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 50-323 Diablo Canyon Nuclear Power Plant, Unit 2, Pacific Ga 05000323
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 DENTON, H. R. Office of Nuclear Reactor Regulation, Director (post 851125)

SUBJECT: Forwards info re radioactivity concentration monitor & boric acid charging flow meter, per NRC 851107 request for status of efforts to obtain environmentally qualified post-accident monitoring devices (Reg Guide 1.97 & Generic Ltr 85-15).

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 TITLE: OR/Licensing Submittal: Equipment Qualification

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 50-328 Diablo Canyon Nuclear Power Plant, Unit 2, Pacific CA 9200288
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 SHIPER: J.D. RECIPIENT AFFILIATION: Office of Nuclear Reactor Regulation, Director (post 85125)
 DENTON, H.R.

SUBJECT: Forwards info re radioactivity concentration monitor & boiler acid charging flow meter, per NRC 85107 request for status of efforts to obtain environmentally qualified post-accident monitoring devices (Rcd Guide 1 97 & Generic Ltr 85-12)

TITLE: OR Licensing Submittal: Equipment Qualification
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		BLVDSS	12	1	ELD SHIELDS, W	1	1
		02	12	1	MRR DR ADTS	1	1
		MRR BWR EB	1	1	MRR KARSCH, R	1	1
		MRR PWR-A ADTS	1	1	MRR PWR-A EB	1	1
		MRR PWR-B ADTS	1	1	MRR PWR-B EB	1	1
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		RONN	1	1			
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		PWC PDR	02	1	NSIC	02	1

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JAMES D. SHIFFER
VICE PRESIDENT
NUCLEAR POWER GENERATION

March 27, 1986

PGandE Letter No.: DCL-86-086

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

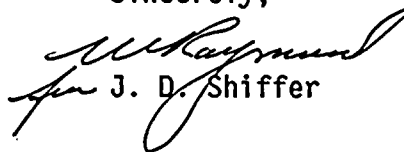
Re: Docket No. 50-275, OL-DPR-80
Docket No. 50-323, OL-DPR-82
Diablo Canyon Units 1 and 2
Generic Letter 85-15, Regulatory Guide 1.97 Equipment

Dear Mr. Denton:

In letter dated November 7, 1985, the Staff requested that PGandE inform the NRC what specific efforts have been undertaken to obtain two environmentally qualified post-accident monitoring devices in accordance with the guidance of Regulatory Guide 1.97. The two pieces of equipment are the radioactivity concentration monitor in the circulating primary coolant and the boric acid charging flow meter. The status of PGandE's activities regarding these two items is provided in the enclosure.

Kindly acknowledge receipt of this material on the enclosed copy of this letter and return it in the enclosed addressed envelope.

