French Nuclear Safety Authority

N#3 January 2018

Regulatory Updates

Nuclear safety...

ASN considers that the steps taken by Framatome allow production to resume at the Creusot Forge plant

January 2018

ASN informed Framatome and EDF that it considers that the steps taken at the Creusot Forge plant allow the production of components intended for French nuclear facilities to resume under certain conditions, more particularly, the surveillance of the activities.

In 2015 and 2016, major technical and organisational shortcomings that had occurred in the Creusot Forge plant in the past were brought to light. In April 2017, ASN informed Framatome (Areva NP at the time) and EDF of the preconditions it considered necessary for forging operations to resume.

In response to the ASN requests, Framatome identified the underlying causes of the failures observed in its plant and implemented an improvement plan concerning the organisation, skills, quality and safety culture prevailing within the plant. EDF has modified and reinforced its surveillance of this plant.

In October 2017, Framatome informed ASN of its intention to resume forging of nuclear pressure equipment components for French nuclear facilities in its Creusot Forge plant.

ASN analysed the steps taken by EDF and Framatome and carried out several inspections in this plant. On the basis of its own inspections and the information transmitted by Areva NP and EDF, ASN considers that the results of the steps taken are satisfactory and offer sufficient guarantees of the quality and regulatory compliance of the future production by this plant.

When production resumes, forging of each type of component (shell, dome, pipe, etc.) shall undergo prior technical qualification examined by ASN, in order to verify the plant's technical capability.

ASN considers that the Cigeo safety options constitute a significant step forwards

January 2018

In April 2016, Andra sent ASN the safety options file (DOS) for the Cigeo radioactive waste deep disposal project. Submission of a DOS means that the project becomes part of a process governed by the regulations concerning basic nuclear installations (BNI), more specifically by article 6 of the decree of 2 November 2007.

ASN examined this file. In this respect, it requested an expert assessment from its technical support organisation, IRSN. It had this file assessed by the Advisory Committees of experts reporting to it and by foreign experts.

Following this technical examination phase, ASN consulted the public about its draft opinion. After analysis of the contributions received, ASN issued its opinion on 11 January 2018.

The management solution adopted in France for high level, or intermediate level long-lived radioactive waste is deep geological disposal. The Cigeo project aims to adopt this principle as enshrined in law.

ASN considers that the project has on the whole achieved sufficient technical maturity at the safety options file stage. It also considers that the safety options file is documented and substantiated and constitutes a significant step forward with respect to the previous files submitted to ASN for its opinion.

However, certain subjects of the safety options file need to be supplemented in view of the creation authorisation application that Andra intends to submit in 2019. The main supplements requested concern the justification of the disposal architecture, the design and sizing of the installation to withstand natural hazards, the monitoring of the facility and the management of post-accident situations.

ASN also expressed a reservation with regard to bituminous waste. It considers that "*particular attention should be given to research on neutralising the chemical reactivity of the packages of bituminous waste. At the same time, studies to modify the design to preclude the risk of runaway exothermal reactions should be carried out. In any case, characterisation of these packages of bituminous waste by their producers as rapidly as possible is an essential precondition*".

ASN is also sending Andra a letter "*specifying the satisfactory safety options and the additional studies and demonstrations necessary for the creation authorisation application*". The requests in this letter take account of the public's suggestions and comments concerning the draft opinion.

For more information
www.french-nuclear-safety.fr

ASN appoints new Deputy Director General

January 2018

Daniel Delalande

On the first of February, the French Nuclear Safety Authority appointed **Daniel Delalande** as Deputy Director-General. He was head of the Office of Administration (SG) since December 2016.

Brigitte Rouède, deputy director of the SG since 15 May 2017, replaces him as head of the Office of Administration.

For more information
www.asn.fr

ASN takes stock of two level-2 incidents relative to the earthquake resistance of the EDF reactor emergency diesel generator sets

January 2018

In 2017, EDF notified two events significant for safety which occurred on the emergency diesel generator sets of its nuclear power reactors. ASN rated these events level 2 on the INES scale.

