

U. S. ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE
REGION I

CO Inspection Report No. 50-247/72-01

Subject: Consolidated Edison Company

Indian Point 2

License No. CPPR-21

Location: Buchanan, New York

Priority

Category B

Type of Licensee: PWR 873 MWe (Westinghouse)

Type of Inspection: Special, Unannounced (Construction)

Dates of Inspection: December 29-30, 1971 and January 3, 1972

Dates of Previous Inspection: December 20, 1971

Principal Inspector: Glen L. Madsen, Reactor Inspector

Accompanying Inspectors: *A. V. J. Burzi*

Date
1-21-72
Date

(Inspection Performed By) A. V. J. Burzi, Reactor Inspector (Const.)

Date

Other Accompanying Personnel: NONE

Date

Reviewed By: *E. M. Howard*

1-21-72
Date

E. M. Howard, Senior Reactor Inspector (Const.)

Proprietary Information: NONE

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SECTION I

Enforcement Action

A. Noncompliance Items

None

B. Nonconformance Items

None

C. Safety Items

None

Licensee Action on Previously Identified Enforcement Matters

Not applicable for this inspection

Unresolved Items

Splicing of cables was to start prior to performance of tests to assure the integrity of in-place cables and prototype splicing tests to verify that the technique and materials are adequate.

Status of Previously Reported Unresolved Items

Not applicable for this inspection

Design Changes

None

Unusual Occurrences

None

Persons Contacted

- A. D. Kohler, Jr., Resident Construction Manager* (Con Ed)
- F. Fisher, Chief Electrical Engineer** (Con Ed)
- P. Leo, Assistant Superintendent Construction** (Con Ed)

*Attended management interview on December 30

**Attended management interview on January 3

O. Beusse, Site Electrical, Startup (Con Ed)
R. Noberini, Quality Assurance (Con Ed)
R. Cosgrove, Staff Engineer Construction* (Con Ed)
W. Gerstmeir, Site Electrical, Startup (Con Ed)
R. Kelly Operations* (Wedco)

Management Interview

The following was discussed with Messrs. Kohler, Noberini, Cosgrove and Beusse on December 30, 1971:

- A. The applicant asked if inspections were, in the future, to be unannounced. The inspector stated that this was true. The applicant was concerned that the persons to whom questions should be asked might not be available for the inspection, especially if they had to be summoned from New York City. The inspector stated that this had been considered and was a risk that had to be taken.
- B. The seven items contained in CO:I's letter to Con Ed, dated December 7, 1971, were discussed and their status requested by the inspector. The applicant stated that the letter had been studied and the information and data would be forthcoming; however, results were not available now. He added that, even though the letter did not require an answer, a reply was being considered by them since the letter contained a statement that they were not in agreement with, to wit: that the tests, and results therefrom, were required prior to implementation of the reinstallation program. They felt that very little risk was involved if they proceeded without test results. In fact, their schedule demanded it, and the work to be performed did not require any innovative technology and was, in fact, pedestrian. They were to begin splicing on December 31, 1971.

The inspector stated that there was considerable risk involved if they proceeded with the splices only to find, from later tests, that the cables they were splicing to were not sound or the technique deficient. The applicant felt that that was not an undue risk but, nevertheless, a risk they had to take.

The inspector urged the applicant to have the letter clarifying their position sent to CO:I as soon as possible.

The following was discussed with Messrs. Fisher, Leo, and Reusse on January 3, 1971. (The second meeting was held after a conference call between the applicant, CO:I, and Headquarters on the evening of December 30, during which Con Ed agreed to have their specialist present whatever test data was available to CO:I.)

- A. The applicant thought that the present misunderstanding was brought about because letters crossed. CO:I's December 7 letter requested information that Con Ed thought it had already delivered to DRL in their letter of December 6, 1971. Their letter of the 6th transmitted a report entitled "Indian Point Station Unit No. 2 Restoration Plan for Primary Auxiliary Building and Equipment", which was also dated December 6, 1971. The inspector stated that, while their program, as detailed in their report, seemed comprehensive, the order in which these events were to take place was not given. Further, it had been our understanding during the meeting of November 24, 1971* at the site, and again during Con Ed's presentation to DRL on December 2, 1971, that the soundness of the undamaged cable to which they intended to splice would be ascertained before attempting the final splices and that the prototype splice design would be verified before attempting to make final splices. Such was the gist of CO:I's letter of December 7.

An exegesis of the disputed third paragraph in CO:I's letter was attempted, then abandoned in favor of a status report on the proposed tests.