Sincerely,


for J. D. Shiffer

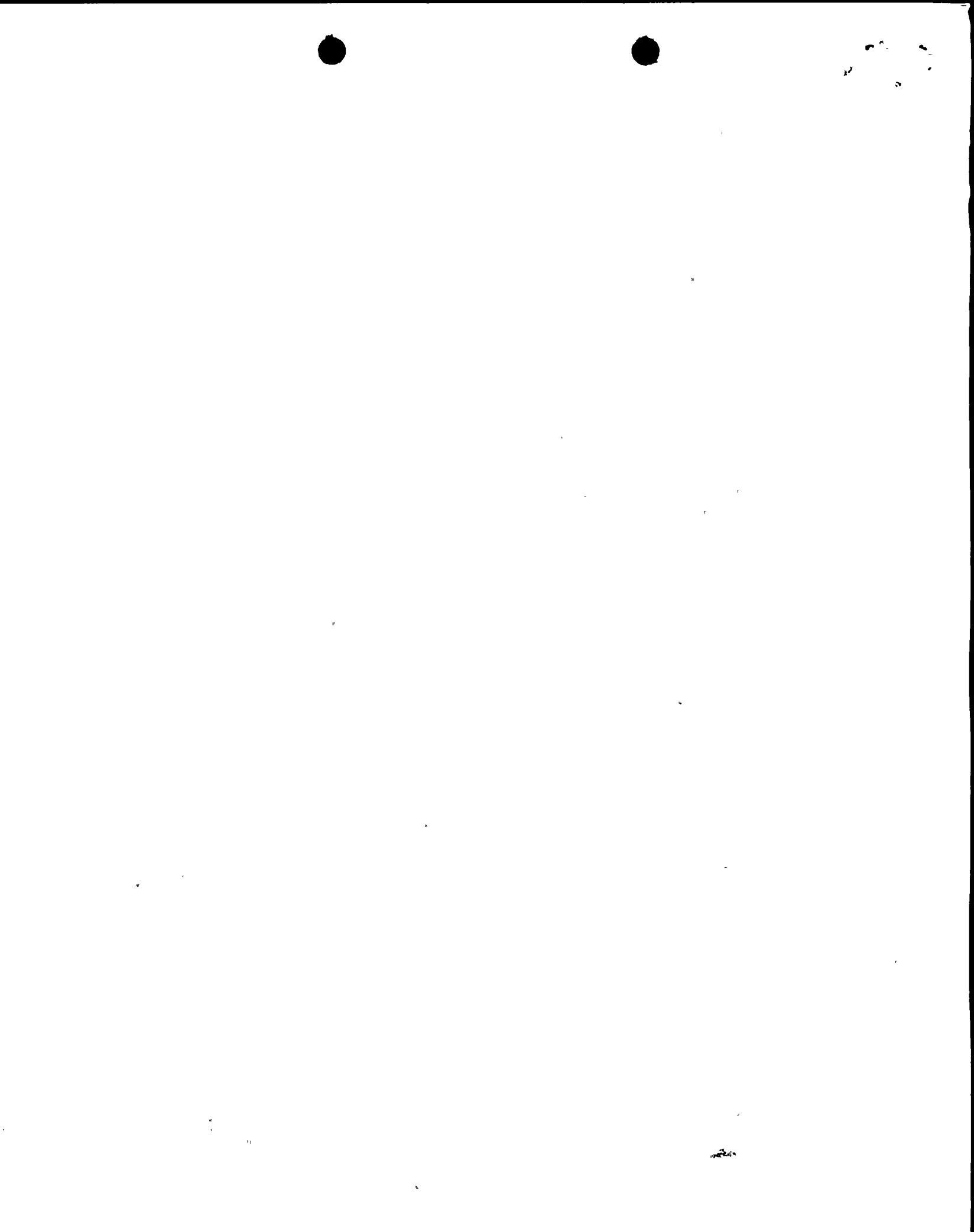
Enclosure

cc: L. J. Chandler
R. T. Dodds
J. B. Martin
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CPUC
Diablo Distribution

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ENCLOSURE

Status of Activities

1. Radioactivity concentration monitor in the circulating primary coolant.

PGandE has contacted all the major suppliers of radiation monitors for nuclear plants. To date, no detectors are available which meet the intent of Regulatory Guide (RG) 1.97.

PGandE has evaluated the current situation with respect to complying with the guidance of RG 1.97 on this item, which is to provide post-accident detection of a breach in the fuel cladding. In an accident condition, the subject monitor has to provide information about reactor coolant activity while functioning in a high radiation background caused by airborne radioactivity. In addition, in order to quickly assess post-accident reactor coolant activity, it would be necessary to use the monitor during normal operation to establish a proper baseline. During such normal operation the monitor is exposed to high ambient Nitrogen-16 inventory, which will not be present after an accident. Currently available instruments are not able to discriminate between these different conditions in order to provide meaningful information after an accident. PGandE also has determined from discussions with equipment vendors that manufacture of such a qualified monitor appears unlikely.

Therefore, PGandE has reassessed the guidance of RG 1.97 to determine whether a more practical and available alternative method exists for complying with the intent of RG 1.97. As a result, PGandE has identified the following existing methods which can readily provide the information needed to assess cladding failures:

- Before a containment isolation signal (CIS) is received, the Gross Failed Fuel Detection System will detect cladding failures.
- During an accident, rapid assessment of cladding failures can be obtained by the use of the Containment High-Range Area Radiation Monitors in conjunction with Emergency Procedure EP RB-14, the "Core Damage Assessment Procedure."
- After a CIS has occurred, the Post Accident Sampling System is used in conjunction with EP RB-14 to provide a detailed assessment of the reactor coolant inventory and degree of cladding failure.

PGandE has determined that these several methods, when assessed in conjunction with one another, can provide the same degree of monitoring capability that is specified by RG 1.97. Consequently, in the absence of a qualified radioactivity monitor, it is currently PGandE's intent to utilize the above alternative means for providing this monitoring function.



3
2
1

2. Boric acid charging flow meter.

Currently, Diablo Canyon utilizes a magnetic flowmeter in Unit 1 and an ultrasonic flow meter in Unit 2 to monitor boric acid flow. The existing magnetic flowmeter cannot be environmentally qualified. Furthermore, new magnetic flowmeters are not available which do meet environmental qualification requirements. The ultrasonic flowmeter is installed with the electronic portion of the meter mounted remotely in a mild environment and thus does not need to be environmentally qualified. Seismic qualification is not required since the meter is a Category 2 device. PGandE has performed an analysis of the transducer materials of the ultrasonic meter, which are installed in an area subject to harsh environment, and has found that the transducers, with some material changes, may be qualifiable.

PGandE is currently investigating whether the necessary material changes can be made without affecting meter performance. PGandE also is reviewing methods to perform the environmental qualification tests. If the transducers can be manufactured with these materials, PGandE plans to set up a program to qualify the transducers for this specific application.

Upon successful qualification of the transducers, the qualified versions will be installed in both units of Diablo Canyon. Installation will be accomplished during the first refueling outage after receipt of qualified transducers. In Unit 2, only the transducers would need to be changed to the qualified version since the ultrasonic flowmeter electronics are already installed in a mild environment. In Unit 1, the entire magnetic flowmeter will be replaced with the qualified version of the ultrasonic flowmeter. PGandE will inform the NRC upon completion of installation of the qualified equipment.



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