

Safety Evaluation for Communication Network Software Modifications of PCS in Ulchin NPP Unit 3

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Abstract

On February 2, 1999, an incident occurred at the Ulchin Nuclear Power Plant Unit 3 which resulted in the corruption of data on Perform Net of Plant Control System. This incident was caused by the ASIC (Application Specific Integrated Circuit) chip on the Rehostable Module which is a part of Network Interface Module. Regarding this incident, we required that the utility should propose new algorithms to detect the hardware failure of ASIC chip and evaluated the appropriateness of network software modifications. As a result of this evaluation process, we required that the safety related interlock signals using data communication path be hardwired to make up for the vulnerability of the system architecture. In this paper, we will discuss the system architecture of PCS and fault analysis and evaluation findings.

SMART OTS 개발을 위한 CASE 도구 평가 및 선정 Evaluation and Selection of CASE Tool for SMART OTS Development

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요약

CASE(Computer-Aided Software Engineering) 도구는 요구분석, 설계, 코딩, 시험, 형상관리, 프로젝트 관리와 같은 소프트웨어 공학활동에 도움을 주는 소프트웨어 도구이다. 특정 소프트웨어 개발 프로젝트를 위한 상용 CASE 도구의 평가와 선정은 평가자의 기술적인 능력과 소프트웨어 개발조직의 성숙이 요구되기 때문에 쉬운 작업이 아니다. 본 논문에서는 SMART (System-integrated Modular Advanced Reactor)의 OTS(Operator Training Simulator) 개발을 위한 CASE 도구의 도입전략, 특성조사, 평가기준 및 선정결과를 토의한다.