Each of the 900 MWe and 1300 MWe reactors of the French NPP fleet is backed up by two emergency diesel generator sets. These sets provide a redundant electrical power supply to certain safety systems in the event of loss of off-site electrical power, particularly further to an earthquake.

A first significant event for safety concerns the failure to demonstrate the earthquake resistance of the anchors in the civil engineering of the emergency diesel generator set auxiliary systems. It covers both design problems which are generic to all the reactors concerned and local problems relating to the poor condition or poor installation of the anchors. This event was rated level 2 on the INES scale.

All 26 reactors concerned by this event have undergone work to reinforce the anchoring of the emergency diesel generator set auxiliary systems, with the exception of reactor 2 of the Fessenheim NPP, for which ASN has prescribed completion of the repairs before the end of January 2018.

A second significant event for safety concerns the failure to demonstrate the earthquake resistance of the surge tanks of the emergency diesel generator sets due to deficiencies associated with corrosion. These deficiencies result in particular from insufficient maintenance of these items of equipment. Identified by EDF at the Penly NPP in July 2017, they formed the subject of a generic significant event notification to ASN on 9th November 2017 for 7 reactors in the 1300 MWe series.

The corroded surge tanks of the reactors concerned were repaired or replaced between August and October 2017.

ASN publishes its Topical peer review on ageing management

December 2017

In 2014, the Council of the European Union adopted directive 2014/87/EURATOM on nuclear security. The main purpose of this directive, supplementing a directive of 2009, was to ensure that the licensees of nuclear facilities learned the lessons from the Fukushima Daiichi Nuclear Power Plant (NPP) accident which occurred in 2011.

The peer review process, considered as an important instrument for promoting the implementation of continuous safety improvement measures, was introduced by the directive in 2014: a peer review of the nuclear facilities of each Member State must thus be carried out every 6 years. This in-depth review process, inspired by that performed during the stress tests on nuclear facilities carried out in the wake of the Fukushima Daiichi NPP accident, started in 2017.

In July 2015, from among the proposals made by WENRA, the 30th meeting of ENSREG selected ageing management of power and research reactors as the topic for this first peer review. In addition to the national policies developed on this subject, particularly close attention was paid to how they are applied to the following four technical topics: reactor vessels, containments, concealed pipes and electrical cables. In accordance with the provisions regulating this peer review, the 19 Member States concerned and participating in this review are required to submit their national reports before the end of 2017. For the nuclear facilities concerned, ASN publishes its report in both English and French on its website.

This report is available on the ENSREG website.

For more information
www.french-nuclear-safety.fr

ASN allows restart of the reactors of the Tricastin NPP

December 2017

With the support of IRSN, ASN examined the data provided by EDF to demonstrate the seismic resistance of the Donzère-Mondragon canal embankment which protects the Tricastin NPP. ASN considers that, following the investigations and repairs carried out by EDF, the condition of the embankment allows the restart of the EDF reactors and gave its consent for the restart of reactors 2, 3 and 4 (reactor 1 remains shut down as EDF intends to carry out maintenance on it).

On 27 September 2017, ASN ordered temporary shutdown of the Tricastin NPP due to the risk of failure of a 400 metre long portion of the Donzère-Mondragon embankment in the event of an earthquake. The assessments carried out showed that the flooding that would result from failure of the embankment would have caused a nuclear fuel melt accident in the four reactors of the Tricastin NPP and would have made deployment of the on-site and off-site emergency management resources particularly difficult.

EDF strengthened the portion of the embankment concerned, after having carried out geotechnical surveys to obtain a more detailed characterisation of its composition. The assessment carried out by IRSN at the request of ASN on the strengthened embankment confirms that there would be no failure in the event of a safe shutdown earthquake, which is the largest earthquake studied in the nuclear safety case.

ASN has initiated a process to issue prescriptions, which will be the subject of a public consultation, to regulate the steps to be taken by EDF, in particular the enhanced monitoring of the embankment, the deployment of permanently pre-positioned equipment and the final strengthening of the embankment, as rapidly as possible, so that it can withstand the extreme earthquake.

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