



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
631 PARK AVENUE
KING OF PRUSSIA, PENNSYLVANIA 19406

May 8, 1980

Docket No. 50-213

Connecticut Yankee Atomic Power Company
ATTN: Mr. W. G. Council
Vice President - Nuclear
Engineering and Operations
P. O. Box 270
Hartford, Connecticut 06101

Gentlemen:

The enclosed IE Information Notice No. 80-20, "Loss of Decay Heat Removal Capability at Davis-Besse Unit 1 While in a Refueling Mode," is forwarded to you for information. No written response is required. If you desire additional information regarding this matter, please contact this office.

Sincerely,

Robert F. Callahan
for Boyce H. Grier
Director

Enclosures:

1. IE Information Notice No. 80-20 with Attachment
2. List of Recently Issued IE Information Notices

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cc w/encs:

- R. Graves, Plant Superintendent
- D. G. Diedrick, Manager of Quality Assurance
- J. R. Himmelwright, Licensing Safeguards Engineer

ENCLOSURE 1

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
WASHINGTON, D. C. 20555

SSINS No.: 6870
Accession No.:
8002280671

IE Information Notice 80-20
Date: May 8, 1980
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LOSS OF DECAY HEAT REMOVAL CAPABILITY AT DAVIS-BESSE UNIT 1 WHILE IN A REFUELING MODE

Description of Circumstances:

On April 19, 1980, decay heat removal capability was lost at Davis-Besse Unit 1 for approximately two and one-half hours. At the time of the event, the unit was in a refueling mode (e.g., RCS temperature was 90F; decay heat was being removed by Decay Heat Loop No. 2; the vessel head was detensioned with bolts in place; the reactor coolant level was slightly below the vessel head flanges; and the manway covers on top of the once through steam generators were removed). (See Attachment A, Status of Davis-Besse 1 Prior to Loss of Power to Busses E-2 and F-2 for additional details regarding this event.)

Since the plant was in a refueling mode, many systems or components were out of service for maintenance or testing purposes. In addition, other systems and components were deactivated to preclude their inadvertent actuation while in a refueling mode. Systems and components that were not in service or deactivated included:

Containment Spray System; High Pressure Injection System; Source Range Channel 2; Decay Heat Loop No. 1; Station Battery 1P and 1N; Emergency Diesel-Generator No. 1; 4.16 KV Essential Switchgear Bus C1; and 13.8 KV Switchgear Bus A (this bus was energized but not aligned).

In brief, the event was due to the tripping of a non-safeguards feeder breaker in 13.8 KV Switchgear Bus B. Because of the extensive maintenance and testing activities being conducted at the time, Channels 1 and 3 of the Reactor Protection System (RPS) and Safety Features Actuation System (SFAS) were being energized from only one source, the source emanating from the tripped breaker. Since the SFAS logic used at Davis-Besse is a two-out-of-four input scheme in which the loss (or actuation) of any two input signals results in the actuation of all four output channels (i.e., Channels 1 and 3, and Channels 2 and 4), the loss of power to Channels 1 and 3 bistables also resulted in actuation of SFAS Channels 2 and 4. The actuation of Decay Heat Loop No. 2, the operating

Since the initiating event was a low pressure injection system were actuated (i.e., Level 1 - High Pressure Injection; Level 3 - Low Pressure Injection)

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ANO 8002280671
No. of pages: 6