French Nuclear Safety Authority
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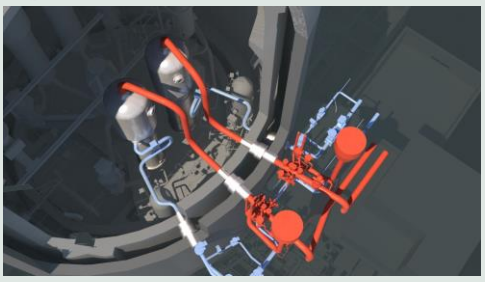
Regulatory Updates

Nuclear safety...

ASN convened its Advisory Committee concerning the deviations detected in welds on the main steam transfer pipes of the Flamanville EPR reactor

April 2019



On 9 and 10 April 2019, ASN convened its Advisory Committee or Nuclear Pressure Equipment (GP ESPN) concerning the approach proposed by EDF to deal with the deviations detected in welds, affected by design and production anomalies, on the main steam transfer pipes of the Flamanville EPR reactor.

In its letter of 2 October 2018, ASN considered that priority should be given to restoring their conformity and asked EDF to send it a file presenting its deviation processing approach. This file was examined by the ASN nuclear pressure equipment department (DEP), with the technical support of IRSN and their conclusions were presented to the GP ESPN. Representatives from the public (e.g. Flamanville Local information committee - CLI), and foreign safety regulators concerned by the construction of an EPR reactor attended this session as observers.

The GP ESPN sent ASN an opinion concerning the eight welds situated on containment penetrations (in white on the picture above). ASN is publishing this opinion, along with the report from the ASN/DEP, which was presented to the GP ESPN.

The GP ESPN notably considered that the nature and particularly high number of deviations in the design and production of these welds were major obstacles to the application of a break preclusion approach. It was therefore considered that EDF should repair these eight welds and bring them into conformity or abandon the break preclusion approach concerning them by making modifications to the reactor enabling such breaks to be covered by its safety case.

On the basis of this opinion, ASN will shortly be issuing a position statement on the approach proposed by EDF.

The GP ESPN was unable to examine the information concerning the other main steam line welds, for which EDF intends to carry out work to restore conformity. It will meet again on 6 June 2019 to examine EDF's proposals.

ASN informed that a member of the Angers University Hospital nuclear medicine department suffers overexposure of the hands

March 2019

On 31 January 2019, the Angers University Hospital informed ASN of a significant radiation protection event in which a member of personnel exceeded the regulatory annual limit for exposure to the hands, which is set at 500 millisieverts. The person concerned by this event works in the hospital's nuclear medicine department.

Nuclear medicine is an imaging technique that uses radionuclides for diagnostic or therapeutic purposes. Specialised personnel are responsible for the preparation, quality control, dispensing and traceability of the radiopharmaceutical products used. These operations can therefore expose the personnel to ionising radiation.

Due to the late forwarding of the staff dosimeters worn in November 2018 to the laboratory responsible for reading them, the event was not discovered until January 2019 when the dosimetric monitoring results were received. The results revealed that a member of staff had received an equivalent dose to the hands of 723 mSv during the month of November 2018.

Given that the annual exposure limit for the extremities has been exceeded, ASN rates this event level 2 on the INES scale.

The nuclear medicine department conducted investigations to determine the cause of exceedance of the exposure limit, without success.

ASN carried out an inspection on 1st February 2019 which also failed to determine the exact circumstances of the overexposure. It did however highlight malfunctions in the management and analysis of the dosimetric devices and identified areas for improvement in the performance of the checks for non-contamination after handling radiopharmaceuticals, and in the recording of these checks.

The overexposed person will not handle radionuclides for a period of twelve months.

ASN firmly underlines the obligation for all workers who are exposed to ionising radiation to wear all their dosimeters, particularly in situations of potentially heterogeneous exposure of the hands, in order to detect any abnormal exposure as early as possible.

The ASN Commission gave EDF a hearing on the draft resolutions to regulate the decommissioning of the first generation gas-cooled reactors

March 2019

On 12 February 2019, the ASN Commission gave EDF a hearing so that the licensee could make its observations on the draft resolutions to regulate the decommissioning of six gas-cooled reactors, which have been shut down for about thirty years.

This hearing follows on from that of 30 June 2017[1], at which EDF had presented the main data to justify the modification of its gas-cooled reactor decommissioning strategy. ASN examined the files justifying this strategy, transmitted by EDF in 2017 and carried out an inspection on this topic.

ASN envisages issuing a position statement on this strategy, more specifically setting deadlines by which EDF must submit the decommissioning files and dates for performance of decommissioning operations which are earlier than those requested by EDF.

ASN sent the draft requirements to EDF, which had a period of two months in which to submit its observations, in accordance with the regulations. EDF then expressed the desire to be given a hearing by ASN. During the hearing, EDF undertook to rapidly forward additional data justifying the choice of the "first off" reactor and the time needed for the reactors decommissioning operations to benefit from the lessons learned from the operations on the first reactor to be decommissioned.

