

快报

时间事件树在高温气冷模块反应堆示范电站设计阶段的应用

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摘要 电站设计阶段具有多种不确定性、反复性和复杂性, 概率安全分析 (PSA) 存在一些困难。为解决诸如设计的更改对 PSA 造成的影响、设计人员与 PSA 人员间的信息不一致等困难, 设计了一种时间事件树。在一棵时间事件树中, 除反映事故发展进程和逻辑关系外, 与传统事件树相比, 它还可明确反映安全系统、信号、人的动作等投入的时间点、持续工作的时间长度。这种事件树是设计人员与 PSA 人员间沟通的桥梁, 使得两者的信息保持一致, 从而更加有效地发挥 PSA 在电站设计阶段的作用。

关键词

[概率安全分析](#); [时间事件树](#); [设计阶段](#)

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Application of Time-Related Event Tree During High-Temperature -Gas Cooled Reactor Pebble-Bed Module Design Phase

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Abstract Due to the special characteristics of concerning in probability safety analysis(PSA) in the new reactor design phase, such as insufficient information, unavoidable iterations, complicated communications among multiple specialties and so on, efficient measures were developed to further the projects. A time-related event tree approach presented in the paper is one of them. Compared with ordinary event tree, the time-related event tree intends to illustrate not only the accident propagation processes, but also the key time points when safety systems, signals and operator actions are challenged and the durations. It seems to be a good bridge between designers and PSA engineers for the consistent understanding and more efficient information exchanging.

Key words [probability](#) [safety](#) [analysis](#) [time-related](#) [event](#) [tree](#) [design](#) [phase](#)

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