

## LICENSEE EVENT REPORT

CONTROL BLOCK: 

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
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| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
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 (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

|   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
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C T M N S 2 2 0 0 - 0 0 0 0 0 0 - 0 0 3 4 1 1 1 1 1 4 5  
LICENSEE CODE 14 15 LICENSE NUMBER 25 26 LICENSE TYPE 30 57 CAT 58

CONT

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REPORT SOURCE L 6 0 5 0 0 0 3 3 6 7 0 9 0 2 8 3 8 1 2 0 1 8 3 9  
DOCKET NUMBER 66 69 EVENT DATE 74 75 REPORT DATE 80

## EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

0 2 During spent fuel visual inspections performed at the end of Cycle 5, evidence

0 3 of binding of the top nozzle flower to the top nozzle posts was observed in

0 4 Westinghouse manufactured fuel. Binding of the flower to the top nozzle posts

0 5 in fuel assembly F-73 has resulted in damage to the flower. In addition,

0 6 restricted flower movement relative to one top nozzle post in fuel assembly F-37

0 7 has resulted in the deformation of a guide tube.

|   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
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| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|

  
SYSTEM CODE R C 11 CAUSE CODE B 12 CAUSE SUBCODE A 13 COMPONENT CODE F U E L X X 14 COMP SUBCODE Z 15 VALVE SUBCODE Z 16  
EVENT YEAR 8 3 SEQUENTIAL REPORT NO. 0 2 6 OCCURRENCE CODE 0 1 REPORT TYPE X 1  
LEI/RO REPORT NUMBER 17  
ACTION TAKEN X 18 FUTURE ACTION X 19 EFFECT ON PLANT C 20 SHUTDOWN METHOD Z 21 HOURS 0 0 0 0 22 ATTACHMENT SUBMITTED Y 23 NPD-4 FORM SUB N 24 PRIME COMP. SUPPLIER X 25 COMPONENT MANUFACTURER W 1 2 0 26

## CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

1 0 Restricted motion of the flower when it was contacted by the fuel alignment

1 1 plate resulted in bending the flower in assembly F-73 in a CEA location, and

1 2 deformation of the guide tube in assembly F-37 in a non-CEA location. Tests

1 3 were performed to verify free travel of the flowers in all irradiated

1 4 Westinghouse Cycle 6 assemblies. F-73 and F-37 were eliminated from Cycle 6.

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
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|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|

  
FACILITY STATUS H 28 % POWER 0 0 0 29 OTHER STATUS NA 30 METHOD OF DISCOVERY B 31 DISCOVERY DESCRIPTION Routine Inspection 32  
ACTIVITY CONTENT RELEASED OF RELEASE Z 33 Z 34 AMOUNT OF ACTIVITY NA 35 LOCATION OF RELEASE NA 36  
PERSONNEL EXPOSURES NUMBER 0 0 0 37 TYPE Z 38 DESCRIPTION NA 39  
PERSONNEL INJURIES NUMBER 0 0 0 40 DESCRIPTION NA 41  
LOSS OF OR DAMAGE TO FACILITY TYPE Z 42 DESCRIPTION NA 43  
PUBLICITY ISSUED N 44 DESCRIPTION NA 45  
NRC USE ONLY

NAME OF PREPARER Robert Borchert

PHONE (203) 447-1791 X4418

ATTACHMENT TO LER 83-26/01X-1  
NORTHEAST NUCLEAR ENERGY COMPANY  
MILLSTONE NUCLEAR POWER STATION - UNIT 2  
FACILITY OPERATING LICENSE NO. DPR-65  
DOCKET NUMBER 50-336

During spent fuel visual inspections performed at the end of Cycle 5, two Westinghouse manufactured fuel assemblies were observed to have structural damage.

Fuel assembly F-73 was discovered to have one flower petal bent relative to the remainder of the flower. There is an indentation mark on the top of the bent petal believed to be caused by the interaction between the flower and fuel alignment plate.

Fuel assembly F-37 was discovered to have local buckling of one guide at the top of the upper swage joint where the grid sleeve is attached to the guide tube. The adaptor plate at that same corner of the assembly is bent and there are score marks on the slot surface of the top nozzle post at the same corner of the assembly.

The probable cause of the damage to both F-73 and F-37 is attributed to restricted flower movement when the weight of the fuel alignment plate attempted to depress the restricted flower.

In a CEA location (F-73), only the ends of the flower are contacted by the fuel alignment plate so that restricted movement of the flower will result in bending the flower. In a non-CEA location (F-37), a large portion of the flower is contacted by the fuel alignment plate so that restricted movement of the flower will result in local buckling of the guide tube.

Fuel assemblies F-73 and F-37 will be removed from the revised Cycle 6 loading pattern. Visual inspections of the remaining irradiated Westinghouse assemblies do not indicate any similar structural defects, and a flower compression test was performed on all of the Westinghouse Cycle 6 reinsert assemblies to verify free movement of the flowers. In addition, all new Westinghouse manufactured fuel will employ a new flower design which will provide additional clearance between the cylindrical surfaces of the top nozzle post and the flower, and also provide additional clearance between the stop pin and the slot in the top nozzle posts.

Further information was provided to the NRC in a meeting at the Bethesda Offices of the NRC Staff on October 12, 1983, and in the W. G. Council (Northeast Utilities) to J. R. Miller (NRC) letter dated November 4, 1983.

# NORTHEAST UTILITIES



THE CONNECTICUT LIGHT AND POWER COMPANY  
WESTERN MASSACHUSETTS ELECTRIC COMPANY  
HOLYOKE WATER POWER COMPANY  
NORTHEAST UTILITIES SERVICE COMPANY  
NORTHEAST NUCLEAR ENERGY COMPANY

General Offices • Selden Street, Berlin, Connecticut

P.O. BOX 270  
HARTFORD, CONNECTICUT 06141-0270  
(203) 666-6911

December 1, 1983  
MP-5565

Dr. Thomas E. Murley  
Regional Administrator, Region I  
U. S. Nuclear Regulatory Commission  
631 Park Avenue  
King of Prussia, Pennsylvania 19406

Reference: Facility Operating License No. DPR-65  
Docket No. 50-336  
Reportable Occurrence RO 50-336/83-26/01X-1

Dear Dr. Murley:

This letter forwards the Licensee Event Report 83-26/01X-1. This update report provides information and corrective action for the structural damage discovered in two fuel assemblies at the end of Cycle 5. An additional three copies of the report are enclosed.

Yours truly,

NORTHEAST NUCLEAR ENERGY COMPANY

A handwritten signature in cursive script, reading 'E. J. Mroczka'.

E. J. Mroczka  
Station Superintendent  
Millstone Nuclear Power Station

EJM/RB:mo

Attachment: LER RO 50-336/83-26/01X-1

cc: Director, Office of Inspection and Enforcement, Washington, D. C. (30)  
Director, Office of Management Information and Program Control,  
Washington, D. C. (3)  
U. S. Nuclear Regulatory Commission, c/o Document Management Branch,  
Washington, D. C. 20555

1/1 IE22