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PROCEDURE

Work Permit System

REVISION HISTORY

Revision No.	Issue Date	Amendment Description	Date Effective	Date to be Revalidated
00	06-Jan-2006	First Issue	06-Jan-2006	04-Jan-2006
01	04-Jan-2008	Revised; Introduced new logo and name	06-Jan-2006	04-Jan-2011
	04-Jan-2011	Checked & found OK	04-Jan-2011	31-Mar-2014
02	07-May-2014	Revised; Reflected changes as per the OSHAS Standard	07-May-2014	02-Oct-2016
03	02-Oct-2016	Revised; New Permit forms, added Permit to Work Process Flow and changed point no. 4.2.4	02-Oct-2016	01-Oct-2019
04	09-Nov-2016	Complete Revision with reference to QP and HSE (UK) Guidelines and Existing Practices	09-Nov-2016	08-Nov-2019
05	08-Jan-2018	Complete revision with gap analysis and participation by user departments. Upgrade to permit forms, process flow and alignment with Isolation procedure	08-Jan-2018	01-Feb-2020
1.00	01-Feb-2020	Major revision based on Q Companies practices, Revision in Permit Forms, Revised hot work permit requirement Responsibilities added for Fire Watcher	01-Feb-2020	31-Jan-2023
1.01	01-Nov-2021	• 3.0 ‘Scope’; generalizing of the external owned/ managed facilities. • Revision of 4.2 ‘Definitions’; Facility low risk routine activities: Conditional PTW exclusion. • 4.2 ‘Definitions’; cold work permit; Electrical emergency cases. • 4.4 ‘competency selection’; interview assessment requirement. • 4.4 ‘Authorized Signatories for Authorized Contractors’: conditional authorization of field operators.	01-Nov-2021	31-Oct-2024

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1. INTERNAL CONTROLS

1.1 Review of Procedure

To assure Managements, Shareholders and External agencies confidence in the company's policies & practices, QATAR STEEL Internal Audit may verify compliance with this procedure. [Department Owner] shall review this procedure every three years to ensure that it continues to serve the purpose intended.

1.2 Employee Responsibilities

All employees of the company are required to observe and abide with this procedure.

1.3 Approval

This procedure and any amendments made thereto; require the following approvals.

AUTHORITY	DATE
Approved By: Abdulrahman Ali Al-Abdulla Managing Director and Chief Executive Officer	16/11/2021
Checked By: Alexander Stramrood Manager – HSE Department	24.10.2021
Drafted By: Hussein Abo Zaid Manager – Rolling Mill Department	01.11.2021

This document has been reviewed by Document Controller. It complies with the requirements of policy 1.12.0.1.01.01 and it is considered ready for issue.

Signed by_____ **Date** 19 OCT 2021

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2.0 Purpose

The overall Purpose of Work Permit System is to provide a formal system to allow specified maintenance work inside Qatar Steel premises, to start, continue and get completed in a safe manner.

The Work Permit System ensures that personnel engaged in a specific activity are formally made aware of the hazards and risks involved in carrying out the assigned work to them. It highlights the precautions that have to be taken to ensure that the activity is carried out in a controlled and safe manner without any harm to the personnel, equipment and/ or the environment.

The Work Permit System is designed to ensure that work performed within Qatar Steel premises is recorded and conducted in a safe, coordinated and consistent manner.

Note: It is compulsory, but is not restricted to implementing of Work Permit but another relevant procedures must be followed to ensure the job is safely completed. Furthermore, a party shall not be relieved of responsibility for the safe performance of work simply because it has complied with this procedure.

3.0 Scope

This procedure addresses permit requirements for all types of work performed within Qatar Steel premises, along with the respective responsibilities of involved parties. For purposes of this procedure, all types of work are grouped into three broad classes: Hot Work, Cold Work & Confined Space Entry. Within these classes there are different types of work, including:

- Excavations.
- Maintenance work (mechanical, electrical, instrumentational, civil, etc.).
- Constructions and projects.
- Alterations / modifications i.e. removal of a safety guard, safety protections, safety devices.
- Process equipment cleaning activities.
- Working at height involving climbing on scaffolds, over 1.8 meters, for any activity other than visual inspection, laser temperature measuring and vibration monitoring. For example hand tool work, servicing of air conditioners and painting.
- Non-routine activities i.e. modification, civil work, mechanical, electrical or facilities work in buildings like workshops, warehouse, etc.)
- Radiography
- Qatar Steel port section land-based cargo operations (Stevedoring), underwater maintenance, marine construction.
- Maintenance activities at Doha Office and any owned / managed external facilities.
- The routine activities which belong to the manufacturing processes and administration office building.
- Department managers can decide on other activities requiring a work permit after careful consideration of the necessary control measures including a risk assessment. This have to inform the concerned department/section and their employees operating within the same area who may be affected with this decision.

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4.0 Procedure

4.1 Introduction

Working in steel plants involves hazardous material presents various risks. In order to provide safe-working conditions, a Work Permit System shall be followed. The Work Permit specifies the conditions and process for safe execution of the work and allows the work to be carried out under controlled conditions.

The basic purpose of the Work Permit System is to identify and assign the responsibility of each party for a safe execution of the work; i.e. prevent injuries to personnel, protect property from damage, avoid fire / explosion and ensure that the whole work is carried out in the safest possible manner.

The Work Permit authorizes specific work to be carried out in Work Permit Area (Qatar Steel premises) and serves as an official document of conditions and requirements as agreed upon between Issuing and Executing Authorities.

The conditions set out in the Work Permit are meant as general guidelines and shall not be assumed to cover every condition or circumstances that may be present or may arise during the course of work. The Permit itself does not make the job safe but shows to what extent the job has been made safe.

Issuers, Executors and their seniors are responsible and accountable to ensure strict compliance at all levels to all requirements of the work permit system.

4.2 Definitions

Area in charge - The Area in Charge is a person authorized by the Area Manager to be responsible for keeping his area and staff under his responsibility safe. Their responsibility includes Management of people, Processes, Materials, Equipment, Infrastructure, Contractors, Sub Contractors, Visitors & and the Environment.

Work Permit is a documented format that authorizes certain people to carry out specific work within a specified time frame/area. It sets out the precautions required to complete the work safely, based on a risk assessment.

Issuer must be a person who is trained, competent and authorized (Either by third party or qualified through Qatar Steel HSE training & Interview assessment) to issue a Permit to Work after ensuring that all the hazards associated with the job have been identified and all necessary safety measures are being implemented to ensure that the work can be completed safely.

Fire Watcher – Fire Watcher is a person who watches fire in all exposed areas and try to extinguish them only when the fires are obviously within the capacity of the equipment available. If the fire watcher determines that the fire is not within the capacity of the equipment, the fire watcher shall sound the alarm immediately.

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Executor must be a person who is trained, competent and authorized (Either by third party or qualified through Qatar Steel HSE training & Interview assessment) who is responsible for the work being executed as identified in the Permit to Work. The Executor must ensure that the work being done has been adequately described so that all associated hazards and risks can be identified.

Cold Work

Includes, but is not restricted to:

- Work on equipment or plant components that are under pressure or are energized in some form i.e. e.g. mechanical energy, electrical energy, hydraulic energy etc.
- Work on equipment or plant components that contain hazardous materials.
- Work on vessels i.e. Tanks, pressure vessels.
- Mechanical Isolations of pipe work, valves and associated vessels
- General construction.
- Work on de-energised electrical circuits or on energised circuits of 450 volts or less. Note: shop bench work will not require a permit.
- Work performed in the immediate vicinity of overhead power lines.
- Routine and Non-routine maintenance work.
  Note: the Facility routine low risk activities which are identified and approved by HSE doesn't require Permit to work.
- Visual Inspection

    - Permit to Work is required for all Non-routine inspections, routine inspections in abnormal conditions and routine inspections at high or medium risk conditions.
    - Permit to Work is not compulsory for the routine visual inspections and measurement activities i.e. laser temperature measurements and vibration monitoring do not require a work permit. However, for vibration measurement, the area in charge shall identify whether a work permit is necessary or not based on the area's HIRA.

Note: Routine Inspection activities are the inspection activities scheduled during normal plant operations and part of plant procedure.

- Electrical emergency cases (Power Failures) and electrical breakers resetting
    - The complete power failure in one or more plant doesn't require PTW for only power normalization activities, after confirmation that no permits issued for that Plant.
    - Permit to Work is required for resetting electrical circuit breaker of 450 Volt or above except the special cases which are comprehensively mentioned in procedure number 3.42.0.0.02.15.

Hot work

All the activities can create a source of ignition and that could result in a fire or explosion. Hot work activities include, but are not restricted to:

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- Welding and torch cutting.
- Spark producing tools such as grinders and chippers and power tools such as electric drills.
- Use of explosive materials.
- Use of non-intrinsically safe electrical or electronic equipment in high risk gas areas.
- Hammering in high risk gas areas - unless spark free tools are used.

Confined Space

Any place, not designed for human occupancy, including i.e any chambers, tanks, vats, silos, pits, trenches, pipes, sewers, flues, wells or similar spaces in which by virtue of its their enclosed nature, there arises a reasonably foreseeable specified risk.

Examples of confined spaces include, but not restricted to:

a)	Open or Closed Tanks;	b)	Vessels.
c)	Towers.	d)	Furnaces.
e)	Sewers.	f)	Sumps.
g)	Dry Wells.	h)	Ventilation and Exhaust Ducts.
i)	Flues.	j)	Vaults.
k)	Pipes.	l)	Boreholes.
m)	Chambers.		

