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Joint Regulatory Position Statement on the EPR Pressurised Water Reactor

1. The UK nuclear safety regulator (HSE's ND), the French nuclear regulator (ASN), and the Finnish nuclear regulator (STUK) are currently working to assess the EPR Pressurised Water Reactor.
2. In carrying out individual assessments, we have all raised issues regarding the EPR Control and Instrumentation (C&I) systems, which the proposed licensees and/or the manufacturer (AREVA) are in the process of addressing.
3. Although the EPR design being developed for each country varies slightly, the issues we raised with the current C&I system are broadly similar, our aim being to collectively obtain the highest levels of safety from the EPR.
4. The issue is primarily around ensuring the adequacy of the safety systems (*those used to maintain control of the plant if it goes outside normal conditions*), and their independence from the control systems (*those used to operate the plant under normal conditions*).
5. Independence is important because, if a safety system provides protection against the failure of a control system, then they should not fail together. The EPR design, as originally proposed by the licensees and the manufacturer, AREVA, doesn't comply with the independence principle, as there is a very high degree of complex interconnectivity between the control and safety systems.
6. As a consequence of this, the UK nuclear safety regulator (HSE's ND), the French nuclear regulator (ASN), and the Finnish nuclear regulator (STUK) have asked the licensee and manufacturer to make improvements to the initial EPR design. The licensees, and AREVA, have agreed to make architectural changes to the initial EPR design which will be reviewed by the regulators.
7. It is for the licensees and the manufacturer, AREVA, to respond to its regulator's issues. However, as designs are similar, it is likely that the solution will be similar, although not necessarily identical, taking into account individual licensees' requirements and national regulatory requirements or practises. As an example, in providing defence-in-depth, different solutions could be proposed to back-up safety systems. In all cases, however, the solutions will lead to equivalent high levels of safety.
8. This is a good example of how independent regulators working closely together can promote a shared understanding and application of existing international standards, and promote the harmonisation of regulatory standards and the build of reactor designs with the highest levels of safety.