



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

October 24, 1979

Docket Nos: 50-269, 50-270, 50-287,
50-289, 50-302, 50-312,
50-313, 50-346

MEMORANDUM FOR: S. Israel, Leader Systems Group, B&OTF

FROM: R.A. Capra, B&W Project Manager, Project Management Group

THRU: *W.F. Kane*, Acting Leader, Project Management Group, B&OTF

SUBJECT: UPGRADE OF ANTICIPATORY REACTOR TRIP - B&W OPERATING PLANTS

By our letter to all B&W operating plant licensees, dated September 7, 1979, we requested that licensees review their schedule for installing the safety-grade anticipatory reactor trip for loss of feedwater and turbine trip. We informed them that if the safety-grade trip could not be installed within approximately 6 months following NRC approval, they would have to upgrade the control-grade trip, as an interim measure. In addition, we requested licensees respond to the request for additional information enclosed with the letter.

We have received responses from all licensees (Enclosures 1 through 6). All licensees, except TMI-1, state that they can meet the six months installation schedule. Answers to our RAI are also contained in the licensees' responses.

It is requested that Enclosures 1 through 6 be reviewed for acceptability. Requested completion date is November 15, 1979.

Please contact me at X-27745 if additional information is needed.

Enclosures:

- 1-Duke Power Co. ltr of 10/05/79
- 2-AP&L ltr of 10/08/79
- 3-SMUD ltr of 10/05/79
- 4-FPC ltr of 10/02/79
- 5-TECO ltr of 10/03/79
- 6-Met-Ed ltr of 09/28/79

R.A. Capra
R.A. Capra, B&W Project Manager
Project Management Group
Bulletins & Orders Task Force

cc:

D. Ross
T. Novak
W. Kane
D. Thatcher

8007240208

RA Capron

DUKE POWER COMPANY
POWER BUILDING
422 SOUTH CHURCH STREET, CHARLOTTE, N. C. 28242

WILLIAM O. PARKER, JR.
VICE PRESIDENT
STEAM PRODUCTION

TELEPHONE AREA 704
373-4083

October 5, 1979

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Mr. R. W. Reid, Chief
Operating Reactors Branch #4

Re: Oconee Nuclear Station
Docket Nos 50-269, -270, -287

Dear Sir:

In a letter dated May 21, 1979, a system design description for a safety grade anticipatory reactor trip on turbine trip or loss of main feedwater was submitted for Oconee Nuclear Station. This was provided pursuant to my letter of April 25, 1979, Mr. W. S. Lee's letter of April 26, 1979, the NRC Order of May 7, 1979, and IE Bulletin 79-05B.

Subsequently, in a letter dated September 7, 1979, the NRC staff requested additional information in order to approve the conceptual safety grade design. Attached please find our response to this request.

Of particular concern to the staff was the lengthy lead time for installation. Currently, it is anticipated that material will be available on site for installation within six months of NRC approval of the design. Equipment that can be installed with the unit on-line will be installed as practical following receipt on site. The entire modification will be completed on each unit the first available outage of sufficient duration following receipt of all components.

Very truly yours,

William O. Parker, Jr.
William O. Parker, Jr.

RLG:vt
Attachment

ELECTRICITY FOR
DUKE

DUPLICATE DOCUMENT

Entire document previously entered into system under:
ANO 7910120171
No. of pages: 24



ARKANSAS POWER & LIGHT COMPANY
POST OFFICE BOX 551 LITTLE ROCK, ARKANSAS 72203 (501) 371-4000

October 8, 1979

1-109-8

Director of Nuclear Reactor Regulation
ATTN: Mr. R. W. Reid, Chief
Operating Reactor Branch #4
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Arkansas Nuclear One-Unit 1
Docket No. 50-313
License No. DPR-51
Anticipatory Reactor Trips
(File: 1510)

Gentlemen:

Our letter of May 21, 1979, provided a conceptual safety-grade design for initiating reactor trips upon loss of main feedwater and/or turbine trip. Your letter of September 7, 1979, requested additional information regarding our proposed design. This letter provides the requested information.

As indicated in the enclosed responses, our schedule for equipment procurement allows implementation of the safety-grade design within approximately six (6) months of NRC approval. Therefore, no proposed improvements in the current control-grade trip are necessary as your safety-grade schedule can be met.

Very truly yours,

David C. Trimble

David C. Trimble
Manager, Licensing

DCT:DGM:nak

Attachment

DUPLICATE DOCUMENT

Entire document previously
entered into system under:

ANO 79101505316

No. of pages: 25

Division of Nuclear Reactor Regulation
Attention: Mr. Robert W. Reid, Chief
Operating Reactors, Branch No. 4
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

DocId: No. 50-312
Palo Verde Nuclear Generating
Station, Unit No. 1

Dear Mr. Reid:

As requested by your letter of September 7, 1979, the Sacramento Municipal Utility District reviewed the implementation schedule for the safety grade anticipatory reactor trip at Palo Verde Unit No. 1. The review shows that the District can obtain hardware and be prepared to install the change within twenty-six weeks of approval of the design. Furthermore, the District intends to install the change at the first maintenance outage after preparation is complete.

In reply to the questions asked in the enclosure to your letter, the District provides this design information:

- Question 1. For your proposed design, state the degree of conformance with the acceptance criteria listed in Column 7.2 of Table 7-1 ("ACCEPTANCE CRITERIA FOR CONTROLS") of the Standard Review Plan. Justify any non-conformance.
- Question 2. Provide a discussion of the following:
- design basis information required by Section 3 of IEEE-279-1971, and
 - conformance with the design requirements of Section 4 of IEEE-279-1971.

