

Regulatory Updates

Nuclear safety...

ASN report on the state of nuclear safety and radiation protection in France in 2019

May 2020



In the context of the health crisis, ASN presented its report on the state of nuclear safety and radiation protection in France in 2019 to the members of Parliament of the Parliamentary Office for the Evaluation of Scientific and Technological Choices (OPECST). This report was transmitted to the offices of the President of the Republic and the Prime Minister and of the Presidents of the Senate and the National Assembly. It is published on www.asn.fr (in French - English translation should be available half of July).

ASN considers that in 2019 the operating safety of the large nuclear facilities and radiation protection in the industrial and medical sectors were on the whole maintained at a satisfactory level.

Nevertheless, ASN recalls that a commitment to quality and rigour is required from everyone.

In the nuclear field:

2019 was marked by greater awareness on the part of the nuclear licensees of the challenges facing them collectively. The need to reinforce the quality of the work done and professional rigor in terms of safety has been broadly taken on board, which is essential if progress is to be made. The increase in inspections cannot be considered an appropriate response. As those with prime responsibility for safety, it is therefore up to the licensees to address these challenges.

The main points for 2019 are:

- **Professional competence and rigour at the heart of the nuclear industry's recovery.**

ASN considers that the need for quality and rigour in running projects must be restated, not only for new constructions, but also for legacy waste recovery and packaging projects, decommissioning, or major maintenance works. The nuclear industry

must more precisely define the conditions for implementation of this action plan "to restore the level of quality, rigour and excellence which underpinned the construction of the French NPP fleet", notably in terms of reinforcing the safety culture and a rigorous professional attitude.

- **Continued operation of the 900 MWe reactors: an EDF goal still to be confirmed.**

ASN will issue a position statement on the generic part of the periodic safety review of the 900 MWe reactors at the end of 2020, by adopting requirements which will govern their continued operation. It considers that implementation of the modifications proposed by EDF leads to significant improvements in the safety of the facilities and contributes to achieving the goals of the periodic safety review. However, ASN considers that these modifications are not able to meet all of the objectives set. If no additional proposals are received from the licensee during the course of 2020, ASN will stipulate additional modifications to be made.

- **The eight EPR containment penetration welds to be repaired.**

With regard to the deviations in the design and production of welds on the main steam letdown lines, ASN estimated as early as 2018 that preference should be given to repairing all the welds. At the end of 2018, EDF however proposed an approach to justify maintaining certain welds as-is (the eight containment penetration welds). Given the nature and the particularly high number of deviations which occurred in the design and production of these welds, and given that their repair is technically feasible, ASN stated in June 2019 that their repair prior to commissioning of the reactor was the benchmark solution.

- **Irregularities which should cause everyone to take a fresh look at their activities.**

The risk of fraud exists, but the number of confirmed cases at this stage is very low when compared with the volume of activities. In most cases, the analyses by the licensees and the investigations carried out by

ASN further to these findings, revealed no safety risks. However, the manufacturers and licensees must remain vigilant, including with regard to their own personnel, and question the underlying root causes of this type of behavior.

- **A new step in the consultation process for the management of radioactive materials and waste.**

The joint decision by the Ministry for Ecological and Solidarity-based Transition and the ASN Chairman, specifying how the lessons learned from the public debate on the management of radioactive materials and waste are to be taken on board, was published in February 2020. ASN will continue its involvement on this subject and will seek to make an effective contribution to high-quality consultation with the stakeholders.

- **Proposals to reinforce the management of a nuclear accident post-accident phase.**

On the basis of the lessons learned from the Fukushima NPP accident and the emergency exercises, the Steering Committee for the management of the post-accident phase of a nuclear accident (Codirpa) headed by ASN, proposed a number of changes to post-accident doctrine to the Prime Minister.

In the medical field:

The radiation protection of patients undergoing diagnostic or therapeutic procedures involving ionising radiation has been maintained at a high level. The number of significant radiation protection events reported by the health professionals remained very low in 2019 when compared with the number of procedures carried out on patients every year and the complexity of some of these procedures. However, particular attention must be maintained, owing to the extremely sophisticated technical nature of certain medical procedures and the numbers of persons involved.

- **In external radiotherapy, the number of significant radiation protection events reported was stable in 2019. Three events were rated level 2 on the ASN-SFRO scale, as against 5 in 2018.**

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- **In nuclear medicine**, the deployment of new therapies with high activity levels being administered to the patients requires particular attention with regard to radioactive effluent management.
- With regard to **fluoroscopy-guided interventional practices**, improvements are still required in a high number of units, although the situation is however better in the interventional radiology units. Inadequate training of the professionals in patient radiation protection and a shortfall in application of the principle of optimisation of procedures are recurring findings during the inspections.

