

Environmental Impact Assessment and Risk Assessment in Northwestern Russia – from a Norwegian Perspective

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I Introduction

Norway has been involved in nuclear safety projects in northwestern Russia since 1995. So far more than NOK 950 million (or about EUR 120 million) has been allocated for implementing the Government's Plan of Action on Nuclear Safety and the Environment. The Ministry of Foreign Affairs is responsible for implementing the plan. More than two thirds of our contribution has been spent on the management, storage and disposal of radioactive waste and spent nuclear fuel in northwestern Russia. The dismantling of multi-purpose nuclear submarines, rehabilitation of Andreyev Bay and replacement of strontium batteries in Russian lighthouses are currently our top priorities.

Projects involving radioactive material and spent nuclear fuel are not without risk. Removing such material from its current location to a facility for proper treatment and/or storage may have a negative effect on human health and the environment, and on safety in the short run. The sinking of K-159 while it was under tow last August was a tragic reminder of what can happen when a worst case scenario occurs. We must therefore ensure that all aspects related to human health, environment and security are duly taken into account when financing such projects. This is why we attach so much importance to risk assessment and environmental impact assessment of planned activities. The parliament has decided that all nuclear safety projects financed by Norway should be subject to an independent risk assessment and environmental impact assessment. Such assessments are fundamental for Norway's continued engagement in northwestern Russia.

No environmental impact assessment – no funding!

Risk assessment and environmental impact assessment are becoming even more important as Norway is becoming more actively involved in complex and risky projects such as dismantling nuclear submarines. We are therefore continually improving our internal procedures and strengthening the role of risk assessment and environmental impact assessment to ensure that best practices are applied. This is in fact an important element in a draft white paper on Norway's policy in the northern areas, which will be presented to the parliament later this spring.

II What have we done to strengthen the role of risk assessment and environmental impact assessment?

- Internal measures

From the outset the Norwegian Radiation Protection Authority has played an important role in ensuring that health, environment and safety aspects are addressed properly in implementing the Government's Plan of Action. Close co-operation has been established between the Radiation Protection Authority with all relevant Russian authorities. The scope of our co-operation with Russia in the nuclear safety field has been expanded during the last few years. At the same time more costly and complex projects have been implemented. Based on our experiences from such projects the Ministry of Foreign Affairs decided last year to strengthen the role of the Radiation Protection Authority in implementing nuclear safety projects. An important part of the Authority's work is related to risk assessments and environmental impact assessments in close co-operation with Russian authorities.

The Radiation Protection Authority screens all nuclear safety project proposals to ensure that risk assessments and environmental impact assessments are appropriate and consistent with Russian law and international standards. The authority specifies additional requirements if necessary and gives advice on when external experts should be brought in to help develop environmental impact assessments. The Ministry of Foreign Affairs uses the Authority's assessments and recommendations as a basis for making decisions on project funding.

- Bilateral measures

High priority is given to promoting close co-operation between the Norwegian and the Russian authorities. A number of agencies, both civilian and military, are involved in approving and implementing nuclear safety projects on the Russian side. This poses a challenge not only with respect to internal co-ordination in Russia, but also to our bilateral co-operation. We have therefore decided to further strengthen our co-operation with all relevant authorities on the Russian side with particular emphasis on risk assessment and environmental impact assessment. This issue is also on the agenda when politicians meet at regular intervals to discuss bilateral co-operation in the nuclear safety field.

The joint Norwegian-Russian Expert Group that was established in 1992 under the Joint Norwegian-Russian Commission on Environmental Protection plays an important role in these efforts. The group has compared environmental impact assessments carried out in Russia with those conducted in Norway and other western countries. A study that was published in May 2001 concludes that the principles and methods of carrying out environmental impact assessment in Norway and in Russia to a large extent coincide. The procedures for environmental impact assessment in the two countries are based on generally recognised international principles, such as prevention, openness and the obligation to conduct environmental impact assessments of all projects that are likely to significantly influence the environment. The study found that existing differences mainly concern the way these principles are implemented in practice. The study further notes that close contact between the developer and the authorities responsible for health protection, environmental issues and nuclear safety is essential to ensure that the overall aim of environmental impact assessment is met.

