



Consumers
Power

**POWERING
MICHIGAN'S PROGRESS**

General Offices: 1945 West Parnall Road, Jackson, MI 49201 • (517) 788-1636

Kenneth W Berry
Director
Nuclear Licensing

September 2, 1988

Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

DOCKET 50-255 - LICENSE DPR-20-PALISADES PLANT - REVISED RESPONSE TO
INSPECTION REPORT 88008

NRC Inspection Report 88008 dated April 22, 1988, transmitted two Notices of Violation and requested a written response. Consumers Power Company transmitted responses to the Notices of Violation by letter dated May 23, 1988. The violation identified as Item 1 pertains to containment penetration 33 and failure to identify its current classification and usage as an unreviewed safety question. Item 2 is in regard to the failure to comply with Technical Specification 6.8.1.c during performance of Technical Specification Surveillance Procedure MI-39.

On July 29, 1988, the NRC requested additional information regarding Consumers Power Company's May 23, 1988, response. This request enumerated concerns within the response, its corrective actions, and the 10CFR50.59 analysis performed in support of Item 1. It was further requested that pursuant to 10CFR2.201 that Consumers Power Company response in writing within 30 days. This response period was subsequently extended to 37 days on August 25, 1988, via a telecon between Mr W E Axelson, NRC Region III, and Mr D P Hoffman, Consumers Power Company.

After reviewing the specific concerns expressed by the NRC regarding the 10CFR50.59 review performed in support of Item 1, Consumers Power Company has revised the 10CFR50.59 review to indicate that an unreviewed safety question (URSQ) exists. While acknowledging the existence of an URSQ, Consumers Power Company believes that no significant hazard to the general public is being presented. Information supporting this conclusion is within the attached response.

Further supporting information to this conclusion will be presented to the NRC within a no significant hazards consideration analysis being completed for a change to Palisades Technical Specification 3.6, "Containment System".

8809080138 880902
PDR ADOCK 05000255
Q PNU

OC0988-0002A-PM01-NL04

A001
11

Nuclear Regulatory Commission
Palisades Plant
Revised Response to IR 88008
September 2, 1988

2

Consumers Power Company's responses to the concerns enumerated by the NRC within the July 29, 1988 letter, are provided in the attached revised response to NRC Inspection Report 88008. This attached response is essentially a complete rewrite of the original response and therefore changes are not specifically highlighted.



Kenneth W Berry
Director of Nuclear Licensing

CC Administrator, NRC Region III
NRC Resident Inspector, Palisades

Attachment

REVISED RESPONSE TO INSPECTION REPORT 88-008

ITEM 1

Violation (50-255/88008-01 (DPR))

10CFR50.59 requires that a safety evaluation be performed for changes made in the facility as described in the FSAR and that the bases be documented for the determination that the change does not involve an unreviewed safety question (URSQ). Otherwise, prior Commission approval is required.

Contrary to the above, in 1982 the licensee identified a discrepancy between the FSAR description of containment penetration 33 and the existing method of satisfying a Technical Specification (TS) Surveillance requirement and did not identify the issue as an URSQ. Subsequent intentions to modify the penetration or submit a TS change request were dropped without proper review.

Discussion

The final evaluation of SEP Topic VI-4, NRC letter dated February 8, 1982, specified that the valves associated with penetration 33 were classified as C3 and noted that the valve arrangement differed from the requirements of GDC 56 in that one valve should be located inside containment. A Request for Modification to install a two inch automatic isolation valve for containment penetration 33 was initially prepared on January 6, 1982. The request identified that an automatic valve was required by the FSAR since the valves needed to be opened during power operation for flushing and sampling. The original FSAR specified that "Class C3 penetrations...include those systems that are not connected to either the containment atmosphere or to the reactor coolant system and are never opened during power operation". Installation of an automatic valve would have changed the FSAR classification of penetration 33 from a Class C3 to Class C2. The original FSAR states that "penetrations in this class include systems that are not connected to either the containment atmosphere or to the primary coolant system and are normally open or may be opened during power operation". Completion of the modification would have eliminated the unreviewed safety question associated with the opening of a C3 penetration during power operation and, therefore, would have been consistent with the FSAR requirements.