On receipt of these data and further to their examination, ASN will consult the public on its draft resolutions.

[1] The previous EDF hearing on this issue was held on 29 March 2016 (consult the information notice published by ASN on this matter in English).

ASN serves EDF with formal notice on Flamanville EPR equipment

February 2019

In a resolution of 25 February 2019, ASN served EDF with formal notice to produce and save proof of qualification of the Flamanville EPR reactor equipment.

In accordance with the facility's creation authorisation decree, EDF must qualify equipment important for nuclear safety[1] on the Flamanville EPR reactor. The purpose of qualification is to demonstrate that the equipment installed in the facility is able to function in all the conditions in which it is used (temperature, humidity, radioactivity, etc.), more specifically in the event of an accident. This qualification is primarily based on studies and tests. It must be documented and traceable as required by the order of 7 February 2012 setting the general rules for basic nuclear installations (known as the "BNI order") and must be demonstrated prior to commissioning of the facility.

Following an inspection on 24 October 2017, ASN informed EDF that the qualification of the equipment depended in particular on the processing and lifting of the qualification reservations[2] identified by EDF and its suppliers. The ASN inspectors had more particularly observed that the traceability of the processing and lifting of these reservations was insufficient. During the course of a new inspection carried out by ASN on 5 December 2018, ASN observed the same shortcomings.

Since then, EDF has undertaken to comply with the provisions of the "BNI order" and the actions it proposes taking are considered by ASN to be satisfactory. ASN nonetheless decided to serve formal notice in order to ensure close oversight of these actions, so that equipment qualification is demonstrated within sufficiently good time prior to commissioning of the Flamanville EPR reactor.

ASN will periodically check the progress of the action plan implemented by EDF.

[1] This concerns mechanical (pumps, valves, etc.) or electrical (relays, circuit-breakers, etc.) equipment.

[2] Technical points to be resolved before being able to declare qualification of the equipment.

ASN defines the quality assurance requirements for certain medical practices that use ionising radiation

February 2019

In France, medical applications represent the primary source of artificial exposures of the public to ionising radiation. This medical exposure is increasing, mainly due to the increased number of examinations using computed tomography CT scanners. In order to control the doses delivered to patients undergoing medical imaging examinations, and thereby contribute to enhanced safety for the patients, ASN is defining new quality assurance requirements in medical imaging.

ASN resolution 2019-DC-0660 of 15 January 2019 defines the quality assurance requirements for medical imaging involving ionising radiation, that is to say in nuclear medicine for diagnostic purposes, in dental and conventional radiology, in computed tomography and for fluoroscopy-guided interventional practices. It obliges the person responsible for the nuclear activity to define a quality management system and to provide details:

- On the processes, procedures and work instructions associated with operational implementation of the two general radiation protection principles, namely justification of procedures and optimization of doses;
- On the experience feedback process, by stepping up the recording and analysis of events that could lead to accidental or unintentional exposure of persons during medical imaging procedures.

ASN moreover asks the medical professionals to produce guides to facilitate application of this resolution in each medical imaging facility, by adapting the content and form of the quality management system to the risks induced by the activities practised.

ASN publishes in English its recommendations regarding the transport of radioactive substances

February 2019

The transport operations of loading of radioactive substances and packages are namely: design, manufacture, maintenance and repair of packages, consigning, loading, carriage, including in-transit storage, unloading and reception at the final destination. ASN is responsible of monitoring application of the regulations for the safe transport of radioactive materials for civil uses in France.

In this framework, ASN publishes, through these two guides, its recommendations for professionals (licensees, consignors, consignees, carriers…) in order to explain regulatory objectives and to describe, where appropriate, the practices that ASN considers satisfying regarding these transport operations. With the aim to share information at an international level, two ASN guides have been translated in English:

Guide 27 - Stowage of radioactive packages, materials or objects for transportation:

- Secure stowage of packages is an important aspect of the defense in depth approach which serves to ensure the safety of transport operations. This is why ASN, in consultation with all professionals of the nuclear field, wrote this guide and gives its recommendations to check the quality of stowage of radioactive packages, materials and objects for transportation.

Guide 34 - Implementation of the regulatory requirements applicable to on-site transport operations:

- The internal transport operations of dangerous goods conducted on the private roadways of a nuclear site, that is to say a site accommodating one basic nuclear installation (BNI) or more, are generally not subject to the regulations applicable to the transport of dangerous goods on the public highway. The purpose of this guide is to set out ASN recommendations to help BNI licensees to take into account the risks that the on-site transport operations represent for the interests mentioned in article L. 593-1 of the Environment Code.

ASN guides are written by ASN. Although these guides are not legally binding, they imply an interpretation of law or define the modalities to reach the objectives set by the regulations.

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