

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

Report of Inspection

CO Report No. 247/70-8

Licensee: Consolidated Edison Company  
Indian Point No. 2 (IP-2)  
License No. CPPR-21  
Category B

Dates of Inspections: July 30, 1970 and August 4, 5, 19, 24  
and 25, 1970

Dates of Previous Inspections: June 26 and 29, 1970 and July 8 and 9,  
1970

Inspected By: G. L. Madsen 10/1/70  
G. L. Madsen, Reactor Inspector Date  
Reviewed By: N. C. Moseley 10/1/70  
N. C. Moseley, Senior Reactor Inspector Date

Proprietary Information: None

SCOPE

Announced inspections were made at the Indian Point No. 2 (IP-2) construction site on July 30 and August 4, 5, 24 and 25, 1970. In addition, an inspection was conducted at the Consolidated Edison Engineering office on August 19, 1970. Major items inspected included preoperational testing, mechanical system clean-up, electrical surveillance, reactor pressure boundary to conformance to Table A and evaluation of unresolved items. Mr. N. C. Moseley, Senior Reactor Inspector, accompanied the inspector on August 5, 1970. Mr. R. L. Spessard accompanied the inspector on August 24 and 25, 1970 for training purposes.

SUMMARY

Twenty nine of 82 Phase II system functional test procedures have been approved for use by Wedco and Con Ed. About 75 percent of the Phase I flushing and hydrostatic testing has been performed. A review of issued Phase II procedures raised questions relating to coverage during hot functional testing, readily available anticipated values, and incomplete testing of the Isolation Valve Seal Water System. (Section II. A.)

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Placement and termination of electrical cabling is better than 90 percent complete. Con Ed and Wedco have continued their installation review of safeguards cabling. As a result of previous findings of questionable separation of containment pressure transmitters and cabling, Con Ed has expanded coverage of instrument cabling surveillance. Additional sample design reviews of safeguard instrument cabling is in progress. (Section II. B.)

Con Ed and Wedco have continued the mechanical system cleanup program. Action has been initiated to protect piping during support and restrainer installation. Total system cleanup is about 80 percent complete. (Section II. C.)

Con Ed indicated that all the necessary information is now available for responding to compliance of reactor pressure boundary components to the Table A criteria. (Section II. D.)

The containment pipe bellows material and weldments continues to be an unresolved item. Documentation of the materials is only partially traceable. (Section II. E. 1.)

Survey information for the containment liner, at the temporary construction openings, revealed nine conditions where the nominal diameter exceeds tolerance. (Section II. E. 2.)

UE&C, Westinghouse, and Con Ed concur that the placement of reinforcement bars and cadwelds for closure of the north opening to containment is acceptable. The concrete forms are to be placed in a manner to assure at least a three inch concrete coverage. (Section II. E. 3.)

The circulating water pumps are to be returned to the factory for modification. (Section II. F.)

The proper stamping of Section III Class C vessels question is considered resolved with the exception of the final stamping of the volume control tank. (Section II. G.)

Con Ed and Westinghouse have indicated that the eight CF8 accumulator check valves are technically acceptable for use. The final acceptance of this position is dependent on ASME's approval of applying Section III allowable stress values to the MS-SP-66 valve practices equations. (Section II. H.)

The existence of carbon steel supports welded to stainless piping has been corrected. Installation of some protective stainless bands between carbon steel support and stainless pipe is to be provided. The extent of this action has not been specifically defined. (Section II. I.)

Pre-service inspection of pressurizer weldments revealed questionable conditions relating to the vessel base plate materials. (Section II. J.)

The IP-2 submittal of Technical Specifications was reviewed and comments were forwarded to CO Headquarters. (Section II. L.)

The present scheduled core loading date is November 23, 1970. The effects of the recent labor strike have not been evaluated. (Section II. M.)

Three previously identified items have been resolved. (Section II. N.)

A listing of items requiring resolution and/or followup is included. (Section II. O.)

