FEDERAL ENVIRONMENTAL, INDUSTRIAL AND NUCLEAR SUPERVISION SERVICE OF RUSSIA (ROSTECHNADZOR)

Rostechnadzor participation in the Action Program of Russian Authorities and Organizations Concerned in Implementation of the IAEA Action Plan on Nuclear Safety

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Joint follow-up workshop on exchange of information on implementation of actions and measures aimed to improve safety of French and Russian NPPs resulted from the NPPs “stress tests”

Moscow, Rostechnadzor HQ, 16 July 2014

Action Program of Russian Authorities and Organizations Concerned in Implementation of the IAEA Action Plan on Nuclear Safety

- Program was developed by Rostechnadzor and SC Rosatom on the basis of IAEA Action Plan on Nuclear Safety
- Main measures comply with 12 main actions of IAEA Action Plan
- Includes 70 actions on national and international levels
- Ministry of Foreign Affairs, EMERCOM of Russia, Federal Medical and Biological Agency (FMBA), Federal Service for Supervision in the Sphere of Protection of Consumers Rights and Social Welfare (Rospotrebnadzor) are also involved in its implementation
- Program available at official web-site of Rostechnadzor
- Twice a year information on implementation progress is presented at the IAEA Board of Governors meetings (in March and September)

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1. Safety Assessments in light of accident at TEPCO's

Fukushima Daiichi NPP

• The operating NPPs have been backfitted with supplementary equipment to bring the units to safe state in case of BDBAs;

• Comparative analysis of approaches to management of crisis situation and organization of "nuclear prompt response forces in emergency" is going on;

• Redundant digital communication channels between the NPPs and Crisis Centre of Concern Rosenergoatom (at all Russian NPPs except Bilibino) have been arranged;

• Assessment of potential for ensuring preparedness and response in case of nuclear or radiation emergency is being performed with due account of IAEA safety requirements.

2. IAEA Peer Reviews

- In 2013, IAEA completed with good results Generic Reactor Safety Review of Russian AES-2006 design submitted by Concern Rosenergoatom. Review report received.
- In December 2013, Concern Rosenergoatom submitted Russian VVER-TOI design for GRSR. June, 11th, a preliminary report from IAEA (with good results) received. Final report on review is expected in November 2014.
- November 10 to 19, 2013, IAEA conducted IRRS Follow-up Mission in Moscow to review activities of Federal Environmental, Industrial and Nuclear Supervision Service (Rostechnadzor) as an authorized body of state safety regulation in atomic energy uses in the Russian Federation

3. Emergency Preparedness and Response

- 6 international emergency exercises and drills have been performed with the participation of Regional Crisis Centre for VVER NPPs created in June 2013 on the basis of Rosenergoatom Crisis Centre.
- At present, RANET(Response and Assistance Network) incorporates resources of FMBA of Russia (from Burnazian Federal Medical Biophysical Centre). This potential is reflected on IAEA USIE (Unified System for Information Exchange on Incidents and Emergencies) website.
- Proposals for development of hygienic standards and methodological instructions have been prepared in terms of optimal response in case of transboundary transport of goods, vehicles, people and foodstuff with different degrees of radioactive contamination caused by radiation accident. Proposals are to be approved in 2014-2015.
- Draft methodological document "Criteria and Operational Levels of the Conduct of Urgent Medical and Sanitary Actions in Initial Period of Radiation Accident" has been prepared.

4. National Regulatory Bodies (1/2)

- Operational regulations for Rostechnadzor Information and Analytical Centre (IAC) are established by Rostechnadzor order of 01.10.2013. Composition, tasks and functions of IAC are defined in Provisions for the IAC approved by Rostechnadzor order of 18.04.2013.
- IAC was re-equipped in terms of both hardware and software, including information transmission, receipt and protection means, by November 2013. In the course of the IRRS Follow-up Mission, there was emergency exercise at IAC on November 13, 2013, where IAEA experts were present as observers.
- Joint inspections of Rostechnadzor and FMBA (Federal Medical and Biological Agency) at the level of their regional departments to the facilities of nuclear energy use are conducted.

4. National Regulatory Bodies (2/2)

- Summary List of typical documents on emergency planning for the institutions of FMBA of Russia that service radiation hazardous facilities has been approved. Executive documents are under development
- International workshop on the lessons learned from IAEA IRRS missions is planned to be held in Moscow, 28-31 October, 2014

5. Operating organizations

Review of national reports on assessment of safety and stability of nuclear power plants (“stress-tests”) prepared by organizations operating NPPs with VVER reactors is in progress aiming to establish:

• unified operators position; and

• unified approach to covering issues and presentation to the public of information on work completed

OSART Missions:

• to Kola NPP is planned for 11-27 November 2014

• to Novovoronezh NPP 10-26 November 2015

6. IAEA Safety Standards

• Russian experts are regularly involved in the IAEA Safety Standards Commission and Committees activities

