

Regulatory Updates

Nuclear safety...

The AIEA publishes a report on the Flamanville EPR reactor

August 2020



ASN, the French nuclear safety authority, has posted on line the [report of the pre-OSART \(pre-operational safety review team\) mission which was conducted from 17 June to 4 July 2019 at the Flamanville nuclear power plant \(NPP\)](#) and concerned the EPR reactor currently under construction.

The OSART missions focus on the in-service safety of NPPs. They are organised by the International Atomic Energy Agency (IAEA) at the request of the Member States. Each mission is conducted by a team of about ten international experts who carry out an in-depth review of the level of safety of the NPP in question. The main purpose of the OSART missions is to check compliance with the IAEA safety standards.

The conclusions of the mission concerning the Flamanville 3 EPR are essentially positive and acknowledge the involvement of site management in improving operating safety and reliability. The experts identified eight good practices and made six recommendations and fifteen suggestions.

The identified strong points include the appointing of a person tasked with sharing EPR reactor operating experience feedback with their counterparts in Taishan (China) and the implementation of a holistic approach to organisational and human factors.

Prominent among the improvements proposed by the experts was that of the measures and practices aiming to ensure the integrity of the fire barriers and rapid extinguishing of fires.

The recommendations and suggestions are laid down in a dedicated action plan, the results of which will be assessed through a follow-up mission scheduled for March 2021.

The conclusions of the mission are moreover taken into account by ASN in its own oversight actions.

The next OSART mission in France is scheduled for 2021 at the Paluel NPP.

ASN issues its opinion on the management of very low level waste

August 2020

At the request of the Minister responsible for energy, and contributing to the guidelines for the 5th issue of the French National Radioactive Material and Waste Management Plan (PNGMDR), [ASN has issued its opinion on the management of very low level waste \(VLLW\)](#).

VLLW comes essentially from the operation, maintenance and decommissioning of nuclear facilities. It consists mainly of inert waste (soil and rubble) and metal waste. Cires (Industrial centre for grouping, storage and disposal), operated by Andra (the French Radioactive Waste Management Agency) in the Aube *département*, is currently the only definitive management solution for this type of waste. The existing disposal facilities should be filled to capacity by around 2028.



View of the Cires facility

Faced with the large volumes of VLLW to come over the next few decades, [the PNGMDR 2016-2018](#) required that studies be conducted on the forward-looking production estimates, the experience feedback from waste zoning, the recycling of certain types of VLLW, the densification, and the optimisation or diversification of disposal solutions.

The public debate held in 2019 in preparation for the 5th issue of the PNGMDR confirmed the need to develop new VLLW management solutions. At the end of this debate, it was decided to continue the work to find additional disposal capacities by identifying a second disposal centre and analysing the benefits and drawbacks of decentralised disposal solutions situated near the waste producing sites.

The Ministry for Ecological Transition and ASN also consider, in the light of the arguments put forward during the public debate, that regulatory changes could be studied to allow, on a case-by-case basis, the recycling of VLLW radioactive metal waste after melting and decontamination.

Consistently with these approaches, and after analysing the studies submitted to it, ASN calls for the work initiated in the PNGMDR 2016-2018 to be continued and extended with the aim of improving the current management methods and developing complementary management solutions, which remain to be devised and implemented.

ASN notes in particular that the management of VLLW shall, in the main, continue to be based on the place of origin of the waste to guarantee its traceability, by means of specific routes, from production to disposal. It considers that there is substantial room for optimising waste management and this must be used in full.

The recycling of certain types of waste which will be produced in large volumes is encouraged, consistently with the waste management hierarchy defined in the Environment Code. ASN recommends in particular the operational implementation of a rubble recycling route, and continuation of the metals recycling facility project, with the setting up of a specific oversight framework for this facility.

Furthermore, ASN considers it necessary for all the stakeholders, particularly the representatives of the regions concerned or likely to be concerned, to be more closely involved in the defining of the VLLW management solutions.

Lastly, as saturation of the current disposal capacities for VLLW could restrict the entire route and delay the decommissioning projects, ASN considers that solutions must be put forward to cater for the situation where a new centralised disposal facility is not available. It recommends that the studies for putting in place additional disposal facilities, whether centralised or decentralised, be continued and that the government should clarify Andra's responsibility in this respect.

Flamanville EPR project - Information Letter No. 22

July 2020

ASN published the [Information Letter No. 22](#) reporting on its notable actions for monitoring the Flamanville 3 EPR reactor construction.

