

Twenty Third SPREP Meeting of Officials

4-6 September 2012
Noumea
New Caledonia

Agenda Item 9.3.4: Regional Radiation Contamination Information Collation and Review

Purpose

1. To present options for the collation and dissemination of information on the extent and consequences of radiation contamination in the Pacific region

Background

2. At the 2011 (22nd) SPREP Meeting, French Polynesia noted the Secretariat currently does not address the issue of the environmental consequences of nuclear testing in the Pacific.
3. The radiological situation at Mururoa and Fangataufa Atolls was the subject of an IAEA study that was considered by the 29th South Pacific Forum in 1998 (Attachment 1).
4. In a letter addressed to the SPREP Director General (5th October, 2011), French Polynesia indicated that they would like to see (established under the umbrella of SPREP), a panel of experts where the States and countries concerned by the consequences of the nuclear tests would be represented.
5. SPREP subsequently advised its members (Circular 11/108 of 16th December 2011) of this correspondence and sought their views on the establishment of such a Panel. Responses were received from Australia, France, New Caledonia, Samoa, Tokelau and the United States of America (Attachment 2).
6. The responses did not indicate a consensus of views among Members, and the issue is thus presented to the 2012 SPREP Meeting for further discussion.

Summary of Pacific Nuclear Testing, 1946-1996

7. In the 50 years from 1946 to 1996, a total of 305 nuclear tests were conducted in the Pacific Region including Australia (Attachment 3).
8. Of these, 168 were atmospheric tests and 137 tests were conducted underground. Tests were conducted in the present-day territories of five SPREP Members: Australia, French Polynesia, Kiribati, Marshall Islands, and the USA. In addition, four tests were conducted in and over International waters in the Pacific.

Other sources of contemporary radioactive contamination in the Pacific region: the Fukushima Nuclear Power Plant accident, 2011.

9. On 11th March, 2011 a powerful earthquake and resultant tsunami struck Japan, causing massive loss of life and infrastructure damage. In Fukushima Prefecture, the Fukushima Dai-ichi (Fukushima No.1) Nuclear Power Plant sustained severe damage, including loss of power, which led to partial or total core meltdowns in three nuclear reactors and loss of cooling water in several spent fuel storage pools. Significant radioactive releases occurred, which contaminated terrestrial and marine environments.

Country Conducting Nuclear Testing	Location of Testing	Testing Time-period	Number of tests conducted (Megatons TNT equivalent)	Nature of tests
UK	Australia	1952-1957	12 (0.2)	Atmospheric
UK	Kiribati	1957-1958	9 (1.2)	Atmospheric
USA	Marshall Islands	1946-1958	66 (109)	Atmospheric
USA	Johnston Atoll	1958-1962	12 (21)	Atmospheric
USA	Kiribati	1962	24 (30)	Atmospheric
USA	International waters	1955-1962	4 (0.6)	Atmospheric
France	French Polynesia	1966-1996	178 (13.2)	Atmospheric and underground

Availability of summary data on the environmental consequences of radioactive contamination in the Pacific region

10. A number of summary reports have been completed on the impacts of past nuclear testing and current radiological conditions in the Pacific, including:

