



Press release

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ENTITIES AND PUBLIC POLICIES

THE EPR SECTOR

The European pressurized water reactor (EPR) project was the result of a French-German partnership entered into in 1989. Germany withdrew from that agreement in 1998. After 2001, the recently set-up Areva group developed a “turnkey” EPR sales strategy to compete with EDF which saw itself as the frontrunner in “new nuclear power” in France and abroad. Because of a lack of oversight at the time, the rivalry between these two public groups, led to the hasty launch of the two first EPRs in Finland and at Flamanville. This insufficient preparation led to an underestimation of the difficulties and construction costs and an overestimation of the French nuclear sector’s ability to tackle them creating financial risks for sector companies.

Despite this choice of technology having been proven in China and the improvements made in the management of these large-scale projects, the financial and technical gains expected from the EPR 2 project remain to be confirmed. The construction of the new EPRs in France should not have been considered, under any circumstances, without a clear idea of the financing methods and the place of electronuclear production in the future electricity mix.

The construction of the Flamanville EPR: an operational failure, with considerable cost and time deviations

The multiplication by 3.3 of the construction cost, estimated by EDF at € 12.4 billion (2015 value), and by at least 3.5 of the time taken to commission the Flamanville EPR compared to the initial forecast, constitutes a considerable deviation. This is the result of unrealistic initial estimates, poor organisation of project execution by EDF and lack of vigilance on the part of the supervisory authorities. One might add a lack of awareness regarding the loss of technical competence by sector manufacturers, 16 years after the construction of the Civaux 2 reactor. The former Areva NP and EDF’s other suppliers have not often succeeded in meeting EDF’s technical requirements.

The financial consequences of these technical failures and organisational inadequacies are huge. Risks weigh in on the financial situation of companies recently restructured thanks to significant financial contributions from the public authorities. Between 2016 and 2018, the state raised €4.5 billion to provide capital to Areva SA and Orano following Areva’s restructuring. €3 billion were also injected into EDF’s capital, which enabled it to take control of the reactors business of the former Areva NP, now Framatome.

These deviations will also have a negative impact on the costs and profitability of the Flamanville EPR. The costs additional to the construction cost (including financial and



pre-operating costs) could reach nearly € 6.7 billion (2015 value) when the reactor is commissioned, scheduled for 2023.

A failed international strategy and the prospect of an "optimised" EPR to be confirmed

The setbacks for the construction of the EPR Olkiluoto in Finland have significantly contributed to the financial difficulties of the former Areva group. Furthermore, the construction of two EPR reactors at Hinkley Point, in England, the profitability of which has been revised downward several times, is adversely affecting EDF's finances. Finally, the two Taishan reactors in China, successfully commissioned in 2018 and 2019, are not yet proving satisfactorily profitable for EDF.

EDF can no longer finance the construction of new reactors on its own. Means of financing, as in the United Kingdom, where the consumer or the taxpayer shoulder the cost of the construction of future nuclear reactors, are being studied.

The financial stakes are high, the cost of building three pairs of EPR2 reactors being estimated at €46 billion (2018 value). Taking their construction, production and dismantling time into account, the decision as to whether or not to build future EPRs will have repercussions until the 22nd century.

The decisions relating to the future electric mix must be based on long-term planning taking into account changes in the relative competitiveness of the different modes of electricity production, the cost of the corresponding electricity systems, the guarantee of its safe supply, and the expected ecological and social benefits.


The Cour des comptes suggests that lessons be learned from the difficulties encountered and that the current energy multiannual programming documents have their deadlines extended. It makes nine recommendations.

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