

INTRODUCTION AND MAIN CONCLUSIONS

INTRODUCTION

At the request of the government of the Czech Republic, an IAEA Operational Safety Review Team (OSART) of international experts visited Dukovany Nuclear Power Plant from 6 to 23 June 2011. The purpose of the mission was to review operating practices in the areas of Management, Organization and Administration; Training and Qualification; Operations; Maintenance; Technical Support; Operating Experience; Radiation Protection; Chemistry; and Emergency Planning and Preparedness. 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 Dukovany OSART mission was the 162nd in the programme, which began in 1982. The team was composed of experts from Armenia, Germany, Hungary, Romania, Slovenia, Sweden, United Kingdom, United States of America, an observer from Bulgaria together with IAEA staff members. The collective nuclear power experience of the team was approximately 360 years.

The four units on the site are operated by the CEZ a.s. which also operates coal and hydro power plants in the Czech Republic. The four units are originally 440MWe, VVER/type V213. Unit 1 was put into commercial operation in 1985, Units 2 and 3 in 1986 and Unit 4 in 1987. There are approximately 650 permanent workers on the site.

Before visiting the plant, the team studied information provided by the IAEA and the Dukovany 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 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 Dukovany NPP are committed to improving the operational safety and reliability of their plant. The team found good areas of performance, including the following:

- The plant uses an integrated approach to recruit, select, psychologically assess and train new employees. This approach has resulted in consistently high success pass rates for licensed operator examinations and the identification of potential candidates for various plant departments.
- The performance indicator for the Collective Effective Dose of Dukovany NPP has shown exceptionally good results in comparison with other PWRs and VVERs for many years. During the past three years, the value was about 0.15 manSv per Unit.
- Training, in conjunction with the safety and operating modes departments has developed and implemented for several years, a comprehensive station blackout simulator scenario. The scenario involves multiple off-site agencies and has a high degree of realism. It is used to practice and improve response times for power restoration activities and familiarize off-site personnel with nuclear safety principles.

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

- Improving the effectiveness of using its root cause analysis method to prevent the repetition of events.
- Clarifying and reinforcing the plants expectations regarding the use of error prevention tools and enhancing their application.
- Ensuring adequate protection of emergency workers and evacuees following a possible radioactive release.

Dukovany management expressed a determination to address the areas identified for improvement and indicated a willingness to accept a follow up visit in about eighteen months.