

1. Objective

This instruction provides the guidelines on completing the radiography permit and for following safe practices during radiography activities in QAPCO operated facilities.

2. Scope

The Radiography Certificate is applicable in all areas within the Qapco operated facilities for all radiography works for the purpose of non-destruction testing.

All work related to the stationary radiation sources within the QAPCO operated facilities are defined in specific maintenance procedures related to the job.

3. Instruction Summary

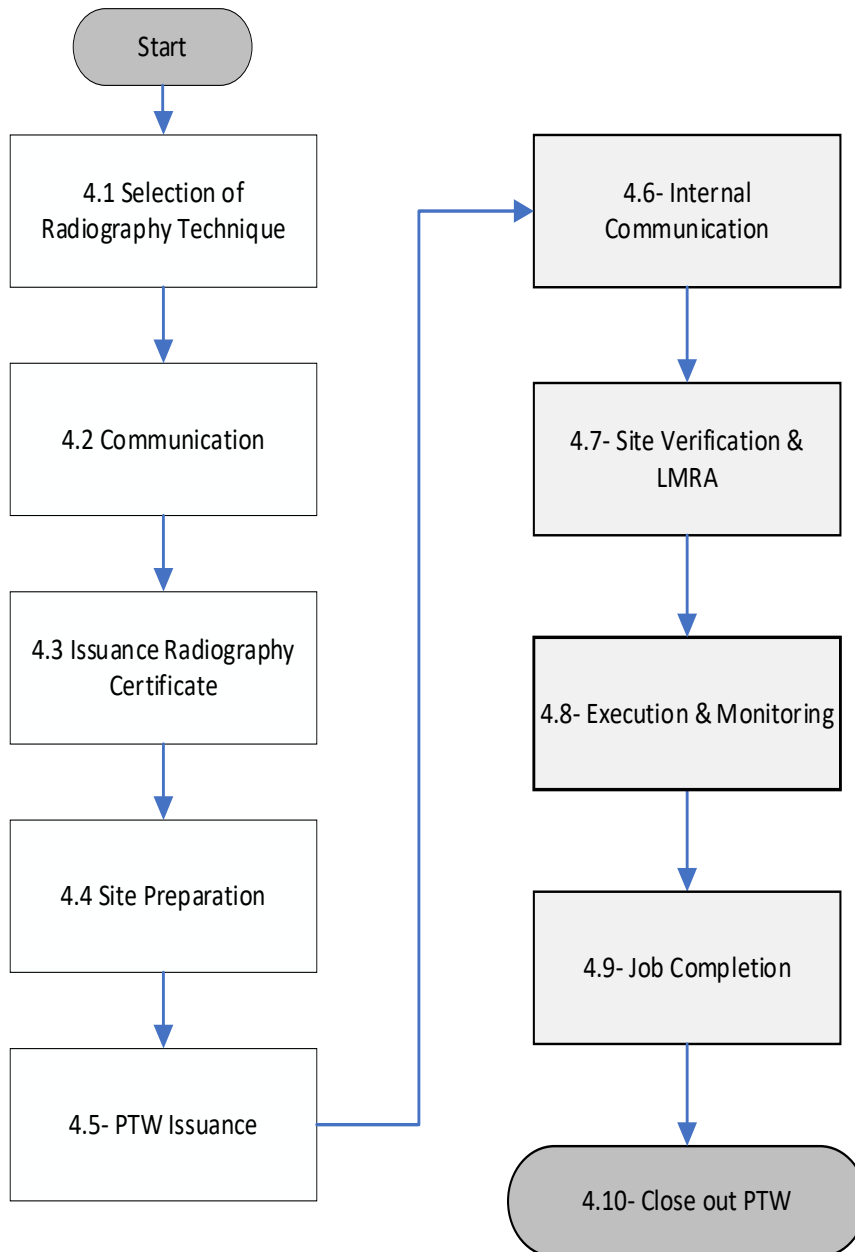
Radiography activity has a potential radiation hazard for the working personnel and people in the exposure zone. Instruction provides guidelines for the safe execution of radiography works.



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4. Radiography certificates Process:



RADIOGRAPHY CERTIFICATES PROCESS CLARIFICATION

4.1 Selection of Radiography Technique:

a. Normal radiography (Conventional Radiography)

- Conventional radiography captures an image of the part to be evaluated using a sensitive film that reacts to the released radiation. This image can then be inspected for any damages or defects or the associate deteriorations.

b. SPRE (Small Proximity Radiation Exposure)

- Radiography work involving SPRE can be done any time during the day, ensuring proper radiation survey and barricading.

Note:

- All non-destructive radiography works (except SPRE) should be performed after the normal working hours except for emergency cases, where it can be planned during lunch time with proper Job Safety Analysis (in all cases).

