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Fuel Failure Monitoring System Design Approach
for KALIMER

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Abstract

Fuel Failure Monitoring System (FFMS) detects fission gas and locates failed fuels in Liquid Metal Reactor. This system comprises three subsystems; delayed neutron monitoring, cover gas monitoring, and gas tagging. The purpose of this system is to improve the integrity and availability of the liquid metal plant. In this paper, FFMS was analyzed on detection method and compared with various existing liquid metal plants. Sampling and detecting methods were classified with specific plant types. Several technologies of them was recognized and used in most liquid metal reactors. Detection technology and analysis performance, however, must be improved because of new technology when liquid metal plant is built, but the FFMS design scheme will not be changed. Thereby this paper suggests the design to implement KALIMER(Korea Advanced Liquid Metal Reactor) FFMS.