8005020273

Southern California Edison Company

P. O. BOX 800
2244 WALNUT GROVE AVENUE
ROSEMEAD, CALIFORNIA 91770

K. P. BASKIN
MANAGER, NUCLEAR ENGINEERING
AND LICENSING

TELEPHONE
(213) 572-1401

April 29, 1980

Director of Nuclear Reactor Regulation
Attention: D. L. Ziemann, Chief
Operating Reactors Branch No. 2
Division of Operating Reactors
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Gentlemen:

Subject: Docket No. 50-206
Automatic Initiation of Auxiliary Feedwater System
San Onofre Nuclear Generating Station
Unit 1

By letter dated April 3, 1980, you provided further information regarding the implementation of the requirements set forth in Item 2.1.7.a of NUREG-0578, "Automatic Initiation of Auxiliary Feedwater Systems." Your letter specifically requested that we submit information concerning our plans to:

1. install, by no later than June 1, 1980, a control grade system to automatically initiate Auxiliary Feedwater System (AFWS) flow that complies with the seven "short term" criteria of NUREG-0578,

2. submit, by no later than June 1, 1980, documentation (i.e., design details) describing the method of implementing the control grade system discussed in 1 above,

3. verify, by no later than June 1, 1980, in accordance with the NRC August 8, 1979 letter "Adequacy of Station Electric Distribution System Voltages" that the addition of the AFWS loads discussed in 1 above does not compromise the emergency diesel generators,

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4. submit, in a timely manner, an assessment of the safety impact of automatically initiating AFWS flow on the safety analysis for San Onofre Unit 1 to allow sufficient time for the NRC staff to complete their review and issue a safety evaluation prior to June 1, 1980,

5. upgrade, by no later than January 1, 1981, the control grade system discussed in 1 above in accordance with safety grade requirements, and

6. submit, in a timely manner, the design details of the safety grade system discussed in 5 above so that NRC approval and subsequent implementation can be completed by January 1, 1981.

Your April 3, 1980 letter requested that we provide the information concerning our plans to implement each of the requirements discussed above as soon as possible but no later than April 29, 1980. Furthermore, you indicated that if we are unable to commit to meeting each of the requirements we must provide justification therefore.

Accordingly, submitted below is the requested information concerning our plans to implement the requirements established by your April 3, 1980 letter. The information has been organized to correspond to the enumeration of the requirements discussed above.

1. During a telephone discussion with members of the Regulatory staff on March 19, 1980, we stated that a control grade system to automatically initiate AFWS flow that complies with the seven "short term" criteria of NUREG-0578 could not be installed by June 1, 1980. We indicated that current engineering/procurement activities associated with the installation of the control grade system might support an outage on or after January 1, 1981 to complete the installation. A commitment for such an outage will be dependent not only on the completion of engineering/ procurement activities but will also be dependent on preparations for other plant design modifications and/or maintenance as well as system and regional reliability considerations. During our telephone discussion on March 19, 1980, we identified assumptions which form the basis for a conclusion that engineering/procurement activities associated with the installation of the control grade auxiliary feedwater system automation modifications would support an outage on or after January 1, 1981. Those assumptions include, but are not necessarily limited, to the following:

   a. longest procurement lead time for necessary equipment (i.e., solenoid valves currently on order) is estimated as forty weeks,

   b. latest delivery quotations by Vendors are obtainable,

   c. orders for equipment are based on preliminary, conceptual engineering and these orders will not change during final engineering,

d. controls instrumentation, which had previously been procured for AFWS automation but have been utilized to complete the containment isolation modifications, can be successfully replaced,

e. piping will be borrowed from San Onofre Units 2&3 and will be field fabricated since Vendors require 26 weeks following receipt of drawings,

f. engineering activities can proceed without interferences from ongoing activities to complete final Category A Three Mile Island requirements during the current refueling outage or any new activities resulting from the inability to defer Category B Three Mile Island requirements into the Systematic Evaluation Program,

g. abbreviated Three Mile Island design review procedures will continue to be utilized.

Subsequent to the telephone discussion of March 19, 1980, it was determined that it may be possible to install a safety grade system during an outage on or after January 1, 1981. The completion of this upgraded modification is contingent on the procurement of material and equipment which meets the safety grade requirements. However, in order to complete the automation of the AFWS during an outage on or after January 1, 1981, control grade equipment will be used where the procurement of safety grade equipment is not possible. A subsequent upgrade for any control grade equipment which is used in the installation will be accomplished as indicated in 5 below.