- B. The applicant stated that the prototype splices had been sent out on December 30 and that testing had begun on January 1. Test results would not be available for at least eight days, this time dictated by the eight-day immersion test; however, most of the other test results would be available sooner, within a few days.

The applicant also stated that tests on the in-place cable would not be made until they were about to splice, since they intended to test the sample removed immediately above the point at which it was to be spliced. Evidently, this specimen could not be obtained until the moment the splice was to be made. The inspector stated that it would then be too late to find that the cable was not sound and work would be wasted in making and then removing the splice. In fact, he was under the impression that samples had already been taken at points several feet away from the intended

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splices and tests on these samples would be good enough to assure the integrity of the remainder of the cable. If they were in trouble at that point on the cable, they would surely be in trouble at the point of splicing. The applicant stated that the whereabouts or identity of the other samples were unknown and that their program called for samples taken at the point of splicing.

The inspector again urged the applicant to respond as quickly as possible to CO:I's letter of December 7.

SECTION II

Additional Subjects Inspected, Not Identified in Section I, Where No Deficiencies or Unresolved Items Were Found

1. General

A tour of the damaged area disclosed the following:

- a. Motor control centers MCC-26A, -26B, and -27 are in place. These are new, not rebuilt, MCC's. However, the lighting panel, also destroyed in the fire, has yet to be delivered.
- b. Most of the cable trays have been installed. They are now getting more separation in their tray design than they had before. This is, apparently, dictated by the splice box design they are using wherein redundant channels will be run in separate boxes. They still require barriers in trays, but there will now be not as many trays with barriers.
- c. Some conduit has been replaced completely, but most, after examination, have had damaged or sooted portions replaced up to the first sound coupling with the remaining in-place conduit cleaned.
- d. The blower, on level 98, had been removed and cleaned and was also regalvanized. It now has a uniform silver surface. The ducts on the ceiling have also been removed, cleaned, and are now back in place.
- e. Samples of thermal insulation have been removed from the boric acid tanks and piping for analysis. The results of these tests are not yet available.
- f. Concrete at Level 98, near the west wall between columns E-6 and E-7, had been tested and found not degraded, but it was replaced anyway.
- g. The cross braces between columns E-6 and E-7 at elevation 80 were replaced. The columns themselves are going to be boxed, and the bolts that connect the columns to the ceiling are to be replaced.

- h. Some motors have been meggered. More remain to be meggered. The list of motors to be checked is contained in their repair program.
- i. Some motors have had internals wiped and the wipes sent for analysis of film and dust. Analysis results are not yet available.
- j. Roof repair is complete; siding on south wall and a portion of the siding on the west wall is to be replaced.
- k. Seventy-six prototype splices have been made and will be sent out on the 30th of December to Con Ed's lab for tests.
- l. A visual inspection of all of the existing cable has been completed. Meggering of most of the cables (Wedco's estimate is 80%) has been completed.
- m. Most of the cleaning operations within the building have been completed. The walls and ceilings were sand blasted and have been painted. Most of the piping and conduits appeared clean. All of the cubicles on Level 80 were clean.
- n. Some new cable was being pulled. This is cable that runs from the MCC's to equipment within the building and does not require splicing. They were scheduled to finish pulling all of this cable within the next few days and hoped to pull cable requiring splices immediately thereafter with splicing commencing the week of January 3, 1972.

Details of Subjects Discussed in Section I

2. Unannounced Inspections

The applicant was of the opinion that this form of inspection was less fruitful than an announced inspection, since in most cases personnel who might best answer questions might not be available at the time of the inspection. This would be especially true of personnel based in New York City.

3. The Requirement to Test Before Splicing

The applicant had studied CO:I's letter of December 7, and stated that, while it was their intention to comply fully with its requests, they took issue with its third paragraph. This was the paragraph that reiterated CO:I's impression, acquired both at the November 24 meeting

with the applicant and during the December 2 meeting between DRL and the applicant (attended by CO:I), that the applicant had made a commitment to test both the prototype splice and the in-place cable, and make available the results therefrom, prior to actual implementation of their resinstallation program. The applicant's position was: (1) that even though CO:I's letter did not require a response, they would respond in order to clarify their impression of their commitment; (2) their submittal to DRL of their repair program satisfied the requirement of a report; (3) They had made many splices before and, therefore, felt they had a reliable scheme for making them; and (4) their schedule called for the splices to be made in just a few days.

The inspector reminded the applicant that CO:I's letter would be sent to the PDR, and that if there was any issue to be taken with it, it should be done now before any work on actual splicing began.