Excavation

Excavation means a process of moving earth, rocks or other materials with tools i.e. hand Shovel, earth moving equipment/Machines or explosives. It includes earthworks, trenching, wall shafts, tunneling and underground work, using manual or mechanized methods.

Gas Testing

- It is a compulsory gas level check i.e. Oxygen content inside confined spaces prior and during the work, H_2S and Carbon Monoxide gas level check for confined spaces and hot works, and Lower Explosive Limit (LEL) in percentage for hot works.
- It has to be carried out by AGT (Authorized Gas Tester) from Issuing Authority before handing over the area to the Executing Authority.
- After handing over the area, a continuous gas monitoring is to be done by the Executing Authority using a portable gas detector.

4.3 Types of Work Permits and Authorization

There is one form of the Permit to Work with specific selection checkbox ☐ for "Cold Work Permit", "Hot Work Permit" or "Confined Space Entry Permit". The other associated Permits are also required depending on the nature of the work.

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a) **Cold Work Permit** is required for any work that does not involve use of or generate a source of ignition.

b) **Hot Work Permit** is required for any work that involves use of or generates a source of ignition capable of igniting a flammable mixture or combustible material.

c) **Confined Space Entry Permit** is required for accessing confined spaces.

d) **Excavation Permit, Photography Permit, Videography Permit, Vehicle entry Certificate, Work on Energized Equipment Authorization form, etc.** are associated permits which are to be attached with the work permit as applicable.

e) **Radiography Permit** shall be issued by a competent person from the HSE Department to any party who is authorized to use a radioactive element or ionizing radiation.

4.4 Authorized Signatories

Department Managers shall formulate, sign and share with all the concerned departments including HSE a list of the following assignments For Qatar Steel employees;

a) Permit Issuers.

b) Permit Executors.

c) Field Operators.

d) Authorized Gas Testers.

e) Authorized Isolators (Electrical / Mechanical / Hydraulic / Instrumentation, etc.)

The criteria of selection is the competency in;

a) Successfully passed the PTW training with valid authorization.

b) Standard Operating Procedures.

c) HSE Practices, First aid, Emergency actions, Firefighting.

d) Full awareness of the work place hazards HIRA and the possible changes might lead to further risks.

e) Conversant with Confined Space, Work at Height 'if applicable', Cold works, Hot works, Electrical works / isolation.

f) General Skills – Work Experience – Training and Attitude.

For Authorized Contractors

Requirement shall follow QS work permit system.

a) Permit Issuers 'Only for greenfield projects and independent contractors'.

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b) Permit Executors.

c) Field Operators 'Only for contractors' manpower working in process operations under Qatar Steel supervision based on their competency requirement and interview assessment by HSE as per Qatar Steel Policy and Procedures'.

d) Authorized Gas Testers 'Only for greenfield projects and independent contractors'

e) Authorized Isolators (Operations / Electrical / Mechanical / Hydraulic / Instrumentation) 'Only for greenfield projects / Independent contractors'. Note: if a contractor works outside Mesaieed premises i.e. Doha Office, then the contractor could be assigned as an isolator based on the competency requirements and interview assessment by HSE.

For special circumstances such as shutdowns and where the risk level is very significant, the department manager shall assign a competent person (s) to manage all of the permit flows.

4.5 Governing Rules - Issuer, Field Operator, Executor, Fire Watcher, Isolator

For the same Work Permit;

a) Issuer cannot be an Executor and vice versa at the same time.
b) Issuer can be an Isolator at the same time.
c) Executor cannot be an Isolator.
Exception – The Executor can be an Isolator if energy isolation equipment is owned by the Executor's agency and he is alone in the shift and the activity should be either "Low" or "Medium" risk as per HIRA i.e. In case of "High" risk activity Executor cannot be an Isolator.
d) Job watcher cannot be an Executor.

4.5.1 Issuer Responsibilities

Issuer must be a person who is trained and authorized to issue a work permit. In addition:

a) The Issuer is responsible to verify that all the Executor's submitted documentation is relevant to the task being performed i.e. HIRA, SOP, JSA, TBT, Lifting Plan, Excavation Permit etc.
b) The Issuer is responsible to ensure that the Site Risk Assessment and Process Risk assessment, if applicable, are completed prior to issuing the work permit.
c) The Issuer and Executor should eliminate all the hazards wherever possible and if not, and then both must reduce the risk to ensure that the work is performed safely.
d) The Issuer is responsible to ensure handing over of the equipment and area in safe condition to perform the work.
e) Wherever or whenever there are multiple works are going to share one area or one equipment and their risks / hazards could be dependently magnified, the Issuer must ensure that only one task is performed at one point for the same location of work. In case there is more than

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one work to be undertaken at the same location, then the priority and timing of work should be identified and agreed by the all executors and the issuer.

f) Issuer is responsible to conduct the pre-issuance gas testing through an AGT. The gas testing frequency and method to be decided by the Issuer based on the Risk Assessment and Confined Space Register. Accordingly the check box ☐ of Continuous or Not applicable ☐ shall be ticked in PTW form Section "H".

g) The issuer should know the location and total number of persons working, including contractors.

h) The issuer should Sign off permits when the work has been completed.

i) The issuer should maintain the Permit Log Register as per Appendix 'D'

j) The Issuer can assign a Field Operator for the work permit, if required.

Special Case:

- For issuing of PTW relevant to maintenance work on EOT cranes (Cabin Operated Cranes) the SMD or RMD Issuer is responsible for the ground area risk assessment and barricading in addition to his contribution to LOTO from ground area only.
- A hired Field Operator from Crane Operation is responsible for the overhead crane area risk assessment jointly with the Executor in addition to activating a localize LOTO in the crane.

4.5.2 Executor Responsibility

Executor must be a person who is trained and authorized to execute or carry out works described in a work permit. In addition:

a) Executor is responsible for completing the work as described in the Permit to Work and its submitted documents i.e. HIRA, JSA, SOP, MOS, TBT, etc.

b) Contractor's personnel may be considered as executors, only if the Service Contractor is suitably qualified and certified by Qatar Steel HSE Training & Interview assessment and authorized by the Department Manager.

c) The responsibility for safe execution of permitted work primarily relies on QS Executors including those where contractor's personnel sign as executors.

d) Executor is responsible for initiating the processing of work permit.

e) Executor is responsible for filling all applicable sections of the work permit.

f) Executor is responsible for supervising the work prescribed in the work permit to ensure it is conducted in a safe manner.

g) Executor is responsible for notifying the Issuer regarding the work progress and completion ensuring safe handover of the site to the issuer after work completion 'before asking for signing off the permit'.

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h) Executor is responsible for performing and documenting a hazard / risk assessment associated with the work.

i) Executor is responsible for complying with Qatar Steel safety standards.

j) Executor is responsible for assigning competent personnel to perform the task in a safe manner and selecting safe tools and equipment necessary for performing the work.

k) Executor is responsible for ensuring valid Third Party Inspection (TPI) Certificate for lifting equipment and tackle.

l) Executor's signature indicates his understanding and compliance to relevant conditions on the permit.

m) Executor is responsible for providing adequate supervision for all jobs.

n) Executor is responsible for verifying the availability of a copy of the work permit with the associated authorizations at the work site.

o) Executor shall not sign more than one work permit.

p) The work on energized equipment can be done, provided PTW and 'Work on Energized Equipment Form' shall be filled by all concerned parties.

Transfer of Responsibility of Supervision - The Executor should be available at the worksite during the execution of the work. However, in case the Executor needs to leave the site at any time, the work shall be suspended until the responsibility is transferred to another authorized executor in the work group or by renewal of the permit.

Display of Permit

The Permit consists of three copies i.e. one original and two carbon copies.

During work execution:

- The Original copy shall be available at the worksite at all times and will remain on the worksite until all work has been completed.
- The two Carbon copies to be with the Issuer and Isolator 'one each'.

After work completion and signing off all permit copies:

- The original copy to be retained and filed at the Issuing agency.
- The two Carbon copies to be retained and filed at the Executing and Isolation agencies 'one each'.
- The permits copies should be protected from dirt, dust, moisture and direct sunlight.

Communication and Risk Management:

a) Executor shall brief the work crew through a mandatory Tool Box Talk (TBT), at the work site, about the hazards involved in the particular job, what the required PPE are, hand tools, power tools, and other equipment required and how the job can be safely executed.

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b) Executor shall ensure that the tools, equipment and accessories are in good condition, Executor shall apprise his workers about job hazards and provide proper PPE (personal protective equipment).

c) Executor shall attach all relevant documents i.e. method of statement, job safety analysis / HIRA, TBT, MS, rigging / lifting plan, etc. along with work permit.

d) Executor shall inform the Issuer if the number of workmen or the personnel changes.

4.5.3 Field Operator Responsibilities

- It is not mandatory to assign a Field operator for all activities. The issuer will assign field operator if he is unable to do site inspection and assessment.
- The Issuer and Field operator share the worksite responsibilities. However, a special case takes place for EOT cabin operated cranes. (Refer to section 4.6)
- The Field Operator shall read the work permit, check the site compliance to permit conditions and sign original permit.
- The Field Operator shall monitor the site conditions and executing group's compliance to permit conditions.