- i. SOPAC (1998). *A Report on the International Conference on the Radiological Situation at the Atolls of Mururoa and Fangataufa*, SOPAC Technical Report 262. <http://www.pacificwater.org/userfiles/file/TR0262.pdf>.
- ii. International Atomic Energy Agency (1998). *The radiological situation at the atolls of Mururoa and Fangataufa*. Report by an International Advisory Committee. IAEA, STI/PUB/1028.
- iii. International Atomic Energy Agency (1998). *Radiological Conditions at Bikini Atoll: prospects for resettlement*. Radiological Assessment Reports Series. IAEA STI/PUB/1054. <http://www-pub.iaea.org/books/IAEABooks/4739/Radiological-Conditions-at-Bikini-Atoll-Prospects-for-Resettlement>
- iv. Commonwealth of Australia (2002). *Rehabilitation of Former Nuclear Test Sites at Emu and Maralinga (Australia) 2003*. Report by the Maralinga Technical Advisory Committee. http://www.ret.gov.au/resources/Documents/radioactive_waste/martac_report.pdf
- v. International Atomic Energy Agency (2005). *Worldwide Marine Radioactivity Studies –Radionuclide Level in Oceans and Seas: final report of a coordinated research project*. IAEA TECDOC 1429. http://www-pub.iaea.org/MTCD/publications/PDF/TE_1429_web.pdf
- vi. United Nations Scientific Committee on the Effects of Atomic Radiation (2008). *Sources and effects of Ionizing Radiation*, Volume 1. UNSCEAR. http://www.unscear.org/unscear/en/publications/2008_1.html.

11. Comparatively little attention has been directed to summarising more recent information.

12. The exception is an IAEA coordinated, four-year project to benchmark the impacts of the Japanese disaster on marine environments of the Asia-Pacific region. The United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) is also expected to release its interim report on the effects of the disaster at its annual session in May 2012.

13. Additionally, an officer has been appointed (from June 2012) to Fukushima University where he will coordinate research and programmes relating to the monitoring and management of nuclear waste in relation to the Fukushima incident.

Options for transfer of technical expertise and information related to regional radiation issues for SPREP Member states

Option A: SPREP to provide nuclear advice and support to SPREP Members

14. Radiation science is specialised and complex. SPREP does not have appropriate in-house expertise nor a budget to address this function.

Option B: Establishment of a dedicated Pacific nuclear issues technical panel

15. A panel of experts could be established to review the impacts of past and current radioactive contamination in the Pacific. The panel could, as suggested by French Polynesia, comprise members from countries concerned by the impacts of tests, and be coordinated through SPREP. While un-costed at this stage, committee expenses are likely to be considerable and there is no current budget for this activity.

Option C: Use of existing scientific panel or institution (UNSCEAR)

16. A request could be made to an existing competent entity to undertake work connected with the impacts of nuclear testing or nuclear issues in the Pacific region, and to transmit this information to SPREP Members via SPREP. One such competent entity is the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), who may be requested to address the issue via a request from the UN General Assembly. UNSCEAR was set up by resolution of the United Nations General Assembly in 1955. 21 countries are designated to provide scientists to serve as members of the committee which holds formal meetings (sessions) annually and then submits a report to the General Assembly. The organisation has no power to set radiation standards nor to make recommendations in regard to nuclear testing. It was established solely to "*define precisely the present exposure of the population of the world to ionizing radiation.*"

Option D: Use of existing scientific panel or institution (IAEA)

17. A request could be made to an existing competent entity to undertake work connected with the impacts of nuclear testing or nuclear issues in the Pacific region, and to transmit this information to SPREP Members via SPREP. A second competent entity is the International Atomic Energy Agency (IAEA), an independent, intergovernmental science and technology-based organization that serves as the global focal point for nuclear cooperation. The IAEA assists its Member States, in the context of social and economic goals, in planning for and using nuclear science and technology for various peaceful purposes, including the generation of electricity.

Recommendations

18. The Meeting is invited to:

- **Direct** SPREP to formally request, on behalf of its members, that UNSCEAR complete an updated review of the potential and established environmental and health impacts arising from radioactive contamination (including the recent Japanese disaster) in the Pacific region.
 - **Direct** SPREP to request inclusion of the following areas of investigation (but not be limited to):
 - Issues arising from nuclear testing in the Pacific;
 - Issues arising from nuclear power generation in the Pacific;
 - Issues arising from the transport of nuclear materials and wastes through the Pacific;
 - Issues arising from the movement of nuclear-powered vessels through the Pacific; and
 - Issues arising from the use of nuclear medicine in the Pacific.
 - **Call** on SPREP Members to provide assistance and data where possible to ensure completion of the review.
-

17 July 201