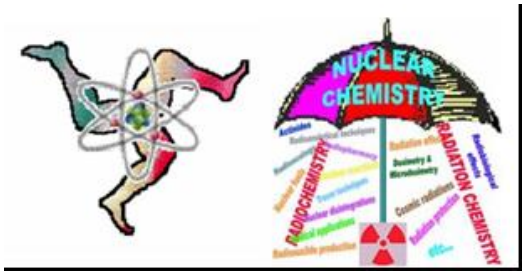

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Assessment of dose to the Irish population arising from anthropogenic radioactivity in the Irish marine environment

Friday 23 September 2011 09:20 (15 minutes)

Since the early 1980's the Radiological Protection Instiute of Ireland (RPII) has carried out extensive monitoring of the levels of anthropogenic radioactivity in the Irish marine environment through analysis of fish, shellfish, seaweed and sediment samples. The most significant source of this anthropogenic radioactivity arises from the liquid discharges from the Sellafield nuclear reprocessing plant located in the Eastern Irish sea and the radionuclides of primary interest are Cs-137, Tc-99, Pu-238 and Pu-239,240.
The RPII has always used the results from the marine monitoring programme to assess the dose arising from consumption of fish and shellfish. Recent work carried out by the RPII and Centre for Environment, Fisheries and Aquaculture Science (CEFAS) has identified other critical exposure pathways that would need to be assessed in order to obtain a more comprehensive dose assessment for members of the public. These pathways include ingestion of seaweed, inhalation of seaspray, external exposure arising from exposure to beach sediments and, to a lesser extent, occupational exposure through handling of fishing equipment. This work assesses the dose arising from all of these pathways using the European Commission CREAM methodology in conjunction with data from the RPII's monitoring programme and habits data of the Irish population and identifies the critical exposure pathways and the radionuclides of primary concern from a dose assessment perspective.

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