

Seminar on waste treatment and disposal

A seminar on waste treatment and disposal was held 9 - 14 November 1998 in Oskarshamn, Sweden. The objective of the seminar was to exchange information on national and international procedures, practices and requirements for waste management. This information exchange was intended to promote the development of a suitable strategy for management of radioactive waste in *Northwest Russia* to be used as background for future co-operation in the region.

The seminar included presentations by Russian and western experts on radioactive waste management in three broad areas:

1. The process of determining the options for final disposal of radioactive waste concerning site and method selection including Environmental Impact Assessment
2. Experiences from performance assessments and safety analyses for repositories intended for low- and intermediate level radioactive waste.
3. Safety of storage and disposal of high-level waste.

The seminar was jointly organised and sponsored by the Swedish Radiation Protection Institute (SSI), the Norwegian Radiation Protection Authority (NRPA), the Nordic Nuclear Safety Research (NKS) and the European Commission.

The main conclusions from the seminar were as follows:

- Some participants took the view that many of the points raised on strategy and responsibilities have already been covered in existing Russian Federation documents. The only really important question is that of co-operation; in particular, who is allowed to enter into co-operation agreements and how projects should be identified.
- However, Norway and Sweden pointed out that they would like to see a strategic plan in order to identify how and where to co-operate best. Norway is interested in attracting co-operation

with Russia from other (third party) countries. They have no wish to interfere in the internal operations within Russia and welcome the apparent focusing of responsibility with Minatom and look forward to closer co-operation in the future.

- The Federal Nuclear and Radiation Safety Authority of Russia, Gosatomnadzor, reinforced the point that there is a rigorous structure of laws in place, based on over-arching environmental laws, and that every waste producer is responsible to its own department, although Minatom co-ordinates all activities in all organisations working with radioactive materials. However, a system is needed to decide how to go forward with projects such as the **Novaya Zemlya and Kola repositories**, in line with international approaches.
- Regional authorities pointed out the importance of understanding that decommissioning submarines is a long and complicated task, with many needs and possibilities for co-operation, especially concerning planning of protection of workers, measurement and characterisation of radioactive waste, waste conditioning, storage and disposal etc. France, the UK and the US also have unresolved issues concerning reactor compartments in submarines, and their co-operation on this problem is welcome.
- In response to a question on whether there are funds and a desire for continued Norway /

Sweden / Russia co-operation, Norway and Sweden confirmed that that was the case. It was also suggested that the Russians should produce concrete guidance on what problems, areas and issues should be given highest priority and be most appropriate for co-operation between the countries.

- The hosts concluded by noting that there was clearly some good co-operation already taking place. However there was scope for further Nordic participation in new projects. Indeed, a new programme on reactor safety in the Kola NPP is just starting up. There is clearly a need to continue discussions on the strategy issue, as there are still many misunderstandings between participants. Also, the issue of responsibilities needs to be a subject of continued information exchange.

Additional conclusions were drawn by the authors of this report as follows:

- It was useful to recognise the needs for stronger co-operation and co-ordination between different parties inside and outside the Russian Federation. It was recognised that there are different views on existing strategy on waste management in Russia. In western opinion represented at the seminar, the coherent waste management strategy in Russia is not complete.
- There is still some misunderstanding about the meaning and content of a waste management strategy. It should provide a clear plan of waste management activities in accordance with waste management policy of the Russian Federation. Such a plan should include a description of those steps taken in waste management from waste arising to final disposal, a 'cradle to grave' approach. This would explain the key features of interim storage, waste treatment, transport and final disposal. In a wider context, the processes giving rise to waste should also be brought into the scope of waste management strategy, to ensure that appropriate steps are taken to minimise waste arising and so that an appropriate balance is achieved between worker, public and environmental protection and between control of effluents and routine discharges, risks of unplanned releases from operational facilities and long term risks associated with solid waste disposal facilities.

- Although the IAEA provides an appropriate basis for regulatory development in waste management, the guidance provided is not always sufficiently specific for direct application in individual national circumstances. This is true for all countries with major programs giving rise to radioactive waste, not just the Russian Federation. A major example concerns the appropriate content of Environmental Impact Assessment. Also, even though there are international agreements on basic protection standards in principle for post closure radiation safety of repositories, in practice the details of national standards differ, both among themselves and in some respects from the international recommendations of organisations such as the IAEA and ICRP. Agreement on methods for regulatory demonstration of compliance with such standards is even further away.
- Many companies involved in transport, handling, etc., are said to have responsibility at different stages in the management of waste. The details of who exactly has responsibility at each stage is not clear.
- While it would be helpful to have a Russian waste management strategy for planning of continued Nordic support in the area of waste management, it is concluded that the Russian Federation is not alone in having difficulties in developing a clear radioactive waste policy that also will be accepted and implemented. This argues in favour of very careful technical and political planning. This should not be taken as an excuse for not taking action. Given the risks associated with poor interim storage, urgent action is necessary, but that action should be within a clear overall program, not knee-jerk reactions to local problems. A major potential objective, therefore, for continued Nordic support co-operation could be in the development of that clear strategy. While it is recognised that this can be criticised as further procrastination, in fact it is only consistent with other on-going national efforts, and it is clearly necessary for projects to be supported within such a framework if the resources are not to be dissipated to no real effect.