EPP-1.6 Waste Acceptance – Identification of Radioactive Items

1. PURPOSE:

To outline procedures to be taken if radioactive material is detected in incoming loads or if present on site.

2. SCOPE:

Radioactive items including sealed sources hidden within loads can be potentially harmful to persons and the environment. If it is not managed, controlled, stored and disposed of correctly, it can cause wider contamination if released into the local environment such as being included within furnace feed at steelworks or foundries.

EMR has no wish to receive such items and actively discourages their receipt onto EMR sites through signage etc.

Radiation is difficult to detect and requires specialist equipment and training. EMR has provided such equipment at site in the form of weighbridge radiation detectors and specialist handheld equipment for use by those who are suitably trained and authorised..

EMR have appointed Radiation Protection Supervisors (RPSs) to advise on the safe management, control, storage, disposal and documentation of radioactive items. Appropriately qualified and experienced Radiation Protection Advisors (RPAs) are also available for advice on complying with the Ionising Radiations Regulations (as amended).

The group Environmental Permit for the receipt of unintentional radioactive sources requires EMR to provide safe and secure storage for any radioactive item while it is assessed and an appropriate course of action is determined. This is intended to ensure that people and the environment are protected from the harmful effects of radiation.

3. PROCEDURE:

3.1 Weighbridge detectors must be fully functional all day, every day.

- They must be switched on and working correctly
- The printer must be connected and working correctly
- The detectors must be tested once a week using either the computer's self-test function or the test source where supplied. The checks must be recorded on the weighbridge pre-use checksheet.
- Any fault/failure with the equipment must be reported immediately to the site management, RPS/Environmental coordinator

3.2 The equipment if working correctly will continually monitor for radiation. To perform at its best the following steps need to be taken:

- Ensure the detectors are protected from damaged;
- Vehicles should not be allowed to queue in between the detectors while waiting to pull onto the weighbridge
- Vehicles should not exceed the speed limit. If the high speed alarm activates the vehicle must be sent back through the detector before being weighed. Optimum speed is 3mph.

3.3 If the radiation alarm activates follow the Alarm Response poster(H22-06) to confirm if it is a genuine alarm:

- Ensure the site manager is made aware of the confirmed alarm and have the vehicle parked up to wait in the temporary quarantine area while you receive advice from the RPS on how the load will be dealt with.
- Ensure the RPS is notified. As per the contact details on the poster.
- Do not attempt to isolate the material unless you are a qualified person and have access to the correct equipment.
- Do not have the load tipped, **unless instructed by the RPS**, as this may result in damage to the item.
- Report immediately to the RPS if the vehicle tries to leave site without the items being quarantined.

- Any found item must be kept secure in the site's designated storage bunker in accordance with the Local Rules. All items will be recorded on the Waste Source list(Q06-02).
- All alarms must be recorded by the site onto the Event Log
- Keep all alarm printouts and details about the load and vehicle for recording in the radiation report H22-05.

3.4 If the dose-rate exceeds 7.5 μSv/h or significant contamination is suspected, the RPS/RPA will designate a controlled area. The purpose of the controlled area is to restrict access to unauthorised persons into areas of known higher dose-rates, and to minimise unnecessary exposure to anyone else. The site will

- Install and maintain barriers and signs in place at the quarantine area as directed by the RPS to a minimum of 2m exclusion zone around load. No one unless authorised by the RPS/RPA should enter this cordoned area.
- The RPA may visit site to characterise source, label, pack and complete transfer documentation prior to safe transport and disposal at approved permitted site;
- If a High Activity Sealed Source(HASS) is identified the local police and HSE (transport) must be informed before safe transfer of the source.

3.5 The alarm can be triggered by a wide range of materials, this is because they either are a radioactive sealed source or they contain material or are coated/contaminated with material that is radioactive. Some examples are as follows:

Thoriated electrodes/wire

Thoriated welding rods

Scale within pipes/components (NORM)

Thoriated magnesium engine parts

Industrial gauge housing

Luminised marker

Smoke detector

Luminised dial

Depleted uranium

Sealed Source (approx. 10 x 3 mm)

3.6 If the radiation storage bunker is involved in any kind of incident such as fire, damage or theft report it immediately to the site manager and the RPS.

