

Management of metal arising from an Italian Nuclear Facility: techniques for clearance and unconditional release.

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The start of the decommissioning of nuclear plants in Italy lead to an appreciable increase in the volume of metal materials that will need to radiological characterization for the unconditional release.

The nuclear fuel reprocessing plant ITREC, located in Rotondella (MT) in the south of Italy, is currently undergoing safety maintenance. As part of these activities was necessary the replacement of approximately 5000 m of radioactive liquid effluents discharge's pipeline.

The entire pipeline is undergoing treatment within a small Waste Management Facility suitably equipped for the cutting, the separation of non-metallic residue and decontamination. 100% of the pipe portions are characterized through measurements of gross-beta and high resolution gamma spectrometry in order to verify the clearance of materials. The target levels of surface activity and specific activity, prescribed by the National Regulatory Authority, is verified through measurement activities implemented according to specific MQOs defined for the specific process.

Activities, subject to National Regulatory Authority control, allow the unconditional release of metallic materials originated from the removal of the radioactive liquid effluents discharge's pipeline in nuclear fuel reprocessing plant ITREC managed by SOGIN SpA.

The methodology described provides a good example of management, treatment and decontamination of metallic materials for unconditional release.