Concurrent with the proposed modification, an interpretation of the Palisades TS was written that identified the opening of a containment isolation valve during power operations to be consistent with the C-E Standard Technical Specifications (STS). The STS permit the opening of containment isolation valves on "an intermittent basis under administrative control". The administrative controls were specified in a letter to the NRC dated June 2, 1982. The letter also committed Consumers Power to submit a change to the Palisades TS that would specifically resolve the issue. This change request was never submitted to the NRC. Completion of the Technical Specification Change Request (TSCR) would have required a safety evaluation to be performed. The safety evaluation would have been required to address the necessity to open a manual

Class C3 penetration during power operation in order to justify the TSCR. Submittal of such a TSCR, therefore, would have eliminated the failure to determine whether or not an unreviewed safety question existed.

The modification to install an automatic isolation valve for containment penetration 33 was not completed, and the project was closed out on September 3, 1986. The decision not to proceed with installation was made after reviewing the existing Palisades TS requirements for containment integrity and sampling of the safety injection tanks, and the TS interpretation letter dated June 2, 1982. Based on the above, including the TSCR which was to have been submitted, it was determined that the existing manual valve would be acceptable. The safety evaluation for the modification package was not revised due to an oversight by the individual recommending closeout. This individual failed to recognize that the original safety evaluation would be invalidated by modification closure without installation of the automatic isolation valve. Procedures governing the modification process have been strengthened over the last two years to assure modifications are completed as approved. If changes in the scope of a modification are made, the individual processing the change is required to process an Engineering Design Change, review the change against the approved safety evaluation and attain the same level of review as the original design.

An FSAR change request was submitted on August 15, 1986, to clarify the configuration and operation of containment penetration 33. Palisades FSAR update, Section 5.1, Page 21, now has an exception to GDC 57 allowing these manual valves to be opened during power operation for the sampling of the safety injection tanks.

On March 17, 1988, a revised safety evaluation was written to address the fact that the automatic isolation valves were eliminated from the original modification design. This safety evaluation concluded that no URSQ exists with the Plant in its as-modified configuration. The bases for the conclusion were that both the original and as-modified Plant configuration utilize manual valves, the number of valves relied upon was decreased from six to two and the existence of the FSAR exception to GDC 57 described above.

Corrective Actions Taken And Results Achieved

Although the inspection report identified this issue to be an URSQ, another internal 10CFR50.59 review, ie, Safety Evaluation (SE), which was written on May 23, 1988, to address the opening of certain manual isolation valves during power operation, improperly concluded this issue not to be an URSQ. This conclusion was reached because first, the system in question is not coupled to the primary coolant pressure boundary; second, the SE would require that administrative controls be in place to assure that the operator remains in appropriate protective clothing and in close proximity to the valves during the flushing and sampling process until the isolation valve is returned to its closed position; and third, the valve only affects safety injection tank level and low level of this tank has been previously reviewed by the NRC during establishment of a one hour LCO in the Palisades TS. This third point was included solely to address accident consequences stemming from tank level and was not intended to imply NRC review of the containment isolation issue. The operator is not required to remain at the valves due to ALARA constraints and poor communication capabilities.

Subsequent to Consumers Power's May 23, 1988 submittal in response to this inspection report item, an independent review of the May 23, 1988 internal 10CFR50.59 review was conducted. This independent review conducted by the consulting firm who aided in the development of Palisades recent 10CFR50.59 training program, determined that the issue could have been deemed to be or not to be an URSQ, depending on the guidance utilized in the decision making process. In the case of no URSQ existing, the consultant primarily cited that increases in accident and malfunction consequences were small and of minimal significance, and that application of guidelines for 10CFR50.59 reviews presented by the Nuclear Safety Analysis Center (NSAC) in conjunction with the Nuclear Management and Resources Council (NUMARC) in January 1988 would support no URSQ existing. However, in the case of an URSQ existing, the consultant cited recent correspondence between the NRC and NUMARC which call for an URSQ determination for "any" positive change that affects consequences of an accident or malfunction of equipment.

