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MURRAY R. EDELMAN
VICE PRESIDENT
NUCLEAR

September 30, 1985
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Mr. B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Perry Nuclear Power Plant Units 1 & 2
Docket Nos. 50-440; 50-441
10 CFR 50.59 Compliance

Dear Mr. Youngblood:

The purpose of this letter is to provide additional clarification to address the NRC staff concerns regarding CEI's program for performing the reviews required by 10CFR50.59 and Perry draft Technical Specifications. The attachments to this letter describe the procedures and programs which implement the required review process, as well as, enhancements of the existing programs to clearly delineate specific review criteria, and proposed changes to our draft Technical Specifications to reflect our programatic compliance with 10CFR50.59.

We believe that CEI's program fully satisfies the NRC requirements and this letter clarifying the application of 10CFR50.59 at the Perry Nuclear Power Plant should resolve the NRC staff concerns.

If you have any questions please feel free to call.

Very truly yours,

A. Kaplan for

Murray R. Edelman
Vice President
Nuclear Group

MRE:njc

cc: Jay Silberg, Esq.
John Stefano (2)
J. Grobe

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ATTACHMENTS

Attachment 1: 10CFR50.59 Applicability Check Discussion

Attachment 2: 10CFR50.59 Reviewer Qualification

Attachment 3: Recommended Changes to Technical Specifications

10CFR50.59 Applicability Check Discussion

I. Introduction

Technical Specifications require various reviews be conducted during the development process of certain procedures, instructions, design changes, tests or experiments. When required by 10CFR50.59, these reviews must include a determination of whether an unreviewed safety question is involved.

Currently in place are procedures and programs which implement the review process detailed and required by 10CFR50.59 and which are consistent with other plants recently licensed. The program developed to provide this review process was designed to allow the Plant Operations Review Committee (PORC) the flexibility to avoid being overwhelmed with nonessential reviews and yet provide the management guidance required for important topics. With this criteria in mind, a two stepped approach has been adopted. The first step is a properly conducted 10CFR50.59 Applicability Check. This determines the potential for an unreviewed safety question under the provision of 10CFR50.59. If the check results in all negative responses, the item under review cannot pose an unreviewed safety question under the provision of 10CFR50.59 and it is not needed to continue on to the second step. The second step of the process is the safety evaluation which allows a determination to be made whether or not the item under review does constitute an unreviewed safety question. Currently both steps undergo the scrutiny of more than one person, with as minimum a final approval of a General Supervisor/General Supervising Engineer (GS/GSE) who is normally a member of the PORC. It should also be noted that the individuals preparing the applicability checks and safety evaluations are specially trained and qualified.

II. Purpose

The purpose of this discussion is to promote a better understanding of 10CFR50.59 Applicability Checks (applicability checks) through a discussion of the process and thereby provide consistency and accuracy for those applicability checks prepared, reviewed and approved.

III. Discussion

Applicability checks are conducted to determine whether an item under review constitutes a change to the plant or programs as described in the FSAR. If the item under review constitutes a change to the plant or plant programs as described in the FSAR then the potential for an unreviewed safety question exists. The change is permitted by and processed in accordance with 10CFR50.59. Part of the 10CFR50.59 process is to conduct a safety evaluation which in turn allows a determination of whether the change in fact constitutes an unreviewed safety question (USQ). If no USQ exists, the item under review may be implemented without prior NRC approval. When it is determined a USQ exists, the change must be presented to the NRC, in the form of an application for license amendment, for approval prior to implementation.

The applicability check is comprised of four questions. The first three enable a determination to be made whether or not the item under review changes the plant or plant programs described in the Perry FSAR and thereby the licensing basis. The fourth question allows the same determination to be made for the Technical Specification. It is singled out however, because if the item under review is a change to Technical Specifications it may not be processed or conducted in accordance with 10CFR 50.59. Prior NRC approval must be obtained before implemenation.

Following is a discussion of each of the four applicability check questions. These discussions are based on the NRC Inspection and Enforcement Manual, Part 9800, Discussion of 10CFR50.59, (01/01/84) and IE Circular 80-18: 10CFR50.59 Safety Evaluation for Changes to Radioactive Waste Treatment Systems.

First Question: Is there a change to the plant as described in the FSAR?

This pertains to any changes in the plant which alter the design, function, or method of performing the function of a component, system, or structure described in the FSAR. This would apply to components, systems, and structures described either in the written portion of the FSAR, in the drawings contained therein, or implied by the reliance placed on a given system by other systems described in the FSAR. Contrasting examples of each case are:

(1) Components. Replacement of a thermocouple in the diesel high-bearing temperature automatic shutdown circuitry (whether or not such a component were described in the FSAR) with one made by the same manufacturer, but encompassing different response characteristics, would represent a change to the plant described in the FSAR.