4.5.4 Isolator Responsibilities

- The Isolator must be a person who is trained based on the Energy Isolation and Lockout procedure (2.32.2.1.20.01).
- After successfully clearing the training process, the Isolator can be authorized by his Department Manager.

4.5.5 Fire Watcher Responsibility

a) The fire watcher shall be trained to understand the inherent hazards of the work site and of the hot work.
b) The fire watcher shall ensure that safe conditions are maintained during hot work operations.
c) The fire watcher shall have the authority to stop the hot work operations if unsafe conditions develop.
d) The fire watcher shall have fire-extinguishing equipment readily available and shall be trained in its use.
e) The fire watcher shall be familiar with the facilities and procedures for sounding an alarm in the event of a fire.
f) The fire watcher shall watch for fires in all exposed areas and try to extinguish them only when the fires are obviously within the capacity of the equipment available. If the fire watcher determines that the fire is not within the capacity of the equipment, the fire watcher shall sound the alarm immediately.
g) The fire watcher shall be permitted to perform additional tasks, but those tasks shall not distract him or her from his or her fire watcher responsibilities.

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4.5.6 Joint Responsibility of Issuer and Executor

a) Identify the scope of PTW (Task, Time, Location, etc.)

b) Identify the type of permit required for the scope of work (Cold, Hot, Confined)

c) Site Inspection;

- Before issuing the permit, the Issuer along with the Executor shall inspect the work site to identify all the hazards and the risks associated with the task. The field operator may verify the site conditions on behalf of the issuer.
- Prior closing of the permit, the Issuer along with the Executor shall inspect the work site for confirmation of acceptance / safe handing over the site / equipment (including housekeeping). The field operator may verify the site conditions on behalf of the issuer.
- Any party reserves the right to question the requirements and conditions contained in the Permit during the raising of a work permit. The involved parties shall resolve all such concerns in the most timely and effective manner. No party is permitted to unnecessarily and unreasonably delay the work without prior consultation and notification of all the effected / involved parties.

4.6 Operation Work Permit Area

The Issuer shall define along with the Executor the boundary of the work permit area for which the permit is issued to control its hazards.

4.6.1 PTW Issuance Mechanism for cabin operated EOT cranes (Issuer and Field Operator)

The PTW shall be issued with following guidelines:

a) The Issuer agency shall be from the plant operation i.e. SMD & RM. His responsibility / accountability shall be limited to ground area risk assessment including LOTO for crane from ground area, and barricading.

b) The Field operator shall be from the Crane Operation i.e. SMD. His responsibility /accountability shall be limited to overhead crane area risk assessment along with Executor and localize LOTO application at the crane.

c) One crane operator cannot be assigned as a field operator for more than one crane.

d) After proper risk assessment, the Field operator can allow more than one activity on the same crane unless it is not creating hazard to others.

e) The Field operator is allowed to leave the activity site and work as crane operator in another crane but he cannot leave Qatar Steel premises unless PTW closed or revalidated.

f) The Field operator signature is mandatory for closing or revalidation of EOT crane PTW. For close out Field operator (Crane Operator) has to sign in Section "Q" at back side of 1st page of Permit form.

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4.6.2 PTW Issuance Mechanism for Pendant Operated EOT cranes (Issuer and Field Operator)

The PTW shall be issued in view of the following guidelines:

a) The Issuer agency shall be from the plant operation i.e. SMD & RM.
b) The Issuer can assign a Field operator if the Pendant crane is parked at its designated parking place.
c) The Executor or Crane Mechanical/Electrical shall assign Field operator on behalf of Issuer, if the Pendant crane has breakdown at the middle and not able to go to parking place.

4.7 Filling of Work Permit:

Filling of PTW form to be performed by Issuer and Executor who have been Trained and Authorized by Department Manager**.**

The selection of check box ☐ Cold Work Permit, ☐ Hot Work Permit**,** ☐ Confined Space Entry Permit, to be done according to the nature of job and activities. All 03 boxes cannot be selected together i.e. For Example:

- If Job activity describe Cold works then tick (✓) only in "Cold Work Permit" check box ☐.
- If Job activity describe Hot works then tick (✓) only in "Hot Work Permit" check box ☐.
- If Job activity describe confined space entry then tick (✓) only in "Confined Space Entry Permit" check box ☐.
- If Job activity describe Cold works in Confined Space then tick (✓) both "Cold Work Permit" & "Confined Space Entry Permit" check box ☐.
- If Job activity describe Hot works in Confined Space then tick (✓) both "Hot Work Permit" & "Confined Space Entry Permit" check box ☐.

a) Section "A"

"Issuing Department & Section and Executing Department & Section" – Issuer in consultation with the Executor.

Note: In case of contractor working as executor, the concerned section / department will be executing department & Section.

Equipment Name /Tag number /CS Reg. No. – Issuer in consultation with the Executor.

Note: The confined space register number (CS Reg. no) shall be according to confined space register.

Location of Work/Area – Issuer

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Date of First Issue – Issuer

Date of the first permit issued for a certain job which is under continuation and requires a second permit for completing the task.

Reference PTW No. (If any) – Issuer

- Any previous permit which refers isolation already done.
- If the job is in continuation, write the previous permit number.

Associated Work Permit – Issuer

Any other associated permit i.e. Excavation permit, Radiography permit, Videography Permit, Work on Energized Equipment Authorization Form etc.

b) Section "B"

Validity of Work Permit (date & Time) – Issuer in consultation with the Executor

Assembly Point – Issuer

Head Count – Issuer in consultation with the Executor

After physically confirmation of the number of persons of the executing group including contractors.

Description of Work – Executor

To be filled after a mutual discussion between both parties.

c) Section "C"

Energy Isolation & Equipment Preparation – Issuer with joint discussion with Executor & Isolator.

- All check box ☐ relevant to this category are generic and appropriate box to be selected based on job hazard and type of permit.

Energy Isolation Details – By Equipment Isolator (Electrical / Mechanical / Hydraulic)

- Electrical energy isolation column to be filled & signed by an Authorized Electrical maintenance person. No other parties are allowed to fill or sign in the electrical column.
- Mechanical and Hydraulic energy isolation column to be filled & signed by and Authorized Mechanical & Hydraulic person. However in case the energy isolation is done by the plant operation, this column shall be filled by plant operation.

Case -I: In case the maintenance job is continued for next day and new PTW to be issued for the same job where electrical/mechanical/hydraulic energy isolation already in place, in such cases first PTW permit no. to be mentioned in new permit Section "A" as Reference PTW

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and Section "C" electrical/mechanical/hydraulic isolation part to be filled repeatedly by electrical/mechanical/hydraulic energy isolator.

Case -II: In case the maintenance job is continue for next day and new PTW to be issued for the same job where electrical/mechanical/hydraulic isolation were not done on the first day (by selection of check box ☐ No Energy Isolation), the first PTW cannot be considered as Reference PTW for the same job on the next day i.e. a new permit shall be issued.

d) Section "D"

Worksite Preparation – Issuer in consultation with Executor:

All the selection items here are generic. Appropriate selection to be done based on job hazard and type of permit.

e) Section "E"

Personal Protective Equipment (PPE) **–** Executor in consultation with Issuer:

All the selection items here are generic. Appropriate selection to be done based on job hazard and type of permit.

f) Section "F"

Documents Submission (To be Verified by Issuer) – Executor

- All the selection items here are generic. Appropriate selection to be done based on job hazard and type of permit.
- Executor shall attach all the relevant documents as per the selected check boxes and Issuer shall verify all attached documents before issuing the permit.
- Executor shall submit his PTW Authorization card to the Issuer in order to eliminate any opportunity to participate as an Executor in more than one opened permit. The Issuer shall give it back to him after closing the permit.
- Executor shall show his Confined Space & Work-At-Height Authorized card or certificate to the issuer for verification.

g) Section "G"

Risk Ranking – Executor

- For every task the risk ranking (L/M/H) shall be selected according to HIRA/JSA.
- If the Risk is deemed High, HSE, and departmental authorities shall endorse the permit.

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h) Section "H"

Gas Test – Issuer

- Issuer is responsible to arrange the gas testing through an AGT.
- The gas testing frequency and method to be decided by the Issuer based on the Risk Assessment & Confined space Register and accordingly the check box ☐ of Continuous or Not applicable ☐ to be selected.
- The Gas testing during the job execution shall be done by the Executing agency.

i) Section "I"

Acceptance & Authorization – Executor, Fire Watcher, Attendant, Field Operator, Issuer.

- The Name, Employee No. & Signature of all Authorities should be clearly legible.
- Fire watcher should be from Executor team or could be the Executor himself.
- The Attendant details are mandatory during Confined space relevant jobs.

j) Section "J"

Permit Revalidation- Executor, Fire Watcher, Field Operator, Issuer, Isolator.

- The permit should be revalidated if the validity period is going to be exceeded.
- The permit should be revalidated if the Executor, Issuer or Both have changed.
- In case of change of Issuer, the field operator can sign on revalidation column on behalf of the Issuer if the Field operator is an Authorized Issuer by his Department.
- The Crane operations field operator signature is mandatory, if the permit is issued for EOT crane maintenance works.
- In case of a Hot Work Permit revalidation, the Fire watcher shall sign the revalidation of the permit.

