



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

ENCLOSURE 1

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

EVALUATION OF CONSUMERS POWER COMPANY'S

120-DAY RESPONSE TO SUPPLEMENT NO. 1

TO GENERIC LETTER 87-02

FOR BIG ROCK POINT NUCLEAR PLANT

DOCKET NO. 50-155

BACKGROUND

By letter dated September 21, 1992, the Consumers Power Company, the licensee, submitted its response to Supplement No. 1 to Generic Letter 87-02 (GL 87-02), "Verification of Seismic Adequacy of Mechanical and Electrical Equipment in Operating Reactors, Unresolved Safety Issue (USI) A-46," dated May 22, 1992, for the Big Rock Point Nuclear Plant. In this supplement, the staff requested that affected licensees submit the following information within 120 days of the issue date of the supplement:

1. A statement whether you commit to use both the Seismic Qualification Utility Group (SQUG) commitments and the implementation guidance provided in the Generic Implementation Procedure, Revision 2 (GIP-2) as supplemented by the staff's Supplemental Safety Evaluation Report No. 2 (SSER No. 2) for the resolution of USI A-46. In this case, any deviation from GIP-2, as supplemented by the SSER No. 2, must be identified, justified, and documented. If you do not make such a commitment, you must provide your alternative for responding to GL 87-02.
2. A plant-specific schedule for the implementation of the GIP and submission of a report to the staff that summarizes the results of the USI A-46 review, if you are committing to implement GIP-2. This schedule shall be such that each affected plant will complete its implementation and submit the summary report within three years after the issuance of the SSER No. 2, unless otherwise justified.
3. The detailed information as to what procedures and criteria were used to generate the in-structure response spectra to be used for USI A-46 as requested in the SSER No. 2. The licensee's in-structure response spectra are considered acceptable for USI A-46 unless the staff indicates otherwise during a 60-day review period.

In addition, the staff requested in SSER No. 2 that the licensee inform the staff in the 120-day response if it intends to change its licensing basis to reflect a commitment to the USI A-46 (GIP-2) methodology for verifying the seismic adequacy of mechanical and electrical equipment, prior to receipt of the staff's plant-specific safety evaluation (SE) resolving USI A-46. This report provides the staff's evaluation of the licensee's response.

## EVALUATION

With regard to Item 1, the licensee stated that, "As a member of SQUG, Consumers Power Company commits to use the SQUG methodology as documented in the Generic Implementation Procedure (GIP), where 'GIP' refers to GIP Revision 2, corrected February 14, 1992, with the exception of deviations identified in Attachment A, to resolve USI A-46 at the Big Rock Point Plant." The licensee further stated, "Specifically, Consumers Power Company hereby commits to the SQUG commitments set forth in the GIP in their entirety, including the clarifications, interpretations, and exceptions identified in SSER-2 as clarified by the August 21, 1992, SQUG letter responding to SSER-2," but that it, "... generally will be guided by the remaining (non-commitment) sections of the GIP, i.e., GIP implementation guidance, which comprises suggested methods for implementing the applicable commitments." In Attachment A to its submittal, the licensee identified two areas of its USI A-46 implementation program where it intends to deviate from the SQUG commitments.

The licensee's response is unclear as to whether or not the licensee intends to implement both the SQUG commitments and the implementation guidance. In accepting GIP-2 as a method for resolving USI A-46, it was the staff's understanding that the SQUG members who chose to implement GIP-2 would essentially use the entire procedure, including the SQUG commitments, which contains the general programmatic objectives and goals, and the implementation guidance, which contains the specific criteria and procedures to be used for the resolution of USI A-46. This understanding was the basis for the staff's position, which was stated in SSER No. 2, that if the licensee commits to use GIP-2 for the implementation of USI A-46, it must commit to both the SQUG commitments and the use of the entire implementation guidance provided in GIP-2, unless otherwise justified to the staff. In order to allow some flexibility in implementing GIP-2, the staff acknowledged in the supplement to GL 87-02 that SQUG members who commit to GIP-2 (both the SQUG commitments and the implementation guidance) may deviate from it provided that such deviations are identified, documented and justified. However, it was also indicated in SSER No. 2 that if a licensee uses methods that deviate from the criteria and procedures described in the SQUG commitments and in the implementation guidance of GIP-2 without prior NRC approval, the staff may find the use of such methods unacceptable with regard to satisfying the provisions of GL 87-02.