4. RESPONSIBILITY:

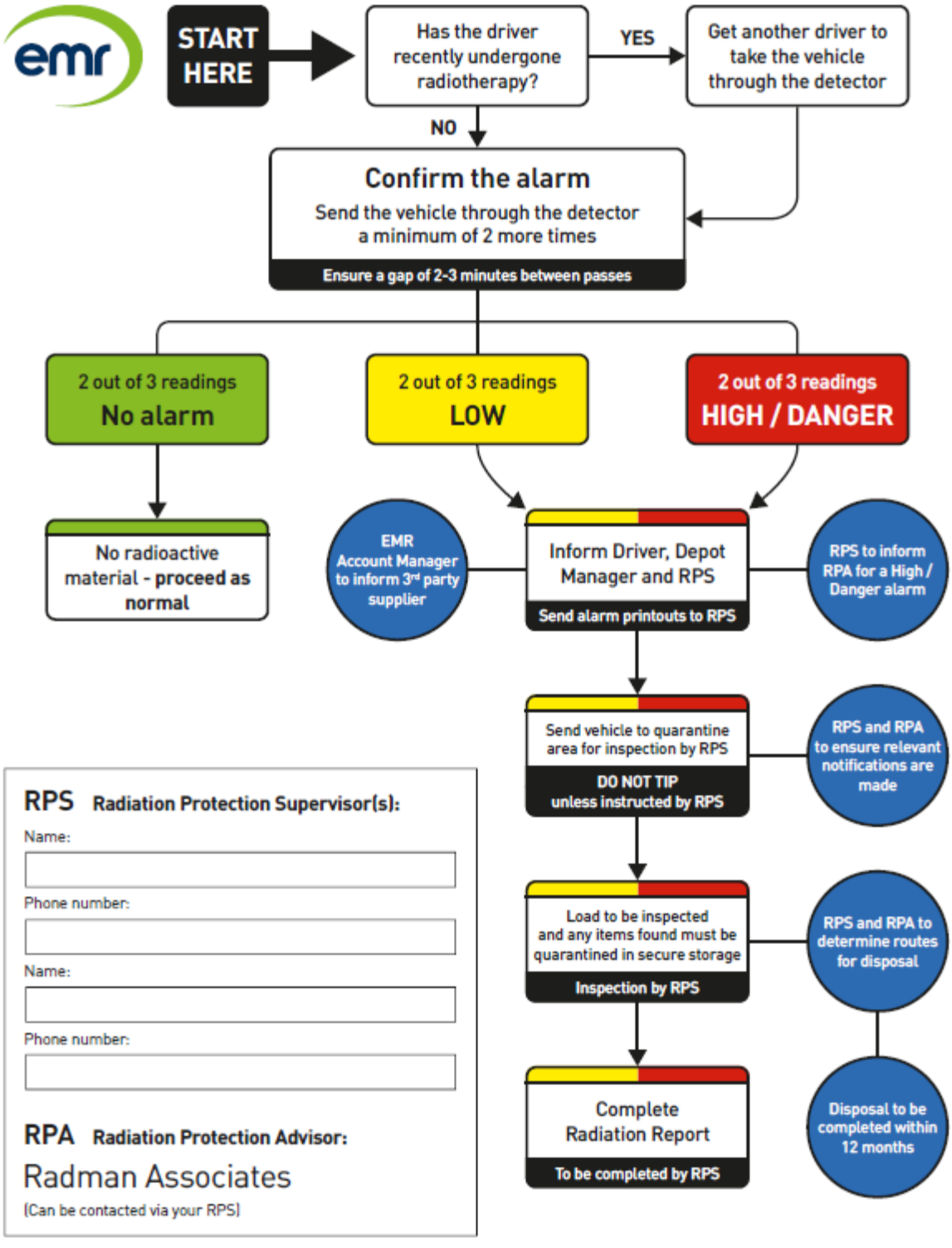
It is the responsibility of the Site Manager to ensure all material in their yards is passed through detectors fitted at the weighbridge and it is also the responsibility of any personnel who are involved in the classification of material coming onto the premises.

5. ASSOCIATED GUIDANCE & INFORMATION: *

- **H22-PM01 – Ionising Radiation Process**
- H22-06 Radiation Alarm Response poster
- EPP-1.1 Waste Acceptance – The Duty of Care Acceptance of Incoming Material
- EPP-1.2 Waste Acceptance – Inspection of Incoming Material
- EPP-1.8 Waste Acceptance – Rejection of Waste Material
- **EPP-1.15 Waste Acceptance – Radioactive Item Disposal**
- **EPP-2.12 Waste Storage – Storage of Radioactive Items**
- **SWP-7.10 Emergency – Inspection for possible radioactive item**

RADIATION ALARM RESPONSE

What to do if the radiation alarm is triggered



RPS Radiation Protection Supervisor(s):

Name:

Phone number:

Name:

Phone number:

RPA Radiation Protection Advisor:

Radman Associates

(Can be contacted via your RPS)

H22-06 Issue No. 1.1

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Competency Test			
Assessor Name:		Date of Assessment:	
Assessor Signature:		Assessment Score: (marks / total)	/ **5**
Employee Name:			☐ Pass (100%)
Employee Signature:			☐ Fail (<100%)

Please tick correct answer(s)

Q1	If the radiation alarm sounds; how many <u>more</u> passes on the weighbridge must the vehicle make to confirmation if there is a radioactive load?	
A:	One more	☐
B:	Two more.	☐
C:	Four more.	☐
Q2	If the alarm confirms there is a suspected item what should be done next?	
A:	Turn the load away	☐
B:	Quarantine the load and report it to the site manager and RPS	☐
C:	Tip the load as normal.	☐
Q3	If the detector is not working or is faulty what must you do?	
A:	Carry on weighing in.	☐
B:	Inform the RPS and await advice.	☐
C:	Close the weighbridge.	☐
Q4	If the vehicle speed alarm sounds what should be done next?	
A:	Nothing the detector will still work.	☐
B:	Get the vehicle to pass through 3 times	☐
C:	Get the vehicle to pass through more slowly.	☐
Q5	Which of the following is **not** an example of an item which may cause detectors to alarm?	
A:	Smoke detector	☐
B:	Luminised dial	☐
C:	Tin cans	☐