  The permit can be issued for a maximum of 12 hours. However, if the job would be continued, the first revalidation can be utilized for another 12 hours 'maximum'. Later, , if the job would not being finished, the second revalidation can be utilized for another 12 hours 'maximum'. The second revalidation is the last allowable revalidation. Accordingly, the permit must be closed and a new permit can be issued.

- **Section "K"**

Closing of Work Permit –

Executor (Completion of Work):

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Prior closing of the permit, the Issuer along with the Executor shall inspect the work site for confirmation of acceptance / safe handing over the site / equipment (including housekeeping).

- If work is completed, ensure housekeeping is done then tick (✓) the check box ☐
- If the job is not completed, then tick (✓) the check box ☐"Work not completed"
- In both cases (Work completed or Work not completed) the Executor should sign the permit. The objective of signing is "safe handing over of the site"
- The Executor must sign the isolation register.

Issuer (Site and Equipment Acceptance):

- The Issuer shall tick (✓) the check box of ☐ "Work Site /Equipment checked after job completion".
- The Issuer shall decide whether energy isolation could be removed or not according to job status.
- During energy isolation removal the Issuer authorizes the isolator to remove the isolation if the job is completed and the system is checked for readiness to operate.
- Work Permit should be closed by issuer within the validity of work permit.

Isolator (Electrical, Mechanical, and Hydraulic):

- The energy Isolator shall verify if the isolation is removed, then tick (✓) the check box ☐ and sign the permit.

k) Section "L"

Contact Details- Issuer, Executor, Isolator and Contractor.

- In case of revalidation of permit the contact details should be mentioned accordingly.

l) Section M

Display of Work Permit

- The Original copy (1st page) shall be displayed at all times and will remain in the worksite until all the work has been completed and subsequently signed off by the Issuing Party and Concurring Parties.
- Permits should be protected from direct sun, dust and moisture by keeping inside a transparent plastic folder (Legal size folder).
- The content and information which are mentioned at the back side of the 1st page shall be exclusively relevant to the Executor. Therefore these contents are not reflected in the 2nd page (Issuer) and 3rd page (Isolator).

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- The 2nd page (Yellow color) which is carbon copy of the 1st page shall be kept with the Issuer.
- The 3rd page (Pink color) which is carbon copy of the 2nd page shall be kept with the Isolator.

m) Section "N"

Identifying Potential Hazard- Issuer in consultation with Executor

- All check box ☐ relevant to this category are generic and appropriate box to be selected based on job hazard and type of permit.

n) Section "O"

Crew Members Details - **Executor**

- All members (including contractors) of executing group shall sign this part in order to have acknowledgment of their understanding of the Hazards and Control measures of the particular job.
- If any member from the executing team will be leaving the site then joining back, the person exit and entry shall be recorded in this column.

o) Section "P"

Final Closure of "Hot Work Permit) - Issuer

- The Hot work permit shall be closed after completion of job and equipment can be started for trial and service, however, the "final closure" of Hot work Permit shall be done after physical verification of the site/ equipment by the Issuing agency after 2 hour from the initial closure by filling of Section "P."

p) Section "Q"

Field Operator Detail (EOT Crane Operation) - **Crane Operator**

- The crane operator shall fill this column after EOT maintenance work.

Note: - No correction is permitted either by striking out or with correction fluid.

4.8 Work Permit Validity

4.8.1 Validity Period of Work Permit

- If the work continues uninterrupted beyond the shift time, the permit can be renewed twice provided that, the job and surrounding area are re-inspected, gas tests are repeated where appropriate and accordingly renewed. The renewal of permit is a transfer of the responsibility to the new Issuers / Executors and an affirmation by the issuer / executor that the conditions are safe to continue the work.

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- If a work at a hazardous area is not started or stopped for more than 2 hours for any reason, the permit would become expires and must be renewed before starting or resuming the work.
- The permit shall be closed, if the work is not started / resumed. The Issuer should close the permit before leaving the site.
- If the scope of work is changed, the permit must be closed and a new permit must be issued.
- The work permit shall be tracked through the entire life cycle from initiation to completion.
- Ensure record-keeping requirements are met and maintain daily permit log (Appendix "D").

4.8.2 Long Term Permit

- Any long term permit requirement should be reviewed and approved by HSE.
- The guideline for long term permit shall be followed as per "Appendix "F" attached to this procedure.

4.8.3 Suspension of Work Permit

- In case of an emergency/ personnel injury / property damage / dangerous occurrence, the work shall be suspended and validity of any work permit ceases in the affected area.
- Executor or his delegated in charge shall immediately stop the work if
  - Fire or emergency alarm are raised.
  - Any changes in the agreed permit conditions or Safety regulations are violated.
  - New hazardous situation appeared.
- Approval from Incident Controller shall be obtained after necessary preliminary investigations, to resume such work. The Work Permit shall be renewed to resume the work after fire incident or after the emergency state is over.
- Issuer, Executor, their Supervisors or QS HSE are authorized to suspend the work and withdraw the Work Permit, if the Permit conditions or Safety Regulations are found violated and / or if the site conditions are changed, leading to a hazardous situation. The person stopping the work shall immediately inform the reasons of the stoppage to the Issuer / Executor.
- If a work is not started or suspended due to safety reasons after Work Permit issuance, the work shall only be started or resumed after establishing safe conditions and renewal of the Work Permit.
- The Issuer and Executor or any other stake holder have the Right to Stop the Work, if after inspection of the worksite and work methods; they find that conditions and measures listed in the Permit have not been followed.

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4.9 Work Permit Management

4.9.1 PTW Attachments and Record Mechanism:

A. HIRA shall be attached to PTW for following conditions:
- HIRA hard copy attachment to PTW is mandatory document for all activities.
- HIRA reference no. writing in PTW is not permissible.

B. JSA shall be attached to PTW for following conditions:
- "High Risk" activity considered in HIRA.
- New Activities which are not identified and assessed in HIRA.
- Activities executed by Contractors.

C. MOS 'Method of Statement' shall be attached to PTW for following conditions:
- "High Risk" activity considered in HIRA.
- Activities executed by Contractors.
- Activities don't have SOP.

D. SOP hard copy attachment to PTW is not a mandatory. However, SOP reference number should be mentioned in the PTW. The hard copy shall be attached only in case of "High Risk" activity.

E. Tool Box Talk - A copy of Tool Box Talk including attendance with signature is mandatory to be attached before commencement of the work after issuing the permit. If the Executor is solo, a TBT is not required. The TBT should be comprehensive and specific to the permitted job.

F. After PTW closure the above relevant attachments either to be kept with Issuer copy or can be return back to Executor provided scan copy to be send back to Issuer for future record. In any case Issuer shall keep record of all attachments for future Investigation or Audit purpose.

4.9.2 Permit Sheet Management and Documentation

The distribution of Permit sheets is as follows:

- Page1 / Original marked – To be "Available at the Work Site" by Executor. At closing of the permit, it should be archived by the Issuer.
- Page 2 - "Issuer's Copy". At closing of the permit, it should be archived by the Executor.
- Page 3 - " Isolation Authority's copy. At closing of the permit, it should be archived by the Isolation Authority. The Isolation Authority shall control and archive the Isolations Register.

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- Different types of permits shall be chronologically archived separately in box files for future reference.
- The minimum retention period is 6 months from the date of issuance and it should be easily retrievable.
- Write the Completion of Work or Permit closing in the QS Log register as per Appendix "D").

4.9.3 Inspection and Auditing

- The Department Managers shall assign their Engineers and Senior Supervisors to periodically* audit the PTW systems in their departments to ensure they are functioning properly and in compliance with the procedure. The PTW & LOTO Audit forms shall be archived along with findings/ observation closeout formalities.

  * TBD by the PTW & LOTO Committee

- The PTW inspections shall be carried out on a daily basis by the Plant Supervisor or Shift supervisor in PTW log register.

4.9.4 Multiple Work Permit Issuance Mechanism and Criteria:

The executor may receive more than one permit simultaneously, however the following criteria must be met:-

- The permits are for different tasks but in one job.
- The permits are not for different craft i.e. one Executor cannot be for Mechanical & electrical jobs, those require two job executors.
- The permits can be issued for two separate jobs on separate equipment's considering executor should maintain "Line-of-sight" with respective work location or vicinity. The Line-of-sight distance shall be maximum 10 meters.

  Note: Line-of-sight means the direction in which person must look in order to see particular job without obstruction.
- Executor cannot be a Fire watcher for any other permit to work (PTW).
- If the Executor is a Qatar Steel employee, the Issuer shall collect their PTW Authorization cards to issue the permit then to be returned back after closing it.
- If the Executor is a Contractor personnel, the Issuer shall collect their MIC gate pass to issue the permit then to be returned back after closing it.
- The Issuer must be able to verify that the Executor would be able to supervise more than one job without compromising his accountability as Executor in terms of the PTW procedure, and the safety of his subordinates.

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4.9.5 Scaffolding PTW Issuance Mechanism and Control:

The scaffolding erection and dismantling is carried out by contractors under long term contracts. The contractor personnel shall be trained for PTW by HSE:-

- The Executor (Authorized Scaffolder) shall request the PTW issuance directly from the Issuer.
- In case of LOTO application, the Issuer shall coordinate with the Isolator (Electrical, Hydraulic and Mechanical) to arrange the lock out/tag out process. After energy isolation the Executor (Authorized Scaffolder) shall put his personnel lock either at the energy source (Electrical, Hydraulic, and Mechanical) or the Lock out box.
- The Issuer shall also put the pad lock for stringent control.
- After completion of Scaffolding erection, the Executor (Authorized Scaffolder) shall proceed for PTW close-off with the Issuer after verification of the site. Accordingly the locks shall be removed unless another maintenance job is planned after the erection of scaffolding then the Issuer shall keep the pad lock in lockout box.
- The LOTO shall be continued restraining the Issuer's locks in addition to the Isolator's locks till next PTW issuance for Maintenance job. This will ease for the Issuer to keep the LOTO in place for the next Maintenance activity immediate after scaffolding erection.