The significant points in 2019 and early 2020 are in particular about:

• **Consequences of the Covid-19 epidemic.** During the emergency lockdown period due to the Covid-19, the majority of the construction and testing activities were suspended. From 17 March 2020 until the end of April, the only activities maintained were:

- conservation of the equipment;
- monitoring of the facility;
- monitoring of the site;
- preparation of the repairs of the main secondary system welds.

ASN continued its regular monitoring of the situation during this period.

• **Anomalies detected in the main secondary system welds.** In a letter dated 30 July 2019, EDF informed ASN that it would repair the eight welds located between the two containments of the reactor building, which are not readily accessible, to bring them into compliance before reactor start-up. Three work scenarios were presented to ASN, which issued a preliminary opinion on the potential implementation difficulties identified by EDF. EDF has now favoured the option of repair via the pipe interior. The work processes are currently being qualified, with work completion targeted for the second half of 2021.

Alongside this, the examination of the elements - which began in 2019 - prior to the repair of the other VVP pipe welds, has continued since the start of the year with the aim of proving compliance with the break preclusion baseline requirements. It is planned to start the repair operations as from the second half of 2020.

At present, about one hundred welds of the EPR reactor systems require repair work. This number is liable to change according to the results of the EDF re-inspection programme.

• **Anomaly in the stress-relief heat treatment of certain permanent assemblies of the steam generators and the pressurizer.** In August 2019, Framatome informed ASN of noncompliance with the stress-relief heat treatment temperatures in certain welded assemblies.

Certain welds of the EPR steam generators and pressuriser are concerned by this process which is implemented in the Saint-Marcel manufacturing shop (Saône-et-Loire *département*).

Framatome and EDF submitted elements to ASN supporting, despite this deviation, the possibility of performing the hot tests without jeopardising personnel safety or the integrity of the equipment items concerned.

The manufacturer is currently defining a strategy to address the anomaly affecting the EPR equipment. It is in line with the overall strategy for dealing with this anomaly, which also concerns spare equipment items intended for the reactors currently in service. ASN will examine this strategy once it has been defined.

In its work to address the EPR equipment anomaly, Framatome has produced a scale-1 mock-up simulating the stress-relief heat treatment of a permanent assembly between shells in order to assess the extent of the anomaly affecting the EPR steam generator permanent assemblies.

The other points mentioned in the [Information Letter No. 22](#) are about:

- monitoring the start-up tests;
- review of the quality of the reactor equipment;
- taking into account the risk of fraud;
- monitoring of the preparedness of the EDF teams responsible for future operation of the reactor;
- pre-OSART mission conducted by international experts;
- monitoring of the engineering activities;
- monitoring of the activities carried out by the suppliers and EDF's monitoring of its suppliers;
- checking the control of detrimental effects and protection of the environment;
- continued examination of the commissioning authorisation application file and the partial commissioning authorisation application file;
- international experience feedback follow-up.

Publication of a practical guide for the inhabitants of a region contaminated by a nuclear accident

July 2020



At the request of the Prime Minister, the Codirpa (Steering committee for managing the post-accident phase of a nuclear accident or radiological emergency situation), coordinated by ASN, has, since 2005, been conducting a [pluralistic reflection on the management of post-nuclear accident situations](#).

This type of approach, which aims at anticipating the consequences of a major accident and developing a "risk awareness culture" in the stakeholders concerned (regional authorities, public services, non-governmental organisations, mainstream audiences), turns out to be particularly relevant in the light of recent crises (chemical fire at the Lubrizol plant in Rouen, Covid-19).

ASN recently launched, jointly with IRSN (French Institute for Radiation Protection and Nuclear Safety) and ANCCLI (National Association of Local Information Commissions and Committees), a website to assist the local players, [post-accident-nucleaire.fr](#). This site provides documentary and methodological resources to support local initiatives to prepare for management of the health, economic and social consequences of a nuclear accident.

As a complement to this approach, the Codirpa is posting on the website [post-accident-nucleaire.fr](#) a guide to good radiation protection practices, advice for daily living, and information on radioactivity and the environment and the possible methods of measuring radioactivity.

Comprising 28 fact sheets, this guide has been produced by a pluralistic group of the Codirpa under the coordination of ASN, CEPN ([Nuclear Protection Evaluation Centre](#)) and IRSN. It is based on the lessons learned from the Chernobyl and Fukushima accidents and the practical experience of the communities living in the contaminated regions of Belarus, Lapland and Japan.

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