

Paris, 19 March 2019

Opinion N° 11 and recommendations by the High Committee concerning public information and transparency measures with regard to the Flamanville 3 EPR reactor pressure vessel anomalies

This opinion follows opinion n° 9 from the High Committee for Transparency and Information on Nuclear Safety (HCTISN) of 15 June 2017 published further to the initial work done by the High Committee's monitoring group on the file concerning the Flamanville 3 EPR reactor pressure vessel anomalies.

It should be recalled that on 5 October 2015, the Minister, Ségolène ROYAL, had contacted the High Committee concerning the anomaly in the composition of the steel in certain zones of the Flamanville EPR reactor pressure vessel closure head and bottom head, for a review of the conditions in which the public were informed of the answers to the following three questions:

- *“How did this anomaly occur and why was it brought to light nine years after the parts in question were manufactured?”*
- *What are the underlying physical phenomena and their consequences for safety in the EPR context, explained in plain language?*
- *What steps are being taken by AREVA and EDF to ensure public information and transparency regarding the test programme on the reactor control pressure vessel, more particularly concerning the tests performed and the results obtained, as well as the conformity analysis of the Flamanville 3 EPR reactor pressure vessel with respect to the nuclear pressure equipment regulations?”*

In January 2016, the High Committee thus set up a monitoring group to oversee the review of the test and justification campaign proposed by Framatome¹ to demonstrate the serviceability of the reactor pressure vessel. One of the roles of this group was also to ensure that public information and transparency regarding this matter were exhaustive.

¹ On 31 December 2017, the Framatome company took over the main activities of AREVA NP, more particularly engineering and the manufacture of nuclear pressure equipment (NPE) for the Flamanville 3 EPR project.

The monitoring group first of all focused on tracing the manufacturing history of the vessel and gaining a clearer understanding of the issues involved in the anomaly detected.

It summarised all the information sent to it during the first meetings in an interim report published in June 2017, entitled “HCTISN report on the Flamanville 3 EPR reactor pressure vessel anomalies”, verifying that this information was consistent and easily understandable to the public. This report and High Committee opinion N° 9 are available on the High Committee’s website at the following address: <http://www.hctisn.fr/>

The monitoring group then continued with two further meetings on 4 October and 16 January 2019 to:

- monitor the tests and the review by the French nuclear safety regulator (ASN) of the justification proposed by Framatome and the serviceability of the Flamanville EPR reactor pressure vessel. This review led to:
 - ASN opinion 2017-AV-0298 of 10 October 2017 concerning the anomaly in the composition of the steel used for the Flamanville NPP (BNI 167) EPR reactor pressure vessel bottom head and closure head,
 - ASN resolution 2018-DC-0643 of 9 October 2018 authorising commissioning and operation of the Flamanville NPP EPR reactor pressure vessel.
- review the implementation of the recommendations made by the High Committee in its above-mentioned opinion N° 9, issued at publication of the interim report of June 2017.

The members of the monitoring group also went to the Flamanville NPP on 13 January 2018 to visit the EPR reactor construction site.

The review of this file was also followed-up by the members of the High Committee at its plenary sessions of 27 June 2017 and 11 October 2018.

The High Committee observes that the recommendations issued in its opinion N° 9 have to a large extent been implemented:

- The High Committee notes that the institutional players concerned by this dossier (ASN and its technical support organisation, IRSN) maintained their efforts to inform the public and that the industrial players (the licensee EDF and the manufacturer Framatome) significantly improved their public communication on this subject. These players created specific pages on their respective websites² to present information in chronological order, illustrating it with explanatory material to make it easier to understand (videos, diagrams, illustrated slideshows, information notices, etc.).
- The High Committee observes that on the dedicated page of its website, Framatome published two technical studies regarding the scenarios that had been envisaged were the

² Links to the websites:

Dedicated page of the Framatome website: <http://www.framatome.com/FR/businessnews-434/retour-sur-le-programme-de-justification-et-d-essais-de-la-cuve-du-reacteur-epr-de-flamanville-3.html>

Dedicated page of the EDF website: <https://www.edf.fr/groupe-edf/nos-energies/nucleaire/segregation-carbone-et-dossiers-de-fabrication-creusot-forge/segregation-carbone> which links to the dedicated page of the Framatome website: <http://www.framatome.com/FR/businessnews-434/retour-sur-le-programme-de-justification-et-d-essais-de-la-cuve-du-reacteur-epr-de-flamanville-3.html>

Dedicated section of the ASN website: <https://www.asn.fr/Informer/Dossiers-pedagogiques/Anomalies-de-la-cuve-de-l-EPR-et-irregularites-usine-Creusot-Forge-de-Framatome/Anomalies-de-la-cuve-de-l-EPR>

Dedicated page of the IRSN website: https://www.irsn.fr/FR/connaissances/Installations_nucleaires/Les-centrales-nucleaires/reacteur-epr/Cuve-EPR/Pages/0-Sommaire.aspx

results of the test campaign to prove inconclusive (studies concerning extraction of the vessel from the reactor building and replacement of the pressure vessel bottom and closure heads).

