

Standard Operating Procedure Gasparell Baling Plant

Measuring Radioactivity levels

Objectives of the process

Metal waste, especially that originating from factories and industrial activities is checked for the presence of radioactivity prior to acceptance.

As a standard policy no radioactive waste nor waste contaminated with radioactive materials is accepted in the plant. Exporting material contaminated with radioactive waste would result in additional expenses for the operator and also delays in the transport when it reaches the country of destination hence an additional check is also carried out prior to export by third parties and a certificate is issued.

Instrumentation

The company uses an RC2^{plus} handheld meter which is a standard piece of equipment used in industry. The instrument uses advanced spectral techniques to enhance sensitivity for reliable detection of isotopes with extremely low doses. The instrument is supplied with default parameter which have been selected for the Metals recycling industry. The selected Regions of Interest (ROI) energy ranges and alarms thresholds have been factory present to enhance the detection of the commonly found isotopes in scrap metal cargos. Albeit users can also change these defaults.

Procedure:

1. Scrap metal enters the facility on vehicle;
2. Operator moves away from the metal and switches on instrument so that it will take the background radiation levels reading.
3. Once switched on, instrument initializes and carries out a self-test. When complete it displays the scanning screen. The background radiation is displayed together with other tests which are carried prior to use.
4. The instrument has three levels of sensitivities, Low, Medium and High. Operator uses the High setting to ensure a greater sensitivity. The units which could be used are R/h or Sv/h.
5. The operator approaches the vehicle holding the material and observes whether the meter sounds any alarm, a vibration notification together with a visual screen one.
6. If any indication of radioactivity is detected the vehicle and contents are not accepted on the premises and the driver is asked to leave immediately. Reason for refusal would also be communicated.
7. The Radiation Protection Board (tel:27998676) will be duly informed and driver asked to wait.
8. If there are no signs of radioactive materials on board, then waste is accepted and vehicle may empty contents in yard.
9. Once operation is over, instrument is switched off.

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