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January 27, 1992

Re: Indian Point Unit No. 2
Docket No. 50-247

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US Nuclear Regulatory Commission
Mail Station P1-137
Washington, DC 20555

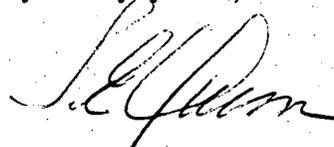
SUBJECT: Response to Notice of Violation, NRC Inspection
Report No. 50-247/91-81

This letter is in response to the subject Notice of Violation transmitted to us by letter dated December 26, 1991. Our response is provided in the attachment to this letter.

As requested in your transmittal letter, we plan to provide a resolution schedule for the unresolved items identified in the inspection report within sixty days of our receipt of your December 26th letter, i.e., on or before March 6, 1992.

Should you have any questions regarding this matter, please contact Mr. Charles W. Jackson, Manager, Nuclear Safety and Licensing.

Very truly yours,



Attachment

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Notice of Violation

- A. 10 CFR 50, Appendix B, Criterion V, requires, in part, that "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings."

Contrary to the above, on October 11, 1991, the team identified the following examples where a procedure was not adequate for the circumstances or where an activity was not performed in accordance with the written instruction:

- a. The procedures addressing cable separation walkdown activities did not contain adequate instructions for processing identified nonconformances in a timely manner. In addition, the form that ensures dispositioning of findings by engineering was not prepared for three cables.
- b. The diesel generators were tested at 1750 kW and approximately 1.0 power factor. This was not their continuous rating. The diesel generators' continuous rating, as specified on the EDG nameplate, in the manufacturer's manual, and in the FSAR, is 1750 kW at 0.8 power factor. Testing up to the diesel generators' continuous (nameplate) rating is also required by Section 4.6.A.2 of the IP2 Technical Specification.

These items collectively constitute a Severity Level IV Violation (Supplement I).

Response to Item A.a. - Cable Separation

Con Edison disagrees that this matter constitutes a violation. Two issues were raised. The first involved procedures for timely processing of nonconformances found in the field. As discussed below, the process utilized has been sufficient for identifying nonconformances in a timely manner. The second issue involved dispositioning of field walkdown results for three cables. As described below, these three cables were not nonconforming, so a formal disposition was not required.

1) Procedures for Cable Separation Program

The cable separation program procedures were prepared to control the process of both developing detailed criteria as well as properly reviewing and dispositioning walkdown results. This was a logical approach taken because only a general level of cable routing and separation criteria was available in known written documents. Detailed criteria have had to be developed based on the walkdown results themselves. The detailed logic of the original cable separation scheme is revealed only as the majority of walkdown results within each power-level family of cables becomes available. Only after these detailed criteria are identified, can we then compare them to the walkdown results to identify actual nonconformances so that they can be evaluated and dispositioned.

In recognition of the inherent complexity of this programmatic approach, and in light of the sheer volume of cables that would be walked down, the program was projected to take approximately four and one-half years to complete. At the time of the October 1991 inspection, less than two years had elapsed of the projected four and one-half needed for project completion. We have already dispositioned all the heavy power cables, as well as the majority of small, medium and control cables inside containment. The scope of the program's accomplishment thus far is consistent with the program's projection, which is in accordance with the program plan as originally developed and discussed with the NRC staff. Therefore, it is concluded that the procedures have been adequate in providing for timely identification and disposition of nonconformances. Nevertheless, based on the experience we have gained in this program, we believe that improvements can be made to reduce time elapsed in the review process. These improvements are being put in place as discussed below.

Under the original program procedures, information was collected by Con Edison walkdowns as the first step in the process. The collected data was then reviewed and evaluated on a cable by cable basis, and judgments made pertaining to the need for cable separation enhancements or corrective action. This preliminary evaluation was performed in order to expedite completion of modifications or corrective actions in advance of the final review. Final review is accomplished based on detailed reports reflecting completed field upgrades. This final review is undertaken to assure that satisfaction of the identified criteria or proper disposition of nonconformances has been achieved. This program, as originally implemented, has been effective in carrying out the intent of identifying and resolving nonconforming conditions related to cable separation.

The applicable program procedures have been revised so that a sequential approach has been replaced by a parallel path approach. The process now in place requires the involvement of the reviewing organizations in parallel with the data collection effort. Specifically, as the walkdowns proceed in a given plant area, the assigned disciplines will begin the evaluation process by performing a drawing review, and identifying cable classifications and other pertinent information about the affected circuits. As anomalies are identified by either the walkdown or document review process, they will be documented on a form, prioritized, tracked and reviewed for reportability. The procedures which have been revised to reflect this change are:

- TS-S-15.200 "Electrical Separation Walkdowns", and
- TS-S-15.201 "Electrical Separation Process and Interface Procedure".

