

Summary of Recommendations

PEER APPRAISAL OF THE ARRANGEMENTS IN THE REPUBLIC OF TAJIKISTAN REGARDING THE PREPAREDNESS FOR RESPONDING TO A RADIATION EMERGENCY

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SUMMARY OF RECOMMENDATIONS

1.1. INTRODUCTION

The EPREV Team formulated recommendations based on the findings, which were focused on areas that need to be strengthened in order to make them compatible with the IAEA Requirements [2] and Guidelines [3]. Therefore they include references to corresponding paragraphs in the above stated publications. Authorities of the Republic of Tajikistan may consult these publications for more detailed information.

The recommendations will help the IAEA to direct its assistance in regards to emergency preparedness and response in Tajikistan. It is equally important that the government of Tajikistan uses these recommendations to support their implementation.

The summary recommendations are divided into two groups:

- Recommendations for interim implementation, which should and can be addressed immediately in order to improve significantly response capabilities using existing resources. These recommendations should be addressed within one year.
- Recommendations for longer term implementation.

1.2. RECOMMENDATIONS FOR INTERIM IMPLEMENTATION

- The development of the National Radiological Emergency Plan (NREP) should be started as a high priority. This plan should be consistent with a general National Emergency Response Plan (NERP), designed for response to all type of emergencies and with relevant IAEA requirements. However, the start of this task should not delay the implementation of the other recommendations listed below.
- *It is suggested that CES CD submits through NRSA a request to IAEA for providing expert assistance in the NREP preparation.*
- NRSA and CES CD - if applicable in cooperation with the operators of the facilities and source users – should write a threat analysis to facilitate the planning for response according to the risk. This threat analysis should be annexed to the NREP (Ref.[2], para.3.6 and 3.14 -3.20). The specific problem associated with uranium mill tailings from uranium mining in the north of the country is proposed to be taken into account.
- Inter-organizational procedures on the coordination of actions should be developed in parallel with formulation of the national plan. The procedures should be endorsed by all involved organizations and be consistent with and attached to the NREP.
- Ensure that all institutions and enterprises using radioactive material or radiation applications have updated facility emergency plans in coordination with local off-site responders describing emergency response arrangements, issued instructions/manuals as part of completing the formal licensing process of the existing and new relevant radiation facilities and sources (in the order of their threat category). It is essentially important that NRSA and CES CD verify that all facilities of Threat Category III (i.e. Radioactive Waste Storage/Disposal Facility, Tajik State University and Republican Clinical Center of Oncology) describe adequate emergency arrangements in their emergency plans.

- NRSA should establish formal requirements for the content, features and extent of emergency plans in cooperation with CES CD based on requirements given in Ref [2], para.5.13 -5.20.
- NRSA and CES CD should conduct an awareness campaign to increase awareness of indications of a radiological emergency, appropriate response and the need for response arrangements on a national basis consistent with IAEA Requirements [2]. The target audience should include operators of facilities in threat categories III and IV, medical facilities, emergency service organizations, the national law enforcement agency, the postal service, custom services, national border control authorities, scrap metal dealers, and the public. (Ref.[2], para.4.17 - 4.18).
- Ensure that medical practitioners are aware of medical symptoms after accidental radiation exposure, and have adequate response procedures for initial treatment of overexposed and/or contaminated patients. This should include an appropriate notification procedure, through which additional external assistance could be requested. *It is suggested that Tajik officials request IAEA support for organizing a National Training Course on Medical Response to Radiological Emergencies.*
- The officials of CES CD are advised to establish a special Prompt Response Group for responding to radiological emergencies. The team should consist of radiation professionals from various institutes and authorities with the responsibility for promptly providing expertise and radiation protection services to local officials and first responders. Instructions for local officials and first responders should contain a procedure on how to activate the Prompt Response Group this expertise and assistance for dealing with different radiological aspects in case of emergency (Ref. [2], para.4.35 - 4.37).
- NRSA in cooperation with Ministry of Health should take steps to ensure that in case of severe radiation injuries, which should be treated by specialists, a request for assistance will be promptly channeled to the IAEA (Ref.[2], para. 4.80)
- A common policy for informing the media and the public should be established. CES CD and NRSA should take steps for harmonizing their briefings, press releases, interview texts, etc. before providing information to the public, news and information media. Testing the functioning of the capacities given for information of the public must be an integral part of regular exercises. (Ref. [2], para.4.84).
- Procedures for taking agricultural countermeasures should be developed and incorporated in the Draft NREP. A routine environmental radiation monitoring system could be adapted during emergencies to monitor imported food or to measure ground contamination (Ref. [2], para.4.85 – 4.93).
- The capabilities of the Republican Chemical and Radiometric Laboratory (equipment, training, resources) need to be reviewed and upgraded. Equipment to deal with events involving contaminated air and surfaces such as protective clothing, etc., should be procured.

1.3. RECOMMENDATIONS FOR LONGER TERM IMPLEMENTATION

CES CD and NRSA in cooperation with the Ministry of Health (SES) and other stakeholders are advised to formalize coordination mechanisms for response to any radiological emergency at all Uniform State Emergency Prevention and Elimination System (USEPES) levels with due account to the operational interfaces and experience gained in responding to past emergencies (e.g. finding orphan radiothermal generators).

