be used to adequately mark the hazard.
- Physical hazard areas will be barricaded using appropriate "CAUTION" yellow and black (or international equivalent) barricade tape. Personnel may go through these areas with caution after they have recognized the hazard and are signaled to proceed by an individual controlling the hazard.
- Protective barricades provide physical protection from falling as well as serving as a warning. The barricades are generally made from wooden 5cm x 10cm material, but can be scaffold parts or 13 mm cable stretched tight between steel with turnbuckles. The barricades must be capable of supporting 90.7kg of sideways force.
- A sign or tag will be used to provide personnel outside of all barricaded areas with important safety information. (Example below) The supervisor responsible for the area must post the sign or tag so that it can be read from all potential access points.
- The swing radius of equipment will be barricaded as an imminent danger area when the superstructure is capable of rotating.



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Example of Safety Tags



6.2 Wood Guardrails

- The top rail must be made from a 5cm x 10cm board arranged such that the top of the 5cm x 10cm is 107cm from the floor or platform level.
- A mid-rail made from a board 5cm x 10cm must be located at the midpoint between top rail and floor or platform level.
- A toe plate must be used on all guardrails for floor holes, floor openings, or wall openings. It will be made from a 2.5cm x 10cm or board 5cm x 10cm, or their equivalent, and will be installed to prevent material from passing.
- The vertical support posts for guardrails must be made from boards 5cm x 10cm with spacing not to exceed 3.4m.

6.3 Metal Guardrails

- Metal handrail material for a guardrail must be 3.8cm nominal size or larger.
- The top rail must be located 107cm from the top of the rail to the floor or platform level.
- The mid-rail must be 3.8cm nominal size or larger and located midway between the top rail and floor or platform level.
- A toe board made from .64cm x 15cm flat metal plate must be installed at the floor or platform level.
- Vertical support posts must be 3.8cm nominal size or larger and located at distances not to exceed 3.4m.

6.4 Erection of Barricades

- The employees initiating the work are responsible for erecting the barricades around the work area. All employees working inside a barricade are responsible for maintaining the barricade.
- If employees erecting a barricade vacate the area, they should make sure that any remaining employees know who is now responsible for the barricade.
- Barricades should be 107cm high. If proper construction stanchions are used, this height will be achieved. Barricade tape should be tied to stanchions and not to instrument lines, valves, etc.
- Barricades must be complete. The work area shall be entirely isolated and identified. Permanent structures that prevent entry may be used as part of the barricade. The barricaded area will be of sufficient size to afford appropriate protection. If this condition cannot be met, consideration must be given to keeping materials from falling or protruding outside of the barricaded area. A general rule for barricade erection is: 30.5cm out for every 61cm up. If that is not possible, the supervisor should be contacted for help.
- A barricade should not block emergency equipment, such as plant fire extinguishers, safety showers, etc. Where this is not possible, provisions must be made with plant area personnel.
- The blocking of a fire door with a barricade is prohibited.
- Separate construction barricades are not required when working within a permanent barricade. However, appropriate barricade signs will be posted.



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6.5 Road Barricades

- A Traffic Control Plan shall be developed prior to any works commencing. Road signage and lighting shall be erected as per the Traffic Control Plan.
- Barricades across or next to a roadway will be semi-permanent concrete barricades and signs, or equivalent.
- Flashing amber lights will be required at barricades left after dark to alert vehicle traffic to their presence.

Examples of Road Side Concrete barriers



6.6 Hazardous Chemicals

Signage is required to be placed around areas in which hazardous chemicals are stored. The placards required must state the class of chemical in place. See attachment 2 for placard signage. Also, further signage may be required based on the risk exposure. See section 6 of this procedure for more information.

6.7 Radiography Barricades

- The radiography work area will be barricaded, at least to a difference of 2 millirems (mr) or less level.
- All entries and exits will be blocked and warning signs posted at the barricaded areas.
- Except for the radiography crew, personnel will not be allowed to enter the barricaded area.

