INTRODUCTION AND MAIN CONCLUSIONS

INTRODUCTION

At the request of the Dutch nuclear regulatory authority - KFD (inspectorate for nuclear safety, radiation protection, safeguards and security), an IAEA Operational Safety Review Team (OSART) of international experts visited EPZ and the Borssele Nuclear Power Plant from 1 – 18 September 2014. The purpose of the mission was to review:

- Corporate functions in the areas of corporate management, support to provide human resources, independent oversight, communication;
- Operating practices in the areas of Management, organisation and administration; Training & qualification; Operations; Maintenance; Technical support; Operating experience; Radiation protection; Chemistry; Emergency planning and preparedness; and Severe accident management;
- The safety culture of the organization, requested by EPZ with the consent of KFD. The methodology of this safety culture assessment is described in Annex 1.

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 Borssele OSART mission was the 178th in the programme, which began in 1982. The team was composed of experts from Canada, Czech Republic, France, Germany, Hungary, Slovakia, Slovenia, Spain, the United Kingdom, the United States of America and the IAEA staff members. The collective nuclear power experience of the team was approximately 370 years.

Before visiting the plant, the team studied information provided by the IAEA and the EPZ-Borssele nuclear 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 best international practices.

The following report is produced to summarize the findings in the review scope, according to the OSART Guidelines document. For those findings related to Borssele nuclear power plant the term “plant” is used; For those findings related to the EPZ organisation including the nuclear plant then the term “organisation” is used. 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 EPZ - Borssele NPP are committed to improving the operational safety and reliability of their plant. The team found good areas of performance, including the following:

- EPZ has a risk management officer who is responsible for development and control of integral risk management within the organization of EPZ. Integral risk management is the umbrella for all types of risks;
- The establishment of Young EPZ Professionals as a response to rapid demographic changes;
- Process maturity model for monitoring the progress and improvement of the integrated management system;
- The plant organizes six site-wide integrated exercises each year to ensure that all personnel with assigned duties during an emergency participate in an exercise each year;
- Requirements for Severe accident management (SAM) equipment in separate Plant Technical Specifications.

The team found also a number of areas in need of improvement to enhance operational safety performance. The most significant ones include the following:

- Leadership for safety is not recognized throughout the organization to ensure sustainable safety performance;
- The change management process is not effectively used to support changes in the organization;
- An effective Human Performance Programme has not been implemented;
- Expectations are not systematically being met by plant personnel nor reinforced by managers and supervisors, and some of them are not yet set;
- The plant's expectations and work management process are not robust enough to ensure effective personnel resource usage, completion of risk reviewed work, and safe work schedule stability;
- High standards of material condition in some plant areas are not consistently maintained;
- The process for temporary modifications does not provide adequate arrangements for their review, approval or control, to ensure that temporary modifications are handled in a safe manner;
- Analysis for some events has not been performed adequately to ensure that the root cause is identified and are not consistently completed in a timely manner;
- The plant workers and line management do not always take responsibility for ensuring their own or team's radiation protection and are not held accountable when the required radiation protection behaviours and work practices are not achieved;
- The on-site emergency arrangements are not sufficient to ensure the timely protection of on-site workers in the event of an emergency;
- The plant's abnormal operation procedures and EOPs are incomplete and do not address the scope of all credible plant states.

EPZ senior management and Plant 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.