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UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

Docket No. 50-461
Docket No. 50-462

MAY 9 1980

Illinois Power Company
ATTN: Mr. W. C. Gerstner
Executive Vice President
500 South 27th Street
Decatur, IL 62525

Gentlemen:

The enclosed Bulletin 80-12 is forwarded to you for information. No written response is required. If you desire additional information regarding this matter, please contact this office.

Sincerely,

Charles E. Norelius

for James G. Keppler
Director

Enclosure: IE Bulletin
No. 80-12

cc w/encl:
Central Files
Director, NRR/DPM
Director, NRR/DOR
PDR
Local PDR
NSIC
TIC
Mr. Dean Hansell, Office of
Assistant Attorney General

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

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May 9, 1980

IE Bulletin No. 80-12

DECAY HEAT REMOVAL SYSTEM OPERABILITY

Introduction:

The intent of this Bulletin is to improve nuclear power plant safety by reducing the likelihood of losing decay heat removal (DHR) capability in operating pressurized water reactors (PWRs). PWRs are most susceptible to losing DHR capability when their steam generators or other diverse means of removing decay heat are not readily available. Such conditions often occur when the plants are in a refueling or cold shutdown mode, and during which time concurrent maintenance activities are being performed.

There is a need to assure that all reasonable means have been taken to provide redundant or diverse means of DHR during all modes of operation. (Note: A redundant means could be provided by having DHR Train A AND Train B operable; a diverse means could be provided by having either DHR Train A OR Train B operable AND a steam generator available for DHR purposes.) There is also need to assure that all reasonable means have been taken to preclude the loss of DHR capability due to common mode failures during all modes of operation.

Background

On several occasions, operating PWRs have experienced losses of DHR capability. In each instance, except that of the Davis-Besse Unit 1 incident of April 19, 1980, DHR capability was restored prior to exceeding the specified RCS temperature limit for the specific mode of operation. Nonetheless, the risk and frequency associated with such events dictate that positive actions be taken to preclude their occurrence or at least ameliorate their effects.

The most noteworthy example of total loss of DHR capability occurred at Davis-Besse Unit 1 on April 19, 1980. (See IE Information Notice No. 80-20, attached hereto as Enclosure 1). Two factors identified as major contributors to the Davis-Besse event in the Information Notice are: (1) extensive maintenance activities which led a loss of redundancy in the DHR capability, and (2) inadequate procedures and/or administrative controls which, if corrected, could have precluded the event or at least ameliorated its effects.

ACTIONS TO BE TAKEN BY LICENSEES OF PWR FACILITIES:

1. Review the circumstances and sequence of events at Davis-Besse as described in Enclosure 1.

2. Review your facility(ies) for all DHR degradation events experienced, especially for events similar to the Davis-Besse incident.

3. Review the hardware capability of your facility(ies) to prevent DHR loss events, including equipment redundancy, diversity, power source reliability, instrumentation and control reliability, and overall reliability during the refueling and cold shutdown modes of operation

4. Analyze your procedures for adequacy of safeguarding against loss of redundancy and diversity of DHR capability.

5. Analyze your procedures for adequacy of responding to DHR loss events. Special emphasis should be placed upon responses when maintenance or refueling activities degrade the DHR capability.

6. Until further notice or until Technical Specifications are revised to resolve the issues of this Bulletin, you should:

   a. Implement as soon as practicable administrative controls to assure that redundant or diverse DHR methods are available during all modes of plant operation. (Note: When in a refueling mode with water in the refueling cavity and the head removed, an acceptable means could include one DHR train and a readily accessible source of borated water to replenish any loss of inventory that might occur subsequent to the loss of the available DHR train.)

   b. Implement administrative controls as soon as practicable, for those cases where single failures or other actions can result in only one DHR train being available, requiring an alternate means of DHR or expediting the restoration of the lost train or method.

7. Report to the NRC within 30 days of the date of this Bulletin the results of the above reviews and analyses, describing:

   a. Changes to procedures (e.g., emergency, operational, administrative, maintenance, refueling) made or initiated as a result of your reviews and analyses, including the scheduled or actual dates of accomplishment; (Note: NRC suggests that you consider the following: (1) limiting maintenance activities to assure redundancy or diversity and integrity of DHR capability, and (2) bypassing or disabling, where applicable, automatic actuation of ECCS recirculation in addition to disabling High Pressure Injection and Containment Spray preparatory to the cold shutdown or refueling mode.)

   b. The safeguards at your facility(ies) against DHR degradation, including your assessment of their adequacy.

The above information is requested pursuant to 10 CFR 50.54(f). Accordingly, written statements addressing the above items shall be signed under oath or affirmation and submitted within the time specified above. Reports shall be submitted

to the director of the appropriate NRC regional office, and a copy forwarded to the Director, Division of Reactor Operations Inspection, NRC Office of Inspection and Enforcement, Washington, D. C. 20555.

Approved by GAO, B180225 (R0072); clearance expires 7-31-80. Approval was given under a blanket clearance specifically for identified generic problems.

Enclosure:
IE Information Notice
No. 80-20

IE Bulletin No. 80-12
May 9, 1980

Enclosure

RECENTLY ISSUED
IE BULLETINS

Bulletin No.	Subject	Date Issued	Issued To
80-11	Masonay Wall Design	5/8/80	All power reactor facilities with an OL, except Trojan
80-10	Contamination of Nonradioactive System and Resulting Potential for Unmonitored, Uncontrolled Release to Environment	5/6/80	All power reactor facilities with an OL or CP
80-09	Hydramotor A. .tor Deficiencies	4/17/80	All power reactor operating facilities and holders of power reactor construction permits
80-08	Examination of Containment Liner Penetration Welds	4/7/80	All power reactors with a CP and/or OL no later than April 7, 1980
80-07	BWR Jet Pump Assembly Failure	4/4/80	All GE BWR-3 and BWR-4 facilities with an OL
80-06	Engineered Safety Feature (ESF) Reset Controls	3/13/80	All power reactor facilities with an OL
80-05	Vacuum Condition Resulting In Damage To Chemical Volume Control System (CVCS) Holdup Tanks	3/10/80	All PWR power reactor facilities holding OLs and to those with a CP
79-01B	Environmental Qualification of Class IE Equipment	2/29/80	All power reactor facilities with an OL
80-04	Analysis of a PWR Main Steam Line Break With Continued Feedwater Addition	2/8/80	All PWR reactor facilities holding OLs and to those nearing licensing
80-03	Loss of Charcoal From Standard Type II, 2 Inch, Tray Adsorber Cells	2/6/80	All holders of Power Reactor OLs and CPs