It is expected that the engineering activities to support the procurement of safety grade equipment to be installed during an outage on or after January 1, 1981 can be completed by August 1, 1980. In addition, orders which are being placed for long lead time material, based on the preliminary, conceptual engineering discussed above, are expected to support a delivery date of December 1, 1980.

It is important to reemphasize that our ability to support an outage on or after January 1, 1981 to complete the safety grade system is dependent on each of the above assumptions. We will notify you of any changes in this completion schedule. It should also be noted that an outage on or after January 1, 1981, represents the earliest possible effort which can be undertaken to install an automatically initiated AFWS. The installation of an automatically initiated AFWS which involves only control grade equipment would not result in an earlier implementation date than the schedule which is proposed for a safety grade system.

2. As discussed in 1 above, a control grade system cannot be installed by June 1, 1980. Accordingly, the design details for the safety grade system to be installed subsequent to June 1, 1980, will be provided as indicated in 6 below.

3. By letter dated April 11, 1980, we indicated that the information requested by the NRC August 8, 1979 letter "Adequacy of Station Electric Distribution" will be submitted by May 1, 1980. This information will be reviewed to verify that the addition of the AFWS loads does not compromise the emergency diesel generators. It is expected that the review can be completed and the results submitted by June 1, 1980. Based on a preliminary evaluation, it is expected that the review will verify that such addition will not compromise the emergency diesel generators. However, if the review shows that the emergency diesel generators will be compromised, we will provide a schedule and plans for correcting the deficiency. In addition, if the review alters the information to be provided by our May 1, 1980 submittal, we will modify the submittal accordingly. It is expected that any corrective actions resulting from our review, if required, can also be submitted by June 1, 1980.

4. During the aforementioned March 19, 1980 telephone discussion with members of the Regulatory staff, we stated that we had been and would continue to do whatever possible to expedite the completion of safety analyses supporting plant modifications to provide automatically initiated AFWS flow. By letter dated January 16, 1980, we indicated that the analyses requested by your December 21, 1979 letter would be completed and the results submitted by October 1, 1980.

   By letter dated April 18, 1980, we provided initial information obtained from scoping studies performed as a first part of the analyses in order to make results available as quickly as possible. We indicated that the scoping studies were performed with certain overly conservative assumptions including non-plant specific information, and that the preliminary results show that for the conservatively assumed worst break of the main steam line without auxiliary feedwater included, the peak pressure inside containment may exceed the design basis pressure for the containment. As indicated in our April 18, 1980 letter, revised scoping studies are expected to be completed by May 16, 1980 using revised input assumptions with some of the excessive conservatisms removed and with plant specific information incorporated. These revised scoping studies will also reflect the impact of automatically initiating AFWS flow.

   During telephone discussions with members of the Regulatory staff on April 18, 1980 and April 22, 1980, we requested that a meeting be scheduled during the week of April 28, 1980. This meeting would be held to review (1) the preliminary results of the initial scoping studies, (2) the input assumptions and expected results of the revised scoping studies, and (3) corrective measures being evaluated which would assure the integrity of the main stream lines and maintain the calculated peak pressure below the design basis containment pressure.

As indicated to members of the Regulatory staff during the aforementioned telephone discussions and reiterated in our April 18, 1980 letter, the scoping studies are being performed as a first part of the analyses requested by your December 21, 1979 letter. Based on continuing expediting efforts to date, we are unable to modify the October 1, 1980 date for the submittal of the complete analytical results requested by your December 21, 1979 letter. However, submittal of the complete analytical information by October 1, 1980 provides sufficient time to allow the NRC staff to complete their review and issue a safety evaluation prior to installation of the safety grade system which could be completed during an outage on or after January 1, 1981 as discussed in 1 above.

5. As discussed in 1 above, we are proceeding with plans for installation of a safety grade system during an outage on or after January 1, 1981. As part of the efforts to install this modification, it is our goal to use equipment which meets safety grade requirements where such equipment can be obtained on a schedule which supports installation on or after January 1, 1981. If material availability constraints lead to the use of equipment which does not meet all safety grade requirements, a qualification program will be implemented to qualify the equipment to meet safety grade requirements. Since the information required to finalize a qualification program (i.e., extent of control grade equipment installed, qualification required and schedule) will not be available until the modifications have been installed, a completion schedule for upgrading any control grade equipment used, cannot be established at this time. We will submit a description of the qualification program, including a completion schedule, in a timely manner as soon after installation of the modifications as is practicable.

6. The overall engineering design activities required to finalize the design details for the safety grade system are expected to be completed by October 1, 1980. Therefore, it is expected that we can submit the design details documenting our method of implementing these modifications by October 15, 1980.

If you have any questions, or desire further information concerning the above plans, please contact me.

Very truly yours,

W P Bushm