- International measures

Based on our experience in northwestern Russia and in the light of the internal debate in Norway regarding submarine dismantling projects, Norway raised the issue of environmental impact assessment in relevant international fora last year. Our intention was to gain support for a co-ordinated international approach to risk assessment and environmental impact assessment. Our thoughts were presented in a non-paper at the CEG plenary meeting in Murmansk in November last year. As a result of the ensuing discussion, the CEG decided to follow up on this issue at an expert workshop, which the UK has so kindly organised here in Oxford.

Norway has also brought up risk assessment and environmental impact assessment in the context of the G8 Global Partnership, the Northern Dimension Environmental Programme and the Arctic Military Environmental Co-operation. In fact, AMEC met to discuss environmental impact assessment practice and project risk management in Moscow in January this year. The meeting specifically addressed these issues in respect of the transportation of decommissioned submarines.

NATO also recently decided to address environmental impact assessment at a workshop in Moscow on 16-18 June this year. The Russian Ministry of Natural Resources and the Norwegian Radiation Protection Authority have been asked to organise this workshop. The primary objective of the workshop will be to examine how scientific research and environmental studies can contribute to the development of practical standards for protection of the environment and human health. The outcome will be useful for operators and regulators involved in radioactive waste management projects in northwestern Russia.

We must see to it that all these activities are closely co-ordinated and that findings and recommendations are fed into the different processes so that they contribute to a coherent international approach.

III. Assessments – what have we done and what are we aiming at?

Risk assessment and environmental impact assessment can be described as a decision support system. Decisions on priority areas and concrete projects under the Plan of Action require assessments at two levels:

- an overall risk assessment related to strategy
- a risk assessment and environmental impact assessment of concrete projects.

- Overall risk assessment

An overall risk assessment is important to ensure that projects are carried out in a cost-efficient and secure way and for assigning priorities. Let me illustrate this by giving you an example. In the early nineties a joint Norwegian-Russian expert group examined reports that radioactive material had been dumped into the Barents Sea and the Kara Sea. The group concluded that the radioactive waste on the seafloor did not pose a threat to the environment that was great enough to justify a costly clean up action. Financial resources could therefore be directed toward other, more urgent tasks.

The Arctic and Monitoring Assessment Programme set up under the Arctic Council, or AMAP for short, has done important work on risk assessment in the Arctic. A large number of experts from the Arctic countries (Canada, Denmark/Greenland/Faroe islands, Finland, Iceland, Norway, Russia, Sweden, and the United States) and many others contribute to this programme. The first AMAP assessment was completed in 1997 and identified sources of radioactivity in the Arctic. It concludes that accidents at Russian nuclear power plants, and accidents related to treatment of radioactive materials stemming from nuclear weapons or nuclear powered vessels, constitute the number one threat to human health and the environment in the northern areas. These assessments have influenced the priority we have assigned to the various projects under the Plan of Action.

Under the AMAP programme this year, Norway will initiate work focusing on risk assessment, particularly regarding the complex problems at nuclear sites like those at Andreyev Bay or Gremikha. Before we invest more resources in rehabilitation, we should have a clearer picture of the potential threat to human health and the environment and to safety and security associated with different courses of action.

- Risk assessment and environmental impact assessment of concrete projects

One of the important tools in risk assessment is environmental impact assessment. An environmental impact assessment enables environmental factors to be given due weight, along with economic or social factors, when applications for new projects are being considered.

We have conducted a number of environmental impact assessments related to nuclear safety activities in northwestern Russia. These include assessments of the Kola Nuclear Power Plant, the reprocessing treatment facilities in Mayak and Krasnoyarsk, and an assessment in connection with the loss of the Kursk in August 2000. We are now in the process of conducting environmental impact assessments on two major projects: the dismantling of nuclear submarines and replacement of strontium batteries in Russian lighthouses.

The dismantling of nuclear submarines

Norway signed contracts on 30 June 2003 for financing the dismantling of two multipurpose submarines of the Victor II class. One at Nerpa shipyard, the other at Zvezdochka shipyard. They are both pilot projects. We did not conduct an independent environmental impact assessment before signing the two contracts. The Minister of Foreign Affairs has been criticised by the parliament for not having done so. We have therefore initiated the carrying out of an environmental impact assessment at a later stage - six months after the work at the shipyard had started. Enviro Consulting Ltd. was awarded the contract for conducting independent impact assessments on our pilot project, and is now working hard in order to finish them next month. A separate presentation on independent environmental impact assessment of the dismantling of two submarines will be given by Enviro later this afternoon. The importance of this environmental impact assessment for any further Norwegian engagement in dismantling projects must be underlined. A comprehensive evaluation of the pilot project will be made later this spring.

