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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 131 TO FACILITY OPERATING LICENSE NO. NPF-3

TOLEDO EDISON COMPANY

AND

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1

DOCKET NO. 50-346

1.0 INTRODUCTION

The licensee for Davis-Besse Nuclear Power Station, Unit 1 (Toledo Edison Company) submitted an application for an amendment to the operating license dated May 4, 1987 as supplemented by submittal dated April 29, 1988. The application requested that the Technical Specifications be revised to relocate the specifications relating to the Auxiliary Feed Pump Turbine (AFPT) inlet steam pressure interlocks by deleting a part of Surveillance Requirement 4.7.1.2.d which specifies that the AFPT inlet steam pressure interlocks are to be demonstrated operable as part of the Auxiliary Feedwater System, by performance of a channel functional test at least once per 31 days, and a channel calibration at least once per 18 months. In addition, the licensee proposed to add the requirement for operable pressure interlocks as a separate specification action statement and a separate surveillance specification requirement. The appropriate statement was added to the Basis section of the Technical Specifications.

2.0 DISCUSSION

The present Davis-Besse Auxiliary Feedwater (AFW) system is shown in Figure 1, attached. Prior to the June 9, 1985 loss-of-feedwater event, valves MS-106, MS-106A, MS-107 and MS-107A, on the steam admittance lines to the AFW pump turbines, were retained in closed position. Thus, the portion of the steam admittance lines downstream of these valves remained at ambient pressure. Pressur switches PSL 106A through 106D were interlocked with motor operated steam admission valves MS 106 and MS106A while PSB 107A through 107D were

interlocked with steam admission valves MS 107 and MS 107A. These switches are designed to initiate closure of these four steam admission valves (or to maintain closure if already closed) in the event they detect low pressure. As initially designed, the steam admission valves were closed, and opened in response to a steam and feedwater rupture control system (SFRCS) signal. The pressure switches, originally in the tripped position because of sensing ambient pressure moved into the untripped position as a result of the pressure of the steam being admitted. Thereafter, a break in a steam admittance line which results in a lower pressure would cause the pressure switches to move into the tripped position, initiating closure of the steam admittance valves in the broken line.

It should be noted that the two air-operated valves, MS 5889 A and B shown on Figure 1 downstream of the pressure switch interlocks, were not part of that original design; they were introduced as part of the new design after the June 9, 1985 LOFW event and supplemented two manually operated valves which were kept in the open position. The new design also required that steam admittance valves MS 106A and 107A be kept open with MS 5889 A and B in the closed position. This has the effect of maintaining steam pressure in the lines up to valves MS 5889 A and B. Thus, while the pressure switches previously had to switch position from tripped to untripped in order to permit AFW system operation, now they remain in the untripped position and only operate (trip) in the event of a low pressure signal to shut off steam flow to the broken line.

Therefore, the AFPT inlet steam pressure interlocks are no longer required for the AFW system to be operable.

3.0 EVALUATION

A. Change to Technical Specification (TS) 3.7.1.2.

The change made to TS 3.7.1.2 separates the action statement resulting from a failed interlock from that resulting from a failure of a portion of the AFW system. We find this acceptable since interlock actuation is not required for AFW system operation.

In addition, the change requires that an inoperable interlock be returned to operable status within 7 days or be in hot shutdown within 12 hours thereafter. We find this in accordance with Standard Technical Specifications and, thus, acceptable.

B. Change of TS 4.7.1.2 to 4.7.1.2.1

This change separates the demonstration of operability requirements for the AFW system (now in TS 4.7.1.2.1) from that for the interlocks (added TS Section 4.7.1.2.2). We find this change acceptable since the interlocks are now separate from the AFW system.

C. Deletion of Mention of Interlocks in Previous TS 4.7.1.2.d

This change is acceptable since the licensee has demonstrated separability of AFW system operation from the interlocks. Further, the licensee has maintained the operability requirements for the interlocks in a new TS 4.7.1.2.2.

D. Addition of TS 4.7.1.2.2

This change identifies the specific operability requirements for the AFW pump turbine inlet steam pressure interlocks separately from the AFW pump suction pressure interlocks. The TS indicates the requirement for performance of a channel functional test at least once per 31 days and a channel calibration test at least once every 18 months which are the same as previously specified. We find this change consistent with the Standard Technical Specifications and, therefore, acceptable.

E. Addition of Sentence to B 3/4 7.1.2

As stated above, the licensee has demonstrated that the steam pressure interlocks are required only for a steam line break and are not required for AFW system operability. Therefore, the addition of the sentence to this effect in the bases is acceptable.

