

Mr. David Lochbaum
Nuclear Safety Engineer
Union of Concerned Scientists
1707 H Street, NW., Suite 600
Washington, DC 20006

October 13, 2000

Dear Mr. Lochbaum:

I am responding to your letter of June 1, 2000, to Commissioner Nils Diaz in which you replied to a request made by Commissioner Diaz during the Commission briefing on May 25, 2000, regarding the Petition process in Section 2.206 of Title 10 of the *Code of Federal Regulations* (10 CFR 2.206). Commissioner Diaz had requested an example of a Director's Decision that failed to address concerns raised in the Petition.

In your letter, you discussed the Director's Decision arising from the 10 CFR 2.206 Petition submitted on September 15, 1999, following an event at Indian Point Nuclear Generating Unit No. 2 (IP2). The Petition requested that the U.S. Nuclear Regulatory Commission order IP2 to remain shutdown until the five issues identified in the attachment to the Petition had been fully resolved. The associated Director's Decision (DD-00-02) was issued on April 13, 2000. You indicated in the June 1 letter that DD-00-02 did not respond completely to three of the five issues. The NRC staff carefully reviewed your letter to reassess whether your concerns had been fully evaluated. The enclosure provides additional information concerning our response to the three issues.

The second concern identified in your June 1 letter involved a request dated November 24, 1999, to suspend the operating licenses for Diablo Canyon Nuclear Power Plant, Units 1 and 2, if Pacific Gas & Electric Company had not fully satisfied the nine conditions of the Department of Labor findings dated November 19, 1999, and to keep the licenses suspended until all the conditions were met. The Petition Review Board (PRB) found that the request did not reach the threshold criteria to be treated as a 2.206 Petition. As discussed in the enclosure, the NRC staff reexamined the PRB conclusion and remains satisfied that the initial decision was correct. However, the staff recognizes that the acknowledgment letter of December 22, 1999, did not clearly state the entire basis for that decision. The enclosure provides additional discussion of the PRB decision.

On July 1, 2000, the NRC staff began to implement on a trial basis, a revised 2.206 Petition process. As you are aware, for petitions received after July 1, 2000, in order to promote better dialogue between the NRC staff and the petitioner we are providing a copy of the proposed Director's Decision to the petitioner and licensee for comments before final issuance. The revised process should help identify potential factual errors or issues which should have been addressed. In addition, the revised 2.206 Petition process provides an opportunity for petitioners to meet with the PRB after the Petition is reviewed, as well as before. Such a meeting will provide the petitioner a chance to clarify or elaborate on either the Petition or requests for immediate action.

Your involvement in the regulatory process has helped improve the 10 CFR 2.206 Petition process. If you have additional questions, please contact Suzanne Black.

Sincerely,

/RA/

William D. Travers
Executive Director
For Operations

Enclosure: Response Regarding Actions
on Petition Requests

Your involvement in the regulatory process has helped improve the 10 CFR 2.206 Petition process. If you have additional questions, please contact Suzanne Black.

Sincerely,

/RA/

William D. Travers
Executive Director
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Enclosure: Response Regarding Actions
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NRC STAFF RESPONSE REGARDING
ACTIONS ON PETITION REQUESTS

Response to Indian Point 2 Petition

With regard to the Director's Decision (DD-00-02) involving Indian Point Nuclear Generating Unit No. 2 (IP2), you indicated dissatisfaction with our responses to three of the original five issues described in the September 15, 1999, 2.206 Petition. In your letter of June 1, 2000, you provided details of the issues and why you feel the U.S. Nuclear Regulatory Commission staff's response failed to address them.

Issue No. 1: Apparent Violation of Station Battery Design and Licensing Bases

- (A) The first potential problem [under Issue 1] dealt with the time to restore power to the safety-related 480-volt electrical bus being longer than the duration assumed in the station blackout coping duration....Given the potential problem statement in our Petition and our clarification during the PRB [Petition Review Board] telecon, I fully expected the staff's response to include some examination of the adequacy of the station blackout [SBO] procedures at Indian Point 2. But the staff's response did not describe any investigation into the adequacy of the licensee's SBO procedures. Thus our first potential problem under issue 1 remains unaddressed.

NRC Response:

The NRC staff addressed Issue No. 1 in DD-00-02. Our response included consideration of your clarification from a transcribed telephone conversation between you and the NRC's Petition Review Board on September 22, 1999, regarding whether the 8-hour coping duration would have been satisfied had a station blackout occurred. Your June 1, 2000 letter indicated your expectation that we would have investigated the adequacy of the licensee's station blackout procedures. This review was not specifically requested in your Petition and was not considered necessary in response to your Petition.

