

RECORD OF THE CEG WORKSHOP
Dismantlement of nuclear service ships and surface vessels
with nuclear power installations
24-26 May 2005, Murmansk, Russia

The workshop of the IAEA Contact Expert Group (CEG) was organised according to the decision of the 18th CEG meeting (October 2004, Moscow). The workshop was prepared by SevRAO, Onega NIPTB, Nerpa Shipyard and by the CEG Secretariat in close cooperation with Rosatom. Financial support for the workshop was provided by the United Kingdom, Norway and the International Science and Technology Centre (ISTC).

The CEG workshop was attended by representatives from 10 countries: Canada, Finland, France, Germany, Italy, Norway, Russian Federation, Sweden, United Kingdom, United States of America, and four international organisations: European Commission, ISTC, EBRD and NEFCO.

The workshop discussed two major issues:

- dismantlement of surface vessels with nuclear power installations (NPI), and
- dismantlement of nuclear service ships (NSS).

On the first issue the Russian Federation presented detailed information on the state of the surface vessels with NPI retired from the Russian Navy, the general concept for their dismantlement and main differences compared to the dismantlement of nuclear powered submarines (NPS). Currently two nuclear powered vessels are to be dismantled: Admiral Ushakov cruiser (stationed at Zvezdochka shipyard in Severodvinsk) and Ural communication vessel (stationed at the Far East Region). The design and technological documentation for the dismantlement of these vessels was not currently available. The reactors were not defuelled and the long-term storage of the vessels would create substantial safety problems in the future with ever increasing costs. Funding for SNF removal and further dismantlement of vessels was not available.

On the second issue the Russian Federation presented general information on NSS retired from its Navy. At the moment 35 NSS were retired from the Navy and are to be dismantled, including:

- floating technical bases (used to refuel NPS reactors, store and transport SNF and RW) - 5;
- special tankers (used for collection and transportation of LRW) - 3;
- SNF transportation ship - 1;
- floating tanks (used for collection of LRW) - 26.

It was noted that SNF was not present on those ships but a substantial amount of radioactive waste (RW) was stored on them. The ships compartments were radioactively contaminated and in several cases, the technical state of the ships was critical and required urgent measures for dismantlement. Whilst some positive experience on dismantlement already existed, the basic infrastructure for this work was available at the shipyards involved in NPS dismantlement. The main problem of a comprehensive dismantlement of NSS was the absence of regional centres which had management expertise in large-scale volumes of RW that was generated during dismantlement of NSS's. That was the reason given why NSS dismantlement was limited and the preparation for long-term storage afloat was not the optimal solution to address the problem. Moreover, installations for treatment of liquid

radioactive waste (LRW) of complex chemical composition stored on NSS and the processing of toxic waste was not available. Funding required to resolve these issues was absent.

Detailed discussions of the Lapse dismantlement project were held. Damaged SNF from the Lenin icebreaker had been stored on board of the ship for decades. It was noted that for several years, despite the fact that the funding committed by the Western donors was available, practical implementation of the project had still not started for the development of design and technological documentation that was required for the recovery of SNF from the ship's storage. In the meantime, the risk of radioactive releases to the environment was of growing concern due to age of the ship, her systems and possible further degradation of the fuel.

It was noted that the project required substantial changes in organisation to start practical implementation as soon as possible. Russian Legislation states that the development of documentation and implementation activities should be executed by the Russian organisations that have relevant licences and permissions, and the role of Western organisations would comprise technical and financial support, conducting peer reviews and transfer of technology.

A number of project proposals were presented by the Russian Federation and discussed. The following tasks were considered most important:

- Construction of Regional Centres in the North-West and the Far East of Russia for management of radioactive waste generated from the dismantlement NPS, NSS and the remediation of coastal bases.
- Comprehensive dismantlement of the Lapse ship.
- Dismantlement of the Admiral Ushakov nuclear powered cruiser.
- Dismantlement of the Ural vessel with the nuclear power installation.
- Development of the pilot design for dismantlement of the floating technical base of 326 design.

As a result of the discussions from the presentations given, the following conclusions and recommendations were concluded by the CEG workshop:

1. French proposals on SNF discharge from the Lapse storages presented at the workshop, should be considered. Development of design and technological documentation should be initiated as soon as possible by the Russian organisations in cooperation with the Russian regulatory authorities. It was agreed that progress of the Lapse project should be discussed at the next CEG plenary meeting in October 2005.
2. In order to speed up the international cooperation on dismantlement of Admiral Ushakov nuclear powered cruiser, a topical meeting would be held on 21-22 July 2005 at Zvezdochka shipyard in Severodvinsk with participation of representatives of the donor-countries and Rosatom. Interested parties should send their requests for participation to Zvezdochka shipyard before 15 June 2005.
3. Construction of the Regional Centres for RW management in the North-West and the Far East of Russia remains a key problem. Without resolution of this problem a comprehensive dismantlement of NPS, NSS, surface vessels with NPI and remediation of nuclear-hazardous sites would not be completed. The Regional Centres should carry out the treatment, conditioning and long-term storage of the waste. As a first phase of the international cooperation, it was proposed to develop a Justification of Investments (OBIN) for each Region.
4. Discuss at a future CEG workshop lessons learned on the organisation of contracts and the management structure of international cooperation.