Response to Questions 1 and 2

The proposed design for safety grade independent and independent channels will include the turbine. This equipment will tripping of both main feedwater pumps mounted equipment will be installed existing four channel RPS-I. As such designed in accordance with the design with the acceptance criteria and the

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ANO

7910160465

No. of pages:

26

**Florida
Power**
CORPORATION

October 2, 1979

File: 3-C-3-a-3

Mr. Robert W. Reid, Chief
Operating Reactors Branch No. 4
Division of Operating Reactors
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: Crystal River Unit 3
Docket No. 50-302
Operating License No. DPR-72

Dear Mr. Reid:

On September 19, 1979, Florida Power Corporation received your letter dated September 7, 1979 requesting additional information concerning the upgrade of the anticipatory reactor trips on turbine trip or loss of main feedwater at Crystal River Unit 3.

You specifically requested Florida Power Corporation to provide the additional information identified in the enclosure of your letter and evaluate the possibility of improving the installation schedule for the safety grade anticipatory trips previously identified in our response to IE Bulletin 79-05B.

In that regard, enclosed is our response to Items 1-9 identified in the enclosure of your letter.

Our previous implementation schedule for this design modification was approximately 12 months following NRC approval of our proposed design. This schedule was based on the long lead times necessary for the manufacture, delivery and installation of safety grade equipment. As indicated in our response to Item 5, we have been able to locate some existing qualified equipment from a utility who is experiencing delays in construction of its nuclear plant. These components can be delivered to CR#3 within 22 weeks from the time of NRC approval. The installation of this equipment following refueling outage or outage of unit following receipt of the equipment schedule is consistent with your

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ANO 7910100361

No. of pages: 26

Bob Capra

File: 0017, 0028A

Docket No. 50-346

License No. NPF-3

Serial No. 540

October 3, 1979



LOWELL E. ROE
Vice President
Facilities Development
(419) 259-5242

Director of Nuclear Reactor Regulation
Attention: Mr. Robert W. Reid, Chief
Operating Reactors Branch No. 4
Division of Operating Reactors
United States Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Reid:

This letter is in response to your September 7, 1979 request for additional information on the upgrading of the anticipatory reactor trip system (ARTS) at the Davis-Besse Nuclear Power Station, Unit 1 (DB-1).

Toledo Edison is designing and purchasing an ARTS which will be separate from the Babcock and Wilcox reactor protection system. The original design was submitted on May 21, 1979 (TECo letter Serial No. 1-71). Since that time the design has been modified to incorporate recent reactor trip experience. Details are provided in the attached response to item 6 with the enclosed revision 1 to Bechtel Co. Drawing No. SK-E-410. The modifications provide improved testability and remove a low reactor power block signal. The revised design only blocks the turbine trip signal below 20% power. Loss of feedwater signals remain effective at all power levels.

In order to expedite as much as possible the installation of the safety grade trip system, Toledo Edison has already issued the design for vendor bids. If there are no changes in the proposed system as a result of the NRC design review, the schedule may be able to meet your requested improved installation date of six months after NRC approval. At this time such an improvement is tenuous and cannot be committed to. In lieu of that assurance, attachment A provides an identification and discussion of a modification to the interim ARTS system that could be provided within six months of your concurrence.

Very truly yours,

Lowell E. Roe
LER/TJM

Enclosure

pp a/18

DUPLICATE DOCUMENT

Entire document previously
entered into system under:

ANO

7910120235

No. of pages:

18



Metropolitan Edison Company
Post Office Box 480
Middletown, Pennsylvania 17057
717 944-4041

Writer's Direct Dial Number

September 28, 1979
GOL 1218

2259.1.2

Director of Nuclear Reactor Regulation
Operating Reactor Branch #4
U. S. Nuclear Regulatory Commission
Washington, DC 20555

Attention: R. W. Reid, Chief

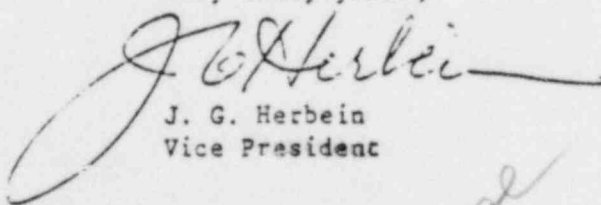
Dear Sir:

SUBJECT: THREE MILE ISLAND NUCLEAR STATION UNIT 1
DOCKET NO. 50-289
LICENSE NO. DPR-50
ANTICIPATORY REACTOR TRIP UPGRADING

Your letter concerning the subject reactor trip requested that Met-Ed provide information on any improvements proposed for the control grade trip in the event that it could not be upgraded to safety grade within about 6 months. Met-Ed plans to install the B&W proposed safety grade trip system at TMI-1. Discussions with B&W indicate that the delivery of equipment necessary to implement the design may not be consistent with TMI-1 restart.

In order to provide a high quality trip system prior to startup we plan to upgrade the trip system that is described in the TMI-1 Restart Report (Section 2.1.1.1). The upgrading will include at a minimum redundancy of sensors and logic as well as a provision for testability. The details of the upgrading will be provided with a future amendment to the Restart Report. In addition, the safety grade trip system that will replace the control grade system will be described in Section 2.1.2 of the Restart Report. Responses to the nine questions in the enclosure of your letter will be provided as well.

Very truly yours,


J. G. Herbein
Vice President

cc: H. Silver
D. DiIanni

dup

7910050545

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*A001
5/10*