

# Regulatory Updates

## Nuclear safety...

### ASN Report on the State of Nuclear Safety and Radiation Protection in France in 2020

June 2021

In the context of the health crisis, ASN presented its report on the state of nuclear safety and radiation protection in France in 2020 to the members of Parliament of the Parliamentary Office for the Evaluation of Scientific and Technological Choices (OPECST). It is published on [www.asn.fr](http://www.asn.fr) (in [French](#) - English translation should be available half of July).

#### ASN underlines the need to enhance the culture of preparedness and precaution in all the nuclear sector players

On May 27, in the health crisis situation, ASN presented its Report on the State of Nuclear Safety and Radiation Protection in France in 2020 to the parliamentarians of the Parliamentary Office for the Evaluation of Scientific and Technical Choices. This report has been sent to the offices of the President of the Republic, of the Prime Minister and of the Speakers of the Senate and the National Assembly.

The year 2020 has been profoundly marked by the Covid-19 pandemic.

**ASN considers that the level of safety and radiation protection has remained satisfactory and that the persons and entities in charge of nuclear activities have managed to adapt to the situation.**

**However, as the health crisis is not yet over, we must exercise caution regarding the lessons learned from it, in what remains an uncertain and changing context.**

ASN considers that this situation already raises systemic questions that could be posed in the same terms, in the event of a nuclear emergency. This is the case for example with the general public's confidence in scientific expertise and the authorities, and the acceptability of restrictive population protection measures.

More generally, ASN considers that the first lessons learned from the problems encountered during this health crisis confirm the vital need - which ASN has regularly emphasized - to reinforce the culture of preparedness and precaution in all the nuclear activity players.



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The main findings concerning nuclear safety and radiation protection in 2020 are:

- **The players have demonstrated their ability to adapt, but vigilance must be maintained**

The postponing of numerous activities on account of the health crisis has led to a strained situation, linked in particular to the nuclear power plant operating constraints. This situation, which has lasted beyond 2020, demands particular vigilance with regard to the regulatory requirements.

ASN remains attentive to the maintaining of all measures taken to ensure safety and radiation protection in the activities. It is focusing on learning the lessons from the management of this crisis as applied to its own inspection methods.

- **Industrial capacities must be mobilised**

In the next five years the nuclear sector must cope with a significant increase in works that are vital for the safety of the installations in operation. These works will significantly increase the industrial workload, especially in certain sectors which are already under pressure (mechanics, engineering). Particular attention on the part of both the State and the ordering customers is required to guarantee that the industrial capacities of the sector's key players are maintained.

- **Results with regard to rigour, skills and quality are expected as of 2021**

ASN considers that the objectives of increased skills, particularly in welding, and increased rigour in project management and activity monitoring are moving in the right direction. ASN shall keep a careful watch to ensure that these objectives are translated into tangible results as of 2021, particularly for the Flamanville EPR.

- **Improvements in safety that open up the prospect of continued operation of the 900 MWe reactors**

ASN considers that the modifications proposed by EDF and the resulting improvements in safety for the 900 MWe reactors offer the prospect of their operation continuing for the ten years following their fourth periodic safety review.

- **Flamanville EPR, a complex project that has been confronted with many unforeseen events**



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In October 2020, ASN gave authorisation for the nuclear fuel necessary for commissioning of the Flamanville EPR reactor to be brought onto the site. It also asked EDF to conduct a quality review of the reactor equipment. With regard to the secondary systems, on which about a hundred welds are affected by anomalies, each stage of implementation of the repair processes defined by EDF is subject to ASN approval.

- **This is a pivotal period for taking decisions on the management of radioactive materials and waste**

In the preparation of the fifth French National Radioactive Material and Waste Management Plan (PNGMDR), ASN has issued several opinions, organised by waste management route. One essential issue emerges from these opinions: the need to reinforce the preparedness culture.

With regard to the practical implementation of the waste management routes, ASN underlines that if no decision is taken in the next five years, no waste management routes will be operational in the next 20 years. The waste storage capacity needs will therefore not be satisfied.