Replacing strontium batteries in Russian lighthouses

Norway has financed the removal and treatment of 45 strontium batteries in Russian lighthouses and installed solar cell panels in five of them. We plan to remove 24 strontium batteries and install 30 more solar cell panels this year. The Norwegian authorities are working closely with the Russians on conducting an environmental impact assessment for this

project. A joint expert meeting was held early in the planning phase to decide on scope and methodology. The environmental impact assessment is being carried out by the Russians, and a draft version was discussed with Norwegian experts in February. The final assessment will be reviewed by the Norwegian authorities before the contract with the Russians on funding is signed in April. This is a good example of how both the recipient's and the donor's requirements with regard to environmental impact assessment can be met effectively by means of an interactive process.

IV. Lessons learned so far

Generally our experience of co-operation with Russia on nuclear safety has been good. During the last year we have gained more experience of environmental impact assessment with respect to nuclear safety projects in general and in particular in relation to our dismantling projects. Three points should be highlighted:

- **Interaction.** Although Norwegian and Russian legislation is largely based on the same principles and methods, there are some differences in the way the legislation is implemented in the two countries. We have noted that, on the Russian side contact between the operator and the regulator is established rather late in the process of conducting an environmental impact assessment. This may cause unnecessary delays for the final approval of the environmental impact assessment and also in the licensing process. Moreover, the environmental impact assessment does not always address the issues or principles of most interest to the donor. This is why a dialogue between all actors involved on the Russian side and on the donor's side should be established early in the planning phase. In fact, interaction throughout the whole process of environmental impact assessment is the most efficient way of ensuring that all needs are met, both on the Russian side and on the donor's side.
- **Access to information.** The Russian environmental impact assessment related to our two dismantling projects has not been made available to us - only a copy of the table of contents and the conclusions. During inspection at the shipyard, our project manager was allowed to view the documents related to the environmental impact assessment for 15 minutes. This is not satisfactory. The Russian environmental impact assessment must be made available to the donor. We understand that parts of the assessment related to the dismantling of nuclear submarines may contain classified information. We are not interested in such information, but we need more than the conclusions of the Russian assessment to carry out our own assessment as required by our parliament.
- **Timing.** The Russian environmental impact assessment should be made available to the donor at an early point in the project planning stage. The assessment can only serve as a proper decision support system when it is made available to the donor before the latter makes a decision on project funding. In practice this means that the Russian environmental impact assessment should be finalised before new contracts on dismantling submarines are signed. This approach has been applied in our project co-operation on strontium batteries in Russian lighthouses. And this is the approach we will be aiming at in future co-operation on the dismantling of submarines.

V. Conclusions

The growing international engagement in nuclear safety in northwestern Russia calls for closer co-ordination of donor activities. Based on our experience, we believe that a coherent approach to the conduct of environmental impact assessment related to nuclear safety projects would be useful both to the Russian party and to donor countries. When we raised this issue at the CEG plenary meeting in Murmansk last year, we were very pleased that the group decided to follow up on this issue at an expert work shop. We are looking forward to concrete and constructive discussions on the scope of risk assessment and environmental impact assessment over the next two days here in Oxford. We hope the outcome of the workshop will be a set of guiding principles on how to approach environmental impact assessment on nuclear safety projects in northwestern Russia. These guidelines should be presented at the next CEG plenary meeting.

We believe the following points could serve as a basis for a discussion on such guiding principles:

- As a general rule, an environmental impact assessment should be carried out before implementation of large-scale projects, and all projects that involve handling radioactive material.
- The Russian environmental impact assessment should be used as a basis and when necessary, on a case by case basis reviewed by donor countries' experts.
- The Russian authorities should be required to meet additional requirements insofar as the donor country considers this to be necessary in order to ensure that the projects comply with international recommendations and international norms.
- Separate risk assessments with respect to health, environment and safety should be carried out for all projects that involve the handling of spent fuel and high-level radioactive material. For such projects, transport and any final treatment of the material should be included in the assessment.
- The scope of an environmental impact assessment and the requirements it must meet will be determined on an individual basis.

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