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## **Cooling Period Calculation of Evolutionary Power Reactor Spent Fuel for Dry Management Safety**

The calculation of the evolutionary power reactor (EPR) spent fuel (SF) cooling period (CP) was performed. The CP was determined by comparing the heat load of a cask with the calculated value of EPR decay heat (DH). The EPR DH was calculated by the ORIGEN computer code based on the EPR parameters. For conservatively study, the EPR and ORIGEN parameters that lead to higher DH values were selected and safety margins were considered. The fitting tool was utilized in the calculation of CP to overcome the ORIGEN limitation. The resultant values of CP will maintain the peak cladding temperature (PCT) of SF lower than 400°C during storage, transport, and disposal. The results show that -for normal operation- the SF of EPR should stay in the pool at least 4.75 years before it is loaded to the passively cooled dry casks.

*Keywords: cooling period, EPR, spent fuel, ORIGEN, peak cladding temperature, dry management*