



OPERATIONAL CONTROL PROCEDURE

Doc. No.: HSEOCP:26

Rev. No.: 00

Rev. Date: 10/01/2018

OCP No. : 26

RADIOGRAPHY

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Purpose	To ensure safety during radiography of welded joints at sites	Scope	ISG
Responsibility	Concerned Site Incharges		
Performance criteria	Accident and health record of employees		
Cross reference	OHSAS : 18001, ISO : 14001		

PPEs Used

	Insulated rubber gloves		Appropriate insulated rubber footwear		Good safety helmet secured with chin strap
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Procedures and Controls

S. No.	Activity	Responsibility
1.	Exposure to penetrating radiation from Radioactive Isotopes and other source is becoming more and more pronounced in the construction field	---
2.	A couple of decades ago, radioactive sources, used, were comparatively 'mild' and less encountered. With the growing demand of weld joint inspection, metal thickness / flaw determination, liquid level measurement in High temperature / pressure process vessels etc., the use and application of the radioactive sources specially, Y-radiation, has increased considerably	---
3.	However, the protection and procedure for work safety and personnel protection have warranted very little basic changes	---
4	Atomic Energy authorities have been alert and alive to the situation Well organized and efficient monitoring, controlled operation and rescue / recovery system has been developed and enforced. Some of these are:-	---
4.1	Authorized person obtains all Radioactive Isotopes from BARC (Bhabha Atomic Research Centre, Mumbai) only	Site Incharge
4.2	Transportation and storage specifications and standards are rigidly monitored and enforced by the authorities	Site Incharge
4.3	Any mishap, loss or damage is promptly attended to and rectified by the authorities, immediately on receipt of information	Site Incharge
4.4	They promptly and formally collect all isotopes reaching their Half-life stage	Site Incharge
4.5	Site requirements for the safe use of field personnel are as follows: a. Isotope storage – a designated and certified location should be maintained properly with prescribed warning board and fencing. b. Personnel using the Isotope must be medically checked	Site Incharge



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	before being permitted to handle and found fit. c. They must have a valid BARC certificate for safe handling of Isotopes. d. They must use a film Badge or Dosimeter as prescribed by the authorities while working with Isotopes. e. Isotope attached to a metal pencil should be removed from storage only for the optimum period of work. f. Isotope MUST not be taken out of the container lead pot till actual exposure stage is reached. The exposure time must be calculated beforehand. g. Ensure radiation monitoring equipment is working, when exposure is in progress. h. On expiry of the exposure time, the source must immediately be put back in the container. i. All personnel working with radiation sources must maintain the prescribed safe distance at all stages of work. j. Isotopes Pencil must be handled by a Collimator or monitoring rod of specified length, to avoid any unsafe proximity to the operator's body. k. Isotopes or the pencil should never be touched by hand or allowed to come in contact with body. l. The area of work must be cordoned for a minimum radius of 10m for a Y-ray Isotope of about 3 C (S.A) and more as the strength – "Specific Activity" of the source, demands. Specified warning Boards MUST be installed adequately around the cordoned area.	
4.6	If an isotope is damaged or lost: a) Immediately seal the working / suspected areas for all traffic, pedestrian or vehicle. b) Do not remove any materials tools, containers, vehicles – anything from the suspected area. Inform BARC Authorities – Radiation Protection, Directorate of Atomic Energy.	Site Incharge
4.7	Keep strict watch till the authorities arrive. The authorities will locate and dispose off the offending isotope. On no account site people or any other persons – except BARC designated personnel – should attempt to recover the lost isotope. Suspected over exposure of any personnel must be reported to medical centre immediately	Site Incharge
4.8	On a routine basis: ☐ All personnel attached to the radiography / radiometer crew must have prescribed medical check-ups. ☐ Dosimeter / film badges must be returned to BARC for processing. Safe exposure dosage for each individual over different	Site Incharge



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time stages – fortnightly, monthly, annually are predetermined and compared against actual exposures.

☐ If a person is over exposed at any time he should be:

a) Taken off Radiography / Radiometry work.

b) Assigned other duties as advised by doctor. He has no cause for panic.

A careful handling and strict observance of precautionary measures renders isotope use totally safe.

Site Safety department to identify all possible Radiography Hazard Areas and ensure control as per this OCP.

In addition, relevant records pertaining to actions taken to be prepared and kept.

Records:

Record Title	Record No.	Location	Responsibility	Retention Period

Verification, Corrective and Preventive Action:

HOD / Site In-charge shall ensure effective implementation of the above procedure. In case of any deviation, shall take suitable corrective and preventive action.

Revision History

Revision Date	Revision No.	Old Text	New Text	Reason	Revised by (with sign)