

反应堆工程

稳压器波动管蠕变破裂失效尺寸敏感性分析

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摘要 以压水堆严重事故最佳估算程序为计算工具, 研究了严重事故中稳压器波动管不同失效尺寸对严重事故进程和结果的影响。计算分析表明, 稳压器波动管失效尺寸设为当量直径15 cm左右的破口时可获得一个相对保守的计算结果, 失效尺寸在12 cm以下或18 cm以上时, 其计算结果没有15 cm情况下的严重。研究结果可为深入研究压水堆核电站严重事故现象提供参考。

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分类号

Sensitivity Analysis of Creep Rupture Failure Size for Pressurizer Surge Line

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Abstract With the use of best estimate computer code of pressurized water reactor (PWR) severe accident, the impact of different pressurizer surge line creep rupture failure sizes on severe accident progress and results was studied. Calculation results show that equivalent diameter of pressurizer surge line creep rupture failure at 15 cm will receive a relatively conservative result, however, when the failure size is under 12 cm or beyond 18 cm, the calculation results are not as serious as 15 cm case. The results can be used as reference for further studying severe accident phenomena in a typical PWR nuclear power plant.

Key words [pressurized](#) [water](#) [reactor](#) [severe](#) [accident](#) [pressurizer](#) [surge](#) [line](#) [creep](#) [rupture](#) [failure](#)

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