2) Disposition of Walkdown Results for Three Cables

The Notice of Violation refers to three cables which the NRC inspection team considered to be nonconforming and which the team felt should have been processed as nonconformances. Section 3.11 of the Inspection Report specifically discussed FCU-22 cables as an example of a nonconforming condition. With respect to this example, the statement is made:

"While discussing the program with the licensee, the team observed that the cables for containment recirculation fan FCU-22 were associated with a tray containing cables powered by EDG 22 even though the fan was powered by EDG 21."

The field conditions for this cable, as with the other cables, are consistent with our licensing and design bases, which specifically allow circuit-by-circuit routing of this type (i.e., cables from multiple diesel generators are allowed to utilize a single channelized tray).

The inspection team's concerns were predicated on their review of color-coded sketches which display walkdown results. The color coding was established to show an assortment of field information, including information to allow easy identification of circuit-by-circuit routing. The color coding allows verification of tray channel designations and is also valuable in the design basis reconstitution effort. Where a cable appears anomalous based on the color coding, it is very often (as with the three subject cables) a cable which may be routed circuit-by-circuit in a tray with other cables which are routed by unitized power train.

In view of the above, it should be understood that the circuit-by-circuit routing of the three subject cables does not in and of itself constitute a nonconforming condition which would require processing as a non-conformance either in accordance with our past procedures or recently revised procedures.

The three cases noted are consistent with Con Edison's FSAR and submittal dated March 11, 1988 concerning cable separation criteria. These examples of circuit-by-circuit routing (rather than unitized power train separation) are therefore not discrepant or anomalous with respect to the plant design basis. Evaluation of these cases was performed as part of the design basis reconstitution aspect of the cable separation program, not as part of nonconformance disposition. In fact, inclusion of conditions acceptable under the plant design basis in a formal disposition program would be counter productive to the increased efficiency of anomaly processing that is the intent of the procedure changes described above. We therefore believe that it is not appropriate that the lack of a formal tracking document for these specific cables be used as the basis for citing a violation.

Response to Item A.b. - Emergency Diesel Generator Testing

Con Edison disagrees that the past testing of the emergency diesel generators (EDGs) violated either NRC regulations or Indian Point Unit 2 Technical Specifications.

The monthly test requirement in the Technical Specifications, paragraph 4.6.A.1, is stated as follows:

"Each month, each diesel generator shall be manually started and synchronized to its bus or buses and shall be allowed to assume the normal bus load."

There is no reference here to the rating of the diesel generator. The monthly test, as written and as performed, meets the stated requirement of manual start, synchronization to the bus and carrying the load on the bus.

The last refueling outage test of the EDGs was a special case, due to the upgrade of the machines to higher short term ratings. Special qualification testing was performed in addition to the normal refueling outage surveillance testing. The refueling outage test requirement for the upgraded EDGs is stated in the recently revised Technical Specifications, paragraph 4.6.A.2 as follows:

"At each refueling outage, each diesel generator shall be manually started, synchronized and loaded up to its continuous (nameplate) and short term ratings."

The Basis states:

"Each diesel generator has a continuous rating of 1750 kW with a 2 hours within an 24 hour period rating of 2100 kW and a 1/2 hour within any 24 hour period rating of 2300 kW."

As part of the qualification testing, each EDG was run at 2300 kW at .85 power factor, resulting in approximately 3260 Amperes of output current, thereby exceeding the 1750 kW and 2630 Amperes rating on the generator nameplate. The .85 power factor was chosen because it represents the minimum power factor of the plant load, based on manufacturers' motor data and some confirmatory testing of specific plant motors. This test exceeded the Technical Specification requirement, but we do not intend to perform it routinely at refueling outages because of the necessity of reducing system voltage in order to achieve the high value of current.

The test requirement for past refueling outages (1989 and earlier) was stated in the Technical Specifications, paragraph 4.6.A.2, as it existed at the time:

"At each refueling outage, each diesel generator shall be manually started, synchronized and loaded up to its nameplate rating."

At that time, the Basis stated:

"Each diesel generator has a continuous rating of 1750 kW with a 2000 (sic) hr. rating of 2000 (sic) kW".

