

INTRODUCTION AND MAIN CONCLUSIONS

INTRODUCTION

At the request of the government of the Republic of France, an IAEA Operational Safety Review Team (OSART) of international experts visited Fessenheim Nuclear Power Plant from 23 March to 8 April 2009. 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 Fessenheim nuclear power plant is located in the Alsace plain, in the Haut-Rhin department 26 km north-east of Mulhouse, on the left bank of the Grand Canal d'Alsace. The main towns located near the power plant are : Mulhouse 26 km away, Colmar 30 km, Strasbourg 100 km, Basel in Switzerland 45 km away and Fribourg in Germany 30 km. The geographical position of the plant is further underlined by the financial partnership with EnBW (Germany) holding a 17.5% stake and with three Swiss companies (association of NOK, EOS and EWB) holding 15%.

The plant operates two PWR units of CP0 type with 900 MW capacity each. They are the first two units of EDF's 900 MW series. The first unit was connected to the grid in April 1977 and the second in October 1977. The plant has about 640 employees and 150 permanent contractor staff.

The Fessenheim OSART mission was the 152nd in the programme, which began in 1982. This was the second OSART mission at Fessenheim NPP, the first took place in 1992. This time the team was composed of experts from Armenia, Canada, Czech Republic, Germany, Slovak Republic, Sweden, Switzerland and UK, together with the IAEA staff members and an observer from Estonia. The collective nuclear power experience of the team was approximately 348 years.

Before visiting the plant, the team studied information provided by the IAEA and the Fessenheim 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 summarise the findings in the review scope, according to the OSART Guidelines document. The text reflects only those areas where the team considers that either 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 Fessenheim NPP are committed to improving the operational safety and reliability of their plant. The team found good areas of performance, including the following:

- Senior Plant Managers are improving Operational Safety by their daily visible support for staff behaviours that enhance Nuclear Safety;
- Shift Managers use reference standards specific to each reactor mode for performing safety assessment;
- The plant uses a high-precision radiation monitoring device which allows the detection of radioactive particles inside the equipment to perform a final check of large objects leaving the site.

A number of issues where improvements in operational safety could be achieved were identified by the team. The most significant areas for improvement include the following:

- Corrective actions for safety-significant events are not prioritized and some of these actions are rescheduled;
- Not all opportunities have been taken to eliminate industrial safety risks in the plant related to unprotected hot pipes and equipment, inadequate installed guards on rotating equipment and tripping hazards particularly due to uncontrolled extension cords;
- Leaks of water and oil on the equipment within the industrial buildings are not systematically identified and corrective actions are not always initiated.

Fessenheim 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.