

EXECUTIVE SUMMARY

This report describes the results of the OSART mission conducted for Penly Nuclear Power Plant, France from 4 to 21 September 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 Canada, China, Germany, Slovakia, Sweden, United Kingdom, United States of America, and one Observer from United Arab Emirates. The collective nuclear power experience of the team was approximately 358 years.

The team identified 14 issues, 4 of them are recommendations, and 10 of them are suggestions. 7 good practices were also identified.

Several areas of good practice were noted:

- The updated plant information project (CONNECT) in the plant and corporate provides real time access to information and effective support to different function groups.
- The plant has installed remote monitoring capability on safety critical seawater piping.
- The plant has developed and installed a system for monitoring sedimentation in the intake cooling water channel.

The most significant issues identified were:

- The plant should improve the sensitivity of their managers and supervisors to recognize, challenge and correct inappropriate behaviours on site and establish an intolerance for rationalizing deviations to maintain personnel safety and high levels of standards.
- The plant should improve implementation of the processes related to plant configuration and status control to ensure plant safety.
- The plant should improve its preparation, control, and implementation of maintenance activities to ensure equipment reliability and personnel safety.

Penly 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 France, an IAEA Operational Safety Review Team (OSART) of international experts visited Penly Nuclear Power Plant from 4 to 21 September 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, Radiation Protection, Chemistry, Emergency Preparedness & Response, 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 plant is located about 15 kilometers (km) north of the town of Dieppe, sub-prefecture of Seine Maritime department in the Normandy region of France. Paris is about 160 km to the southeast. The NPP site contains two 1330 MWe reactors. The first unit started its commercial operation in 1990 and the second unit in 1992.

The Penly OSART mission was the 219th in the programme, which began in 1982. The team was composed of experts from Canada, China, Germany, Slovakia, Sweden, United Kingdom, United States of America, and one Observer from United Arab Emirates. The collective nuclear power experience of the team was approximately 358 years.

Before visiting the plant, the team studied information provided by the IAEA and the Penly 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 good international practices.

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 Penly NPP are committed to improving the operational safety and reliability of their plant.

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

- The updated plant information project (CONNECT) in the plant and corporate provides real time access to information and effective support to different function groups.
- The plant has installed remote monitoring capability on safety critical seawater piping.
- The plant has developed and installed a system for monitoring sedimentation in the intake cooling water channel.

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 sensitivity of their managers and supervisors to recognize, challenge and correct inappropriate behaviours on site and establish an intolerance for rationalizing deviations to maintain personnel safety and high levels of standards.
- The plant should improve implementation of the processes related to plant configuration and status control to ensure plant safety.
- The plant should improve its preparation, control, and implementation of maintenance activities to ensure equipment reliability and personnel safety.

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