4.9.6 Gas Test

Gas tests are required for hot work and confined space entry. It may also be required for some cold works and excavations. **Section H: Gas Test** of Work Permit shall be filled to record results of Combustible, Toxic Gases and Oxygen concentration as applicable to the location of work.

- **Issuer** shall determine the requirement of gas test based on the risk assessment and confined space register, the gases to be measured and frequency of repeating the test or the need for continuous monitoring. Minimum requirement shall be once at the beginning of shift/work.
- An **Authorized Gas Tester (AGT)**, who has a valid certification by Third Party, shall carry out the gas test using an approved calibrated gas detector. He shall check the meter in fresh air and keep it on before actual testing. In cases the potential risk is very high, the AGT can test it with another detector for confirmation.
- **Gas tester wearing SCBA** or carrying an escape mask shall test for **Toxic gases**, if the presence of toxic vapor or gases is known or suspected.
- **Combustible gas** is measured as a percentage of Lower Explosive Limit (%LEL). For hot work, the reading at the point of work shall not exceed 1%, preferably 0% of the LEL. For cold work breathing area shall be less than 10% of the LEL.

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- **Temperature and humidity** are related to each other and do not have fixed limits. Precautions shall be taken such as air conditioning, work time adjustment.

4.9.7 Work Permit Requirement

4.9.7.1 Cold Work Permit

A Cold Work Permit shall be obtained for all general work that does not involve activities related to hot work, i.e. the tools and equipment used or the work itself do not generate any source of ignition.

- Excavation by hand tools, erection of scaffolds and barricades, chemical cleaning and use of air driven power tools which do not generate sparks during use.
- Opening of process equipment such as vessels, towers, pumps, compressors, heat exchangers, filters, tanks, etc.
- Blinding (Spading), blanking, breaking of flanges and unions, tightening of flanges, hot bolting, cold cutting, hot work preparations, etc.
- Industrial radiography using ionizing radiation source (excluding X-ray generators).
- Each Permitted activity needs to be risk ranked based on HIRA. All permits that are classified as high risk should be countersigned by HSE Authority and Departmental Authority.

4.9.7.2 Hot Work Permit

A Hot Work Permit shall be obtained for all work that involves activities with tools and equipment, or the work itself that could generate spark or be a source of ignition.

- The issuer of the Hot Work Permit is responsible for ensuring that the site and the equipment (vessel, piping, etc.) are properly prepared to prevent the danger of fire or explosion involving flammable materials.
- Issuer shall ensure that the equipment is emptied, cleaned of flammable materials and isolated from all sources by means of disconnection, blanking or insertion of blinds. Isolation by closed valve only is allowed if there is no other possible way of isolation and mechanical isolation has been done. This must be approved by QS HSE.
- Issuer and executor shall ensure that, within **10 meters** of a hot work site, any sample point, drain, surface manhole cover or relief valve outlet are covered to prevent the escape of flammable gas and vapors (sealed using flame-retardant tarpaulin, wet rags or metal plate). They shall also ensure that, these seals are maintained in good condition.

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- If there are any open drains or ditches into which flammable liquid can escape, the same shall be dammed and pumped dry. Outlets of all unit drains shall be plugged to isolate them from the rest of the sewer system.
- Authorized Gas Tester (AGT) shall conduct the test for flammable gases (%LEL). LEL test is mandatory for all hot work at DR plant, Natural Gas Metering Station, Natural Gas Pipe line areas, as well as any area where the presence of flammable gas is possible.
- For Hot cutting a long gas pipe, a cold cut or hole shall be made to test for combustible gases at the point of the cut.
- Issuer and executor shall ensure that heavy oil deposits, dried vegetation or other flammable/ combustible materials within **5 meters** of a hot work site are cleared.
- If hot work is to be done at height, then precautions shall be taken to prevent the spread of sparks and molten metal by surrounding the work area with fire-resisting/ flame-retardant tarpaulin or metal sheets. Proper ventilation/ air circulation for the welder should be ensured. Barricade should also prevent direct eye contact of others with welding arc.
- If required, Issuer shall arrange water for quenching sparks or molten slag and will give clearance for the executor to use it. Firefighting equipment may not be used for quenching as per NFPA standards.
- The Executor will arrange minimum of **2 fire extinguishers** within **8 meters** from the place of hot work.
- Executor shall ensure grounding/ bonding to avoid static (sand blasting, spray painting, refueling, etc.)
- Issuer shall inform Qatar Steel Fire Station about critical hot work (ex. welding in critical process area).
- Fire Watcher to be appointed to monitor the Hot Work area.
- Final closing of the permit after physical verification of the site, 2 hour post the job completion.
- Executor shall ensure that the work area is made safe at the end of the job/ work-day.
- Each Permitted activity needs to be risk ranked based on HIRA. All permits that are classified as high risk should be countersigned by HSE Authority and Departmental Authority.

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4.9.7.3 Confined Space Entry Permit

- Follow the confine space entry procedure # 2.32.2.1.13.01 and refer to the Confined Space Assessment Register.
- Permit Issuer shall ensure that contractors are third party certified and certificates are validated by HSE department.

4.9.7.4 Excavation Permit

- Follow the Excavation procedure # 2.32.2.1.12.01.
- An excavation permit associated with the PTW is required for all excavations (Excavation and Civil Work for details). A copy of the excavation permit shall be attached to the PTW.
- For excavations deeper than **1.2 meters** a Confined Space Entry permit is also required.

4.9.8 Training and Authorization

The below mentioned QS employees including Contractors must be trained on this procedure and records must be updated in respective training registers for:

- Permit Issuers / Permit Executors / Field Operators.
- Authorized Gas Testers.
- Authorized Isolators (Electrical / mechanical / Hydraulic / Instrumentation, etc.) for LOTO.

After successfully passing the training, Department Manager shall authorize respective parties through the standard format (COR/HSE/SE/F077-00).

If there are significant changes in the PTW process/procedure, respective parties may attend an awareness session by HSE department.

4.9.9 Limitations

- **Areas which are maintained / used / under control of more than one department / section**:-

  A joint consensus is required by the departments. The area in charge's involved in completing the task must make a common documented procedure. It should define the scope of work and the issuing of the permit to work with clear roles and responsibilities for each party.

  That procedure must be approved by their respective Department Managers and thereafter communicated to all concerned stakeholders operating within the same area who may be affected due to this decision.

  This procedure should consider competencies and carrying out the job safely for preparing all relevant documents i.e. Job Safety Analysis, Method Statement, etc.

- **When dealing with contractors and its sub-contractors for which the task is outsourced:**

  For managing outsourced jobs, the Department Manager managing the contractor shall appoint an Area in-Charge, who in turn shall ensure, through periodic inspections of the permit to work system, effective implementation.

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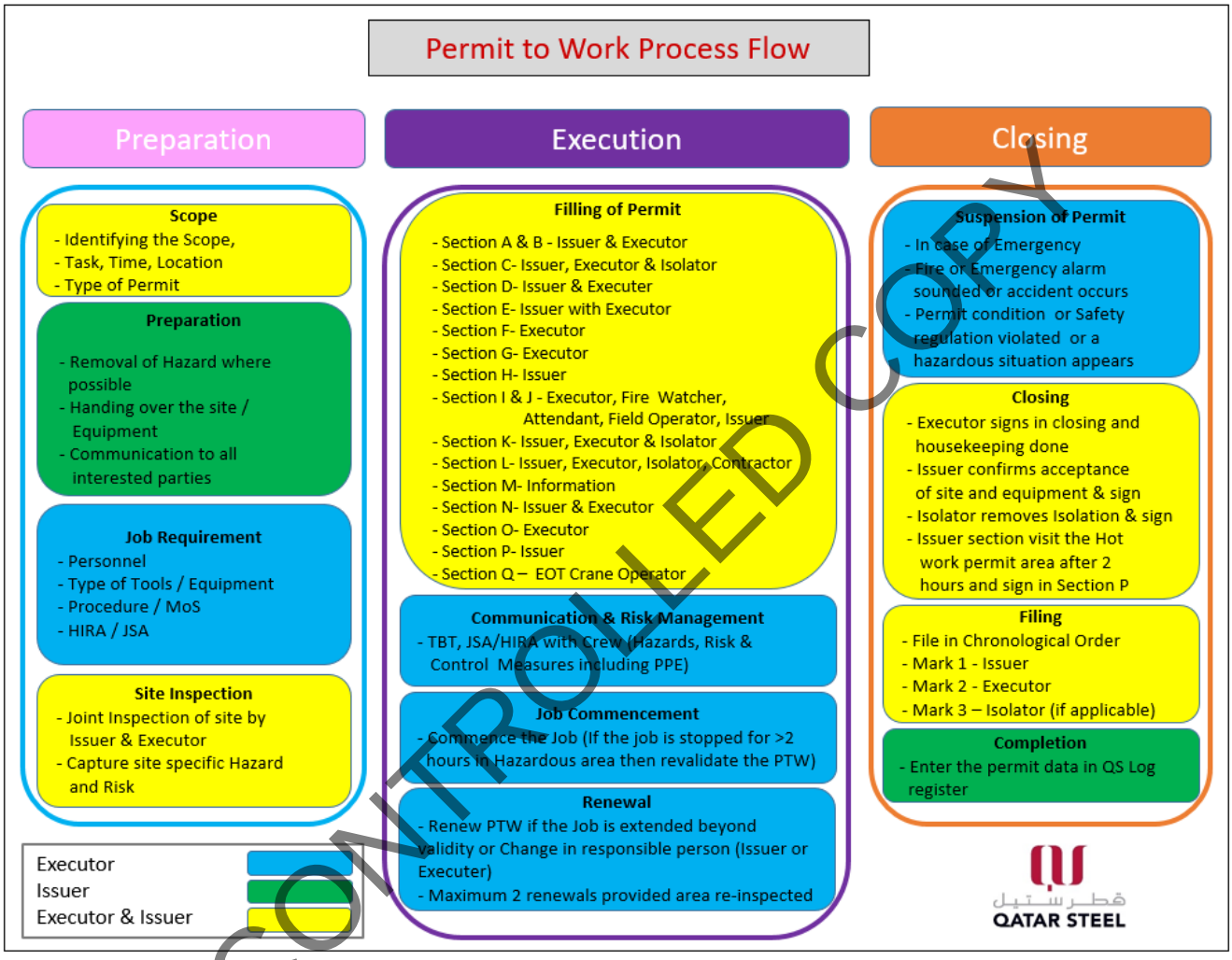
4.9.10 Permit to Work Process Flow



