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Study on the limits of confinement leakage rates of pool-type sodium-cooled fast reactor

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Confinement including containment and primary vessel are barriers of radioactive gas containing.To select the appropriate confinement leakage rate can ensure the pool-type sodium-cooled fast reactor operating safety.In the paper,large pool-type sodium-cooled fast reactor was the object of research.The impact of different primary vessel and containment leakage rate to radioactive material release behavior were researched by using the ORIGEN2 to calculate the burden of fast reactor and researching the radioactive gas release routes of normal operating and accident condition.Hence,the method to analyze the containment and primary vessel leakages reate design value ranges were found. It was concluded that normal operating condition's environmental of radioactive gas was the main limiting factor;containment could make mitigative effect to accident obviously on the accident condition,especially to environmental impact at site boundary on the early state of accident

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