On the other hand, replacement of a thermocouple in the diesel high-bearing temperature automatic shutdown circuitry (whether or not such a componenet were described in the FSAR) with one encompassing equivalent response characteristics, but made by a different manufacturer, would not represent a change to the plant as described in the FSAR.

(2) Systems. Modifications of the diesel shutdown circuitry (described in the FSAR) to provide an automatic diesel shutdown on high-bearing temperature (shutdown feature not described in application) represent a change to the plant as described in the FSAR. However, even if the methods of initiating automatic diesel shutdown are not described in the FSAR, the addition of an automatic shutdown feature represents a change to the plant as described in the FSAR. This change could cause the diesel to be unavailable during an accident described in the SAR which assumes the diesel is operable. Consequently, safety evalution would be required to meet the requirements of 10CFR50.59.

On the other hand, if the methods of initiating automatic diesel shutdown are not described in the SAR, specific automatic shutdown features may be rendered inoperable without the conduct of a safety evaluation under the requirements of 10CFR50.59, since they do not represent a change to plant as described in the FSAR.

(3) Structures. The erection of a concrete block shield wall within the containment building (shield wall is not described in the FSAR) would represent a change to the plant as described in the FSAR.

On the other hand, deletion of a shield wall within the containment building (shield wall not described in the SAR) would not represent a change to the plant as described in the FSAR, since no reliance was placed on the shield wall in the safety analysis.

(4) Jumpers/Lifted Leads. If it is determined that use of a jumper/lifted lead results in a change to the facility as described in the FSAR and that the resultant change will impact on safety of operation, then a safety evaluation is required. This approach should apply to all types of temporary modifications. Generally, if a plant system is changed by use of jumpers/lifted leads so that it will function differently than described/evaluated in the FSAR, a safety evaluation would be required.

On the hand, use of jumpers/lifted leads that result in plant conditions already analyzed and approved by NRC would not require a safety evalution. For example, bypassing protection channels in a manner already described in the FSAR would not constitute an unreviewed safety question and would not require a safety evaluation under the requirements of 10CFR50.59. It is expected that only a small percentage of jumpers/lifted leads will require a written safety evaluation.

Second Question: Is there a change to a procedure/instruction as described in the FSAR?

This pertains not only to procedures discussed in the initial operations and organizational chapters of the FSAR, but also to other procedural-type commitments, such as the emergency plan and modes and sequences of plant operation described in the FSAR. If a procedure/instruction results in a deviation from the steps listed in the FSAR, results in a system operation which deviates from the way that system is described/evaluated in the FSAR, then a safety evaluation should be performed. Contrasting examples of the above follow.

(1) If in the description of the radioactive waste system in the FSAR, it is stated that the Shift Supervisor will authorize all radioactive liquid releases, a safety evaluation to meet the requirements of 10CFR50.59 would be requried before assigning this function to another individual. On the other hand, if the FSAR merely states that radioactive liquid releases will be authorized as detailed by plant procedures/instructions, the redesignation of the authorization function would not require a safety evaluation under the requirements of 10CFR50.59, because there would be no change to a procedure/instruction as described in the FSAR.

(2) If the reactor startup procedure, as described in the FSAR, contains eight fundamental sequences, the decision to eliminate one of the sequences would require a safety evaluation to meet the 10CFR50.59 requirements. On the other hand, if the eight fundamental sequences were consolidated but did not alter the basic functions performed, it would not be necessary to conduct a safety evaluation under the requirements of 10CFR50.59, because there would be no change to a procedure/instruction as described in the FSAR.

(3) If there is not an explicit description of the Residual Heat Removal (RHR) system operating instruction in the FSAR, but a change is made to the operating instruction which would cause the RHR system to be operated in a mode not assumed and evaluated in the FSAR, then a safety evaluation would be required to meet the requirements of 10CFR50.59

Third Question: Is there a test or experiment not described in the FSAR?

This pertains to the performance of an operation not described in the FSAR which could have an adverse effect on safety-related systems. Contrasting examples of such tests or experiments are:

(1) Some plants in the startup testing program have performed a deboration to critical with all rods inserted. Since this test is performed without deference to the "one stuck rod criterion," a safety evalution to meet the requirements of 10CFR50.59 would be required if the test is not delineated in the SAR. Since this test may decrease the margin of safety defined in the TS basis, it should, in most instances, be classified as an unreviewed safety question. On the other hand, a test to demonstrate the calibration of the nuclear instrumentation system by performance of a secondary plant heat balance would not require a safety evaluation under the requirements of 10CFR50.59, even if such a test was not delineated in the SAR, since the test does not involve an abnormal mode of operation.