After indepth evaluation of the consultant's review, the NRC correspondence to NUMARC, the original and updated FSAR, Palisades Plant TS and positions presented in the NRC's letter to Consumers Power Company of July 29, 1988, the internal 10CFR50.59 review was revised again. This revision concluded that an URSQ does exist due to a reduction in the margin of safety inherent to Palisades TS 3.6.1.a. This TS calls for maintenance of containment integrity unless the reactor is in the cold shutdown condition. Containment integrity is defined in Palisades TS 1.4 to exist when all of the following are true:

- a. All non-automatic containment isolation valves and blind flanges are closed.
- b. The equipment door is properly closed and sealed.
- c. At least one door in each personnel airlock is properly closed and sealed.
- d. All automatic containment isolation valves are operable or are locked closed.
- e. The uncontrolled containment leakage satisfies TS 4.5.1.

While Consumers Power is now submitting an URSQ, we feel that no hazard is being presented to the public. For an additional hazard to be presented, radioactive materials from the containment atmosphere would have to be dispersed into the environment. In order for this to occur, the following events would have to occur concurrently:

- a. A core damaging accident which causes fission products to be released to the containment atmosphere.
- b. A safety injection tank drain line failure such that a pathway would exist from the containment atmosphere.
- c. The required TS boron concentration sampling in progress.

The probability of these events taken concurrently yields an acceptably small probability to allow manual operation of the penetration 33 isolation valves. It is recognized that there are other sets of concurrent events which could result in a leak path for fission products, but they are considered even less probable than the above scenario.

In addition to the above, Plant operators will be required to remain in appropriate protective clothing in the vicinity of the valves. These actions will be controlled via guidance contained in SOP-3. While Palisades does not yet follow the STS, the above probabilities and administrative controls appear to comply with the staff's position as presented in STS of allowing the opening of certain manual containment isolation valves while at power operation.

Corrective Actions To Be Taken To Avoid Further Non-Compliance

A TSCR has subsequently been determined as the preferred corrective action. In order for the TSCR to receive prompt reviews and NRC acceptance, the TSCR will address and resolve applicable STS requirements. This includes the incorporation of a Containment Isolation Valve Specification in the Palisades TS. An isolation valve table will be included in either the Palisades TS or by reference to the FSAR. This table will be similar to that presented in the original FSAR and will list at a minimum for each penetration, the associated system name, equipment identification numbers for associated valves, and applicable valve actuations.

A complete independent review to verify the technical accuracy of all FSAR changes processed since the June 28, 1984 FSAR update is not felt to be warranted, in light of other efforts recently completed and currently in progress. A System Functional Evaluation (SFE) was performed as documented in our January 28, 1988 submittal. The SFE provided a line-by-line review of system characteristics presented in the FSAR and served as the basis for testing, modifications and FSAR changes in light of existing system configurations. Additional review of the FSAR is being provided by the design basis reconstitution effort of the Palisades Configuration Control Project (CCP). The CCP is tasked with establishing an accurate, up-to-date, physically verified set of design bases documents for selected systems. Discrepancies identified within the FSAR during the project will be corrected through existing Plant procedures.

FSAR Section 5.1.6.9 currently contains an exception to Criterion 57 of 10CFR50 Appendix A, "General Design Criteria for Nuclear Power Plants" regarding operation of the manual valves associated with penetration 33. This exception was entered into the FSAR with Revision 2 dated October 31, 1986. The FSAR change request was initiated by Plant personnel at the time FC-576 was being closed out. The basis for this change was that penetration 33 was currently classified as a type C2 penetration, while the change request initiator felt it more accurately reflected a type C3 penetration with exception. The exception was for opening the valves during power operation to perform required sampling in accordance with TS Table 4.2.1 Item 5 and the TS interpretation letter dated June 2, 1982. The initiator felt the NRC had previously reviewed the present Palisades containment isolation arrangement due to Consumers Power's June 2, 1982 submittal, and the initiator felt that no further NRC reviews were required.