4.2 Communication:

Prior information has to be sent to the plant operations about the radiography works by the radiography requesting party. (Emails contains Work description, Date/Time/Duration of radiography work, Location, source intensity, source type, safe work distance etc.)

Note:

- The transportation, control and handling of radioactive sources must be in accordance with the National Regulations of State of Qatar.
- Follow HSE guideline for Traffic, Pedestrian & Equipment movement ([IN-250- HSE-17](#)) inside Qapco operated facilities

4.3 Issuance of Radiography Certificate

- The radiography certificate is completed by the Inspection Section (Integrity Department) designate requesting the need for radiography.
- The radiography requesting party shall ensure that the radiographer and his team are certified and possess adequate protection measures for themselves as well as the site.
- The strength of the radioactive source used for the test shall be listed in curies
- The safe working distance has to be calculated by Inspection Section based on the source strength and information provided by the radiography contractor.
- The safe working distance for the permit specific radiography job has to be filled.
- The Radiography certificate must be approved by the Inspection Section (Integrity Department) responsible person.

4.4 Site Preparation

- The safe working distance has to be marked physically at site to prevent unauthorized access.
- All the controlled area shall be designated and marked by barriers with warning signals and flashing lights.



- In case of radiation activity carried out near QAPCO fence, then to avoid radiation impact on areas outside the fence, is it mandated to use collimator to reduce the intensity of the radiation and to channelize the direction of radiations.

4.5 PTW Issuance

- Before starting the radiography, all other work permits within the controlled area or as determined by the plant operations, shall be suspended.
- The work permit linked to this radiography certificate shall be completed and referenced in the box provided on the certificate,
- A separate permit shall be issued for radiography preparation at work site

Distribution

- The original (first copy) will remain in the control room/ Permit issuer.
- The hard copy will be at the work site and held by the Lead Executor during the duration of the job.

4.6 Internal Communication

- The plant operation shall inform the Firefighting Coordinator for any access limitation before the job commences.
- Permit issuer shall communicate the Radiography Activity to affected neighboring unit/Plant.

4.7 Site Verification & LMRA

- Before starting radiography, Lead Executor shall conduct the LMRA with all Team Members and discuss the hazards, Precautions, communication & Emergency actions.

4.8 Execution and Monitoring

- The party performing radiography shall inform the permit issuer or plant operations at least half an hour in advance to vacate the area.

- The radiographer or his team member shall check and confirm that all nonessential personnel have evacuated.
- A proper communication mode shall be established by the plant operations and radiographer for informing any abnormality before and during the radiography operation.
- It is mandatory for the radiography performing authority to inform the plant operations before beginning the job.
- All involved in radiography work should have radiation dosimeter (Badge)
- A calibrated survey meter should be available to check and monitor the radiation.

Note:

- Emergency action: Stop the radiography work and initiate the emergency response plan by informing FF and CCR
- The contractor Radiation Protection Officer (RPO) shall attend the work all the time.
- Ensure required barrication & Signs are intake so no unauthorized person entry inside radiography area.

4.9 Job completion

- If Radiography activity is more than one shift, then work permit shall be revalidated.
- Work Permit related to Radiography certificate is valid for one job and once job is completed relevant work permit should be closed.

4.10 Close out

- QAPCO Inspector shall confirm the completion of the job and the contractor has safely removed the radioactive source from the site.
- Work Permit shall be closed only after confirming that the radioactive source removed from the site by the contractor.
- The Field Operator shall inspect the work area and confirm that it is restored to normal, and housekeeping conducted then sign the Work permit for closing.
- Closure of the Radiography Certificate is linted with Cold work Permit, if work Permit is closed Radiography certificate shall be considered as closed.

5. Responsibilities

Role	Responsibilities
Line Manager	<ul style="list-style-type: none"> • Responsible to ensure that guidelines are followed
Principal engineer	<ul style="list-style-type: none"> • Accountable for all works undertaken within his area of control • Knowledge of the Radiography Certificate Instruction (IN-250-HSE-12) requirements • Ensure that there are no conflicting activities in the area that may introduce the additional hazards and he should ensure that hazards are identified for conflicting and non- routine activities and control measures are in place. • Ensure systematic PTW system audit is being carried out by his team.

Permit Issuer	<ul style="list-style-type: none"> • Agree with the Inspector in Charge for the exact time and duration of the radiography job to be done. • Ensure that all control measures and required barricading is implemented at site. • Ensure that the required safe zone is free from any other persons in the 360 degrees. • Issue PTW and ensure the Radiography Certificate is correctly completed and attached to the Permit
Field Operator	<ul style="list-style-type: none"> • Conduct LMRA with Lead Executor • Ensure that all control measures and required barricading is implemented at site. • Confirm that the required safe zone is free from any other persons in the 360 degrees. • Perform frequent checks and ensure PTW system is complied.
Inspection Section:	<ul style="list-style-type: none"> • Responsible for planning, scheduling & organizing of radiography activities inside QAPCO premises. • Selection and hire of specialized Radiography contractors. • Review and accept all documents submitted from the Radiography contractor, this shall include but not limited to: <ul style="list-style-type: none"> ○ Radioactive Source information ○ Decay chart ○ Safe distance calculations ○ Emergency Plan • Communicate and agree with the Plant/Location responsible team regarding the exact time and duration of the radiography job to be done. • Prepare and Approve the Radiography Certificate. • Ensure that all control measures and required barricading is implemented at site.

