

Regulatory Updates

Nuclear safety...

ASN report on the state of nuclear safety and radiation protection in France in 2018

May 2019



On 16 May, ASN presented its report on the state of nuclear safety and radiation protection in France in 2018 to the Parliamentary Office for the Evaluation of Scientific and Technological Choices (OPECST). This report was handed over to the Presidents of the Senate and the National Assembly, and to the President of the Republic and the Prime Minister. It is today published on www.asn.fr (French version only^[1]).

In this new edition, ASN wishes to highlight the assessment of the state of nuclear safety and radiation protection per licensee and per main field of activity. It proposes a review of regulatory news and concise summaries of "notable events":

- Welds on main secondary systems of the Flamanville 3 EPR reactor,
- 4th periodic safety review of the 900 MWe nuclear power reactors,
- Consistency of the nuclear fuel cycle, and
- National Radioactive Materials and Waste Management plan.

In addition, a "regional overview" of nuclear safety and radiation protection is the core of the report, and allows an easier consultation by geographical entry.

When this ASN report was presented to the OPECST, the exchanges with the members of Parliament more specifically concerned:

- The deviations detected in the production of certain welds on the main steam transfer pipes of the Flamanville EPR (see the news at the back of this page);
- ASN's financial resources, which are today under pressure. ASN asks for the creation of a specific budget programme for the regulation and oversight of nuclear safety and radiation protection, placed directly under the responsibility of the ASN Chairman.
- Changing regulation and oversight. With a constant volume of 1,800 inspections per year, ASN is focusing its inspections on those activities for which the risks are greatest. It is also strengthening its presence in the field. Finally, it is adapting its inspection methods, notably to take account of possible fraud situations.

[1] English version to be published soon on www.french-nuclear-safety.fr

Flamanville EPR project

May 2019

ASN published the [Information Letter No. 21](#) reporting on its actions for monitoring the Flamanville 3 EPR reactor construction site and the various manufactured items intended for it.

The significant points in 2018 and early 2019 are in particular about:

- Deviations detected during performance and inspection of welds on the main secondary systems (see the news at the back of this page);
- Authorisation for commissioning and operation of the reactor vessel. On 9 October 2018, ASN authorised the commissioning and operation of the Flamanville EPR reactor pressure vessel, subject to the performance of a test programme to monitor thermal ageing, plus specific inspections during operation of the facility. As the current state of knowledge does not enable the feasibility of these inspections to be confirmed for the vessel closure head, ASN set a service life limit at end of 2024 for the existing vessel closure head;
- Monitoring of the reactor engineering activities. The inspection performed on 5 December 2018, concerning equipment qualification, revealed shortcomings in the processing and lifting of the qualification reservations^[1] identified by EDF and its suppliers. These shortcomings, already observed during a previous inspection, led ASN to serve EDF with formal notice to produce and keep proof of qualification of the Flamanville EPR reactor equipment. EDF undertook to comply with the provisions of the "[BNI order](#)" and its proposed measures are considered by ASN to be satisfactory. ASN will periodically check the progress of the action plan implemented by EDF.

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



[For more information
www.french-nuclear-safety.fr](http://www.french-nuclear-safety.fr)

Progress report on the ASN action plan against the risk of fraud

May 2019

The ASN action plan against the risk of fraud comprises notably:

- The implementation of a system for collecting alerts from whistleblowers;
- Improvements in ASN's control practices more particularly regarding inspections methods;
- The use of external control organisations, to help with monitoring of manufacturing activities, take samples and run cross-checks.

On 21 November 2018, ASN opened a portal to the public so that anyone wishing to do so can inform it of any irregularities regarding nuclear safety, radiation protection of persons and protection of the environment. This portal offers whistleblowers direct access to ASN, while guaranteeing that their identity will remain confidential.

At the same time, ASN has set up an in-house process for dealing with these reports, whether received by the website or by other means, for example by mail.

Since it was launched, ASN has received 22 reports, including 7 via the portal.

At this stage, an initial review indicates that a variety of fields are concerned. The facts reported may be technical – such as the use of inappropriate materials or the non-performance of certain checks – or organisational, such as activities (welding, non-destructive testing, etc.) being carried out by persons without the required skills or controls being carried out by internal organisations.

ASN considers that inspection is a means of reducing the risk of fraud by making the person perpetrating the fraud aware of the fact that their actions can be detected and punished. Studies have been carried out to adapt the oversight policy to this issue. ASN thus carried out pilot inspections to validate an analysis method appropriate to the most common fraud scenarios in nuclear facilities. This analysis method will shortly be implemented.

ASN also started to look at how to make broader use of external control organisations.



[For more information
www.french-nuclear-safety.fr](http://www.french-nuclear-safety.fr)

ASN rated a significant event affecting the emergency diesel generator sets on three NPPs level 2 on the INES scale

May 2019

Each reactor has two emergency diesel generator sets, which provide redundant electrical power supply to certain safety systems in the event of the loss of off-site electrical power, more particularly in the wake of an earthquake.

The significant event concerns a risk of damage to the piping owing to their potential contact with the civil engineering structures of the emergency diesel generator sets in the event of an earthquake. This damage could lead to rupture of these pipes and failure of the emergency diesel generating sets.

EDF initially detected this deviation at the end of October 2018 on one of the two emergency diesel generating sets for reactors 2 and 3 of the Tricastin NPP.

On 6 May 2019, EDF informed ASN that, following characterisation, it also concerned the two emergency diesel generating sets for the reactors of the Civaux, Gravelines and Paluel NPPs as well as one of the two emergency diesel generating sets for the reactors of the Fessenheim, Cruas, Saint-Laurent-des-eaux and Nogent NPPs, reactor 3 of the Dampierre NPP, reactors 2 and 3 of the Tricastin NPP and reactor 1 of the Le Blayais NPP.

Repairs were made to the reactors concerned, except for one emergency diesel generating set for reactor 4 of the Paluel NPP, which is currently shut down. This anomaly will be corrected before the reactor is restarted.

More particularly during the course of its inspections, ASN checks that these repairs are carried out satisfactorily.

In its resolution of 19 February 2019, ASN also instructed EDF to inspect the conformity of the electricity sources for its nuclear reactors.

In the light of the potential consequences for NPP safety, ASN rates the event:

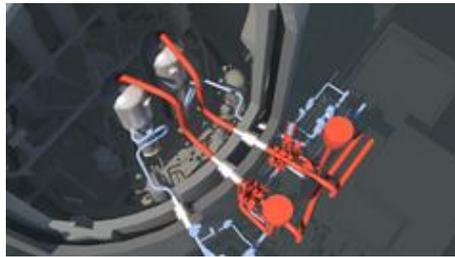
- level 2 on the INES scale for the reactors of the Gravelines, Paluel and Civaux NPPs;
- level 1 on the INES scale for the reactors of the Fessenheim, Cruas, Saint-Laurent-des-eaux, Nogent reactors, as well as for reactor 3 of the Dampierre NPP.



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

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 be issuing a position statement on the approach proposed by EDF next June.

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](#)).

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