(2) A test to determine if the boric acid evaporator may also be used for concentration of the steam generator blowdown effluent (function not described in the SAR) would require a safety evaluation to meet the requirements of 10CFR50.59, since secondary system chemicals could possible have a deleterious effect on some components within the reactor coolant pressure boundary. On the other hand, an experiment to determine the decontamination factor of the liquid waste concentrator with influent activities of 10^{-2} Ci/ml and 10^{-5} Ci/ml would not require a safety evaluation under the requirements of 10CFR50.59 since such an experiment would not represent departure from normal operational modes.

Fourth Question: Is there a change to the Technical Specifications?

As previously stated, the intent of this question is different than the previous three in that any positive (yes) answer requires approval from the NRC prior to implementation. The reason for this is that Technical Specifications are a portion of the operating license and changes to the Technical Specifications must be pursued via an application for license amendment. The intent of this question is to determine if the item under review causes the operation of the plant in a manner not permitted by or outside the bounds of Technical Specifications.

IV. Desk Guide for 10CFR50.59 Applicability Check

Below is contained a guide to provide assistance to the preparer or reviewer of an applicability check. It is important to remember while reading the questions that follow, that the object is not to have a preconceived notion of the outcome but to provide an unbiased and realistic evaluation of a new or changed condition. It is also important, to remember that this is only a desk guide and as such cannot be all encompassing. The preparer and reviewer must always apply sound engineering judgement coupled with an understanding of the FSAR, the plant, it's requirements and basis. Finally, if there is any doubt whether or not the change has applicability under 10CFR50.59, assume it has applicability and have a safety evaluation performed.

A. Is there a change to the plant as described in the FSAR?

1. Is there a change in a component or it's characteristics when/if the component or it's characteristics is/are described in the FSAR?

2. Is there a change to a component or its characteristics which are not described explicitly in the FSAR, but upon which the FSAR places reliance?

3. Is there a system modification which is a change from how the FSAR describes the system's function?

4. Is there a system modification which could raise the system to be unavailable when the FSAR assumes it is available?

5. Is there an erection of a structure not described in the FSAR?

6. Is there a deletion of a structure which is described in the FSAR?

7. Is there a lifted lead/jumper or temporary modification (including a tagout) which is a change in a system structure or component or the characteristics there of as they are described in the FSAR which impact the safety of operation?

Note: If a system is inoperable because of a change and the Technical Specification Limiting Conditions for Operations are met, the answer to this question would be "No".

B. Is there a change to a procedure/instruction as described in the FSAR?

1. Is there a change to the fundamental sequences of an activity when compared to the fundamental sequences described in the FSAR?

2. Is there a change to how an activity is conducted when compared to how the FSAR describes the activity as being conducted?

3. Is there a change to how an activity is assumed to be conducted in accordance with the FSAR?

C. Is there a test or experiemnt not described in the FSAR?

1. Does this test or experiment direct an operation/activity which is not described in the FSAR which could have an adverse effect on safety-related systems or accident analysis described in the FSAR?

D. Is there a change to Technical Specifications?

Self Explanatory

Any of the above numbered questions which is answered "Yes" would also indicate the associate lettered question is also a "Yes".

10CFR50.59 REVIEWER QUALIFICATION

The PNPP 10CFR50.59 program provides for qualification of the individuals who can perform and review 10CFR50.59 applicability checks and safety evaluations. The intent of the qualification process is to assure that a proper level of proficiency is established for approved individuals to prepare and review the applicability checks and safety evaluations of changes to plant systems components, structures and procedures/instructions. We plan to enhance the training to assure increased sensitivity to the licensing basis and thorough and consistent reviews.

Briefly the training program will enhance the existing program in the following ways:

a. Expand the required reading list to document review of FSAR Chapter 15 and excerpts from other chapters to ensure the full scope of FSAR is understood.

b. Expand the required reading list to document review of all Technical Specification basis.

c. Provide lecture and discussion of desk guides and detailed discussions of the applicability check and the unreviewed safety question determination and the differences between each.

d. Provide additional training which involves problems to stress techniques for implemention of deskguides and to recognize the limits of applicability checks.

Reviewer qualifications will be validated by completion of the training sessions and adequate performance on an appropriate written test or as deemed appropriate by the Plant Managers.

