

LICENSEE EVENT REPORT

CONTROL BLOCK:

1	2	3	4	5	6
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 (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

0	1
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0	H	D	B	S	1
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2	0	0	-	0	0	0	0	0	0	-	0	0
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3	4	1	1	1	1
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4					
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5

7 8 9 14 15 25 26 30 57 CAT 58
LICENSEE CODE LICENSE NUMBER LICENSE TYPECON'T

0	1
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 REPORT SOURCE

L	6	0	5	0	0	0	3	4	6
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 DOCKET NUMBER

7	0	3	0	3	8	3
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 EVENT DATE

8	0	5	0	5	8	3
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 REPORT DATE
7 8 60 61 68 69 74 75 80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

(NP-32-83-01) On 3/3/83, it was determined that the current operating practice of only requiring one Emergency Core Cooling System (ECCS) Room Cooler to be valved into service in each ECCS Room was less conservative than the assumptions in the USAR/FSAR. This occurrence is being reported per T.S. 6.9.1.8.f. There was no danger to the health and safety of the public or station personnel. There has never existed an operating configuration of the ECCS Room Coolers which would have caused both ECCS trains to become inoperable.

0	9
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 SYSTEM CODE

S	F
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 CAUSE CODE

D

 CAUSE SUBCODE

Z

 COMPONENT CODE

Z	Z	Z	Z	Z	Z
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 COMP SUBCODE

Z

 VALVE SUBCODE

Z

9 10 11 12 13 14 15 16 17 18 19 20
LER/RO REPORT NUMBER

8	3
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 EVENT YEAR

0	1	2
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 SEQUENTIAL REPORT NO.

0	1
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 OCCURRENCE CODE

X

 REPORT TYPE

2

 REVISION NO.
21 22 23 24 25 26 27 28 29 30 31 32
ACTION TAKEN

X

 FUTURE ACTION

G

 EFFECT ON PLANT

Z

 SHUTDOWN METHOD

Z

 HOURS

0	0	0
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 ATTACHMENT SUBMITTED

Y

 NPD-4 FORM SUB

N

 PRIME COMP. SUPPLIER

Z

 COMPONENT MANUFACTURER

Z	9	9	9
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33 34 35 36 37 38 39 40 41 42 43 44 45 46 47

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

The cause is the lack of procedural control to ensure that non-Technical Specification equipment which is required by the USAR/FSAR remains operable. On 3/3/83, ECCS Room Coolers 1-1 and 1-4 were valved into service. Portions of the USAR/FSAR are being reviewed with station procedures to ensure that the design assumptions contained in the USAR/FSAR are integrated in the appropriate procedures.

1	5
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 FACILITY STATUS

E

 % POWER

1	0	0
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 OTHER STATUS

NA

 METHOD OF DISCOVERY

A

 DISCOVERY DESCRIPTION

Determined by Station Management

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
ACTIVITY CONTENT

Z

 RELEASED OF RELEASE

Z

 AMOUNT OF ACTIVITY

NA

 LOCATION OF RELEASE

NA

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
PERSONNEL EXPOSURES NUMBER

0	0	0
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 TYPE

Z

 DESCRIPTION

NA

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
PERSONNEL INJURIES NUMBER

0	0	0
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 DESCRIPTION

NA

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
LOSS OF OR DAMAGE TO FACILITY TYPE

Z

 DESCRIPTION

NA

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
PUBLICATION

N

 DESCRIPTION

NA

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 508305130095 830505
PDR ADOCK 05000346
S PDR

NRC USE ONLY

TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER STATION UNIT ONE
SUPPLEMENTAL INFORMATION FOR LER NP-32-83-01

DATE OF EVENT: March 3, 1983

FACILITY: Davis-Besse Unit 1

2 | IDENTIFICATION OF OCCURRENCE: Current operating practice involving the Emergency Core Cooling System (ECCS) Room Coolers was less conservative than the assumptions in the Updated/Final Safety Analysis Report (USAR/FSAR)

Conditions Prior to Occurrence: The unit was in Mode 1, with Power (MWT) = 2770 and Load (Gross MWE) = 915.

2 | Description of Occurrence: On March 3, 1983, it was determined that the current operating practice involving the ECCS Room Coolers was less conservative than the assumptions in the USAR/FSAR. Two room coolers are located in each ECCS Room, these being ECCS Room Coolers 1-1 and 1-2 in Room 115 and ECCS Room Coolers 1-4 and 1-5 in Room 105. ECCS Room Cooler 1-3 is located in the Decay Heat Cooler Room 113. The wall between Rooms 105 and 113 is open above the 555' elevation for approximately 10 feet, and allows sufficient air flow between the two rooms. Due to a service water leak, ECCS Room Cooler 1-1 had been isolated on August 14, 1982. On November 5, 1982, ECCS Room Cooler 1-4 was also isolated leaving ECCS Room Coolers 1-2 in Room 115, 1-5 in Room 105, and 1-3 in Room 113 in service.

2 | On March 3, 1983, when a problem developed in the Decay Heat Room Cooler 1-3, an investigation was begun to determine the effect on plant operability with ECCS Room Cooler 1-3 out of service. It was determined at this time that the operating practice of utilizing one room cooler in each ECCS Room was possibly less conservative than the assumptions used in the Single Failure Analysis for the ECCS Room Cooling Units of the USAR/FSAR (Table 9.4.6). Table 9.4.6 of the USAR/FSAR states that if the cooling capacity in one room is reduced to 50 percent of design, the standby full capacity ECCS Room Cooling Units are available to maintain a suitable environment for essential equipment in the second ECCS Pump Room.

