

RSMC Tokyo Activity Report for 2011

Executive Summary

In the wake of the strong earthquake and tsunami on March 11, 2011, a major radioactive material release into the atmosphere occurred at Fukushima-Daiichi Nuclear Power Plant in Japan. IAEA/IEC specified this accident as the General Emergency and asked WMO RSMCs in RA-II for the atmospheric transport modeling support. RSMC Tokyo together with RSMCs Beijing and Obninsk responded to the series of requests for the event. Lessons learned from the experience for the real event were discussed and shared with all the RSMCs and other relating organizations at the CG-NERA meeting in Vienna in October through November.

RSMC Tokyo added 24 and 48 hour deposition charts as part of its standard products according to the amendment of GDPFS manual in July, and started its common web page in November. A facsimile and email communication test in RA-II was done by RSMC Tokyo in November, and the results were presented to RSMC Beijing, RSMC Obninsk, and the WMO secretariat.

1. Introduction

In July 1997, the Japan Meteorological Agency (JMA) was designated by the World Meteorological Organization (WMO) as a Regional Specialized Meteorological Centre (RSMC) for Environmental Emergency Response (EER) activities. RSMC Tokyo is responsible for providing atmospheric transport products when requested by the International Atomic Energy Agency (IAEA) or the member states in the WMO Regional Association II (RA-II). In such cases, RSMC Tokyo will respond jointly with RSMC Beijing and RSMC Obninsk.

Based on the Manual on the Global Data-Processing and Forecasting System (WMO No. 485), RSMC Tokyo provides the atmospheric backtracking products when the Preparatory Commission of the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) asks for support.

2. Contact Information

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3. Lessons learned from recent experiences

Strong Earthquakes and Tsunami happened on March 11 off the Pacific coast of the northeastern part of the Japanese main land, and they triggered the accident at Fukushima-Daiichi Nuclear Power Plant (NPP) in Japan. The Incident and Emergency Centre (IEC) of IAEA sent fax messages to WMO RSMCs on the same day, in which IEC announced the accident was to be categorised as the General Emergency. This was the first General Emergency since RSMC Tokyo started its service as a RSMC for EER. IAEA / IEC sent requests for the support for the WMO Atmospheric Transport Modeling (ATM) products. RSMC Tokyo had received 43 request letters from IAEA / IEC, and had provided its standard products 65 times, and presented RA-II joint statements 42 times in conjunction with RSMC Beijing and RSMC Obninsk. The series of request continued until IAEA / IEC sent the termination message on May 23. RSMC Tokyo learned from the operational experience for this ATM supports, and shared and discussed the lessons regarding the following issues with other RSMCs, NMHCs, and the relevant international organizations in the CG-NERA meeting in Vienna, which was held in the IAEA headquarters from October 31 through November 4;

- (a) It would be helpful if IAEA does not specify the “LEAD RSMCs ONLY: GENERATE PRODUCTS AND SEND TO IAEA ONLY” option in the request form when a significant accident takes place, so that all NMCs in the hazardous region can take advantage of the RSMC products.
- (b) When a significant event prevails, “WNXX01 IAEA” by IAEA to clearly identify series of issues as significant ones will help NMCs in WMO.
- (c) Communication through Internet should be fully prepared. When a significant event like the earthquake and the tsunami happens, communication through fax and telephone might be useless, as the telephone line becomes heavily crowded.
- (d) The GDPFS manual (WMO No.485) and WMO TD/No-778 should be maintained properly so that NMHSs, RSMCs, RTH, IAEA and other related organizations can take actions appropriately according to the formal procedures described in these two.

4. Exercises and Trainings

Because of the real operation conducted from March through May, the scheduled WMO and IAEA joint quarterly test in RA-II in August was suspended, and there was no scheduled backtracking exercise with the International Data Centre (IDC) of CTBTO in 2011.

Instead, RSMC Tokyo conducted monthly internal training to maintain and improve its operational capability for the atmospheric backtracking response. Monthly internal trainings for nuclear emergency response were also done in January and February.

5. Operational Issues

According to the amendment of the GDPFS manual, RSMC Tokyo prepared the 24 and 48 hour deposition charts as new additions to its standard products. The minimum values of 10^{-20} Bq s / m³ and 10^{-20} Bq / m² are also adopted when the time-integrated airborne concentrations

and the total deposition are presented. The new product services came into operation on July 1, 2011.

RSMC Tokyo started information services through its common web-server on November 30. The common web-server in Tokyo is a FTP / HTTP type server, and successfully accommodates the products from seven RSMCs. The URL of the http server is:

<http://eer.kishou.go.jp/cgi-bin/jntrsmc.pl>

A user ID and a password, which are provided by WMO RSMCs for EER, are needed when getting access to the server.

In November, RSMC Tokyo conducted a fax and email communication test in RA-II according to the technical memorandum issued by RA-II RSMCs. The test confirmed that 22 out of 27 registered organizations were accessible, and 15 organizations can properly received email. So far 10 organizations provide their operational contact information. The test results were shared with RSMCs Beijing and Obninsk. Since 12 Delegated Authorities were changed after the WMO secretariat's confirmation of their contact information posted on its web site, RSMC Tokyo properly reported the update information to the WMO secretariat.

6. Status of the Operational Atmospheric Transport and Dispersion Model

The status of the operational atmospheric transport model used at RSMC Tokyo is described in Annex 4 of the WMO Technical Documentation No. 778 (WMO/TD-No. 778).

7. Plans for 2012

RSMC Tokyo will continue to fulfill its responsibility as a RSMC in RA-II providing the ATM products when necessary. The centre will participate in international exercises planned during the year 2012 to maintain its capability for the nuclear environmental emergency actions in response to requests from IAEA/IEC, CTBTO/IDC and WMO RA-II members.

RSMC Tokyo will attend the joint RSMC tests with ENSEMBLE, which was proposed by RSMC Vienna at the CG-NERA meeting in Vienna (action 18 of the meeting).