

DEC 2 1988

Docket Nos. 50-272/311

DISTRIBUTION

Mr. J. Ferland, Chairman, President and
Chief Executive Officer
Public Service Electric and Gas Company
80 Park Plaza, Mail Code 4B
Newark, New Jersey 07101

Docket File NRC PDR/LPDR
PDI-2 Reading SVarga/BBoger
WButler MO'Brien
JStone/MThadani
OGC EJordan
BGrimes ACRS (10)

Dear Mr. Ferland:

SUBJECT: LOSS OF DECAY HEAT REMOVAL

We have just issued Generic Letter 88-17 which addresses loss of decay heat removal (DHR) during nonpower operation. For your information a copy of the associated transmittal letter is enclosed.

This letter was issued because of the potential serious consequence of loss of shutdown cooling concurrent with significant core decay heat. Further, it is our belief that the industry as a whole has not aggressively responded to resolve the concern following its identification in our earlier Generic Letter 87-12. In particular, the industry's response to the Generic Letter 87-12 was deficient in the areas of (1) prevention of accident initiation, (2) mitigation of accidents before they potentially progress to core damage, and (3) control of radioactive material if a core damage accident should occur. Generic Letter 88-17 prescribes expeditious actions which should immediately ease the concern; and parallel, but longer term, programmed enhancements which effectively address the root cause of the problems and permit greater flexibility in operation.

We consider this issue to be of high priority and request that you assure that your organization addresses it accordingly.

Sincerely,

Original signed by
Thomas E. Murley

Thomas E. Murley, Director
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc w/enclosure
See next page

Previously concurred*

PDI-2/LA*
MO'Brien
11/02/88

PDI-2/PM*
JStone:mr
11/02/88

PDI-2/D*
WButler
11/02/88

ADRI
BBoger
11/3/88

DRPT/CI
SVarga
11/8/88

ADD 11/9/88
R. Crutchfield
11/9/88

OMRR/DD
J. Sniezek
11/2/88

OMRR/D
TMurley
12/1/88

DFol
1/1

M/A
1/1

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PDC

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Thomas E. Murley, Director
Office of Nuclear Reactor Regulation

cc: See next page

[Handwritten initials]
PDI-2/EA
MO'Brien
11/2/88

[Handwritten initials]
PDI-2/PM
JStone:mr
11/2/88

[Handwritten initials]
PDI-2/D
WButler
11/2/88

[Handwritten initials]
ADRI
BBoger
1/88

[Handwritten initials]
DRPI/II
SVarga
1/88

ADP
DCrutchfield
1/88

ONRR/DD
JSniezek
1/88

ONRR/D
TMurley
1/88



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

DEC 17 1988

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Chief Executive Officer
Public Service Electric and Gas Company
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Sincerely,

A handwritten signature in black ink that reads "Thomas E. Murley".

Thomas E. Murley, Director
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc w/enclosure
See next page

Mr. J. Ferland, Chairman, President and
Chief Executive Officer

Salem Nuclear Generating Station

cc:

Mark J. Wetterhahn, Esquire
Conner and Wetterhahn
Suite 1050
1747 Pennsylvania Avenue, NW
Washington, DC 20006

Richard B. McGlynn, Commission
Department of Public Utilities
State of New Jersey
101 Commerce Street
Newark, NJ 07102

Richard Fryling, Jr., Esquire
Law Department - Tower 5E
80 Park Place
Newark, NJ 07101

Regional Administrator, Region I
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Mr. L. K. Miller
General Manager - Salem Operations
Salem Generating Station
P.O. Box 236
Hancocks Bridge, NJ 08038

Lower Alloways Creek Township
c/o Mary O. Henderson, Clerk
Municipal Building, P.O. Box 157
Hancocks Bridge, NJ 08038

Mr. S. LaBruna
Vice President - Nuclear Operations
Nuclear Department
P.O. Box 236
Hancocks Bridge, New Jersey 08038

Mr. Bruce A. Preston, Manager
Licensing and Regulation
Nuclear Department
P.O. Box 236
Hancocks Bridge, NJ 08038

Robert Traee, Mayor
Lower Alloways Creek Township
Municipal Hall
Hancocks Bridge, NJ 08038

Mr. David Wersan
Assistant Consumer Advocate
Office of Consumer Advocate
1425 Strawberry Square
Harrisburg, PA 17120

Richard W. Borchardt, Resident Inspector
Salem Nuclear Generating Station
U.S. Nuclear Regulatory Commission
Drawer I
Hancocks Bridge, NJ 08038

Morgan J. Morris, III
General Manager - Operating License
Atlantic Electric
P.O. Box 1500
1199 Black Horse Pike
Pleasantville, NJ 08232

Richard F. Engel
Deputy Attorney General
Department of Law and Public Safety
CN-112
State House Annex
Trenton, NJ 08625

Delmarva Power & Light Company
c/o Jack Urban
General Manager, Fuel Supply
800 King Street
P.O. Box 231
Wilmington, DE 19899