- The High Committee also notes with satisfaction that the respective websites of the stakeholders concerned now offer the English translation of numerous documents and informative material about this dossier³, thus helping to improve transparency and the sharing of all information on this dossier with their foreign counterparts.
The English translation of the HCTISN interim report of June 2017 on this same dossier was also posted on the High Committee's website:
http://www.hctisn.fr/article.php3?id_article=186
- The High Committee also welcomes the continuation of the technical dialogue meetings organised by IRSN, the national Association of Local Information Committees and Commissions (ANCCLI), the Flamanville CLI and ASN. Four meetings, each of which attracted between 30 and 50 participants from the CLIs, associations and their experts, were held between 2015 and 2017, giving the representatives of civil society access to expert assessments and, more generally, to high level information and analysis on this dossier.⁴

In its interim report published in June 2017, the High Committee also noted that ASN had made available to the public several letters it has sent to AREVA and then Framatome since 2006 on the manufacture of the Flamanville EPR reactor pressure vessel, in order to shed light on the history of its discussions with the manufacturer. The answers to these letters were not however made public and the High Committee recommended that Framatome make them available to the public in order to improve its understanding of this dossier.

The High Committee regrets that to date, this recommendation has not been followed and it therefore repeats it:

Recommendation No 1:

In order to improve the public's understanding of the dossier concerning the Flamanville 3 EPR reactor pressure vessel anomalies, the High Committee reiterates its recommendation first issued in June 2017 regarding Framatome's release to the public of its answers to the letters sent to it by ASN since 2006 regarding the manufacture of the reactor pressure vessel.

³ Dedicated page of the ASN English website: <http://www.french-nuclear-safety.fr/Inspections/Supervision-of-the-EPR-reactor/Anomaly-affecting-the-Flamanville-EPR-reactor-vessel>

Dedicated page of the Framatome website written in English:

<http://www.framatome.com/EN/businessnews-434/the-manufacturing-of-nuclear-reactor-components-focus-on-flamanville-3-reactor-pressure-vessel.html>

Dedicated page of the IRSN English website:

https://www.irsn.fr/en/newsroom/news/pages/20170628_assessment-of-consequences-of-anomaly-in-epr-flamanville-reactor-pressure-vessel.aspx

⁴ The presentations and minutes of the discussion meetings are available on the IRSN website at the address: https://www.irsn.fr/FR/connaissances/Nucleaire_et_societe/expertise-pluraliste/IRSN-ANCCLI/Pages/19-Seminaire-reacteur-EPR-cuve-anomalie_2015-2016.aspx

With regard to the Flamanville 3 EPR project, the High Committee issues the following new recommendation:

Recommendation No 2:

The HCTISN recommends that EDF issue up-to-date information notices to explain to the public the links between the project schedule and the various deadlines stipulated in the above-mentioned ASN resolution 2018-DC-0643 authorising the commissioning and operation of the reactor pressure vessel.

More generally, the analysis of the history of the EPR reactor pressure vessel anomaly dossier, its review and the information which was made public, leads the High Committee to issue the following three recommendations:

Recommendation No 3:

The High Committee recommends that, on a case by case basis, the meetings of the ASN Advisory Committees of Experts held in order to rule on exceptional dossiers be opened up to outside observers, to enhance the transparency of the review of such dossiers.

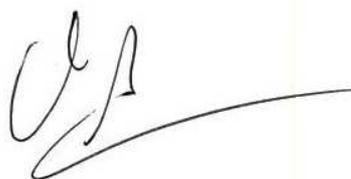
Recommendation No 4:

The High Committee recommends that the licensees and authorities involve the public as far upstream as possible in the review of dossiers with national implications, in order to take account of its expectations and questions as of the creation of these dossiers and their review, to ensure that the answers to the questions posed are made public and to give a transparent description of how the contributions from the public were taken into account.

Recommendation No 5:

The High Committee recommends that the drafting of the documents produced during the reviews of dossiers concerning the nuclear safety and radiation protection of facilities should take account of the fact that they could be made public, so that any confidential information protected by law can be masked, without impairing the legibility of the document.

The Chair,

A handwritten signature in black ink, appearing to be 'C. Noiville', with a long horizontal flourish extending to the right.

Christine NOIVILLE