While reviewing the NRC's final evaluation of Systematic Evaluation Program (SEP) Topic VI-4, "Containment Isolation System" dated February 8, 1982 in regard to 10CFR50 Appendix A classifications, Consumers Power noted that penetration 33 was classified under Criterion 56. The SEP topic further identified that the valve arrangement for penetration 33 differs from the explicit requirements of Criterion 56 from the standpoint of valve location, namely, that one of the isolation valves should be located inside containment. Upon detailed review of the applicable General Design Criterion (ie, 55, 56 and 57), definitions presented in 10CFR50.2 and discussions with the Plant's Nuclear Steam Supply System vendor and architect/engineer, Consumers Power believes penetration 33 is most accurately reflected by Criterion 57. This is consistent with definitions presented in both the original and updated FSARs, and the separation of the safety injection tank sample/drain line from the containment atmosphere and the reactor coolant pressure boundary.

Each of the items detailed in the NRC letter of July 29, 1988, which specifically address the May 23, 1988, safety evaluation will be evaluated against the existing guidance provided in Administrative Procedure 3.07, "Safety Evaluations". Recognizing the lack of a unified methodology for performing safety evaluations, these specific issues will be further reviewed against guidance currently available through the NUMARC/NSAC efforts and that provided to NUMARC by the NRC. The understanding gained from these reviews will be incorporated into the next revision of Administrative Procedure 3.07. Prior to issuance of this procedure, a memorandum detailing the reasoning for changes will be issued to reconcile any differences from the current philosophy employed in the Palisades safety evaluation program. Results of the above evaluation will be discussed with the NRC Senior Resident Inspector.

Necessary changes to SOP-3 will be made by November 15, 1988.

Failure to track Consumers Power's commitment to the NRC (ie, failure to submit a TSCR following the June 2, 1982 submittal) was the root cause of this event. Commitments at that time were normally tracked by the General Office Nuclear Licensing Department (NLD) via an Action Item Record (AIR), as no formal commitment tracking system existed. However, an AIR was not initiated and therefore, the commitment was not tracked.

Presently, commitments are tracked by NLD via the Correspondence Logging & Commitment Tracking System (CLCTS). Commitments made in letters to the NRC are identified by NLD and summarized on a Record Summary Sheet. An independent review of the submittal is then performed to assure all commitments are identified and logged into the CLCTS. The existing commitment tracking system provides assurance that NRC commitments are no longer lost or forgotten.

Date When Full Compliance Will Be Achieved

A TSCR that addresses the Limiting Condition for Operations, applicability, Action Statement and surveillance requirements of Section 3/4.6.4 of the CE-STS will be prepared and submitted by September 16, 1988.

Changes to the Palisades' FSAR will be incorporated in a subsequent Palisades FSAR update following the TSCR submittal.

Evaluation of the items presented in the NRC letter of July 29, 1988, which specifically address safety evaluation performance will be completed by September 23, 1988. Administrative Procedure 3.07 will be revised as necessary from the above evaluation by October 31, 1988.

ITEM 2

Violation (50-255/88008-02 (DPR))

TS 6.8.1.c requires that surveillance and test activities of safety-related equipment be implemented and maintained. Surveillance Procedure MI-39 tests the auxiliary feedwater actuation system (AFAS) logic in accordance with TS 4.1.3.16.

Contrary to the above, I & C technicians performing TS Surveillance MI-39 on April 4, 1988 did not implement the procedure when they did not obtain the required logic channel trip indications due to incorrect test performance and yet they signed the data sheet believing they had properly completed the surveillance test.

Corrective Actions Taken and Results Achieved

The failure by the I & C technicians to verify the required AFAS logic channel trip indications were attributed to several contributing factors as identified below:

1. The guidance provided in TS Surveillance Procedure MI-39 and existing component labeling on auxiliary feedwater actuation panel, EC-187 are not wholly congruent to assure consistent satisfactory test performance.
2. The I & C on-the-job training program does not specifically address MI-39.
3. A lack of attention to detail by the technicians performing the test was a factor. Adequate attention to indication light response would have revealed that an improper test button was depressed.