In the transcribed telephone conversation between you and the NRC's Petition Review Board on September 22, 1999, you stated that you recognized that the August 31, 1999 event was not an SBO, but stated that many of the same procedures and processes would have been invoked if there had been an SBO. You also indicated that you have doubts about whether in case of a true SBO, the licensee would be able to do all the things it needs to do within the time frames it has established; i.e., the 1 hour for starting the gas turbines.

In the case of the August 31, 1999 event, SBO procedures were not used by the licensee because both normal and emergency ac power sources were available following the unit trip. Recovery from the event was complicated due to degraded equipment. The excessive recovery time in responding to the event was attributed to the lack of a procedure to deal with the loss of a single bus.

Therefore, the deficiency that existed on the August 31, 1999 event was the lack of a single procedure to deal with the loss of a bus. In contrast, the SBO procedures are complete and have been in place since 10 CFR 50.63 was implemented. The licensee has demonstrated the SBO procedure's effectiveness through station review and training. Therefore, we do not agree that the SBO procedures can be affected by the procedural deficiency associated with the August 31, 1999 event.

Moreover, the NRC found in the safety evaluation dated December 21, 1990, that the licensee's design and system capability to respond to an SBO meets the provisions of 10 CFR 50.63 and, therefore, is acceptable. As a result of the event of August 31, 1999, the licensee has put a procedure in place to address the loss of a single bus. The NRC staff reviewed the licensee's corrective actions for the event and found them to be adequate to correct the equipment deficiencies and aid operator response to loss of a single bus. With regard to your concern that the licensee would not be able to do all of the things it needs to do within the time frame it has established for dealing with an SBO, we continue to conclude, based on the licensee's SBO procedures, and training in those procedures, that startup of the alternate ac (aac) source (gas turbines) can be accomplished within the prescribed time. We hope this clarifies the response to your Petition.

- (B) The second potential problem under Issue 1 dealt with a design and licensing requirement from the Updated Final Safety Analysis Report (UFSAR) for the alternate ac (AAC) source being available to prevent excessive discharge of the station batteries....The staff did not mention in any manner the availability of the alternate ac (AAC) source or why it was not used to prevent excessive discharge of the battery.

NRC Response:

In your Petition dated September 15, 1999, you stated that:

IP2 is licensed based on the AAC source (one of three gas turbines) being made available within one hour. However, the licensee failed to connect the AAC source to the 24 DC battery in the seven (7) hours it took for the battery to fully discharge.

In DD-00-02, the NRC staff responded to the question of why the aac power source was not used. The battery met its licensing basis which is 2 hours of operation with the expected shutdown loads. The NRC staff concluded that the performance or use of the combustion gas turbines (GT-1, GT-2 and GT-3) was not required to be used to respond to a non-SBO event. Thus, the NRC staff did not discuss the availability of these dedicated SBO aac power sources.

You present a different question in your June 1, 2000, letter. In response to your broader question on the availability of this equipment, in fact, the aac power source was available throughout the event. However, the use of the aac power source to prevent excessive discharge of the battery would have involved energizing bus 6A during the period of time when the bus was removed from service due to troubleshooting activities. Given that at the onset of the troubleshooting efforts, the licensee had indications that bus 6A was in a faulted condition (i.e., repeated breaker tripping due to overcurrent conditions), it would not have been advisable to energize the subject bus prematurely. The energizing of a faulted bus could potentially lead to equipment damage and harm to plant personnel.

The aac power source is required to be available within 1 hour of the onset of the SBO event and to have capacity and capability to operate the systems necessary for coping with an SBO for a duration of 8 hours. As noted above, an SBO condition did not exist. As stated in DD-00-02, (1) the licensee did not have a procedure in place to direct recovery of bus 6A in a timely manner which eventually led to the excessive discharge condition on the battery; (2) the

licensee now has a procedure in place to deal with the loss of a single bus; and (3) the station batteries met their licensing basis as specified in the UFSAR. In addition, as we noted above, using the aac power source to recover bus 6A could have damaged equipment and harmed plant personnel involved with troubleshooting activities.

- (C) The third potential problem under Issue 1 dealt with the failure to prevent [the] 24 DC Battery from excessive discharge.... So, the staff explained why the licensee failed to prevent excessive discharge. But the staff did not 'pull the string' on the root cause. Was this procedure the only one missing? Does the licensee have procedures in place to handle all required actions specified in the UFSAR [Updated Final Safety Analysis Report]? The staff's response is silent on these obvious questions. Thus, our third potential problem under Issue 1 remains only partially addressed.

