

LICENSEE EVENT REPORT

CONTROL BLOCK: (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

01 | 0 | H | D | B | S | 1 | 2 | 0 | 0 | - | 0 | 0 | 0 | 0 | - | 0 | 0 | 3 | 4 | 1 | 1 | 1 | 1 | 4 | 5

CONVT | 01 | REPORT SOURCE | L | 6 | 0 | 5 | 0 | 0 | 0 | 3 | 4 | 6 | 7 | 0 | 5 | 1 | 2 | 8 | 1 | 8 | 0 | 6 | 0 | 9 | 8 | 1 | 9

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)
02 | (NP-33-81-33) On 5/12/81 at 1408 hours, the axial power imbalance limit was exceeded,
03 | placing the unit in the action statement of T.S. 3.2.1. Prior to the event, reactor
04 | operators were performing ST 5042.02, "Reactor Coolant System Water Inventory Balance"
05 | due to an earlier seal failure on Reactor Coolant Pump (RCP) 2-1. There was no danger
06 | to the public or station personnel. The reactor operators restored axial power imbalance
07 | within limits within the time allotted by the T.S. action statement.

19 | SYSTEM CODE | R | B | 11 | CAUSE CODE | D | 12 | CAUSE SUBCODE | Z | 13 | COMPONENT CODE | Z | Z | Z | Z | Z | Z | 14 | COMP. SUBCODE | Z | 15 | VALVE SUBCODE | Z | 16 | LER/RO REPORT NUMBER | 8 | 1 | 17 | EVENT YEAR | 8 | 1 | 21 | 22 | SEQUENTIAL REPORT NO. | 0 | 3 | 0 | 24 | 26 | OCCURRENCE CODE | 0 | 3 | 28 | 29 | REPORT TYPE | I | 30 | REVISION NO. | 0 | 32 | ACTION TAKEN | X | 18 | FUTURE ACTION | G | 19 | EFFECT ON PLANT | Z | 20 | SHUTDOWN METHOD | Z | 21 | HOURS | 0 | 0 | 0 | 0 | 22 | ATTACHMENT SUBMITTED | Y | 23 | NPRO-4 FORM SUB. | N | 24 | PRIME COMP. SUPPLIER | Z | 25 | COMPONENT MANUFACTURER | Z | 9 | 9 | 9 | 26

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)
10 | The cause of this occurrence is procedural inadequacy. Procedures ST 5042.02 and
11 | EP 1205.16, "RCP and Motor Emergency Procedure" do not provide proper guidelines as to
12 | when ST 5042.02 should be stopped to avoid exceeding axial power imbalance limits during
13 | a xenon transient. Procedures ST 5042.02 and EP 1205.16 have been modified.

15 | FACILITY STATUS | E | 28 | % POWER | 1 | 0 | 0 | 29 | OTHER STATUS | NA | 30 | METHOD OF DISCOVERY | A | 31 | DISCOVERY DESCRIPTION | Observation by reactor operators | 32

16 | ACTIVITY CONTENT | Z | 33 | RELEASED OF RELEASE | Z | 34 | AMOUNT OF ACTIVITY | NA | 35 | LOCATION OF RELEASE | NA | 36

17 | PERSONNEL EXPOSURES | 0 | 0 | 0 | 37 | TYPE | Z | 38 | DESCRIPTION | NA | 39

18 | PERSONNEL INJURIES | 0 | 0 | 0 | 40 | DESCRIPTION | NA | 41

19 | LOSS OF OR DAMAGE TO FACILITY | Z | 42 | TYPE | NA | 43 | DESCRIPTION

20 | PUBLICITY | N | 44 | DESCRIPTION | NA | 45 | NRC USE ONLY | 68 | 69 | 80 | ISSUED | N | 44 | NAME OF PREPARER | David H. Brown | PHONE | (419) 259-5000, Ext. 296

