

EXECUTIVE SUMMARY

This report describes the results of the OSART mission conducted at the Sequoyah Nuclear Power Plant in the USA from 14-31 August 2017.

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 twelve areas: Leadership and Management for Safety; Training and Qualification; Operations; Maintenance; Technical Support; Operating Experience Feedback; Radiation Protection; Chemistry; Emergency Preparedness and Response; Accident Management; Human, Technology and Organization Interactions; and Long Term Operations.

The mission was coordinated by an IAEA Team Leader and Deputy Team Leader and the team was composed of experts from Belgium, Brazil, Canada, France, Germany, Republic of Korea, Romania, Slovakia, Spain, Sweden, UK, and the IAEA staff members. The collective nuclear power experience of the team was approximately 409 years.

The team identified nineteen issues, resulting in six recommendations, and thirteen suggestions. Two good practices were also identified.

Several areas of good performance were noted:

- The plant has developed an overall Emergency Management Guideline flowchart to provide a comprehensive overview of all strategies, guidelines and other relevant documents.
- The plant has adopted an effective process to optimize the preventative maintenance programme.
- The plant has implemented a comprehensive seasonal preparation program.

The most significant issues identified were:

- The plant should place a higher priority on evaluating and improving the material condition of equipment commensurate with its safety significance.
- The plant should continue to improve the performance of management and staff in challenging inappropriate behaviours and coaching plant staff.
- The plant should improve the effectiveness of event investigation and corrective action implementation to minimize the risk of event recurrence.

Sequoyah 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 the USA, the IAEA conducted an Operational Safety Review Mission (OSART) at the Sequoyah Nuclear Power Plant between 14 and 31 August 2017. 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 and Response; Accident Management; Human, Technology and Organization Interactions; and Long Term Operations. 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 Sequoyah OSART mission was the 195th in the programme, which began in 1982. The team was composed of experts from Belgium, Brazil, Canada, France, Germany, Republic of Korea, Romania, Slovakia, Spain, Sweden, UK, and the IAEA staff members. The collective nuclear power experience of the team was approximately 409 years.

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

- The plant has developed an overall Emergency Management Guideline flowchart to provide a comprehensive overview of all strategies, guidelines and other relevant documents.
- The plant has adopted an effective process to optimize the preventative maintenance programme.
- The plant has implemented a comprehensive seasonal preparation program.

Several proposals for improvements in operational safety were offered by the team. The most significant of these are the following:

- The plant should place a higher priority on evaluating and improving the material condition of equipment commensurate with its safety significance.
- The plant should continue to improve the performance of management and staff in challenging inappropriate behaviours and coaching plant staff.
- The plant should improve the effectiveness of event investigation and corrective action implementation to minimize the risk of event recurrence.

Sequoyah 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.