In light of the above, the staff interprets the licensee's response to Supplement No. 1 to GL 87-02 as a commitment to the entire GIP-2 including both the SQUG commitments and the implementation guidance, with the exception of any deviations identified in the licensee's 120-day response and, therefore, considers it acceptable. If the staff's interpretation is incorrect, then in accordance with Supplement No. 1 to GL 87-02, the licensee should provide for staff review, as soon as practicable prior to implementation, its alternative criteria and procedures for responding to GL 87-02.

In addition, Enclosure 2 provides the staff's response, dated October 2, 1992, to the August 21, 1992, SQUG letter. The staff does not concur with all of the SQUG's clarifications and positions stated in that letter and thus, the

licensee should not use the August 21, 1992, letter as guidance in responding to Supplement No. 1 to GL 87-02. The licensee should refer to Enclosure 2 for the staff's position on the SQUG letter.

The licensee indicated that it intends to deviate from the SQUG commitments in GIP-2, Section 3.1.2, Paragraph 3, and in GIP-2, Section 9.1, number 14. In its description of these deviations, the licensee appears to have referenced a draft version of GIP-2 which was printed some time in 1990 and which was never accepted by the staff. According to the licensee, the SQUG commitment in GIP-2, Section 9.1, number 14 states:

14. Proposed schedule for complete resolution, future modifications and replacements, or a simple statement explaining why corrective modifications or replacements of outliers will not be made.

In GIP-2, as corrected on February 14, 1992, Section 9.1, number 14, addresses a commitment to submit a description of the significant or programmatic deviations from GIP-2, but does not address outlier resolution. The current version of GIP-2 addresses outlier resolution in Section 9.1, numbers 16 and 17. It is noted that in earlier draft versions of GIP-2, which were never accepted by the staff, Section 9.1, number 14, included both of the SQUG commitments currently included in GIP-2, Section 9.1, numbers 16 and 17. The language in GIP-2, Section 3.1.2, paragraph 3, is the same in both the 1990 version and the current version of GIP-2. For implementation of GIP-2, the licensee should verify that it is using the GIP-2 which the staff reviewed and accepted in SSER No. 2.

The licensee's proposed deviation from GIP-2, Section 3.1.2 involves the plant's inability to meet the single failure criterion because it has only one automatically-started emergency diesel generator. However, a standby diesel is available at the site which requires manual action to be placed into service within 24 hours. The licensee should provide an alternate way of achieving safe shutdown by using a different path or different equipment in the same path. This equipment should be included in the seismic evaluation list of equipment needed to bring the plant to hot shutdown and maintain it in hot shutdown for 72 hours.

With regard to the licensee's proposed deviation from GIP-2, Section 9.1, the staff assumes that the licensee intended to reference numbers 16 and 17 in the current GIP-2, rather than number 14. The licensee indicated that it intends to deviate from these commitments in that it plans to use a Probabilistic Risk Assessment (PRA) approach to the performance of any modifications identified in outlier resolution. As stated in Section II.5 of SSER No. 2, "It is the responsibility of the utility to resolve outliers, using existing procedures (e.g., plant-specific procedural controls and QA requirements) as it would resolve any other seismic concerns." Consequently, the staff finds that the use of PRA is not an acceptable method for resolving outliers. The licensee should resolve the equipment outliers by either performing tests, engineering analysis, making physical repairs, or replacing the equipment.

With regard to Item 2, the licensee stated that it will submit a summary report to the NRC summarizing the results of the USI A-46 program at Big Rock

Point Nuclear Plant by May 21, 1995. This submittal date is within the 3-year response period requested by the staff and is, therefore, acceptable.

With regard to Item 3, the licensee states in the submittal that, for defining seismic demand, it will use the options provided in the GIP for "realistic median-centered", and "conservative, design" in-structure response spectra, as appropriate, depending on the building, the location of equipment in the building, and equipment characteristics.