TOLEDO EDISON COMPANY
DAVIS-BESSE NUCLEAR POWER STATION UNIT ONE
SUPPLEMENTAL INFORMATION FOR LER NP-33-81-33

DATE OF EVENT: May 12, 1981

FACILITY: Davis-Besse Unit 1

IDENTIFICATION OF OCCURRENCE: Axial Power Imbalance Limits Exceeded With Reactor Power Greater Than 40%

Conditions Prior to Occurrence: The unit was in Mode 1, with Power (MWT) = 2031 and Load (Gross MWE) = 680

Description of Occurrence: During the late morning and early afternoon of May 12, 1981, reactor operators were performing ST 5042.02; "Reactor Coolant System (RCS) Water Inventory Balance" (as required by EP 1202.16, "Reactor Coolant Pump and Motor Emergency Procedure") due to a seal failure on Reactor Coolant Pump (RCP) 2-1 which had occurred earlier in the day. Prior to taking RCP 2-1 out of service, reactor power had to be reduced from approximately 100% to 75%. The ensuing xenon transient drove in control rods causing axial power imbalance to go increasingly negative. This effect had to be countered by RCS boration to maintain axial power imbalance within its Technical Specification limits.

In order to perform ST 5042.02 successfully, the RCS has to be maintained as close as possible to steady state conditions. This entails, among other things, that no additions of boric acid or water to the RCS be made during this test.

At 1402 hours on May 12, 1981, the reactor operators, realizing that axial power imbalance was approaching its Technical Specification limit, stopped ST 5042.02 and injected 30 gallons of boric acid into the RCS. At 1408 hours on May 12, 1981, the axial power imbalance Technical Specification limit was exceeded. The reactor operators inserted axial power shaping rods (APSRs) 1% (to 24% withdrawn) and, as a result, axial power imbalance was brought back within limits at 1420 hours on May 12, 1981.

Exceeding axial power imbalance limits placed the unit in the action statement of Technical Specification 3.2.1 which states that while in Mode 1 and $\geq 40\%$ rated thermal power, with axial power imbalance exceeding the limits specified on figure 3.2-2a of the Technical Specifications, axial power imbalance must be restored to within its Technical Specification limits within 15 minutes or be in hot standby within 2 hours.

The total time that the axial power imbalance Technical Specification limit was exceeded was 12 minutes.

Designation of Apparent Cause of Occurrence: The cause of this occurrence is procedural inadequacy. Procedures EP 1202.16 and ST 5042.02 do not provide proper guidance to the reactor operators during a xenon transient for determining when ST 5042.02 should be performed, how long it should be run, and when, if necessary, it should be terminated to avoid exceeding axial power imbalance limits. EP 1202.16 also has conflicting supplementary action steps. Step 1.4.2 suggests running ST 5042.02 if idle RCP total seal flow exceeds 2 GPM. Step 1.4.3 suggests running ST 5042.02 unconditionally.

Analysis of Occurrence: There was no danger to the health and safety of the public or to station personnel. The reactor operators took corrective action to reverse the trend of the axial power imbalance before the axial power imbalance technical specification limit was exceeded and as a result of this action, restored axial power imbalance within limits within the time allotted by the technical specification action statement. No safety limits were exceeded as maximum axial power imbalance was -6.1%. The technical specification axial power imbalance limit for this power history, power level, and RCP combination is -5.8%.

Corrective Action: At 1402 hours on May 12, 1981, the reactor operators, realizing that axial power imbalance was approaching its Technical Specification limits, injected 30 gallons of boric acid into the RCS. After the axial power imbalance limits were exceeded, the operators inserted APSRs 1% (to 24% withdrawn). The combination of boric acid addition and APSR insertion restored axial power imbalance within limits at 1420 hours on May 12, 1981.

EP 1202.16 has been modified (per modification T-5561) to add guidance for the reactor operators when performing ST 5042.02. ST 5042.02 has been modified (per modification T-5560) to give reactor operators special guidance when performing this test during xenon transient conditions.

Failure Data: There have been no previous similar events.

LER # 81-030