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SUBJECT: Forwards Amend Applications 119 & 193 to Licenses NPF-10 & NPF-15,respectively,consisting of Proposed Change Number PCN-397,revising License Conditions 2.C.(19)i & 2.C(17)d re post-accident sampling sys per NUREG-0737,Item II.B.3.

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October 2, 1992

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

Gentlemen:

Subject: Docket Nos. 50-361 and 50-362
Amendment Application Nos. 119 and 103
Changes to License Conditions 2.C.(19)i and 2.C.(17)d
Post Accident Sampling System
San Onofre Nuclear Generating Station
Units 2 and 3

References:

1) April 14, 1983, letter from Robert Dietch (SCE) to H. R. Denton (NRC), Subject: Docket Nos. 50-361 and 50-362, San Onofre Nuclear Generating Station, Units 2 and 3

2) NUREG-0737, "Clarification of TMI Action Plan Requirements"

3) June 30, 1982, letter from D. Crutchfield (NRC) to R. Dietch (SCE), Subject: NUREG-0737 Item II.B.3 Post Accident Sampling System

Enclosed are Amendment Application Nos. 119 and 103 to Facility Operating Licenses NPF-10 and NPF-15 for the San Onofre Nuclear Generating Station, Units 2 and 3, respectively. These amendment applications consist of Proposed Change Number (PCN)-397. PCN-397 is a request to revise License Condition 2.C.(19)i for Unit 2 and 2.C.(17)d for Unit 3, "Post Accident Sampling System (NUREG-0737 Item II.B.3)," to remove conditions already complied with, and to revise four Post Accident Sample System (PASS) requirements documented in reference 1. The information which would be provided by complying with these four requirements will be provided by different methods as discussed below.

A PASS was installed in 1981 as required by Units 2 and 3 license conditions 2.C.(19)i and 2.C.(17)d, respectively. The PASS was designed, as described in Reference 1 and consistent with the recommendations of NUREG 0737 (Reference 2), to monitor a number of significant plant parameters and aid in the assessment of post-accident conditions. The single PASS for both Units 2 and 3 consists primarily of analytical and sampling equipment mounted on a skid with an accompanying control panel. The skid mounted equipment has exhibited calibration drift between surveillance periods and has been difficult to maintain due to the congested design.

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Additionally, an offsite facility has been used for the chloride analysis of an undiluted grab sample of reactor coolant because the chloride analysis could not previously be performed on site within the required accuracy. However, shipping an undiluted sample offsite has inherent risks due to the handling and transport of potentially highly radioactive material. To make use of improvements in technology since the PASS was originally designed and alleviate the problems experienced with the original design, Southern California Edison (SCE) has developed a general upgrade plan for the PASS.

To complete implementation of the PASS upgrade plan, SCE requests that four PASS requirements be revised to indicate that information will be provided by different methods than previously used as follows:

1) Analyze dissolved total gas in the reactor coolant system (RCS).

SCE is required to analyze both dissolved total gas and dissolved hydrogen in the reactor coolant.

SCE proposes to no longer analyze dissolved total gas and use a more accurate and reliable method to measure dissolved hydrogen.

Both NUREG 0737, "Clarifications of TMI Action Plan Requirements," and Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," require either the dissolved hydrogen or the total gas of the reactor coolant be analyzed. If the coolant contains an abnormally large amount of hydrogen or gas, it suggests that inadequate core cooling may have resulted in a metal-water reaction. A new hydrogen analyzer has been installed which provides a more accurate and reliable measurement of dissolved hydrogen gas by measuring the dissolved hydrogen directly from the pressurized reactor coolant as opposed to the formerly used phase separation process. Because the dissolved hydrogen is more accurately measured and NUREG-0737 requires measurement of either the hydrogen or the total gas, the total gas measurement is not necessary and will be retired.

2) Maintain a cask suitable for shipping an undiluted reactor coolant sample to an offsite analysis facility.