During the performance of the surveillance test, the I&C technicians signed off portions of MI-39 in good faith, believing indications received were those required. Only after the NRC Senior Resident Inspector inquired as to the validity of the received indications, did the I&C technicians question the response. The technicians then called an I&C engineer to the AFAS panel who clarified existing confusion by identifying the correct test circuitry.

The auxiliary feedwater actuation panel has been relabeled to provide enhanced continuity with MI-39. Until further corrective measures can be taken to eliminate confusion associated with performance of MI-39, appropriate I&C supervision or direct second party overview will be required.

In order to assure training provided to I&C technicians will result in proficient TS surveillance performance, a QA Surveillance and Human Performance Evaluation of the I&C TS surveillance training program was initiated. The QA surveillance completed on May 6, 1988, did not indicate that major changes are

warranted at this time. However, the surveillance did recommend the use of post-training (ie, approximately two months) evaluations to further verify training effectiveness. Post-training evaluations are currently utilized in Palisades Plant and Midland Training Center classroom programs. A post-training evaluation process for the On-the-Job-Training (OJT) program has been developed and is currently being reviewed.

The Human Performance Evaluation has been completed. This evaluation noted the following:

1. A total review and update of the I&C training was already in progress. Personnel involved in this effort include I&C management, supervision, technicians, and representatives from both the Palisades Training Department and the Midland Training Center. Included in this effort are enhancements to the classroom and OJT portions of TS surveillance test training.
2. OJT for I&C technicians is an established program, however, plant instrumentation system availability during power operations limits its scope.
3. All plant I&C technicians have received the 12-week indoctrination training at the Midland Training Center.
4. Established long-range plans to improve the I&C technician and supervisory training programs will enhance I&C TS surveillance test training.

The evaluation recommended the following:

1. Appointment of a full-time I&C training coordinator.
2. Walkdowns and "tabletop" discussions should be performed for surveillance tests performed during power operation which have the potential to significantly affect plant performance.
3. The simulator orientation training course should be offered to I&C personnel in order to enhance understanding of normal and abnormal plant responses of instrumentation systems.

Corrective Actions To Be Taken To Avoid Further Non-Compliance

As stated above, the AFAS panel has been relabeled. TS Surveillance Procedure MI-39 was revised on June 1, 1988. The combination of both these efforts should eliminate a large portion of existing technician confusion during MI-39 performance.

Surveillance Procedure MI-39 is being included within existing I&C Department surveillance test training. By inputting MI-39 into the training program, specific emphasis will be placed on procedural steps and necessary procedure limitations and responses. As stated above, the post-training evaluation process for the I&C OJT program has been developed and is in the review process. Plant management has evaluated the recommendations made in the Human Performance Evaluation and will adopt the following:

1. A full-time I&C training coordinator will be assigned to the I&C training program enhancement project following completion of the in-progress refueling activities. Following successful completion of the project, the continued need for a full-time coordinator will be evaluated.
2. The existing OJT program for surveillance test performance qualification presently includes actual test performance under the direct supervision of a qualified I&C technician or supervisor/engineer. This is done on an individual technician basis prior to receiving test performance qualification. During the I&C training program enhancement review, a need for advanced training in systems affected by test performance was identified. Efforts are currently in progress to develop these advanced systems classes. Through these efforts, the benefits to be gained from additional procedure walkdowns and "tabletop" discussions will be achieved.
3. As recommended in the Human Performance Evaluation, the three-day simulator orientation course will be added to the I&C department training matrix.

Date When Full Compliance Will Be Achieved

The post-training evaluation process will be included in the I&C OJT program in conjunction with completion of the I&C training enhancements program scheduled for completion by September 1, 1989.

The I&C training coordinator is expected to be appointed by January 15, 1989. This date will coincide with the currently planned completion of in-progress refueling outage activities. The advanced system classes for systems affected by surveillance tests are expected to be completed by September 1, 1989. The three-day simulator orientation class will be added to the I&C training matrix by December 31, 1988.

Training specifically for Surveillance Test MI-39 will be conducted through the OJT program. This procedure will be added to the OJT program by March 31, 1989.