

Application of Model Based System Engineering in Design of Digital Fast Reactor Nuclear Power Plant

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Due to the complexity of the fast reactor project and its technical uncertainty, the design needs a long period. In order to improve design and research ability of fast reactor and develop the technology of digital reactor, bring in the model-based systems engineering method for requirement analysis, function decomposition and architecture design and weigh the overall design, to the benefit of discovering design defects early, guaranteeing the traceability and consistency of technical state, reducing duplication of effort for the basis of subsequent systems and equipment design. In this paper, the Harmony-SE process of IBM standard is studied. Combined with the actual situation, the standard process is tailored to form the system demand analysis and dynamic and static architecture design process based on Harmony-SE. Taking a certain system as an example, the system demand analysis and dynamic and static architecture design are carried out.

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