2 | This occurrence is being reported per Technical Specification 6.9.1.8.f which requires prompt notification and a written followup report within two weeks for personnel errors or procedure inadequacy which prevents, or could prevent by itself, the fulfillments of the functional requirements of systems required to cope with accidents analyzed in the Safety Analysis Report.

2 | During an investigation to determine the out of service history of the ECCS Room Coolers, it was discovered that both room coolers in Room 115 had been isolated during the time period of September 17 through December 5, 1980. This occurrence is being reported per Technical Specification 6.9.1.9.c. The complete history of when the ECCS Room Coolers have been taken out of service is shown in Figure 1.

2 | Designation of Apparent Cause of Occurrence: The cause of these occurrences
2 | was the lack of procedural control to ensure the proper operating configura-
tions of systems or equipment not addressed in Technical Specifications,
but which are discussed in the USAR/FSAR. Contributing to these occurrences
was a misinterpretation of the ECCS room cooler requirements as addressed
in the USAR/FSAR. Previously, the Response to Question 6.3.6 of the
Question and Answer Section of the Final Safety Analysis Report (FSAR) was
interpreted as requiring only one ECCS room cooler in service in each ECCS
room.

Analysis of Occurrence: There was no danger to the health and safety of
the public or station personnel. The ECCS Room Coolers are designed to
maintain a suitable environment for the electric motors of the high
pressure injection pumps, low pressure injection/decay heat pumps, and the
containment spray pumps, as well as other environmentally qualified
equipment in the event of a Loss of Coolant Accident (LOCA).

An analysis was conducted by the architect/engineer to determine the
highest service water temperature which would provide sufficient cooling
in the event of a worst case LOCA with only one ECCS Room Cooler available.
It was determined that with only one cooler in service in an ECCS room, a
service water temperature of $\leq 75^{\circ}\text{F}$ would provide sufficient cooling to
maintain that ECCS room at $\leq 122^{\circ}\text{F}$. This analysis is based on both ECCS
cooler fans operating in the room, even though service water is being
supplied only to one cooler. The service water pumps take a suction in
the forebay to supply Lake Erie water to various components. Typically,
the water in the forebay reaches a maximum temperature in July or August.
There has only been one summer when a cooler has been isolated while the
unit was at power. In 1981, while ECCS Room Cooler 1-1 was isolated, the
unit was at power between January 25, 1981 through July 30, 1981 and
between August 15, 1981 through September 3, 1981. During these periods,
the maximum service water temperature measured was 77.8°F . It should be
noted that during these time periods the coolers in Rooms 105 and 113 were
in service, ensuring that one ECCS train was operable. During the time
period when ECCS Room Coolers 1-1 in Room 115 and Cooler 1-4 in Room 105
were isolated, the temperature of the service water was well below 75°F ,
as the temperature was typically below 45°F from November 1982 through
March 1983.

As seen in Figure 1, there have been two time periods in which both ECCS
Room Coolers in Room 115 have been taken out of service. These were:

- 1) From September 17 through December 5, 1980, and
- 2) From September 12 through September 15, 1981

During the first time period (September 17 through December 5, 1980, the
unit was only at power from November 5 through December 3, 1980. The ECCS
Room Coolers in Rooms 105 and 113 were in service during this time period
ensuring that the ECCS train (Train 1) in Room 105 was operable. In

addition, at no time during this time period (November 5 through December 3, 1980) were there any equipment failures which would have rendered the operable ECCS train (Train 1) inoperable.

During the second time period (September 12 through September 15, 1981), the unit was at full power. The ECCS Room Coolers in Rooms 105 and 113 were in service, ensuring that ECCS Train 1 was operable. Again, there were no equipment failures of the ECCS Train 1 which would have rendered the operable ECCS train inoperable. This event has previously been reported in Licensee Event Report NP-33-81-70 (81-057).

Corrective Action: On March 3, 1983, ECCS Room Coolers 1-1 and 1-4 were valved into service.

2 | Procedure modifications have been made to the Service Water System Procedure, SP 1104.11, and the Service Water Montly Test, ST 5075.01, to ensure that
2 | (1) two ECCS Room Coolers which are located in the same ECCS room are never isolated simultaneously, and (2) that if one ECCS Room Cooler (or one ECCS cooler in each ECCS room) is isolated, ensure that the service water temperature is $\leq 75^{\circ}\text{F}$. In addition, portions of the USAR/FSAR are currently being distributed with station operating procedures for periodic review to ensure that the design assumptions contained in the USAR/FSAR are identified and integrated into the appropriate procedures.

The leakage problems of the ECCS Room Coolers are due to tube failures in the cooler coils, which are caused by the corrosive action of the service water. Under Facility Change Request 81-211, all five ECCS Room Coolers will be replaced with coil assemblies with thicker tube walls to minimize tube failure.

Failure Data: A previous occurrence in which both ECCS Room Coolers in Room 115 were found out of service between September 12 and September 15, 1982, was reported in Licensee Event Report NP-33-81-70 (LER 81-057).

LER #83-012

FIGURE 1: OUT OF SERVICE HISTORY FOR THE ECCS ROOM COOLERS