SCE is required to maintain a cask to be used for shipping an undiluted reactor coolant sample to an offsite analysis facility. A chloride analysis of the undiluted sample would then be performed to the required accuracy within four days.

SCE proposes to no longer maintain this cask because ion chromatograph equipment on site is used to perform a chloride analysis on diluted samples with the necessary accuracy.

When the PASS was first implemented on Units 2 and 3 reactor coolant could not be analyzed for chloride on site with the required accuracy. An undiluted reactor coolant sample would be transported, using a cask, to General Atomic

Company in La Jolla, California so that chloride analysis could be performed within the required four days. Chloride analysis with an accuracy that meets NUREG 0737 requirements can now be provided on site from diluted samples. Performing the chloride analysis on site provides for site control of the analysis for faster analysis, allows for more frequent chloride sampling, and will remove the hazards associated with handling and shipping undiluted reactor coolant. Deleting the cask requirement will allow us to cancel our contract with General Atomics, which expires on April 30, 1993. In addition, SCE understands that General Atomics is considering shutdown of their hot cell facility in a few years.

3) Collect an undiluted grab sample of reactor coolant.

SCE is required to collect an undiluted grab sample of reactor coolant as a backup for chloride analysis.

SCE proposes to no longer collect an undiluted sample of reactor coolant. A diluted sample of reactor coolant will be used as the backup because ion chromatograph equipment provides the necessary chloride analysis accuracy.

Subsequent to NUREG 0737, the NRC issued a clarification letter to SCE (Reference 3). The clarification of Criterion 5 stated that "Samples diluted by up to a factor of one thousand (such as the existing San Onofre Units 2/3 PASS) are acceptable as initial scoping analysis for chloride." and "Additionally, if chloride analysis is performed on a diluted sample, an undiluted sample need also be taken and retained for analysis within 30 days, consistent with ALARA." This undiluted sample requirement is apparently meant to be used as the final chloride analysis, because, at that time, low concentrations of chloride could not be measured accurately from a diluted sample. The previous titrametric chloride analysis method has been replaced with an ion chromatograph which is used to perform the low concentration chloride analysis. With a dilution of 250 to 1, the reactor coolant chloride level can be detected as low as 0.5 ppm. Because the modified system performance will meet the existing criteria for chloride analysis of 10% accuracy between 0.5 ppm to 20 ppm, it is no longer necessary, or desirable from an ALARA perspective, to continue collecting undiluted samples of reactor coolant for analysis.

4) Maintain a PASS in-line containment atmosphere hydrogen analyzer.

SCE is required to maintain a separate PASS containment atmosphere hydrogen analyzer.

SCE proposes to delete the separate PASS containment atmosphere hydrogen analyzer by taking credit for other containment atmosphere hydrogen analyzers.

As required by NUREG 0737 item II.B.3, the current PASS has a non-safety related containment atmosphere hydrogen analyzer. However, San Onofre Units 2 and 3 also have environmentally qualified, safety-related, redundant, inside containment hydrogen monitors installed in accordance with NUREG 0737 item

II.F.1 which also satisfy the II.B.3 requirements. Therefore, to eliminate the need to maintain the redundant PASS monitor, we propose that the PASS containment hydrogen analyzer be deleted.

The new methods, which will provide the required PASS information as described above, are now operable. As stated above, our contract with General Atomics for analysis of undiluted reactor coolant samples will expire on April 30, 1993. Therefore, NRC approval of PCN-397 is requested before April 30, 1993.

If you have any questions on this subject, or need additional information, please let me know.

Sincerely,

Enclosure

cc: J. B. Martin, Regional Administrator, NRC Region V
C. W. Caldwell, NRC Senior Resident Inspector, San Onofre Units 1, 2 and 3
M. B. Fields, NRC Project Manager, San Onofre Units 2 and 3
D. H. Hickman, California Department of Health Services