NRC Response:

The additional question that you have posed under the third problem under Issue No. 1 in your June 1, 2000 letter was not stated in your 2.206 Petition. However, as noted in our response to Issue No. 1 above, the NRC staff did not review the SBO procedures because the staff concluded that the event did not challenge the adequacy of these procedures. As for your new question concerning procedure availability, licensee compliance with the licensing basis is verified by the NRC staff on a sampling basis via the reactor oversight program. The oversight program includes periodic review of selected risk-significant systems. These assessments include verification that appropriate operating procedures exist and are consistent with required operator actions for analyzed conditions. NRC staff reviews at licensee facilities have on occasion identified instances where the licensee has failed to establish or correctly implement and maintain required procedures. When such deficiencies are identified, appropriate regulatory action and follow-up inspections are performed. In fact, the follow-up inspection to the Augmented Inspection Team, Inspection Report No. 50-247/99-14, dated January 5, 2000, documented an additional instance where the licensee failed to establish a procedure for performance of surveillance testing of the station battery while the battery was discharging. Regarding the August 31, 1999 IP2 event and associated inspection findings, overall, the NRC staff concluded that the licensee conducted several comprehensive reviews that identified the root causes of the event, and took short-term corrective actions that were adequate to support the safe restart of the plant. More programmatic, long-term corrective actions will be the subject of ongoing NRC inspections. If the NRC's review indicates that the licensee has not been effectively identifying and correcting problems, additional regulatory actions in that area may be warranted.

Issue No. 2: Apparent Failure to Adequately Correct Circuit Breaker Problems

The Petition included a long history of breaker problems at IP2 and indicated that the NRC staff agreed with the listed problems and pointed out others, as well. However, the civil penalty was even smaller than had been previously imposed. The licensee's promises had been repeatedly unfulfilled.

NRC Response:

As discussed in DD-00-02, as well as in our letter dated October 8, 1999, the issue of the calibration problem encountered during the August 31, 1999 event was a different problem that would not have been addressed by previous corrective actions involving breakers. The issue of inadequate calibration of the EDG output breaker short time overcurrent trip setting, which caused the de-energization of the vital bus, resulted in a violation (one of three violations).

The additional question you have raised in your June 1, 2000 letter, concerns the size of the civil penalty. The process used to determine the amount of civil penalty assessed was consistent with our enforcement policy and NRC regulations, as described in the Notice of Violation dated February 25, 2000.

Nevertheless, on May 25, 2000, NRC senior managers briefed the Commission regarding a number of noted weaknesses at IP2 that had led to their determination that the plant warrants oversight as an "agency focus" plant. Because of this action, the NRC staff is applying additional resources and oversight of the licensee and corrective actions until licensee performance improves. While the NRC has designated IP2 an "agency focus" plant, such a designation does not indicate that the plant is unsafe to operate. Rather, it indicates that the NRC has increased its oversight activities at the plant to ensure that its safety performance meets the NRC's requirements, and that prompt corrective actions are taken by the licensee to address identified deficiencies. IP2 will remain an "agency focus" plant until such time as the NRC determines through its plant oversight process that the plant's performance merits removal from that category.

Issue No. 5: Apparent Errors and Non-Conservatism in Individual Plant Examination [IPE]

However, the staff concluded, "the August 31 event did not appear to invalidate the IPE." If a licensee's inability to prevent a series of pre-existing degraded conditions from adding up to a significantly higher chance of core damage, as in fact occurred at Indian Point 2 on August 31, 1999, does not invalidate an IPE, what could possibly invalidate an IPE?

NRC Response:

The NRC staff responded to Issue 5 in DD-99-05. As we indicated, the NRC staff's review of the IP2 IPE study had concluded that it met the intent of Generic Letter 88-20 to identify severe accident vulnerabilities. The plant Probabilistic Risk Assessment (PRA) developed in the IPE study is based on assumptions of the as-built plant design characteristics, plant-specific operational experience data, and operational practices. The staff recognizes that quality of the PRA depends on the validity of these assumptions and completeness of the actual modeling of postulated conditions that may lead to accident sequences. Assessment of the event on August 31, 1999, showed that the conditional risk of the plant is increased when plant practices result in degraded equipment performance. Adequate plant practices would not be expected to have resulted in the observed degradation of equipment performance. Therefore, occurrence of the event is related to plant practices at that time and does not necessarily mean that the licensee's IPE process was not capable of identifying severe accident vulnerabilities. Even

though the details of pre-existing degraded conditions in the August 31, 1999 IP2 event may not have been completely modeled in the licensee's IPE, the IPE results are not invalidated because it may not have been possible to consider all of the probable accident sequences when the IPE was developed. Moreover, the IPE represents a "snapshot in time" of the plant baseline risk based on assumptions of "average" reliability estimates of equipment performance, and expected operational practices. Additionally, real-time dynamic conditions are not typically modeled in a static PRA. Nevertheless, the calculated risk estimates for the event indicate, from a risk perspective, that it is important for the licensee's corrective actions to ensure a reliable source of power after a reactor trip.