• Analysis on compliance of regulatory framework to current legislation and up-to-date structure of IAEA Safety Standards

- ✓ Federal Norms and Rules show a high level of compliance with IAEA Safety Standards, which was concluded in the results of 2009 IRRS Mission and 2013 Follow-up Mission.
- ✓ IAEA Safety Standards are presently considered when revising existing Federal Norms and Rules to address best practices in the area of nuclear energy use (At present time 86 Federal Norms and Rules in the field of atomic energy are approved and in force in Russia, 14 new documents are under development and 29 documents are being revised)

7. International Legal Framework

- Russian proposals for enhancing the Convention on Early Notification of a Nuclear Accident were taken into account when reviewing IAEA document of the Safety Series No. GS-R-2: Preparedness and Response for a Nuclear or Radiological Emergency.
- As initiated by Russia, the IAEA Secretariat for the first time suggested that Member States under the Convention prepare their national reports on compliance with the obligations by the 7th Meeting of Competent Authorities of the Convention, which took place in May 2014

8. Member States Embarking on Nuclear Energy

- Participation of foreign inspectors (as observers) in Rostechnadzor comprehensive inspections
- Master-classes performed by Rostechnadzor inspectors on NPPs of nuclear embarking countries
- Under "Programme of Coordination and Actions of Russian Agencies and Organizations in Rendering Assistance to Establishment and Strengthening of Atomic Energy Infrastructure in Newcomer Countries“ ZAO Rusatom Overseas has nominated Russian experts to be involved in IAEA activities on assistance to newcomer countries in establishing their national infrastructure. Their CVs have been sent to IAEA Secretariat.
- ZAO Rusatom Overseas prepared IAEA technical workshop "New Nuclear Power Programmes: Becoming a Competent Customer“, held in Russia, Obninsk, 7-11 April 2014.

9. Capacity Building

- Hardware and software has been adopted for psychophysiological examination of the staff of State Corporation Rosatom radiation and nuclear hazardous enterprises and facilities.
- Medical and technical requirements to hardware and software complex have been developed. The complex allows using virtual game models to practice basic professionally significant psychophysiological qualities of the staff of atomic industry using biological feedback.

10. Protection from Ionizing Radiation

• On February 5, 2014, State Corporation Rosatom and IAEA signed the new Mutual Understanding regarding cash and in-kind voluntary contributions to IAEA Technical Cooperation Project RER/6/030 “Building Capacity for Medical Physics in Radiation Oncology in the Commonwealth of Independent States”.

• In 2013, 4 interregional workshops for training Rospotrebnadzor specialists, medical workers and persons making decision in emergencies, and one practical workshop with Rospotrebnadzor physical experts took place.

11. Communication

• Rospotrebnadzor has developed draft methodological recommendations “Organization of Information Work with Population Residing in Areas of Peaceful Nuclear Explosions" and "Notification of Population about Issues of Radiation Protection in a Situation of Hazard of Emergency Radioactive Contamination of Territories".

11. Communication (continued)

- Rospotrebnadzor has prepared recommendations on arrangement of radiation monitoring "Formation of Radiation Monitoring Programmes for the Purpose of Radiation and Hygienic Certification of Territories" and "Conduct of Radiation Monitoring of Foodstuff, Soil and Water for the Purpose of Radiation and Hygienic Certification".
- To form a positive attitude of “atom territories” residents to the nuclear branch the Communications Department of State Corporation Rosatom developed a long-term programme for TV media.
- The Communications Department of Rosatom jointly with Russia-24 TV channel produces Horizons of Atom programme dedicated to various aspects of activities and innovative developments of the atomic industry institutions. The programme is broadcast twice a month. Russia-24 is a part of the first Russian multiplex of digital TV that transmits its signal to 11 world satellites.

12. Research and Development

• Recommendations for transfer to technologies of “natural” safety with closed nuclear fuel cycle are under preparation

✓ Within INPRO-SYNERGIES collaborative project initiated by Russia, experts from 24 countries study ways of transition to innovative nuclear energy systems with fast reactors (natural safety) and closed fuel cycles at regional level.

✓The project ROADMAPS will follow the SYNERGIES project and develop recommendations on roadmaps towards innovative nuclear energy systems with fast reactors (natural safety) and closed fuel cycles.

✓In accordance with IAEA Action Plan on Nuclear Safety, the issues of natural safety in the systems with innovative fast reactors and closed fuel cycles will be scrutinized within the IAEA RISC collaborative project that starts in 2014.

• "Sanitary Rules of Design and Operation of Nuclear Plants" and "Sanitary Rules of Design of Atomic Industry Facilities and Installations" have been revised with regard to introduction of innovative technologies during design, construction and operation of nuclear plants and nuclear fuel cycle facilities. The documents have been sent for review and finalization.