

Information note regarding the technical instruction of the EPR nuclear reactor under construction in Flamanville (France)

In an [article published on 8th June 2015](#), the French online journal Mediapart mentions “*a confidential report*” from IRSN about the safety valves on the European Pressurized Reactor (EPR) under construction at the Flamanville nuclear power plant, and another report by IRSN on the manufacturing defects in the lower and upper head of the reactor vessel.

IRSN examines the design of the EPR reactor for many years. The technical instruction conducted by IRSN is assessed on the basis of documents submitted by EDF: these documents lead to technical exchanges between IRSN, EDF, the designer AREVA and the French nuclear safety authority (ASN). These discussions are not public. At the end of its examination, IRSN transmits the conclusions of its expertise to ASN in the form of a “review”. After the decision of the French safety authority, IRSN’s review may be published on its website. As part of the instruction of the EPR reactor under construction in Flamanville, IRSN has already submitted about 150 reviews on many subjects (equipment, accident studies ...).

In 2014, IRSN began the review of the pressurizer safety valves design of the EPR: the pressurizer’s role is to maintain a given pressure in the reactor coolant system, and is equipped with three safety valves in order to ensure protection against overpressure. The examination performed by IRSN aimed to ensure that these safety valves meet the requirements according to the high reliability expected from this equipment for the reactor coolant protection (opening pressure, closing pressure...). In this context, IRSN had technical meetings with EDF, and witnessed the qualification tests performed in France for the safety valves: these tests in particular revealed an unexpected behavior, including a failure to open at the expected pressure.

At a meeting in February 2015, IRSN presented to ASN the status of its examination, including the analysis of risks of failure of the safety valves and the results of ongoing qualification tests. **The report mentioned by Mediapart is actually a “working document”** (slides), prepared for the meeting, which reports IRSN questions at that time. **The technical instruction of the pressurizer safety valves design of the EPR is still ongoing and still lead to technical exchanges with EDF.** IRSN expects to transmit the conclusions of its examination to ASN during the summer of 2015. These conclusions may include recommendations for additional or corrective actions.

The article also mentions a report by IRSN on the **manufacturing defects in the lower and upper head of the Flamanville EPR reactor vessel.** This information comes from a first IRSN review transmitted to ASN in early April 2015. **The instruction of this subject will continue on the basis of additional elements submitted by AREVA,** elements which now require thorough analysis by IRSN, with the assistance of external experts if necessary.