In contrast to the IPE, the performance of safety related and risk-significant non-safety related systems structures, and components (SSC) is evaluated in an ongoing manner through the licensee's program to comply with 10 CFR 50.65 (the Maintenance Rule). Generally, the availability or reliability data used in the IPE, are the same used to establish the performance criteria for those SSCs. Furthermore, sensitivity analyses performed to evaluate the effect of the established performance criteria on core damage frequency indicated consistency with the IPE PRA assumptions. The Maintenance Rule requires equipment performance to be monitored, and also requires that changes in equipment performance be evaluated on a periodic basis and the preventive maintenance program be adjusted accordingly to balance equipment reliability and availability performance. These requirements help assure that equipment reliability and availability performance does not degrade to conditions that may result in a significant increase in the likelihood of core damage.

The Maintenance Rule also applies when the licensee performs equipment repairs. The licensee may use probabilistic safety assessment PRA techniques, as well as other techniques, to assess the risk impact of the maintenance activity. The requirement to assess and manage the risks associated with a maintenance activity is promulgated in the new paragraph (a)(4) of the revised Maintenance Rule, 10 CFR 50.65, which will be effective on November 28, 2000.

The NRC staff had performed a Maintenance Rule baseline inspection in June 1998 at IP2. As documented in the inspection report dated July 15, 1998, the NRC staff concluded that the reliability performance criteria of high safety-significant SSCs had been established with acceptable technical bases and were consistent with the IPE PSA assumptions. Also, availability performance criteria were determined to have been developed in an acceptable manner. On the basis of these considerations, as well as a number of others, the NRC staff concluded that IP2 had implemented an acceptable Maintenance Rule program.

Following the August 31, 1999 event the NRC staff's Augmented Inspection Team found that weaknesses in plant configuration control was the primary cause of this event and verified that the licensee's corrective actions address the problems that led to the event.

REJECTION OF DIABLO CANYON PETITION

The second example you raised involved Diablo Canyon Nuclear Power Plant (DCNPP), Units 1 and 2. By letter dated November 24, 1999, you submitted, pursuant to 10 CFR 2.206, a request to suspend the operating licenses for DCNPP, Units 1 and 2, if Pacific Gas & Electric Company (PG&E) had not fully satisfied the nine conditions of the Department of Labor (DOL)

findings dated November 19, 1999, and to keep the licenses suspended until all the conditions were met. Your November 24, 1999, letter also requested that the NRC issue an order requiring PG&E to have an independent contractor assess the safety culture at Diablo Canyon. You also requested a public meeting to present your concerns to the NRC staff. The facts you provided as the basis for your request relate to your concern regarding the safety culture at the DCNPP site as a result of the DOL finding that PG&E discriminated against an employee at DCNPP. You also stated that a "chilling" effect had occurred at the site because of the discrimination and that the environment is not conducive to employees' raising safety issues freely without fear of retaliation.

NRC Response:

The issues you raised were the subject of NRC staff's review and evaluation of the cited facility, for which a resolution had been achieved by an earlier Director's Decision (DD-99-05) issued on March 12, 1999. DD-99-05 was in response to your Petition dated November 24, 1998. The 1998 Petition had likewise requested that the NRC issue an order requiring PG&E to have an independent contractor assess the safety culture at Diablo Canyon. In DD-99-05, the NRC staff found that the action requested in your 1998 Petition was already satisfied since PG&E had already had a safety culture survey performed by an independent contractor, Synergy, Inc. The results of the survey were discussed during a public meeting on January 15, 1999, in San Luis Obispo, California. The NRC also stated that our investigation into this issue revealed no discrimination against the employee.

After the staff received your letter of November 24, 1999, you were invited to participate in the PRB meeting on November 30, 1999, during which your Petition was discussed. Despite the staff's efforts to accommodate your schedule, you declined to participate. Although the 10 CFR 2.206 Petition of November 24, 1999, requested a different action, i.e. suspension of the operating licenses at DCNPP, the PRB found that the underlying issue of alleged discrimination against the individual was the same as that of the 1998 Petition. The new information that was provided in the 1999 Petition included the findings of the DOL, which was not part of the basis of the earlier petition or the Director's Decision. As stated in the staff's letter to you on December 22, 1999, the new information provided in your November 24, 1999 petition, did not change the conclusions in Director's Decision (DD-99-05) nor warranted any additional action. Your request was denied because the issues raised that were within NRC's regulatory authority had already been reviewed and evaluated in an earlier Director's Decision (DD-99-05), as indicated in our letter dated December 22, 1999.