

RPII Radiation Monitoring Section Response to the Fukushima Accident and Lessons Learned

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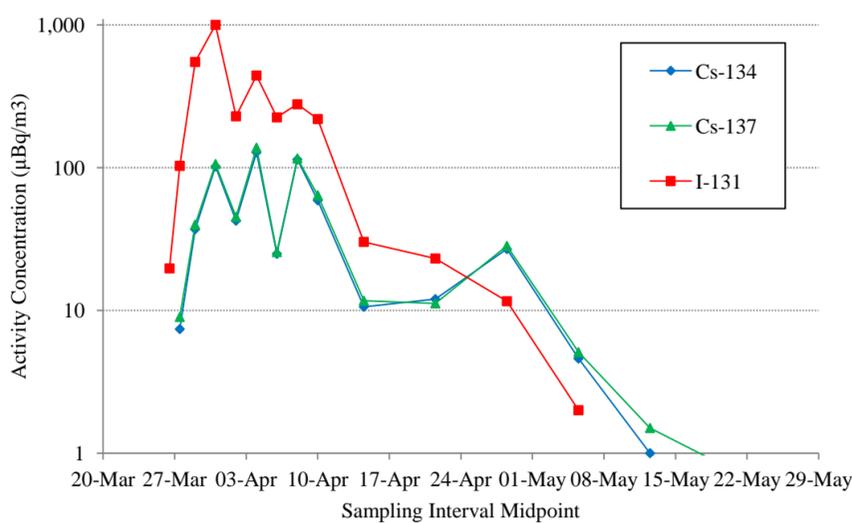
1 Introduction

This poster presents the results of additional environmental radioactivity monitoring carried out by the Radiological Protection Institute of Ireland, RPII, in 2011 following the accident at the Fukushima nuclear power plant in Japan. It will also discuss an internal review of the response and the lessons learned.

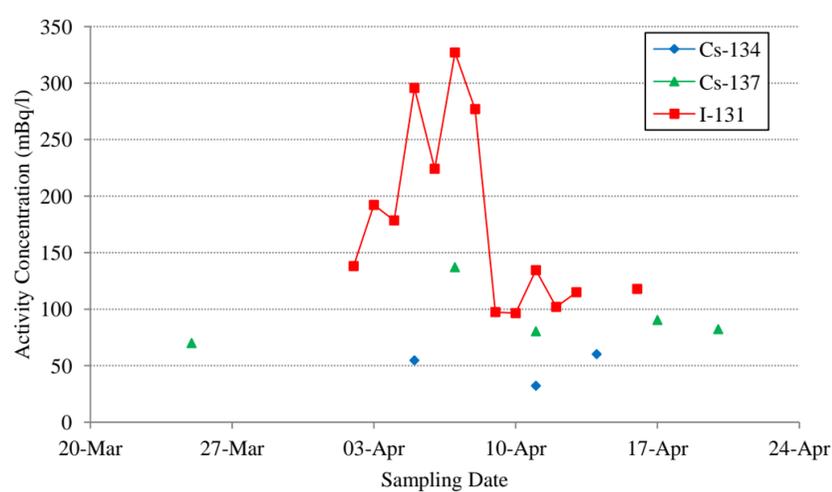
2 Monitoring

The RPII carries out an environmental radioactivity monitoring programme on a continuous basis and has published the results in a series of reports, all of which are available on the RPII website. In response to the situation at the Fukushima Nuclear Power Plant the RPII took steps to increase the level of nationwide monitoring of air, rainwater and milk. The aims of the monitoring were to assess the levels of radioactivity from the accident reaching Ireland and to provide data on which to base the RPII's advice to the Government and public. The frequency of sampling and analysis of air, rainwater and milk was stepped down to the usual frequency for the routine monitoring programme at the end of May 2011. The outcome of these assessments can be found in the RPII report 'Assessment of the Impact on Ireland of the 2011 Fukushima Nuclear Accident', (McGinnity P. et al., 2012)

3 Radioactivity in Air and Milk



Radioactivity in Airborne Particulates (High Volume), Dublin



Radioactivity in Milk, Kilkenny

4 Results

The highest recorded I-131 activity on airborne particulates was 1,000 $\mu\text{Bq}/\text{m}^3$ in the sampling period 30 March to 1 April. Cs-134 and Cs-137 levels in air peaked during the sampling period 3 to 5 April at 128 $\mu\text{Bq}/\text{m}^3$ and 138 $\mu\text{Bq}/\text{m}^3$ respectively. No regional differences in Ireland were expected or observed. Gaseous I-131 was also detected in activated charcoal filters from low volume air samplers, mainly during the last week of March and the first two weeks of April 2011.

Iodine-131 was detected in some rainwater samples during the same period.

The highest level measured of I-131 in milk was 327 mBq/l. Elevated levels of Cs-134 and Cs-137 were also found in some samples. By 23 April, levels in milk had decreased to below the level at which they can be detected.

5 Review and findings

In order to collate the key points of the monitoring response to Fukushima and the lessons learned, an evaluation of the response was undertaken by the RPII personnel involved. The learning points from the review have not yet been fully evaluated, but this overview gives an indication some of the issues raised.

Mobilisation of personnel and resource

- The accident proved a good test of Ireland's capacity to respond effectively to a nuclear emergency.
- However, it should be noted that for an accident closer to Ireland, a much larger monitoring response would almost certainly be required.
- Demands on staff and the laboratory capacity would have to be considered

Information management

- The RPII responded positively to media requests for interviews and information
- RPII monitoring data was placed on the website in a timely manner
- It was difficult to gather information on monitoring data from colleagues abroad. A more co-ordinated way of disseminating information should be put in place

Decision making and co-ordination

- An immediate roll-out of the RPII emergency plan to all staff would ensure a common understanding of the important actions to be taken

Task delegation and division of labour

- Use of regular coordination meetings to ensure efficient communication to all staff and clarity of roles and tasks
- Draft in as many staff as possible at an early stage