- The response organizations should elaborate guidance or manuals for first responders consistent with the guidance in Refs [3], [7] and [8.]¹ (Ref.[2], para.4.37).
- NRSA should develop capabilities in assessing the doses, which may be received by people due to intake of radionuclides in case of an emergency involving airborne radioactive material (to be in compliance with para.4.60 of [2]).
- The syllabus of the regular refresher course for medical practitioners should be supplemented with a special chapter on the medical symptoms of radiation exposure and immediate medical actions warranted in the event of radiological emergency. IAEA can provide training materials for this chapter design. (Ref.[2], para.4.77).
- Operational intervention Levels (OILs) for countermeasures should be defined in local emergency plans with due consideration of the emergency scenarios addressed in the Draft NREP (Ref. [2], para.4.88).
- NRSA in cooperation with SES should develop plain language information and instructions for the public for a wide range of possible emergency scenarios well in advance (as shown in Ref. [3]). The Draft NREP should specify how NRSA recommendations and instructions are to be used. (Ref. [2], para.4.83).
- The on site and off site local first responders units as well as local officials and other bodies, having responsibilities to respond the emergencies within the USEPES should be trained on radiation protection on a regular basis. The scenario for drills and exercises should include component of radiological emergencies. The exercises should be systematically evaluated and the programme should be subject to review and updating in the light of experience gained (Ref. [2], paras.3.8; 3.16; 5.37; 5.39).
- CES SD should include components of the Programme, designed for IAEA “Regional Training Course on Practical Response to Radiological Emergencies – Part 1. First Responders” into the Programme of regular training courses/workshops, conducted on the base of DPPT for their staff and staff of other response organizations on regular basis.
- Conduct a field exercise involving all local response organizations on the response to a radiological emergency in III category (e.g. at Faizabad Radioactive Waste/Storage

¹Ref. [8] - IAEA “Manual for first responders to a radiological emergency”- and the associated training material lecture modules and exercise manuals) are available in Russian

Facility based on the scenario which was shown to EPREV Team during the mission, see also para. 3.14.3.3 and Appendix 13 of this report).

- *It is suggested that Tajik officials urgently request IAEA for support in organizing a field exercise on the response to a radiological emergency. NRSA and CES CD must require that the emergency arrangements at all threat category III facilities be tested in exercises at suitable intervals (Ref. [2] para. 3.8, 5.33–36).*
- Existing and draft regulations (mainly documents of the second and the third levels) should be reviewed and revised for its consistency with the requirements in Ref. [2] and [3]. In particular this revision should ensure that the regulations specify:
 - requirement/s for incident reporting (Ref.[2], para.3.9; Ref.[6], para.3.2);
 - requirement/s for establishing emergency classification system (Ref.[2], para. 4.20);
 - requirement/s for radiation facilities to assign a radiation emergency person with the authority to classify a radiological emergency and initiate an appropriate on-site response (Ref.[2], para. 4.23);
 - requirement/s for local officials and first responders in threat category IV to have a written instruction/guidance on the immediate response to and mitigating consequences of potential emergencies. (Ref.[2], paras.4.35 -4.37);
 - other requirements defined in Ref [2] and not reflected in national legislation.
- The officials of the Republic of Tajikistan are highly advised to initiate steps to join the Conventions on Early Notification and on Assistance (Ref.[2], para.4.80).

REFERENCES

- [1] INTERNATIONAL ATOMIC ENERGY AGENCY, Convention on Early Notification of a Nuclear Accident (1986), and Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency (1987), Legal Series No. 14, Vienna (1987)
- [2] FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, INTERNATIONAL ATOMIC ENERGY AGENCY, INTERNATIONAL LABOUR ORGANISATION, OECD NUCLEAR ENERGY AGENCY, PAN AMERICAN HEALTH ORGANIZATION, UNITED NATIONS OFFICE FOR THE COORDINATION OF HUMANITARIAN AFFAIRS, WORLD HEALTH ORGANIZATION, Preparedness and Response for a Nuclear or Radiological Emergency, Safety Standards Series No. GS-R-2, IAEA, Vienna (2002).
- [3] INTERNATIONAL ATOMIC ENERGY AGENCY, Method for developing arrangements for response to a nuclear or radiological emergency, EPR-METHOD, IAEA (2003).
- [4] INTERNATIONAL ATOMIC ENERGY AGENCY, Planning and preparing for emergency response to transport accidents involving radioactive material. Safety Guide. Safety Standards Series No. TS-G-1.2 (ST-3), IAEA, Vienna, 2002.
- [5] FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, INTERNATIONAL ATOMIC ENERGY AGENCY, INTERNATIONAL LABOUR ORGANIZATION, OECD NUCLEAR ENERGY AGENCY, PAN AMERICAN HEALTH ORGANIZATION, UNITED NATIONS OFFICE FOR THE COORDINATION OF HUMANITARIAN AFFAIRS, WORLD HEALTH ORGANIZATION, International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources, Safety Series No. 115, IAEA, Vienna, 1996.

- [6] INTERNATIONAL ATOMIC ENERGY AGENCY, Legal and Governmental Infrastructure for Nuclear, Radiation, Radioactive Waste and Transport Safety, Safety Series No GS-R-1, IAEA, Vienna (2000).
- [7] INTERNATIONAL ATOMIC ENERGY AGENCY, Generic Procedures for Assessment and Response during a Radiological Emergency or Terrorism: Part 1 Manual for first responders and early response, IAEA Vienna (Under preparation).
- [8] INTERNATIONAL ATOMIC ENERGY AGENCY, Manual for first responders to a radiological emergency, EPR-FIRST RESPONDER 2006, IAEA, Vienna (2006)