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Appendix 'A'

Permit To Work (Cold Work, Hot Work, Confined Space Entry)
Front page

PERMIT TO WORK — COR/HSE/SE/F001-01 — Permit No: 000000

☐ Cold Work Permit ☐ Hot Work Permit ☐ Confined Space Entry Permit

Section "A"

Issuing Department:		Section:		Date of First Issue:	
Executing Department:		Section:		Reference PTW No(If any):	
Equip.Name/Tag No/CS Reg. No:		Location of Work / Area:		Associated Work Permit:	

Section "B"

Validity of Work Permit:	Date: From: To:		Time: From: To:	Assembly Point No.:	Head Count:
Description of Work:					

Section "C" - Energy Isolation & Equipment Preparation - Tick (✓) in appropriate Box

☐Electrical Breaker Isolation ☐Hydraulic Valve Isolation ☐Pneumatic Source Disconnection ☐Drained/Flushed
☐Electrical disconnection ☐Positive Isolation(Blinded/disconnection) ☐Pneumatic Source Isolation ☐Depressurized
☐Valve Isolation (Water, Gas) ☐Purged with Inert Gas ☐ No Energy Isolation ☐Stored Energy Released
☐Field Emergency Stop ☐Pull Cord Activated ☐Local Breaker Off ☐Others_____

Energy Isolation Details:

Elect. Equipment Name/Tag No:		Mech/Hyd Equipment Name/Tag No:	
Electrical Lock Out Pad Lock Number:		Mech/Hyd Lock Out Pad Lock Number:	
Electrical Isolator Name:		Mech/Hyd Isolator Name:	
Electrical Isolator Employee Number:		Mech/Hyd Isolator Employee Number:	
Electrical Isolator Signature:		Mech/Hyd Isolator Signature:	
Date & Time of Isolation:		Date & Time of Isolation:	

Section "D" - Worksite Preparation - Tick (✓) in appropriate Box

☐Gas Test Required ☐Cleared of combustible material ☐Machine guarding
☐Should Gas Test be repeated ☐Barricading/Covering off work area & Signage's ☐Fire Blanket ☐Fire Extinguisher
☐Mechanical Ventilation(Blower) ☐Non Sparking Tools ☐Cylinder/Actuator resting position
☐Scaffold/Ladder/Grating/Platform ☐Portable Eye wash/ Safety shower ☐First Aid Box
☐Spill Kit/Containment ☐Lifebuoy/Life Line ☐Fire water(Hydrant/Tanker/Pipeline)

Section "E" - Personal Protective Equipment (PPE): - Tick (✓) in appropriate Box

☐Safety Helmet ☐Face Shield ☐Dust Mask ☐PVC Apron ☐Safety Harness
☐Safety Shoes ☐Ear Plug/Muff ☐Gas Mask ☐Chemical Apron ☐High Voltage Gloves/Suit
☐Jacket/Coverall ☐Cotton Gloves ☐Fume Mask ☐Life Jacket ☐Safety Goggles
☐Leather Gloves ☐Respirator Airline ☐Leather Overall ☐Radiation protection equip. ☐PVC Gloves
☐SCBA ☐Aluminized Jacket ☐Welding Glass ☐Rubber Gloves ☐Rubber/Gum Boot
☐Hydro Jetting PPE ☐Gas Monitor (O2, CO, Multi) ☐Other_____

Section "F" - Documents Submission (To be Verified by Issuer): - Tick (✓) in appropriate Box

☐HIRA ☐Method of Statement ☐Tool Box Talk ☐SOP (Ref.) ☐Lifting Plan
☐Job Safety Analysis(JSA) ☐Confined Space Rescue Plan ☐Work at Height Rescue Plan ☐PTW/CS/WAH Authorization ☐Gas Tester Certificate
☐Energized work Authorization ☐Excavation Permit ☐Radiography Permit ☐Safety Data Sheet (SDS) ☐Other_____

Additional Information:

Section "G" - Risk Ranking (Signature required in case of High Risk Activity) — Risk Ranking of the activity as per HIRA/JSA - ☐H ☐M ☐L

HSE Authority:		Department Authority:	
Signature:		Signature:	

Section "H" - Gas Test: - Tick (✓) in appropriate Box — Frequency: Every_____Hours ☐ Continuous ☐ Not Applicable

Date					Accepted Level Reference
Time					
Oxygen %					19.5 - 22.5
Combustible LEL %					0% -Hot Work & <10% -Cold Work
Toxic Gas - H_2S PPM					< 10 PPM
Toxic Gas - CO PPM					< 25 PPM
Gas Test Device Serial No					
Name & Emp No. of AGT					
Signature					

Section "I" - Acceptance & Issuance of Work Permit

Executor - Permit Acceptance: I understood the job explanation, preparation and precautions to be taken while executing, will inform the Issuer about any discrepancies.
Issuer - Permission granted for work to commence.

Authorization	Executor	Fire Watcher	Attendant	Field Operator	Issuer
Name					
Employee No					
Signature					

Section "J" - Permit Revalidation (Compulsory revalidation after the validity period or change of authorized person)

Revalidation:	1st Renewal - Reason _____		2nd Renewal - Reason _____		Reason of Revalidation:
Date	From:	To:	From:	To:	A. Change of Issuer.
Time	From:	To:	From:	To:	B. Change of Executor.
Executor	Name:	Sign:	Name:	Sign:	C. Validity Over
Fire Watcher	Name:	Sign:	Name:	Sign:	D. Other_____
Field Operator	Name:	Sign:	Name:	Sign:	
Issuer	Name:	Sign:	Name:	Sign:	

Remarks:

Section "K" - Closing of Work Permit

Executor (Completion of Work)		Issuer (Site & Equipment Acceptance)		Isolator
☐Work Completed	☐Housekeeping Done	Work site/Equipment Checked after job completion ☐		Mechanical Isolation shall be removed/normalized. ☐ Hydraulic Isolation shall be removed/normalized. ☐ Electrical Isolation shall be removed/normalized. ☐
☐Work Not Completed		Electrical Isolation Remain in Place. ☐Yes ☐No ☐N/A		
Remarks:		Mech/Hyd Isolation Remain in Place. ☐Yes ☐No ☐N/A		Mechanical Isolation shall be Continue. ☐ Hydraulic Isolation shall be Continue. ☐ Electrical Isolation shall be Continue. ☐
		Remarks:		
Date:	Time:	Date:	Time:	Isolator: Mechanical☐ Electrical☐ Hydraulic☐
Executor Name/Emp No:		Issuer Name/Emp No:		Mech Isolator Name/Sign:
Signature:		Signature:		Elec Isolator Name/Sign:
				Hyd Isolator Name/Sign:

Section "L" - Qatar Steel Contact Details:					Contractor Contact Details:				
Issuer					Contractor Company Name:				
Executor					Contractor Name:				
Electrical Isolator					Contractor Contact No.				
Mech/Hyd Isolator					Contractor Supervisor Mob No.				

Section "M" - Display of Work Permit

1. Executing Authority & For Site Display 2. Issuing Authority 3. Isolation Authority

Emergency Contact Number: Ambulance/Fire - 8333 Clinic - 8291/8292 Confined Space Rescue Team - 8364

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Back Page

Section "N" - Identifying Potential Hazards: - Tick (✓) in appropriate Box (To be verified by Issuer & Executer)

☐Chemical Exposure	☐Toxic Gas	☐Contact with Heat/Cold	☐Exposed Rotating Parts	☐Potential of Spark
☐Falling Objects	☐Moving Vehicle Traffic	☐Personal Fall Potential	☐Slips/Trips	☐Poor Visibility/Illumination
☐Flammable Material	☐Hazardous Atmosphere	☐Asphyxiation	☐Radiation Exposure	☐Combustible Material
☐Dust/Fines/Fumes	☐Electricity/Static Charge	☐Poor Accessibility	☐Heat Stress	☐Sharp Object/Edge
☐Noise	☐Stored Energy/Pressure	☐Open Flame/Fire spark	☐Pinch Point/Line of Fire	☐Entrapped Material
☐Ergonomics	☐Other_____			

Section "O" - Crew Member Details (Executing Team)

Workers Declaration : To be signed by all workers after prestart meeting to acknowledge their understanding of Hazards & Control Measures of this job.