RESPONSIBILITIES

6.5.1.6 The PORC shall be responsible for:

a. Review of all Administrative Procedures; proposed

b. Review of the safety evaluations for (1) procedures/instructions, (2) changes to procedures/instructions, equipment, systems or facilities, and (3) tests or experiments ~~performed under the provisions of 10 CFR 50.59~~ to verify that such actions do not constitute an unreviewed safety question; stet stet

c. Review of proposed procedures/instructions and changes to procedures/instructions, equipment, systems or facilities which ~~may~~ involve an unreviewed safety question as defined in 10 CFR 50.59, ~~or involves a change in Technical Specifications;~~

d. Review of proposed tests or experiments which ~~may~~ involve an unreviewed safety question as defined in 10 CFR 50.59; ~~or requires a change in Technical Specifications;~~

e. Review of proposed changes to Technical Specifications or the Operating License;

f. Investigation of all violations of the Technical Specifications including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence to the Vice President - Nuclear Group and to the Nuclear Safety Review Committee;

g. Review of all REPORTABLE EVENTS;

h. Review of the plant Security Plan and ~~implementing~~ instructions and submittal of recommended changes to the Nuclear Safety Review Committee; security contingency

i. Review of the ~~Radiological~~ Emergency ~~Response~~ Plan and implementing instructions and submittal of recommended changes to the Nuclear Safety Review Committee;

j. Review of changes to the PROCESS CONTROL PROGRAM, the OFFSITE DOSE CALCULATION MANUAL, and Radwaste Treatment Systems;

k. Review of any accidental, unplanned or uncontrolled radioactive release including the preparation of reports covering evaluation, recommendations, and disposition of the corrective action to prevent recurrence and the forwarding of these reports to the Managers, Perry Plant Departments, ~~to~~ the Nuclear Safety Review Committee and the Vice President - Nuclear Group;

l. Review of Unit operations to detect potential hazards to nuclear safety; and,

m. Investigations or analysis of special subjects as requested by the Chairman of the Nuclear Safety Review Committee.

ACTIVITIES (Continued)

d. Sections responsible for reviews, including cross-disciplinary reviews, performed in accordance with Specifications 6.5.3.1a., and 6.5.3.1c., shall be designated in writing by PORC and approved by the appropriate Manager, Perry Plant Department. The individual(s) performing the review shall meet or exceed the qualification requirements of appropriate section(s) of ANSI N18.1-1971;

Each review shall include a determination of 10 CFR 50.59 applicability when required by 10 CFR 50.59,

e. Each review shall include a determination of whether or not an unreviewed safety question is involved. Pursuant to Section 50.59, 10 CFR Part 50, NRC approval of items involving unreviewed safety questions shall be obtained prior to the Managers, Perry Plant Departments, approval for implementation; and

f. The Plant Security Plan and ~~Radiological~~ Emergency ~~Response~~ Plan, and implementing instructions, shall be reviewed at least once per 12 months. Recommended changes to the implementing instructions shall be approved by the Manager, Perry Plant Technical Department. Recommended changes to the Plans shall be reviewed pursuant to the requirements of Specifications 6.5.1.6 and 6.5.2.7 and approved by the Manager, Perry Plant Technical Department. NRC approval shall be obtained as appropriate.

6.6 REPORTABLE EVENT ACTION

6.6.1 The following actions shall be taken for REPORTABLE EVENTS:

a. The Commission shall be notified pursuant to the requirements of Section 50.72 to 10 CFR Part 50, and a report submitted pursuant to the requirements of Section 50.73 to 10 CFR Part 50, and

b. Each REPORTABLE EVENT shall be reviewed by the PORC and the results of the review submitted to the NSRC and the Vice President - Nuclear Group.

6.7 SAFETY LIMIT VIOLATION

6.7.1 The following actions shall be taken in the event a Safety Limit is violated:

a. The NRC Operations Center shall be notified by telephone as soon as possible and in all cases within 1 hour. The Vice President - Nuclear Group and the NSRC shall be notified within 24 hours.

b. A Safety Limit Violation Report shall be prepared. The report shall be reviewed by the PORC. This report shall describe (1) applicable circumstances preceding the violation, (2) effects of the violation upon unit components, systems, or structures, and (3) corrective action taken to prevent recurrence.

c. The Safety Limit Violation Report shall be submitted to the Commission, the NSRC, and the Vice President - Nuclear Group within 14 days of the violation.

d. Critical operation of the unit shall not be resumed until authorized by the Commission.