6. Records.

The owner / executor shall maintain the following records / documents for reference:

#	Document / Record name	Retention period	Retention policy	Retention method	Classification
1	Radiography Certificates & Associate Permits	1 Month	Maintain by Operations	Hard copy	Internal
2	Radiography Certificates	1 Month	Maintain by inspection	Original copy	Internal

7. Document References / Attachments

#	Documents	Document name	Summary of dependency or use
7.1 Document Reference			
1	PR-PSS-114	Permit to work procedure	Details for QAPCO Work permit system
2	IN-250-HSE-07	HSE Instruction for Cold work Permit	Details for QAPCO Work permit system
3	PR-PSS-127	Job safety Analysis	Qapco safety procedures
4	IN-250-HSE-21	Management of Radioactive Materials Procedure.	Qapco safety procedures
5	IN-250-HSE-17	HSE Guideline for Traffic, Pedestrian & Equipment movement	Qapco safety procedures
7.2 Attachments			
1	IN-SO-06-F-01	Radiographic Work Certificate	Qapco safety procedures Radiographic certificate

8. Abbreviations / Definitions

#	Abbreviation / Keyword	Definition summary
1	Radiography	An activity performed using an ionizing radiation source to verify the integrity of a welding joint and thickness profile.
2	Work Permit	It is a written document issued for performing any intervention work on QAPCO assets. It authorizes the holder of the completed document to carry out a specific task at a specific location at a specific time and lists out the potential hazards and the appropriate precautions to be taken for performing the intervention safely.
3	Curie	A unit used to measure the strength of the radioactive source.
4	Safe Working Distance	The distance from the location of the radioactive source at which the radiation dose will be negligible to any exposed person.
5	Execution Supervisor/ Planner	QAPCO Employee direct supervise Lead Executor or responsible to plan & execute the task and extensive knowledge about task. (He can be from QAPCO maintenance/ESD/Project representative/ Inspection)
6	Permit Issuer / Issuing Authority	QAPCO authorized person appointed as Permit issuer and responsible for the asset/area under his control. He is responsible for issuing the work permit to the Lead Executor. He must be successfully trained in the Permit to work system of QAPCO.
7	Lead Executor	Is a person who is trained and qualified for QAPCO work permit system and responsible to ensure that all conditions of the permit, agreed to with the Permit Issuer, are being always fulfilled throughout the job. He can be a QAPCO staff or a contractor employee
8	Work permit	It is a written document issued for performing any intervention work on QAPCO assets. It authorizes the holder of the completed document to carry out a specific task at a specific location at a specific time and lists out the potential hazards and the appropriate precautions to be taken for performing the intervention safely.
9	Job Safety Analysis	One of the risk assessment tools to ensure all hazards associated with a job are proactively identified before starting it and suitable controls are identified to mitigate the risk to as low as reasonably practicable (ALARP).
10	Restricted area	Plant area within the safety gates is called the restricted area where the plant equipment and processing operations are carried out.
11	Non-Plant Area	Any area inside Qapco complex and outside the plant Restricted Area, this includes (Buildings, Contractor Yard, Waste Storage Yard, Logistics Warehouses, Roads, Gates, Avenues, Car Parking, etc.)
12	SPRE	Small Proximity Radiation Exposure

9. Revision History

Rev #	Date	Section No.	Reason for revision / modification
0	01.02.2018		<ul style="list-style-type: none"> • Procedure PR-251-SF-08 converted as instruction In-250-HSE-12 as per BT requirements • Modified as per the New Organization structure • Add terms and definitions as per new template • Update reference list • Changed from Execution to Lead Executor • Changed Operation to Permit issuer • Updated the Radiography Certificate as needed • Instruction revised to integrate QAPCO PTW system with QVC PTW after merging
1	26.06.2023	All 3.0 4.0 4.1 4.1, 4.3, 4.8 8.0	<ul style="list-style-type: none"> • Change document Number from IN-250- HSE-12 to IN-SO-06 as TOFA requirements. • Added "Instruction Summary" • Added Process Flow chart • Explain "Normal Radiography". • Added Traffic management guidelines, Barricade, Emergency Actions & control near fence area. • Added Definitions of "Work Permit, Permit Issuer/Issuing authority"