Based on the above, the staff finds that the changes to the Technical Specifications proposed by the licensee regarding the AFPT inlet steam pressure interlocks are in accordance with the Standard Technical Specifications and system design requirements and are, therefore, acceptable.

4.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, 51.32, and 51.35, an environmental assessment and finding of no significant impact has been prepared and published in the Federal Register on April 21, 1989 (54 FR 16176). Accordingly, based upon the environmental assessment, the Commission has determined that the issuance of this amendment will not have a significant effect on the quality of the human environment.

5.0 CONCLUSION

The staff has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

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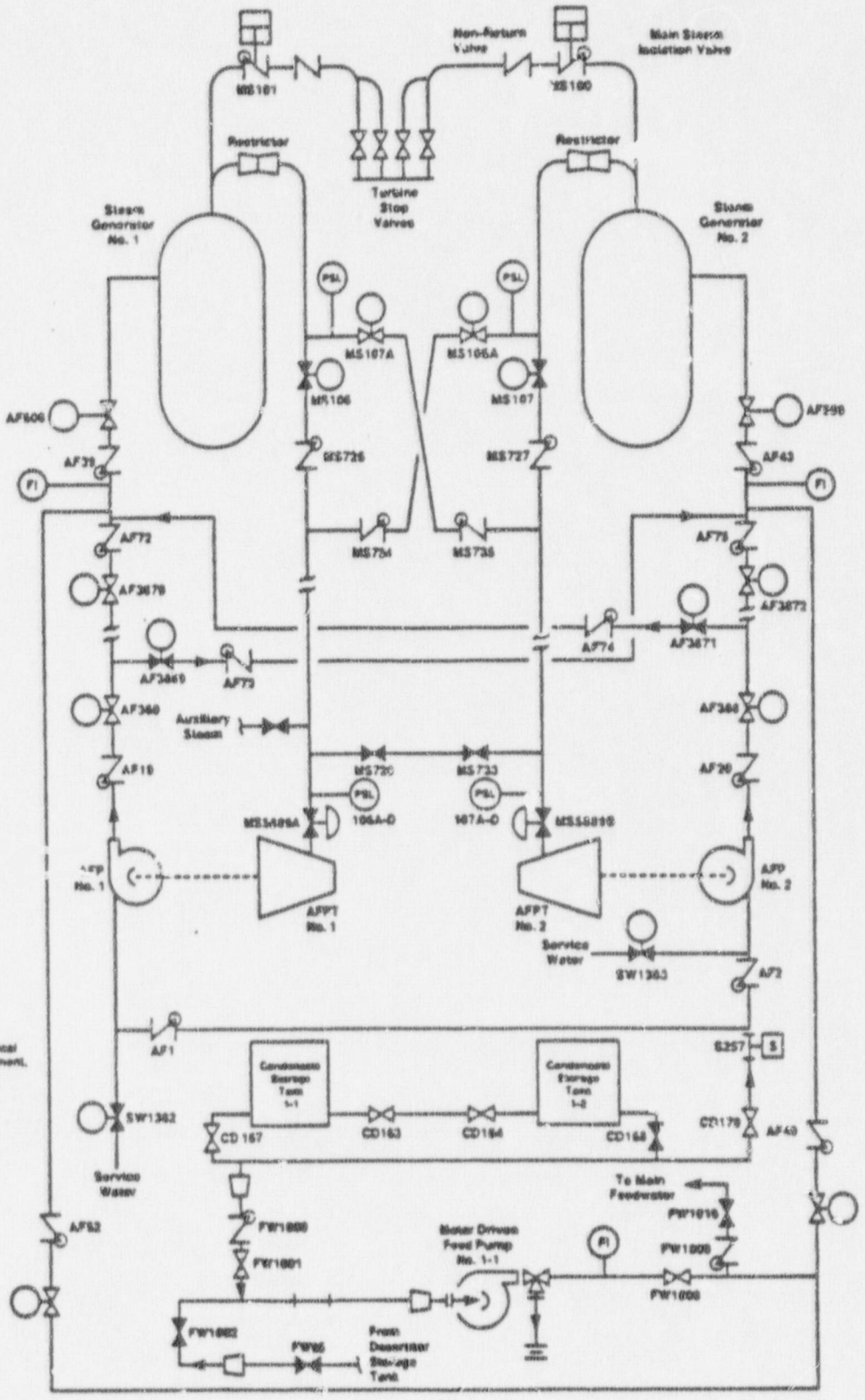
Dated: April 25, 1989

Attachment: Figure 1

FIGURE 1

Davis-Besse
Auxiliary and Motor Driven Feedwater Systems



*Subject to acceptable analytical verification, design development, and NRC approval.