## • Decommissioning and management of legacy waste: large-scale projects falling further and further behind schedule

Late starting of the decommissioning of old facilities makes the operations significantly more complex and leads to substantial lateness with respect to the planned schedules. In 2020, ASN gave EDF instructions for the next steps in the decommissioning of the six first-generation graphite-moderated gas-cooled reactors. Alongside this, ASN observes substantial delays in the implementation of the waste management and decommissioning strategy for the old facilities of the CEA (Alternative Energies and Atomic Energy Commission), on which ASN and ASND (Defence Nuclear Safety Authority) had ruled in 2019. ASN notes improvements at Orano - albeit still too slow - in the legacy radioactive waste retrieval and packaging operations.

## • Long-term management of the consequences of a nuclear accident

Bolstered by a new 5-year mandate, the Steering committee for managing the post-accident phase of a nuclear accident or radiological emergency situation (Codirpa) is focusing in particular on new types of accidents and the development of a radiation protection culture within the general public.

### In the medical sector:

The year 2020 was marked by the Covid-19 pandemic which considerably disrupted the healthcare system. ASN adapted its inspection methods accordingly, conducting remote inspections when necessary. ASN considers that the state of radiation protection in the medical sector in 2020 is comparable with that of 2019. Nevertheless, the reported significant radiation protection events provide a reminder of the need to regularly assess practices and reinforce the radiation protection culture.

In radiotherapy, the inspections confirm that the safety fundamentals are in place and deployment of the quality assurance measures is satisfactory. However, the occurrence of events such as laterality errors or fractionation errors, which can have serious health consequences, reveals persistent organisational weaknesses.

The inspections carried out in 2020 also confirmed that radiation protection conditions have significantly improved in the centres that have been served a formal compliance notice by ASN or have been subject to tightened monitoring during the preceding years.

In nuclear medicine, the radiation protection of patients and professionals in the inspected nuclear medicine departments is satisfactory. Progress is nevertheless required in the optimisation of practices and the training of medical professionals in occupational radiation protection must be continued.

In the area of fluoroscopy-guided interventional practices, ASN considers that the measures taken to improve the radiation protection of patients and professionals - particularly for surgical procedures performed in operating theatres - are still insufficient. ASN still receives reports of events involving interventional practitioners who have exceeded the dose limits at the extremities. Continuous training of medical professionals, especially practitioners, and involvement of the medical physicist to optimise procedures from the radiation protection aspects, are two key focuses for controlling the doses delivered to patients.

During the presentation of the ASN report to the OPECST, a number of specific points were raised:

- the necessary monitoring of the "ability to do" of the sector's industrial players;
- the concern that extension of operation of certain reactors should be neither a last-minute decision taken through obligation nor marred by uncertainties and potential risks;
- the need to look ahead on the question of the continued reprocessing of spent fuel;
- the need to pose transparently, in the context of the next MEP (multi-year energy programme), the question of the duration of operation of the nuclear reactors in service;
- the importance of exercising an oversight that confers responsibility, preserving the licensees' adaptability;
- the importance of continuing to harmonise the safety references across Europe.

## Taishan EPR: ASN engages in a technical dialogue with its Chinese counterpart

June 2021



©NNSA/Taishan NPP

On 12 June, ASN suggested to its Chinese counterpart, the National Nuclear Safety Administration (NNSA), that they open a technical dialogue on the current conditions of operation of reactor 1 of the Taishan nuclear power plant (NPP).

Located in the Province of Guangdong in the South of China, the Taishan NPP features the first two EPR reactors to have entered commercial service in the world. Prime responsibility for the safety of this NPP lies with the Chinese licensee TNPJVC. The authority responsible for oversight of the NPP is ASN's Chinese counterpart, the NNSA.

ASN has proposed this interchange in order to examine to what extent the feedback from the current operating situation in Taishan can be taken into account in the ongoing examination of the commissioning application for the Flamanville EPR in France.

The NNSA has responded favourably to ASN's request and initial meetings are underway. The NNSA presented a review of the situation this Wednesday 16 June at a meeting of the MDEP (Multinational Design Evaluation Programme) working group devoted to the EPR, which brings together the nuclear safety regulators concerned by this reactor.

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