Examples of Radiography Signage





6.8 Excavations

- Soft barricades must be erected no closer than 1.8m from the edge of the excavation open for more than one shift the excavation must be hard barricaded
- If excavation is deeper than 1.2m, hard barricades are to be used and must be capable of supporting 90.7kg of sideways force.

7.0 SAFETY SIGNS

7.1 General Requirements

The signs depicted in this procedure are grouped as follows:

- Prohibition
- Mandatory
- Warning
- Danger
- Emergency
- Fire
- Exit

A sample sign of each type is demonstrated in attachment 1.

- Consideration should be given to signs exposed to high levels of ultraviolet radiated light (i.e., desert conditions), as the signs and warning tape will fade.
- Signs and warning tape shall be regularly cleaned and replaced when damaged.
- All emergency exits, passageways, fire doors, first aid stations, eye wash stations and emergency muster points shall be highlighted with safety condition signs.
- Warning signs shall be erected and displayed for fire hazards, electrical equipment, openings, overhead working, noisy areas, utilities, overhead power lines, and other hazards.
- Mandatory signs shall be provided for enforcing the use of personal protective clothing and equipment and providing specific instructions appropriate to the task or condition.
- Prohibition signs will be displayed for restricting access or entry, no smoking areas, no parking, and any other unauthorized acts.
- Fire signs shall be provided at areas where fire equipment has been sited (e.g. fire extinguishers, fire hydrants/points, fire blankets, etc.).
- Signs will be erected on construction areas perimeters and entrance gates containing information about site entry requirements in dual language Arabic and English.
- Signs shall be erected in a way that does not cause a hazard by itself, example: cause a blind spot.
- Considerations must be given to potential wind-load on the erected sign, signs must be of rigid construction.
- Safety signs must be maintained to perform the function which they were intended to. They may include regular cleaning, lighting maintenance, etc.

7.2 Site Perimeter and Access Point Signs

Security of construction and laydown areas is paramount, therefore both areas require to be fenced with secure access points. Both laydown and construction sites entrances must display a display board with as a minimum the following signage (in the national language of the host country and English):

- Authorized Personnel Only
- Hard Hats Required
- Eye Protection Required
- Safety Footwear Required



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- Hearing Protection Required
- Drivers Report To _____
- All Personnel Report to Security

Examples of Perimeter Type Fencing



Example of signage at entrance to site



Example of High Level Security Fence



Example of Fencing blocking out view



Medium to High Level Construction Site Fencing

8.0 ATTACHMENTS

1. Signage Example by Category
2. Hazardous Substances Class Signs



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Attachment 1 - Signage Example by Category

Prohibition - Prohibiting an action or behavior that is likely to cause harm			
 SMOKE FREE BUILDING	 AUTHORISED ENTRY ONLY	 DO NOT DRINK	 DO NOT USE MOBILE PHONES
Mandatory - Prescribing a specific compulsory requirement			
 HEAD PROTECTION MUST BE WORN	 EYE PROTECTION MUST BE WORN	 HEARING AND EYE PROTECTION MUST BE WORN	 HAND PROTECTION MUST BE WORN
Warning - A sign alerting of an existing hazard or danger			
 NON IONISING RADIATION RISK	 HIGH VOLTAGE	 LOW HEADROOM	 SLIPPERY SURFACE
Danger - An indication that a hazardous situation exists that could cause harm			
 DO NOT ENTER	 FLAMMABLE MATERIALS	 DEEP EXCAVATION	 AUTHORISED PERSONNEL ONLY
Emergency/Fire/Exit - Signs stipulating locations			
 EMERGENCY EYE WASH FOR CHEMICAL SPILLS, RINSE FOR 15 MINUTES. MEDICAL TENDENCY	 FIRST AID	 FIRE EXTINGUISHER	 EMERGENCY EXIT ONLY



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Attachment 2 - Hazardous Substances Class Signs

			
			
			
			