

EXECUTIVE SUMMARY

This report describes the results of the OSART mission conducted for Bohunice Nuclear Power Plant, Slovak Republic from 6 to 23 November 2023.

The purpose of an OSART mission is to review the operational safety performance of a nuclear power plant against the IAEA safety standards, make recommendations and suggestions for further improvement and identify good practices that can be shared with NPPs around the world.

This OSART mission reviewed ten areas: Leadership and Management for Safety; Training and Qualification; Operations; Maintenance; Technical Support; Operating Experience Feedback; Radiation Protection; Chemistry; Emergency Preparedness & Response; and Accident Management.

The mission was coordinated by an IAEA Team Leader and Deputy Team Leader and the team was composed of experts from Belgium, Bulgaria, Canada, China, Croatia, France, Germany, Slovenia, Sweden, United Kingdom, United States of America and two Observers from Slovak Republic. The collective nuclear power experience of the team was 336 years.

The team identified 17 issues, 12 of them are recommendations, and 5 of them are suggestions. 3 good practices were also identified.

Several areas of good practice were noted:

- Radiation control software. A feature had been developed to track the persons with registered contamination at the RCA exit.
- Fire protection arrangements. The Plant has identified a number of risks related to the expected increase of e-mobility at the plant.
- Early classification of emergency. The ESTE application allows easy early classification and notification of events.

The most significant issues identified were:

- The plant should improve the effectiveness of manager and supervisor engagement with workers to ensure that fundamentals and standards are rigorously followed and enforced.
- The plant should improve the plant staff's practices and behaviour in following industrial safety requirements and expectations to prevent near misses and personnel injuries.
- The plant should improve the material conditions of plant systems, structures and components to ensure safety and reliability of the plant.

Bohunice NPP management expressed their commitment to address the issues identified and invited a follow up visit in about eighteen months to review the progress.

INTRODUCTION AND MAIN CONCLUSIONS

INTRODUCTION

At the request of the government of Slovak Republic, an IAEA Operational Safety Review Team (OSART) of international experts visited Bohunice Nuclear Power Plant from 6-23 November 2023. The purpose of the mission was to review operating practices in the areas of Leadership and Management for Safety, Training and Qualification, Operations, Maintenance, Technical Support, Operating Experience Feedback, Radiation Protection, Chemistry, Emergency Preparedness & Response, and 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 Bohunice Nuclear Power Plant is located 65km from Bratislava near the city of Trnava, in western Slovakia. The plant is owned and operated by Slovenske Elektrarne. The Bohunice NPP consists of 2 running units with Pressurized Water Reactor (PWR) reactors type VVER-440 with reference output of 471 MWe. The Bohunice Plant employs approximately 800 staff.

The Bohunice OSART mission was the 222nd in the programme, which began in 1982. The team was composed of experts from Belgium, Bulgaria, Canada, China, Croatia, France, Germany, Slovenia, Sweden, United Kingdom, United States of America, two IAEA staff members and two Observers from Slovak Republic. The collective nuclear power experience of the team was approximately 336 years.

Before visiting the plant, the team studied information provided by the IAEA and the Bohunice plant to familiarize themselves with the plant's main features and operating performance, staff organization 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 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 the Bohunice NPP are committed to improving the operational safety and reliability of their plant.

The team found areas of good practice, including the following:

- Radiation control software. A feature had been developed to track the persons with registered contamination at the RCA exit.
- Fire protection arrangements. The Plant has identified a number of risks related to the expected increase of e-mobility at the plant.
- Early classification of emergency. The ESTE application allows easy early classification and notification of events.

A number of proposals for improvements in operational safety were offered by the team. The most significant proposals include the following:

- The plant should improve the effectiveness of manager and supervisor engagement with workers to ensure that fundamentals and standards are rigorously followed and enforced.
- The plant should improve the plant staff's practices and behaviour in following industrial safety requirements and expectations to prevent near misses and personnel injuries.
- The plant should improve the material conditions of plant systems, structures, and components to ensure safety and reliability of the plant.

Bohunice NPP management expressed their commitment to address the issues identified and invited a follow up visit in about eighteen months to review the progress.