Mr. David M. Scott, Chief
Bureau of Nuclear Engineering
Department of Environmental Protection
State of New Jersey
CN 411
Trenton, NJ 08625



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

October 17, 1988

TO ALL HOLDERS OF OPERATING LICENSES OR CONSTRUCTION PERMITS FOR PRESSURIZED
WATER REACTORS (PWRs)

SUBJECT: LOSS OF DECAY HEAT REMOVAL (GENERIC LETTER NO. 88-17)
10 CFR 50.54(f)

Loss of decay heat removal (DHR) during nonpower operation and the consequences of such a loss have been of increasing concern for years. Numerous industry and NRC publications have addressed the subject. The Diablo Canyon event of April 10, 1987, and ensuing work by both the staff and industry organizations have provided additional insight. Yet the problems continue, as illustrated by (1) the inadequacies demonstrated by many licensees in their response to Generic Letter (GL) 87-12; (2) the event at Waterford on May 12, 1988; (3) the event at Sequoyah on May 23, 1988; (4) the DHR perturbations due to inadequate level at San Onofre on July 7, 1988; and (5) the apparent lack of a complete industry understanding of the potential seriousness of such events.

The report of the Diablo Canyon event, NUREG-1269, stated that operating a plant with a reduced reactor coolant system (RCS) inventory was a particularly sensitive condition and identified many generic weaknesses in DHR. GL 87-12, which requested information from all PWR licensees, provided additional insight, and NUREG-1269 was transmitted with the generic letter to ensure that licensees had the latest information. Despite this, many of the responders to GL 87-12 demonstrated that they did not understand the identified problems.

Deficiencies exist in procedures, hardware, and training in the areas of (1) prevention of accident initiation, (2) mitigation of accidents before they potentially progress to core damage, and (3) control of radioactive material if a core damage accident should occur. Although deficiencies exist in all PWRs, certain design features make initiation and the time available for mitigation in the Westinghouse and Combustion Engineering designs of more concern than in the nuclear steam supply systems (NSSSs) designed by Babcock and Wilcox. Nevertheless, we believe expeditious actions are necessary at all PWRs to rectify these deficiencies. These should be paralleled by programmed enhancements which supplement, add to, or replace the expeditious actions to accomplish a more comprehensive improvement. Recommendations covering these items are summarized in the attachment, and additional information and guidance are provided in the three enclosures.

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Zpp

Pursuant to 10 CFR 50.54(f), we request your response regarding your plans with respect to each of the recommendations as related to operation following placement of the NSSS on shutdown cooling, or following the attainment of NSSS conditions under which shutdown cooling would normally be initiated. Your response is to include the following:

- (1) A description of the actions you have taken to implement each of the eight recommended expeditious actions identified in the attachment. Your reply shall be submitted to us within 60 days of receipt of this letter.
- (2) A description of enhancements, specific plans, and a schedule for implementation for each of the six programmed enhancement recommendations identified in the attachment. Your reply shall be provided to us within 90 days of receipt of this letter.

Individual deviations from the recommendations will be considered on a case by case basis provided compensatory measures are provided which will achieve a comparable level of protection.

No further responses are required to GL 87-12 and licensees or construction permit holders need not provide any supplemental information in a response to GL 87-12 to which they previously committed.


We will accept documents such as technical reports, action plans, and schedules prepared by industry groups when accompanied by commitments from participating licensees in lieu of individual documents from those licensees. Alternatively, such industry group documents may be incorporated by reference in licensee documentation. We encourage your participation in cooperative efforts to effectively resolve these issues.

Your written response shall be submitted under oath or affirmation under the provisions of Section 182a, Atomic Energy Act of 1954, as amended. Your written response is needed to determine whether actions to modify, suspend, or revoke your license are necessary. An analysis as required by 10 CFR 50.109 has been performed regarding this request.

The original copy of your written response shall be transmitted to the U. S. Nuclear Regulatory Commission, Document Control Desk, Washington, D.C. 20555 for reproduction and distribution.

This request is covered by Office of Management and Budget Clearance Number 3150-0011 which expires December 31, 1989. The estimated average burden hours is 200 person-hours per licensee response, including assessment of the new requirements, searching data sources, gathering and analyzing the data, and preparing the required reports. Comments on the accuracy of this estimate and suggestions to reduce the burden may be directed to the Office of Management and Budget, Room 3208, New Executive Office Building, Washington, D.C. 20503, and to the U. S. Nuclear Regulatory Commission, Records and Reports Management Branch, Office of Administration and Resources Management, Washington, D.C. 20555.

If you have technical questions regarding this matter please contact Wayne Hodges at 301-492-0895. Other questions may be directed to the NRR Project Manager assigned to this issue, Charles M. Trammell (301-492-3121) or to the Project Manager assigned to your plant.


Dennis M. Crutchfield
Acting Associate Director for Projects
Office of Nuclear Reactor Regulation

Attachment:
Recommended Actions

Enclosures:

1. Overview and Background Information Pertinent to Generic Letter 88-17
2. Guidance for Meeting Generic Letter 88-17
3. Abbreviations and Definitions