The submittal also states that "The licensing-basis spectra as described in Big Rock Point's Updated Final Hazards Summary Report Section 2.5.2.1 will be used and are considered to be a conservative design." It is the staff's understanding that the licensing-basis spectra for Big Rock Point are the Systematic Evaluation Program (SEP) spectra, and the staff is not familiar with the Big Rock Point's Updated Final Hazards Summary Report. Therefore, the licensee is requested to provide additional information as follows:

1. Are the SEP spectra identical to the spectra as described in Big Rock Point's Updated Final Hazards Summary Report?
2. If the answer is negative to question No. 1, the licensee is requested to submit the Big Rock Point's Updated Final Hazards Summary Report, and indicate the NRC Safety Evaluation Report (SER) number that accepted the spectra as the licensing-basis spectra, or provide other documentation which support the above licensee statement.

If the licensee intends to use the option of developing or using "median-centered" in-structure response spectra, the licensee is requested to inform the NRC staff of the approximate date by which such information will become available.

The licensee indicated that it intends to change its licensing basis methodology, via 10 CFR 50.59, for verifying the seismic adequacy of new, replacement, and existing electrical and mechanical equipment prior to receipt of a final plant-specific SE resolving USI A-46. The staff recognizes that the licensee may revise its licensing basis in accordance with 10 CFR 50.59 to reflect the acceptability of the USI A-46 (GIP) methodology for verifying the seismic adequacy of electrical and mechanical equipment covered by the GIP. However, if the licensee does not commit to implement both the SQUG commitments and the implementation guidance, and the licensee has not committed to any acceptable alternative criteria and procedures, then the staff does not believe that it is feasible, at this time, for the licensee to change its licensing basis in the manner described.

## CONCLUSIONS

The staff interprets the licensee's response to Supplement No. 1 to GL 87-02 as a commitment to the entire GIP-2 including both the SQUG commitments and the implementation guidance, with the exception of any deviations identified in the licensee's 120-day response and, therefore, considers it acceptable. If the licensee does not commit to implement the entire GIP-2, then in



accordance with Supplement No. 1 to GL 87-02, the licensee should provide for staff review, as soon as practicable prior to implementation, its alternative criteria and procedures for responding to GL 87-02. Additionally, the licensee should not merely follow the August 21, 1992, SQUG letter for implementing GIP-2, but should refer to Enclosure 2 for the staff's response to the SQUG letter.

The licensee indicated that it intends to deviate from the SQUG commitments in GIP-2, Section 3.1.2, Paragraph 3, and in GIP-2, Section 9.1, number 14. The first deviation involves the plant's inability to meet the single failure criterion because it has only one automatically-started emergency diesel generator. The licensee should provide an alternate way of achieving safe shutdown.

With regard to the second deviation, the licensee appears to have referenced an outdated version of GIP-2 and should, therefore, confirm that it is implementing the version of GIP-2 which the staff reviewed and accepted in SSER No. 2. In addition, the licensee's proposal to use a PRA approach for resolving outliers is not acceptable. The licensee should resolve the equipment outliers by either testing, engineering analysis, physical repairs, or replacing the equipment.

The implementation schedule proposed by the licensee is within the three year response period requested by the staff in Supplement No. 1 to GL 87-02 and is, therefore, acceptable.

Additional information is needed by the staff concerning the licensing-basis spectra.

The staff recognizes that the licensee may revise its licensing basis in accordance with 10 CFR 50.59 to reflect the acceptability of the USI A-46 (GIP) methodology for verifying the seismic adequacy of electrical and mechanical equipment covered by the GIP. However, if the licensee does not commit to implement both the SQUG commitments and the implementation guidance, and the licensee has not committed to any acceptable alternative criteria and procedures, then the staff does not believe that it is feasible, at this time, for the licensee to change its licensing basis in the manner described.



UNITED STATES  
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WASHINGTON, D. C. 20555

ENCLOSURE 2

OCT 02 1992

Mr. Neil Smith, Chairman  
Seismic Qualification Utility Group  
c/o EPRI  
1019 19th Street, N.W.  
Washington, DC 20036

SUBJECT: NRC RESPONSE TO SEISMIC QUALIFICATION UTILITY GROUP (SQUG)

Re: Letter, N. Smith, EPRI, To J. Partlow, NRR, dated August 21, 1992,  
concerning USI A-46 Issues.

