

Consolidated Edison Company of New York, Inc.
4 Irving Place, New York, N Y 10003
Telephone (212) 460-3819

February 7, 1973

Re: Docket No. 50-286

Mr. James P. O'Reilly, Director
Directorate of Regulatory Operations, Region 1
U.S. Atomic Energy Commission
970 Broad Street
Newark, New Jersey 07102

Dear Mr. O'Reilly

In reply to your letter of January 5, 1973, concerning the inspection conducted by Mr. Allentuck on November 20, 21, 22, December 1 and December 14, 1972 at our Indian Point Unit #3 facility, we have the following responses to each of the items referenced in the attachments to your letter:

ANSWERS TO ENCLOSURE 1 OF YOUR LETTER:

Answer: Question 1

A new Wedco procedure will be implemented to provide an audit function which will verify compliance with the Quality Assurance Program and to determine the effectiveness of the program. The scope of this program is to establish that Wedco Management periodically reviews and evaluates the status and effectiveness of all aspects of the Quality Assurance Program. The eighteen (18) QA criteria are divided into four convenient groups of QA audit topics. Four groups of audits are scheduled, one each month, covering all 18 criteria. During each subsequent quarter, until plant completion, a QA audit will be made covering a separate audit topic group.

Written reports will be required following each audit and the results discussed with the appropriate management. The final audit report will be cosigned by QA and the affected Wedco manager and reviewed by an officer of Wedco who does not have direct responsibility for the function being audited.

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Answer(s): Question 2

- 2a. (No reply to this question was required).
- 2b. The presence of uncontrolled weld rod in areas where weld rod is controlled by Wedco Procedure QCG-2 is being corrected in two ways. First, inspection forces have been instructed to direct increased efforts toward enforcement of the requirements of Procedure QCG-2. Second, the nightly cleanup force has been increased and instructed to collect and dispose of weld rod which may have been dropped during the course of the daily activities. Our recent inspections indicate that the problem of loose weld rod is effectively being controlled by these actions.
- 2c. (No reply to this question was required).
- 2d. As noted by the AEC, the current range in the welding procedure is a recommendation only. In practice, the recommended current range is normally followed; however, it is not an essential variable as defined in the ASME Boiler and Pressure Vessel Code. Therefore, verification of the current on each weld is not considered necessary. Immediately following the AEC audit, a Wedco inspector checked the current used on the weld under question. It was found to be acceptable as determined with a current tester. On December 1, 1972, a method was instituted whereby welding machine amperage is verified at the beginning of each shift. By this means, it is readily determinable whether or not the recommended range is being followed.
- 2e. (No reply to this question was required).
- 2f. (No reply to this question was required).
- 2g. Procedure No. WQA-4-0-14, "Storage and Maintenance Criteria for Class I Items" has been drafted which covers periodic rotation of large motor shafts. In the interim, the practice of the periodic rotation of these shafts by the Wedco Construction forces, with attendant logbook entries, will continue.

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Answer(s): Question 2 (cont'd)

- 2h. A procedure that requires the surveillance of installed instruments requiring a special protective environment is being developed and will be employed when these types of instruments are installed.
- 2i. These penetration barriers have not been designed and such construction activity will not be started for several months. When design has proceeded sufficiently, requirements for this verification will be identified and incorporated into the inspection program.
- 2j. Wedco considers that proper installation of cable does not require that tension measurements be made during cable pulling. Con Edison experience in the pulling of vast quantities of underground cable substantiates this position. Cable pulling lengths are calculated on the basis of maximum copper stresses and, provided conduits are installed according to design and are unobstructed, allowable pulling tensions will not be exceeded. Conduits are inspected for compliance with design and are mandreled before cable installation to assure they are clear. Cables installed in trays are subject to much lower pulling friction than cable installed in conduits and pulling tensions are, therefore, lower. The cable is also visible throughout its entire length and is, therefore, not subject to inadvertent binding during pulling.
- 2k. Design cable tray loadings are reviewed by the design agency to assure that criteria have been met. Cable installation procedures assure that cables are routed in accordance with the approved design. This is verified by inspection during installation that cables are routed in accordance with the design. In the event that revised routing becomes necessary, prior Engineering approval is required including verification that design requirements, including cable tray loadings have been met.

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Answer(s): Question 2 (cont'd)

21. Separation of redundant safety related circuits and non-bridging of these circuits by either safety or non-safety-related cable is a feature inherent in the design itself. The field forces verify that cable is routed in the channels specified by the design agency. In the event that revised routing becomes necessary, prior Engineering approval is required including verification that design requirements, including cable routing, have been met.

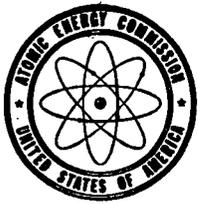
Answer: Question 3

A new Wedco Procedure, WCE-0-3, "Procedure for Proper Maintenance of Electrical Penetrations and Mechanical and Electrical Equipment", is being finalized and includes the storage of motors. In the interim, a preventative maintenance program has been dictated by Wedco letter. This program requires that Wedco inspection forces monitor this activity until the procedure has been implemented by the electrical construction forces.

