INTRODUCTION AND MAIN CONCLUSIONS

INTRODUCTION

At the request of the government of the United States of America, an IAEA Operational Safety Review Team (OSART) of international experts visited Seabrook 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; Radiation protection; Operating Experience and Emergency Planning and Preparedness. The area of Chemistry was not reviewed due to the late unavailability of the expert. 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 Seabrook OSART mission was the 163rd in the programme, which began in 1982. The team was composed of experts from Brazil, Canada, China, France, Slovakia, Slovenia, Spain, Sweden, the United Kingdom, and together with the IAEA staff members and an observer from Czech Republic. The collective nuclear power experience of the team was approximately 290 years.

The plant is operated by Next Era Energy Seabrook, a subsidiary of Next Era Energy Resources. The plant is a Westinghouse four-loop Pressurized Water Reactor, with a net electrical output of 1244 MWe. It was put into commercial operation in August 1990. Seabrook submitted a License Renewal Application in June 2010. There are approximately 1100 permanent workers, plant staff and permanent contractors, on the site including external services (Security, cleaning, etc).

Before visiting the plant, the team studied information provided by the IAEA and the Seabrook 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.

This 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 Seabrook NPP are committed to improving the operational safety and reliability of their plant. The team found a number of good areas of performance, including the following:

- The station use of the Learning Management System (LMS) for the daily qualification verification. This is a useful tool to check personnel qualification, provide information for future training and supply automatic notifications of upcoming training.
- A Healthy Reporting Culture based on a Low-threshold and a High-volume reporting system.
- Risk ranked activities evaluations are used to monitor contractors in the field.

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

- Operations staff's and management's ownership of the plant is not being undertaken at a sufficiently high standard in the following activities:

  - The reporting of some perceived minor anomalies;
  - The housekeeping;
  - The system for controlling operator aids and procedures.
  - The control of access to systems and equipment ; and
  - The administrative burden of the Shift Manager.

- In some cases the plant demonstrates a lack of aggressive and proactive resolution on long term issues.
- The plant is experiencing material condition deterioration and degraded equipment conditions.

Seabrook 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.