Name	Shift	In - Time	Signature	Out - Time	Signature	Name	Shift	In - Time	Signature	Out - Time	Signature

Section "P" - Final Closure of Hot Work Permit after Physical Verification of Site (By Issuer Section after 1 hour of Initial closure)

Name:	Emp No.:	Sign:	Date:	Time:

Section "Q" - Field Operator Details - Closing of Permit (Applicable only for Crane Operators)

Name:	Emp No.:	Sign:	Date:	Time:

Job Authorization Matrix According with Wind Speed

WIND SPEED Km/hr. / ACTIVITY	0-20	21-31	31-40	41-50	51-60	61-70	>70
Cage Maneuvers with people and cranes	C	⊘	⊘	⊘	⊘	⊘	⊘
Critical Hoisting's	👍	C	⊘	⊘	⊘	⊘	⊘
Elevation Platforms	👍	C	⊘	⊘	⊘	⊘	⊘
Non Critical Hoisting	👍	👍	C	⊘	⊘	⊘	⊘
Roof Jobs	👍	👍	C	⊘	⊘	⊘	⊘
Fix mast type Elevator Platforms	👍	👍	👍	C	C	⊘	⊘
Ground level Jobs	👍	👍	👍	👍	C	C	C

👍 -Job performance with no risk.

⊘ -Job Forbidden.

C -Jobs should be authorized by approved lifting supervisor according with specific procedure and preventive measures.

Explosive Limit of some flammable gases

GAS OR VAPOUR	LEL (% by Vol.)	UEL (% by Vol.)
Hydrogen	4	75
Methane or Natural Gas	4.9	15
Ethane	3	15
Propane	2	9.5
Butane	1.8	8.4
LPG	2	10
Petrol Vapour	1.4	7.6
Hydrogen Sulphide, H2S	4.3	46
Acetylene	2.5	85
Ammonia, NH3	15	28
Carbon Monoxide, CO	10.9	74

Additional Information:

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Appendix 'B'

Excavation Permit

1)Requesting Dept. →2)Maint. & Engg. → 3)Facility → 4)Area In-Charge → 5)IT Dept. →6)HSE Dept. → 7)Requesting Dept. → 8)Engg. Section → 9)HSE Dept.

QATAR STEEL S. # _____

Excavation Permit

COR/HSE/SE/F-004-01

All-Please confirm the drawings, make your comments overleaf if required or attached document for clear understanding.

REQUESTING DEPARTMENT

Requesting Date: 19.09.2021 Requesting Dept: MNT & Engg Section: Util Shop: SeaWater Station

Place of Work: (Please attach the necessary drawings) Opposite of Old Pe

Reason of Excavation: 200 A Sea water Line Support Civil repair

Work Executed By: EMCO

Site In-Charge (Contractor): Vijay Tel: Mob: 70103317

Site In-Charge (QS) & Emp No: J.Rahumathulla - 10591 Tel: 8328/8419 Mob: 55313697

Dimension of Excavation			Duration of Excavation	Nature of Excavation	
Length:	119	meter	From: 22.09.2021		By Hand
Width:	1	meter	To: 17.10.2021	X	By Machine
Depth:	0.5	meter	Extension: _____	Mark only one	

Actual work started on: _____

Completed On: _____

Remarks:

In-Charge Manager

APPROVAL

Maintenance & Engineering Department

Utility (Please confirm the drawings, make your comments overleaf if required)

	YES	NO	Remarks
Potable water pipeline-			
Sea water pipeline / Drain-			
Gas pipeline-			
GASAL Supply Utilities-			

In - Charge

Remarks: For GASAL Supply Utilities, If "Yes" - Gasal approval evidence is to be attached with the Excavation Permit.

Electrical (Please confirm the drawings, make your comments overleaf if required)

	YES	NO	Remarks
Electrical Cable line-			
Instrument Cable line-			
Kahramaa Cable line-			

In - Charge

Manager

Remarks: For Kahramaa Cable Line, If "Yes" - Kahramaa approval evidence is to be attached with the Excavation Permit.

Facility Department (Please confirm the drawings, make your comments overleaf if required)

	YES	NO	Remarks
Drainage line-			
Water line-			

In - Charge Manager

Area In - Charge (For the location)

(For necessary safety precaution)

Remarks

Area In - Charge Manager

Information Technology Department

	YES	NO
I.T. Network Cable-		
Telephone Line-		

Remarks

In - Charge Manager

HSE DEPARTMENT

Fire water line + Siren + CCTV cable

YES NO Remarks

Fire In - Charge

Requirements	YES	NO		YES	NO
Fire extinguisher nearby-			Warning Signs-		
Warning light during night-			Barriers-		
Fire engine nearby-			Dust / Gas mask-		
Excavation traffic board-			Ear defenders-		
Remove debris/arrange are			Safety goggles-		
Hazardous item available-			Face shield-		
Breathing Apparatus-			Probing-		

Safety Coordinator Manager

Any excavation involving removal of trees or plants shall obtain prior permission from Environment section

Remarks

Closing

Requesting Department Area In charge | Engineering Section | HSE Document Controller

1. Incase of Emergency, Please contact Ext: 8333 ---- 2. Issue of Permit to subcontractor through Dept. Co-ordinator only.

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Appendix 'C'

Radiography Permit

Print Form | Submit by Email

QATAR STEEL

RADIOGRAPHY WORK PERMIT

VALIDITY	THIS PERMIT IS VAID FROM DATE: _____ TIME: _____ TO DATE: _____ TIME: _____
WORK	Plant: _____ Location: _____
	Work Description:

1. Is adequate warning given to persons in the area prior to and during radiographic work ☐
2. Is evacuation of all non-radiography personnel from the unsafe area one ☐
3. are safety features, warning signs and barriers erre-cted to secure area ☐
4. Are the licensed persons carriying out the job equipped with personal dosimeter/survey meter ☐
5. Are other plants are informed ☐
6. Are other work permits are with drawn ☐
7. Does the information given to truck scales ☐
8. Source/ Strength ☐ ☐ Curie
9. Safe distance ☐ Meters

Site preparation completed (Area in-charge)	**Work area checked for housekeeping (Area in-charge)**
Name/Empl.No. _____ Signature	Name/Empl.No. _____ Signature

Required protection equipment Respiratory protection	**Eye,Head, Hearing protection**	**Body, Hand, foot protection**	**Mandatory PPE**
☐ Self contained BA	☐ Face Shield	☐ Heat protective clothing	☒ Safety Shoes
☐ Fresh air Mask	☐ Goggles/spectacles	☐ Gloves	☒ Safety Helmet
☐ Full.half face gas mask	☐ Ear defenders	☐ Safety harness	☒ Protective Coverall
☐ Dust Mask			

Special Instructions

Name of the contractor _____

Name& Mob.No.of the contractor RPO _____

Caution: In case of emergency, the radiation source shall be immediately retracted into its protection container and the radiography team shall evacuate the area with radiation source in its exposure protection container

Counter Signature (as revelent)

Section	Date	In-charge

Permission granted for work to commence

Area In-charge: _____ Signature

Manager: _____ Signature

I/We understand the precautions to be taken and will notify the responsible area incharge of any change in conditions, work nature or when work is completed.

Contractor RPO: _____ Signature

Work completed, the source is packed in the container. barriers, warning signs and flashers are removed and restored the location to safe and orderly condition

Date: _____ Time: _____

Responsable Executor: _____ Signature

Permit Approved:

RPO (QS HSE) Signature

Permit Closed

RPO (QS HSE) Signature

Time of Radiography to be out of normal working hours if possible

The permit must be stopped together with work equipment if conditions change and in event of a hazard (fire/Gas leak etc.) or when any emergency condition emerged.