Dear Mr. Smith:

This is to acknowledge the receipt of the SQUG response to Supplement No. 1 to Generic Letter (GL) 87-02, and Supplemental Safety Evaluation (SSER) No. 2, on the SQUG Generic Implementation Procedure for Seismic Verification of Nuclear Plant Equipment, Revision 2, as corrected February 14, 1992 (GIP-2). The NRC staff believes that successful implementation of the entire GIP-2, supplemented by the staff's SSER No. 2, by each SQUG licensee will result in cost-effective plant safety enhancement for their USI A-46 plants.

The staff also believes that the positions delineated in Supplement No. 1 to GL 87-02 and SSER No. 2 are clear and correct, and should not be misinterpreted. The staff's comments on SQUG's August 21, 1992, letter and attachment are provided in the enclosure to this letter. If you need further clarification concerning our response, please contact Mr. James Norberg at 504-3288.

Sincerely,

James G. Partlow  
Associate Director for Projects  
Office of Nuclear Reactor Regulation

Enclosure:  
As stated

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## ENCLOSURE

### I. NRC's Comments on the SQUG Letter of August 21, 1992:

1. In regard to the issue of seismic qualification, the staff reiterates the position stated in the SSER No. 2, in that the GIP-2 methodology is not considered to be a seismic qualification method, rather, it is an acceptable evaluation method, for USI A-46 plants only, to verify the seismic adequacy of the safe-shutdown equipment and to ensure that the pertinent equipment seismic requirements of General Design Criterion 2 and the purpose of the NRC regulations relevant to equipment seismic adequacy including 10 CFR Part 100 are satisfied.
2. The second paragraph on page 2 of your letter addressed the issue of timing of staff response to additional information requested from a licensee. Although you are correct in your statement regarding the sixty-day period for response to initial submittal of in-structure response spectra (ISRS) information, we do not agree that the same concept applies to a licensee's submittal of additional information received following a rejection or a question from the staff. To eliminate any potential misunderstanding in this regard, the staff has determined that it will respond to any submittal of additional information received from a licensee within 60 days. However, in this response, the staff will either state its approval (or rejection) of the information provided, or indicate the time duration needed for the review of such information, prior to transmitting a follow-up response of acceptance (or rejection) to the licensee. This time duration will vary depending on the complexity of the submittal.
3. Regarding the EBAC and ANCHOR computer codes, the staff's evaluations and concerns stated in the SSER No. 2 are correct and valid. The ANCHOR code does not consider the effects of base plate flexibility on the anchorage capacity.
4. With respect to transfer of knowledge regarding major problems identified, and lessons learned, in the USI A-46 plant walkdowns and third-party reviews, we request that you include the NRC in the distribution of written communications to all member utilities in this regard, and inform the NRC staff of any planned workshops on A-46 implementation for possible staff participation.

### II. NRC's Comments on the Procedure for Reviewing the GIP

1. The staff supports SQUG's establishment of a Peer Review Panel composed of seismic experts since it should serve to enhance the review process of substantive changes to the technical requirements in the GIP, prior to its submittal to NRC for approval. However, since the NRC no longer intends to help finance a Peer Review Panel, the staff does not believe it

is appropriate to participate in the selection of the Peer Review members, who will be financed by SQUG/EPRI. We would like to emphasize that staff's review of a proposed GIP change will receive thorough independent NRC evaluation and will be assessed on its merits.

2. With respect to the NRC review and approval of the changes to the GIP (Item 5, page 3 of the procedure), the staff's position on the issue of its response timing is identical to that delineated in the response to a licensee submittal of additional information (refer to item 2 of HRC's Comments on the SQUG letter in this enclosure). This comment also applies to the section "LICENSING CONSIDERATIONS" on page 5 of the Attachment to the SQUG letter.
3. With respect to item 4, "Additional Restrictions," the text should be expanded to reflect that new information which indicates that existing GIP criteria and guidelines may be unconservative should be evaluated for potential 10 CFR Part 21 implications.