

## INTRODUCTION AND MAIN CONCLUSIONS

### INTRODUCTION

At the request of the government of the Russian Federation, an IAEA Operational Safety Review Team (OSART) of international experts visited Kola Nuclear Power Plant from 10 to 27 November 2014. The purpose of the mission was to review operating practices in the areas of Management Organisation and Administration; Training and Qualification; Operations; Maintenance; Technical Support; Operating Experience Feedback, Radiation Protection; Chemistry, and Severe Accident Management. In addition, an exchange of technical experience and knowledge took place between the experts and their plant counterparts on how the common goal of excellence in operational safety could be further pursued.

The Kola OSART mission was the 181<sup>st</sup> in the programme, which began in 1982. The team was composed of experts from Belgium, Bulgaria, China, Czech Republic, Slovakia, South Africa, United Kingdom, together with the IAEA staff members and observers from Russian Federation and Iran. The collective nuclear power experience of the team was approximately 350 years.

Before visiting the plant, the team studied information provided by the IAEA and the Kola plant to familiarize themselves with the plant's main features and operating performance, staff organisation and responsibilities, and important programmes and procedures. During the mission, the team reviewed many of the plant's programmes and procedures in depth, examined indicators of the plant's performance, observed work in progress and held in-depth discussions with plant personnel.

Throughout the review, the exchange of information between the OSART experts and plant personnel was very open, professional and productive. Emphasis was placed on assessing the effectiveness of operational safety rather than simply the content of programmes. The conclusions of the OSART team were based on the plant's performance compared with the IAEA Safety Standards.

The following report is produced to summarize the findings in the review scope, according to the OSART Guidelines document. The text reflects only those areas where the team considers that a Recommendation, a Suggestion, an Encouragement, a Good Practice or a Good Performance is appropriate. In all other areas of the review scope, where the review did not reveal further safety conclusions at the time of the review, no text is included. This is reflected in the report by the omission of some paragraph numbers where no text is required.

### MAIN CONCLUSIONS

The OSART team concluded that the managers of Kola NPP are committed to improving the operational safety and reliability of their plant. There is clear evidence that the plant has gained benefit from the OSART process. The IAEA Safety Standards and benchmarking with other Russian NPPs that have recently hosted OSART missions were used by the plant during the preparation for the mission. The team noted the extensive work done by the plant for the self-assessment completed prior to the mission and appreciated the full cooperation of the plant staff during the mission.

The OSART team found several good practices, including the following:

- Advanced radionuclide removal technology was implemented at the Liquid Radioactive Waste Treatment Facility of the plant to reduce considerably the volume of the radioactive waste and allow use of a single type of container suitable for long term safe storage, transportation and subsequent disposal;
- Professional psychologists provide assistance to plant personal to better manage stressful situations that may arise in the workplace;
- On-line snow load monitoring system deployed to prevent overloading of buildings containing safety related equipment in the case of extreme weather.

A number of proposals to improve operational safety were suggested by the team. The most significant proposals include the following:

- The plant should develop and implement an integrated management system in a timely manner.
- The plant should consider enhancement of its operational procedures and their application.
- The plant should consider enhancement of the plant chemistry control programme to avoid any potential adverse impacts on plant systems.
- The plant should consider completing actions needed to ensure adequate guidance is available for mitigation of severe accidents at power and during shut down conditions, both for the reactor and the spent fuel pool.

Kola NPP management confirmed their intention to address the areas identified for potential improvement, and indicated a willingness to accept a follow up visit in around eighteen months.