From the wording of the Basis, it is clear that the emphasis of the test was on the kW power loading. It has always been our interpretation that Technical Specification 4.6.A.2 referred to testing each diesel generator at its nameplate kW rating. Since the original plant license, we have tested each diesel generator in this manner. There is no guidance in either the Technical Specification or its Basis that the power factor is to be considered when conducting the test; therefore, the kVA loading has not been a critical element of past testing. The 24 hour test performed in 1989 (PT-R84) included 2 hours at 1950 kW and 22 hours at 1750 kW. We note that review of this test was described in NRC Inspection Report 89-15. While we understand the NRC position that this does not constitute NRC approval of the test, we do consider that it indicates the 1989 inspection found no significant concern with the test. We therefore consider that past tests have met the requirements of the Technical Specifications, and thus of NRC regulations.

Information Notice 91-13 discussed the limitations of past accepted practice in EDG testing. In response to this new information, we have been evaluating our test procedures and recognize the value of a full current test to demonstrate the generators' excitation capability. It is now our intent to perform future refueling outage testing with the excitation system loaded to the generator V-curve required field current for the EDG kW loads at 0.85 plant power factor.

This will be accomplished in a way that minimizes the extensive effort and potential jeopardy associated with reducing the Con Edison electrical system grid voltage to achieve the desired KVAR output from the generator. The intent will be to load the diesel generator to its rated continuous and short time kW loads while simultaneously loading the excitation system to the field current values that would be required if the diesel generator were operated on an isolated system (i.e., not tied to the Con Edison System). We will approach these field currents as closely as possible while maintaining the generator within its rated voltage limit (105% of 480 volts = 504 volts). We will, without lowering the Con Edison system voltage, get as close as possible to the field amp requirements for the diesel generator kW load at 0.85 power factor. Demonstration of the generator's capability is certified by Westinghouse Motor Company Report WMC-EER-90-005. Future refueling tests will demonstrate that the engine can deliver its full kW rating and the excitation system can handle the full rated field current it would see in operation as an isolated system.

Although not required by Technical Specifications, we are currently evaluating methods to be used during monthly testing to provide further assurance of excitation system response capability.

We consider our test procedure modification to be an enhancement in response to the information provided in Information Notice 91-13 and the expressed concerns of the NRC inspection team, and not a corrective action to achieve compliance with a currently existing regulatory requirement.

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B. 10 CFR 50, Appendix B, Criterion XI, requires, in part, that "A test program shall be established to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written procedures which incorporate the requirements and acceptance limits contained in the applicable design documents".

Contrary to the above, on October 1, 1991, the team determined that no program had been established to periodically test and calibrate safety related molded case circuit breakers.

This is a severity IV Violation (Supplement I)

Response to Item B. - Molded Case Circuit Breakers

Con Edison agrees that Indian Point Unit 2 currently has no formalized, comprehensive program for periodic testing or preventive maintenance for molded case circuit breakers (MCCBs). However, we disagree that this constitutes a violation.

This position is based on our belief that performance of these circuit breakers both at Indian Point Unit 2 as well as in the nuclear power industry has been good and the manufacturers are not recommending such testing. Furthermore, the issue of MCCB surveillance testing is a generic issue for which the NRC staff has drafted, but not yet issued, a Generic Letter.

Overall plant experience with MCCBs has been good, with no areas of concern identified by responsible plant groups. A review of the plant work order system over approximately the last three years shows no evidence of problems which would require a specific testing program for molded case breakers used in safety related systems. Normal/routine tests on safety related systems, although not monitoring breaker performance directly, do verify that these breakers will carry required load without tripping. Many other loads are not required during accidents, but for day to day operation. Since operability is the concern, and operation is conducted routinely without spurious tripping, there is no concern about the ability of the breakers to carry required current.

In addition, the industry normally follows applicable manufacturers' recommendations, and, at this time the manufacturers have not generally identified a need for periodic testing of MCCBs. The manufacturers also do not identify a limitation to the service life.

In the August 31, 1991 Nuclear Management and Resources Council (NUMARC) comments on the NRC draft generic letter, it was noted that there has been no demonstration of a significant safety concern regarding MCCBs. The NRC based its justification for a testing requirement on general reference to their Nuclear Plant Aging Research (NPAR) and isolated problems at three plant sites. Therefore, in view of the demonstrated good performance of MCCBs, as well as the generic nature of this issue, Con Edison believes that this Notice of Violation is an inappropriate application of the NRC enforcement policy.

We are prepared to accept NRC or industry guidance to perform periodic confirmation of MCCB performance capability. We will be considering how best to accomplish this under an appropriate testing, surveillance or replacement program, with the intent of beginning implementation by the next refueling outage. We would welcome timely NRC input to this issue, preferably in the form of an Information Notice or via dialogue with NUMARC.