New challenges created by the Covid 19 health crisis

The accumulated delays and postponements in the EDF reactor outages owing to the health crisis in the spring of 2020 will lead to rescheduling of the outages, spread out over 2021 and/or 2022. This situation will involve challenges in terms of both safety and safeguarding of the electricity supply. In the face of these challenges in 2020, ASN – in close collaboration with EDF – is examining all these questions in the light of the deadlines and requirements applicable to each reactor.

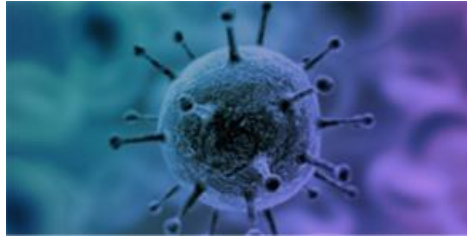
- **ASN considers that the risks linked to organisational and human factors require particular vigilance.** These risks may occur notably owing to changes in working practices and how they are organised.
- **Experience feedback** from this crisis **will provide lessons for the management of a post-accident situation in the event of a nuclear accident.**

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

- The need to strengthen the culture of anticipation and precaution;
- The conduct of the work on the EPR;
- Waste management and storage capacity;
- The consequences of the Covid 19 health crisis in the short, medium and long terms in the nuclear field.

Covid 19 - ASN makes an assessment of its oversight since the beginning of lockdown

May 2020



New means of inspection

Following the lockdown decision, ASN decided to suspend its on-site inspections. It nonetheless retained the option of performing such inspections were they to prove necessary.

Therefore, between 15 March and 15 May 2020 a total of 18 on-site inspections were carried out: 12 on safety and the possible consequences of the epidemic on the working of the facilities and 6 on labour inspectorate subjects.

With regard to the Basic Nuclear Installations, ASN's inspection procedures were primarily redirected towards remote monitoring and inspection. In order to take account of the significant reduction in maintenance work on the facilities, this monitoring targeted operational activities (operation of reactors, periodic tests, etc.).

To do this, ASN used new digital technologies, such as real-time and off-line remote-examination of the physical operating parameters of the reactors. Some of these innovations will be retained permanently.

The follow-up letters for the inspections performed remotely are placed on the asn.fr website in the same way as for on-site inspections.

In this context, ASN maintained its high degree of stringency with respect to the nuclear licensees. The implementation of these procedures enabled installations monitoring to be maintained at an appropriate level, given the safety implications and the technical context of the facilities.

At this stage, these inspections have revealed no lessening of safety or of worker radiation protection.

More specifically, both remote and on-site inspections confirmed that Orano and EDF were able to implement appropriate organisations to deal with the health risk (barrier measures, prevention plans) while maintaining the required level of safety.

In addition, ASN continued with its investigation duties and the first part of the draft resolution concerning the generic part of the periodic safety review for the 900 MWe reactors was in fact seen through to completion.

In the medical field and to enable the health professionals to focus on the health response to the epidemic, ASN has suspended its inspections in medical facilities carrying out nuclear activities, barring certain exceptions. However, it is giving priority to dealing with licensing applications for the use of equipment or premises needed to manage the epidemic (use of nuclear medicine scanners for diagnostic purposes for example).

Oversight prospects for the coming weeks

Although ASN will be continuing to prefer remote working for a significant share of its personnel, it is also reinforcing its on-site inspection work, in addition to the remote-inspections, and is adjusting them to the context and the ramp-up in nuclear activities.

In the NPPs, ASN will be running coordinated safety and labour inspectorate inspections. It is also preparing its participation in the forthcoming ten-yearly hydrotests for the reactors concerned; in this respect it took part in that concerning the Chooz B1 NPP on Friday 15 May 2020.

The ASN teams are currently reviewing the 2020 inspection programme in order to determine the inspection priorities for the coming months, including issues linked to the COVID-19 epidemic. In this context, particular attention will be paid to organisational and human factors.

See also the related information:

[Covid 19 epidemic: ASN is adapting its method of functioning while maintaining its rigour](#)

French Nuclear Safety Authority

15, rue Louis Lejeune - CS 70013
92541 Montrouge cedex -France

Tel.: +33 1 46 16 40 00

Email: info@asn.fr

www.french-nuclear-safety.fr