

INDIANA & MICHIGAN ELECTRIC COMPANY  
DONALD C. COOK NUCLEAR PLANT

Operating License: DPR-58  
Docket No. : 50-315  
Special Report # : SI-13  
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**SAFETY INJECTION ACTUATION -- NOVEMBER 9, 1979**

**CONDITIONS PRIOR TO OCCURRENCE**

The Reactor was in Mode 4, Hot Shutdown, with the Reactor Coolant System average temperature of 320°F and system pressure of 360 psig.

**DESCRIPTION OF OCCURRENCE**

At 1926 hours Train "A" Safety Injection was inadvertently initiated from low pressure pressurizer pressure.

**DESIGNATION OF CAUSE OF OCCURRENCE**

Control and Instrument Technicians were performing channel functional testing of reactor protection. This required reblocking of pressurizer low pressure safety injection. The block and reset of this is on the same switch with rotation to the right being block and rotation to the left being reset. The switch has spring return to the central position. This switch was rotated to block and then returned to neutral, but with the return to neutral there was enough overtravel that reset was made-up and the Safety Injection initiated.

**ANALYSIS OF OCCURRENCE**

The following is a list of major items that were reviewed for their safety implications:

(a) Reactor Coolant System Cooldown Rate

With the Reactor Coolant System temperature below normal operating temperature there was no visual temperature change.

(b) Thermal Effects of Safety Injection

Safety Injection was terminated after 2 minutes of operation. During this time the Centrifugal Charging Pumps injected 2,200 gallons of borated water with an initial temperature of 165°F into the Reactor Coolant System. This is the

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**ANALYSIS OF OCCURRENCE (continued)**

thirteenth (13th) inadvertant actuation of Safety Injection into the Reactor Coolant System. With this injection being at such low system temperature, it only constituted 0.000005 of allowable thermal cycles. Since this number has been held to five decimal places, in the past, the amount of this injection is being discarded and the total accumulated, allowable thermal cycles remains at 0.00245.

**(c) Effects on the Emergency Core Cooling Piping (ECCS)**

The piping and supports in the ECCS were given a thorough visual inspection to determine if any mechanical damage was experienced during the Safety Injection. There was no evidence of any mechanical damage or abnormal movements of the piping.

**CORRECTIVE ACTIONS**

Since this happened the block and reset switches have had a "Caution Tag" attached to them with instructions to return the switches to the "neutral" position very gently. These tags are in place on both units.

This type of switch is also used for block and reset of low steam line pressure coincident steam flow or lo-lo Tavg. These switches have also been caution tagged on both units.

A request has been initiated to consider a different switch that could allow greater overtravel or replacement with two separate switches.