Answer: Question 4

QAP-8, "Procedure for Quality Assurance and Quality Control Records Retention" specifies the duration of record retention in Paragraphs 4.2.2 and 4.5. Record location and assigned retention responsibility are specified in Paragraphs 4.2.1, 4.2.3, 4.2.4, and 4.4.2 of the same document. Written instructions to Con Edison inspectors include "Each inspection performed is noted in the QC log. The notation includes the name of the Inspector, the date of the inspection, the area inspected, the purpose of the inspection, and any other comments deemed appropriate by the Inspector".

Requirements for the retention of qualification of personnel, processes, and equipment records are included in WQA2-1 within appropriate subject categories (i.e., files on piping, piping fittings, and valves include records of welding procedure qualifications and welder qualifications; files on lifting equipment include records of load tests and NDT, etc.). Requirements for the retention of audit reports are currently being incorporated into a separate procedure now in preparation. The specific contents of inspection and test records are specified in individual inspection and test instructions. Wedco QA records



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Answer: Question 4 (cont'd)

will be retained by Wedco until completion of the project. Files will then be turned over to Con Edison in accordance with Paragraph 2.3.2(d) of WQA-2-1.

Answer: Question 5

(No reply to this question was required).

Answer(s): Question 6

- 6a. A nonconformance report has been issued and Valve SI-895 C will be corrected prior to line acceptance and hydro test. A new procedure, WQA-4-0-7, which will require inspection for this feature is being prepared.
- 6b. A nonconformance report has been issued to cover the undercut of weld 1061 and repair will be completed prior to line acceptance. A new procedure, WQA-4-0-7, is being developed to require inspection of all Class I lines for undercutting of weldments. This inspection feature has been included in this revised welding check-off record sheet which will accompany this procedure.
- 6c. Procedure WQA-4-0-7 will require "go-no-go" measurements of weld reinforcement thickness as part of the weld visual inspection on new and existing Class I piping. The non-conformances of welds 1061 and 1062 have been noted on Nonconformance Reports and will be corrected prior to line acceptance.

ANSWERS TO ENCLOSURE 2 OF YOUR LETTER:

Answer: Question 1

The splices used at the penetrations are segregated by channel so that cables in one channel cannot be damaged by a fire in a redundant channel. Neither the cable nor any splice can be designed to continue in operation when exposed to a major fire. The safeguard functions are assured by providing redundant channels

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Answer: Question 1 (cont'd)

physically separated from one another, not by the use of splices that can resist the effects of direct impingement of flame. Fire resistant cable is important because it limits the spread of fire from one area to another. Since splices are located in a limited area they do not contribute to the spread of fire through the tray system.

Answer: Question 2

The design agency (UE&C) has verified that the design of these walls is adequate for the seismic design criteria for IP Unit #3. It was verified in the field that these walls were built in accordance with the design with the only exception being that the top two courses were made from hollow concrete block filled with concrete rather than from solid concrete block. This change has been verified with the designer as not being detrimental to the resistance to seismic conditions.

Answer: Question 3

Consideration has been given during design and manufacture of the motor generator flywheel, to integrity of the flywheel during operation. The equipment specification delineates the following criteria for the flywheel:

a. Mill Tests

1. Mill test reports for material composition and physical properties. NDT temperature shall not be greater than +10°F.

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Answer: Question 3 (cont'd)

a. Mill Tests (cont'd)

2. Record charts for heat treatment and stress relieving if applicable.
3. Test reports in accordance with ASME Section III, Article 3, N-331.2 with Charpy V-notch results for both longitudinal and transverse grain directions.

b. Stress

Principal stress shall not exceed 50% of the yield stress at normal operating speed excluding stress concentrations.

c. Ultrasonic Inspection

Report documentary acceptance to ASTM A578 for Level I for longitudinal wave examinations and ASTM A577 for shear wave examination.

d. Magnetic Particle or Liquid Penetrant Tests

In accordance with ASME Section III, Paragraph 322.2 if magnetic and Paragraph 322.3 if dye penetrant.

The actual flywheels are of forged, one-piece, machined steel construction, to A-533-67A, Grade B, Class I specifications. Certifications are available for the above criteria a, c, and d (Mill Tests, Chemicals and Physicals, UT, Magnetic Particle, and Liquid Penetrant) with results indicating that no cracks or defects larger than Code acceptance specifications were found during any of the inspections. This is assurance of a component free of defects. Further, operation of the motor-generator (and flywheel) will be at speeds well below the speed at which stresses reach yield (i.e. greater than 140% of operating speed). Operating speed of these units is, of course, closely controlled by both the off-site power grid frequency or speed of the plant turbine generator, both of which have close frequency (speed) controls in themselves.

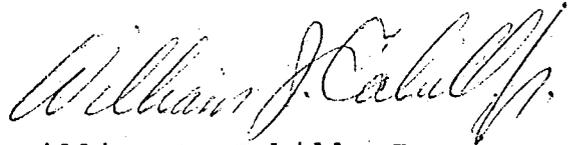
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The above considerations assure that there will be no failure of the MG flywheels.

Very truly yours



William J. Cahill, Jr.

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