Please read me carefully prior to start of work

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Appendix 'D'

Qatar Steel - PTW Log Register

WORK PERMIT LOG REGISTER

QATAR STEEL

COR/HSE/SE/F102-00

Date	Permit		Scope of Work	Location	First issued (Start) date	Validity (Hrs)	Date / Time		Isolation-Lock /Tag (Y/N)	Verification of Required Documents (HIRA / Method Statement / Lifting Plan / Signage)	Issuer / Executor		Inspected by Area Incharge (Daily)		Remarks
	No	Type					Open	Close			Name	Sign	Name	Sign	

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Appendix 'E'

PTW & LOTO Audit Checklist (Off Site)

COR/HSE/SE/F-046-03

PERMIT TO WORK & LOCK-OUT TAG-OUT AUDIT CHECKLIST

QATAR STEEL

PTW - OFF-SITE-AUDIT

Department / Section	
Permit Number	
Task Description	
Area/Location of	
Date / Time of Audit	

Section A & B - Specification of Work		Yes	No	N/A
1	Is the description of work detailed & clear.			
2	Is the correct location & area clearly described.			
3	Is correct type of PTW issued for the work.			
4	Is any of the following document - HIRA / SOP / JSA / MOS / Lifting Plan / TBT attached to the work permit.			
5	Do the attached documents match with the description of work.			
6	Is executing dept./section & Issuing dept./section correctly mentioned.			
7	Is Date of first issue & current validity of permit mentioned correctly.			
8	Is equipment tag no. / name mentioned correctly.			
Section C & D - Preparation & Risk Assessment		**Yes**	**No**	**N/A**
1	Have all the preparation & controls been identified.			
2	Does this work require electrical isolation.			
3	If yes, is LOTO applied, Pad lock number, equipment name & number, Employee number and signature of electrical isolator mentioned correctly.			
4	Does this work require mechanical isolation.			
5	If yes, is LOTO applied, Pad lock number, Employee number and signature of mechanical isolator mentioned correctly.			
6	Is Gas analysis required, If yes, was it performed by an authorized gas tester.			
7	Is road traffic control included with the permit and relevant to the scope of work.			
8	Have all appropriate PPE been identified, relevant to the PTW type and scope of work.			
Section F, G, H, I & J - Authorization & Issue		**Yes**	**No**	**N/A**
1	Is the list for authorized permit issuers, field operators, isolators, AGT and executors, approved by individual department manager available.			
2	Is the contractor list for authorized executors, approved by individual department manager available.			
3	Are the Qatar steel personnel eligible to sign a work permit as issuer, executor, field operator, isolator or AGT.			
4	Are the contractor personnel eligible to sign a work permit as executor.			
5	Is the job consider as high risk activity.			
6	If yes, are HSE & Dept. Manager approval obtained			
7	Is permit revalidated for the same job.			
8	If yes, is date, time & signing of permit by all concerned authority for revalidation done correctly.			
Section K, L & M - Closing of permit & Contact details		**Yes**	**No**	**N/A**
1	Is permit closed.			
2	If yes, permit signed & checked box properly ticked by all authority i.e. executor, issuer & isolator.			
3	Is all concerned authority contact details listed correctly.			
Confined Space		**Yes**	**No**	**N/A**
1	Is the confined space clearly described.			
2	Is the confined space register available & approved by Dept. Manager.			
3	Has all the required arrangements & preparation for the confined space been completed.			
4	Is associated work permit No. in CS entry permit captured correctly.			
5	Is the frequency of gas test done according to confined space register.			
6	Is confined space access entry/exit control sheet available with signed copy.			
7	Are the signed CS rescue plan & associated documents attached & available with the CS permit.			
8	Is the CS checklist attached with the CS permit.			
Excavation Permit		**Yes**	**No**	**N/A**
1	Is excavation permit duly signed by all concerned agencies.			
2	Is layout drawing attached to permit and area for excavation clearly marked.			
3	If the excavation is deeper than 1.2 meter, has a CS permit been issued.			
4	Is HIRA / JSA / MOS attached with the excavation permit.			
Record Keeping - PTW		**Yes**	**No**	**N/A**
1	Are different types of permits filed separately in chronological (date wise) order.			
2	Are the work permits filed for at least six(6) months form the date of issue/closer.			
3	Is the QS work permit register being maintained and up to date.			
4	Is the closing/cancellation of work permit recorded in QS log register.			

LOTO - OFF-SITE-AUDIT

LOTO - Prepartion, Training & Effective Application		Yes	No	N/A
1	Have machine/equipment specific SOPs been written in standard formate with proper identification of energy source, Isolation points, compatiable LOTO device and approved by all concerned agencies.			
2	Are available lockout and tagout devices sufficient for MSD activities			
3	Is the personal Lockpad is under proper control by executer & supervisor			
4	Are lockout & tagout devices under proper control in LOTO station.			
5	Has LOTO training been completed for all participants in LOTO.			
6	Do PTW and Lockout registers correspond i.e. numbering and LOTO requirements indicate.			
7	Is there LOTO compliance with PTW requirements, i.e. has LOTO been applied as required in PTW & the reverse.			
8	If machine/equipment specific SOPs are not available and displayed, are they accessible when required.			
Record Keeping - LOTO		**Yes**	**No**	**N/A**
1	Is the Isolation and lockout register maintained and kept upto date.			
2	Is there any an emergency lockout removal register?			
3	If yes, an emergency lock removal register is up to date?			
4	Is there an energized work authorization form used and kept up to date in these forms.			

Observation:

Immediate Action:

Auditor's Name:	
Signature:	

Acceptance

Auditee's Name:	
Signature:	
Date:	

Corrective Actions & Close Out:

Auditee's Name:		Auditor's Name:	
Signature:		Signature:	
Date:		Date:	

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PTW & LOTO Audit Checklist (On Site)

COR/HSE/SE/F-046-03

PERMIT TO WORK & LOCK-OUT TAG-OUT AUDIT CHECKLIST

QATAR STEEL

PTW - ON-SITE-AUDIT

Department / Section	
Permit Number	
Task Description	
Area / Location	
Date / Time of Audit	

Authorized & Issued		Yes	No	N/A
1	Is the description of work detailed & clear.			
2	Is correct type of PTW issued, according to the job description.			
3	Is there an up to date copy of work permit displayed on-site & duly signed by all authorized personnel.			
4	Has the executing authority held a pre job tool box talk (TBT).			
Job Execution		**Yes**	**No**	**N/A**
1	Are all the controls mentioned in the PTW/JSA/MOS/HIRA/ in place & effective.			
2	Have the appropriate Gas tests been carried out by an AGT & recorded in the work permit.			
3	Are all the appropriate PPE identified by the executor, and available.			
4	If any PPE has been specified in a MOS/JSA/HIRA or section D of the permit, is it in use & in good condition.			
5	Is safety equipment defined in the HIRA/JSA/MOS available at the worksite and members of executing team are			
Question & Answer (Auditor to executing team member)		**Yes**	**No**	**N/A**
1	Has your team leader explain the job and hazards to you.			
2	Can you brief me about the job to be performed.			
3	Are you aware of the hazards and associated risks of your job.			
4	Did anyone tell you what safety controls are in place and/or precautions to be taken.			
5	Do you know the reason why the TBT is held prior to the job & signed.			
Confined Space		**Yes**	**No**	**N/A**
1	Is the confined space clearly identified and described.			
2	Has the CS permit been completed correctly.			
3	Is positive isolation(blind flange & disconnection) in place, if yes, is the isolation form attached.			
4	Is the job watcher available on-site, if yes, is he aware about all the emergency communication protocol related to			
5	Is the frequency of gas test done as recommended in confined space register.			
6	Is confined space access entry/exit control sheet available & signed by all CS executors.			
7	Are the signed CS rescue plan & associated documents attached & available with the CS permit on-site			
8	Is the CS checklist attached with the CS permit.			
9	Are all the executors working in Confined space third party certified.			
Excavation Permit		**Yes**	**No**	**N/A**
1	Is the excavation permit duly signed by all concerned agencies.			
2	Is a layout drawing attached to permit and the excavation area clearly marked.			
3	If the excavation is deeper than 1.2 meter, has a CS permit been issued.			
4	Is HIRA / JSA / MOS attached with the excavation permit.			

LOTO - ON-SITE-AUDIT

		Yes	No	N/A
1	If there is currently LOTO on machines/equipment is it correctly applied as per PTW & LOTO procedure.			
2	Are machine/equipment specific SOPs available at the worksite.			
3	If the specific SOPs is available at site, are the participants competent to use it.			
4	Have all the devices been correctly selected and correctly applied for LOTO.			
5	Do the personnel (Including contractors) demonstarte an adequate level of awarness of the LOTO.			

Observation:

Immediate Action:

Auditor's Name:	
Signature:	

Acceptance

Auditee's Name:	
Signature:	
Date:	

Corrective Actions & Close Out

Auditee's Name:		Auditor's Name:	
Signature:		Signature:	
Date:		Date:	

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Appendix 'F'

Long Term PTW Guidelines:

PTW

- Work site and scope of work shall remain the same (if any change work permit become invalid and shall be reissued).
- Issuer & Executor shall remain the same during the whole period of PTW. Should any of the issuers or executors change, a new permit must be issued.
- It must be clearly mentioned work will be 12 hrs. Or 24 hrs.
- In case of 12 hrs. duty , executor shall handover the PTW copy (every day after work finish) and next day issuer and executor again shall visit work site to ensure that everything remains same and handover the PTW again to executor [Attach handover sheet] and executor LOTO lock pad to remain in place till PTW is closed.
- In case of 24 hrs. duty, executors shall handover the work permit and work site to the next executor after verifying that work site remains same without any changes [Attach handover sheet] and accordingly LOTO lock shall be replaced.
- The hand over sheet should be used that includes the following: PTW no, Isolation no (LOTO), Acknowledgement that the area has been assessed and there are no new hazards.

Long Term Isolations

- All agencies Issuer, executors and Isolators shall agree on the list of equipment that will be isolated till end of shutdown.
- Operation team (Issuer) will issue the isolation PTW for Isolator to isolate each equipment, accordingly operation will keep his lock pad on each lock box till de-Isolation at the end of shutdown activities.
- Isolation lock box will be kept in control pulpit.
- During maintenance PTW, issuer will refer to individual equipment isolation PTW, and Isolator will sign each individual PTW and record in isolation register.
- Executor will then be required to put his lock on the lock box prior to the activity and remove it at the end of his shift.

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