

反应堆工程

# 基于GO-FLOW法的失水事故中紧急堆芯冷却系统可靠性分析

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**摘要** 应用GO-FLOW法分析在失水事故过程中紧急堆芯冷却系统的可靠性。根据紧急堆芯冷却系统的原理图建立GO-FLOW图, 并计算出系统在各个时间点上的成功概率。结果表明: 在发生失水事故下紧急堆芯冷却系统的可靠性随系统的响应动作变化很大, 而GO-FLOW法可计算系统的故障概率随时间的变化趋势, 是分析多时序、多状态系统可靠性的一种有效方法。

**关键词** [失水事故](#) [紧急堆芯冷却系统](#) [GO-FLOW法](#)

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## Reliability Analysis of Emergency Core Cooling System in Lose of Coolant Accident Based on GO-FLOW Methodology

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**Abstract** Based on GO-FLOW methodology, the reliability of emergency core cooling system (ECCS) in lose of coolant accident (LOCA) was analyzed. GO-FLOW chart was drawn according to the principle chart of ECCS, and system success rate at each time point was calculated with GO-FLOW algorithm. The results show that the reliability of ECCS is changed acutely in the process of LOCA, and GO-FLOW methodology can calculate the reliability change tendency and it is an effective way for solving multiple operating sequence and multiple states problems in reliability analysis.

**Key words** [lose of coolant accident](#) [emergency core cooling system](#) [GO-FLOW methodology](#)

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