

May 17, 1974

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Mr. John F. O'Leary, Director  
Directorate of Licensing  
Office of Regulation  
U. S. Atomic Energy Commission  
Washington, D. C. 20545

Dear Mr. O'Leary:

ABNORMAL OCCURRENCE NO. 250-74-7

MAY 17, 1974

OCCURRENCE DATE: MAY 8, 1974

TURKEY POINT UNIT NO. 3

MALFUNCTION OF AUXILIARY FEEDWATER PUMPSA. CONDITIONS PRIOR TO OCCURRENCE

The reactor was in routine power operation at 98% power.

B. DESCRIPTION OF OCCURRENCE

At approximately 10:37 A.M., May 8, 1974, an attempt was made to test start the three auxiliary feedwater pumps (AFP) from the Unit 3 control console. The console indicated that all three motor operated valves were open, thus allowing steam to drive the auxiliary feedwater pump turbines; however, the "A" and "B" AFP's failed to start and the "C" AFP started but tripped when the operator attempted to feed the steam generators. Several additional attempts were made to start the auxiliary feedwater pumps, however, each attempt produced similar results. The ensuing investigation revealed that the "A" and "B" AFP's were mechanically bound and that the "C" AFP turbine regulating valve pneumatic controller and governor assembly were malfunctioning.

C. CAUSE OF OCCURRENCE

All three AFP's had been tested satisfactorily on May 7, 1974, according to Operation Procedure OP7304.1 which is the monthly test. After the test, the pump packing was adjusted on the "A" and "B" pumps. Apparently, the packing was tightened with the pumps secured, and packing was tight enough to prevent the pumps from starting. The pumps were not tested for operability after the packing was tightened.

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The exact cause of the "C" AFP malfunction could not be determined immediately. The initial investigation on May 8, 1974, identified dirty governor linkage as the most likely cause of the malfunction. The linkages were cleaned, oiled and appeared to be operating normally because the "C" AFP was then tested and performed satisfactorily.

D. ANALYSIS OF OCCURRENCE

Both Unit 3 main feedwater pumps were operational during the time when the auxiliary feedwater pumps were inoperable. Therefore, neither reactor safety nor the health and safety of the public were jeopardized by this occurrence.

E. CORRECTIVE ACTION

The immediate corrective action consisted of the following:

- a. The "A" auxiliary feedwater pump packing was temporarily loosened and the pump was tested with satisfactory results.
- b. The "B" AFP was repacked and tested with satisfactory results.
- c. The "C" AFP governor linkages were cleaned, oiled and exercised and the pump was tested and performed satisfactorily.

In that all three AFP's performed satisfactorily when tested on May 8, 1974, it appeared that the causes of auxiliary feedwater pump failures had been corrected.

The packing was replaced on the "A" AFP on May 9, 1974. However, when the pump was tested following the packing replacement a sticking governor linkage was discovered. The linkage was cleaned and oiled and the pump was then tested and performed satisfactorily.

When the "C" AFP again malfunctioned during a test start on May 15, 1974, and again on May 16, 1974, the ensuing investigation revealed a pneumatic controller/governor response problem. The governor was rigorously exercised via rapid adjustments of the compensating needle to dislodge any foreign matter that might cause the sluggish operation of the governor assembly. The pneumatic controller output air signal to the governor was also boosted to compensate for the governor sluggishness. The "C" AFP was then tested three consecutive

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times on May 16, 1974, and performed satisfactorily. At the same time, the "A" and "B" AFP's were also tested with satisfactory results.

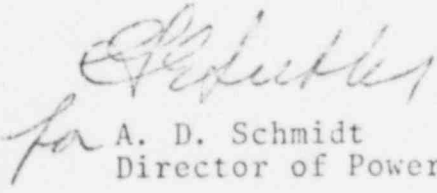
In view of the fact that the failures of the "A" and "B" AFP's have been attributed to improperly performed maintenance, the Plant Manager will issue a directive defining precautionary requirements which shall be met prior to releasing work documentation on safety related systems.

In the future, all preventive maintenance schedules for safety related equipment will be more conspicuously designated as safety related, and the necessity to adhere to the forthcoming precautions will be emphasized to all maintenance personnel.

F. FAILURE DATA

This is the first malfunction of this type at Turkey Point since operational testing.

Very truly yours,

A. D. Schmidt  
Director of Power Resources

DWR/kmw

cc: Mr. Norman C. Moseley  
Mr. Jack R. Newman