### DETAILS

#### I. Persons Contacted

##### Con Ed

Dr. A. Flynn, Mechanical Plant Engineer  
Mr. G. Waselinko, Asst. Division Engineer (Mechanical Department)  
Mr. R. Sabodas, Electrical Engineer (Electrical Department)  
Mr. A. Corcoran, Construction Project Superintendent  
Mr. P. Leo, Asst. Construction Project Superintendent  
Mr. E. Dadson, Quality Assurance Supervisor  
Mr. R. Cosgrove, Mechanical Engineer, Startup  
Mr. A. Koller, Nuclear Engineer, Construction Startup  
Mr. J. Dragosits, Mechanical Inspector  
Mr. O. Buesse, Electrical Inspector, Startup

##### Wedco

Mr. M. Snow, Manager, Reliability  
Mr. T. Lawson, Manager, Site Quality Control  
Mr. R. Kelley, Startup Engineer

#### II. Results of Inspection

##### A. Preoperational Testing

##### 1. Status of Procedure Preparation

Twenty nine of 82 Phase II systems preoperational test procedures have been approved for use by Wedco and Con Ed. An additional 19 procedures have been issued by Wedco for review by Con Ed.

## 2. Status of Test Performance

About 75% of the Phase I flushing and hydrostatic testing has been performed and the Phase II system functional testing of the instrument air system is complete. A review of records, by the inspector, revealed that the following hydrostatic tests have been conducted, the result evaluated, and signed off, by Wedco and Con Ed, as satisfactorily performed:

<u>Procedure No.</u>	<u>Title</u>
3.1 Rev. 2	Component Cooling Hydro
3.1.2	R.C. Pump Thermal Barrier Hydro
3.3	CVCS, Sheet 1, H. P. Hydro
3.3.1	Boric Acid Makeup Hydro
3.3.2	CVCS, Sheet 1, Low Pressure Hydro
3.6	Pressurizer Relief Line Hydro
3.7	Reactor Vessel Leakoff Line Hydro
3.8	Pressurizer Relief Tank Hydro
3.9	SIS and RHR Hydro
3.11a	RWST Hydro
3.12	Primary Water System Hydro

The acceptance form for the Phase II, Instrument Air System functional test was reviewed by the inspector. The acceptance form indicated that the portion of the air lines, leading to the containment weld channels, had not been checked out. The acceptance form for this system was approved by Wedco and Con Ed and an outstanding items punch list included the above exception.

## 3. Review of Systems Functional Test Procedures

The following systems functional test procedures were reviewed to varying depths by the inspector.

<u>Procedure Number</u>	<u>Title</u>
4.1.1	Pressurizer Relief Tank
4.1.2	RCS Heatup
4.1.3	Pressurizer Pressure Control
4.1.8	RCS Cooldown
4.2.1	CVCS Functional
4.2.2	Solid System Pressure Control
4.3.1	Component Cooling System
4.12	Fuel Facility Check-Out
4.13.4	Emergency Feedwater Supply
4.15.1	Service Water System
4.16.1	Instrument Air
4.17	Fire Protection
4.21.1	Main Circulating Water
4.34	Isolation Valve Seal Water Test

The following concerns emerged from the above review:

- a. Several of the procedures indicate that additional testing will be performed during the Hot Functional Program. The inspector indicated to Con Ed and Wedco that the system procedure appeared incomplete in that a specific Hot Functional Program had not been defined nor was it included in the Phase II title outline. Wedco informed the inspector that the Hot Functional program document is in printing and will be available shortly.
- b. Anticipated values are not included in some of the procedures; whereas, in other procedures separate data sheets were available. Wedco indicated that some procedures do not have data sheets and that some of the anticipated test values are not in a procedure but are available in a referenced manual. The inspector indicated that the presence of acceptance values within the procedure should be most useful to the man performing the test, in that he could immediately be aware of possible areas of discrepancy. In addition, the later review of test results by all parties, including Wedco, Con Ed, and CO would be thereby simplified. All parties seemed to agree with the philosophy. Con Ed indicated that this point would be kept in mind during the future review of test procedures. Wedco indicated that they would look at issued procedures to determine if additional acceptance values should be included in the procedures, be made available to the test engineer prior to test performance, or are not needed.
- c. Test Procedure No. 4.34 on the Isolation Valve Seal Water System (IVSWS) appeared to be incomplete in that the sequence of automatic closure of the isolation valves and addition of the seal water is not tested as required by the FSAR\*. The procedure covers only the addition of seal water and measurement of water leakage. Wedco indicated that their intent was to test systems in the "battle condition", wherever possible. The inspector indicated that this did not seem to be the case for the IVSWS in that Test 4.34 and the outline of proposed procedures did not illustrate when the valve sequencing was to be tested. Wedco indicated that the functional testing in question was to be performed in conjunction with the electrical portion of Test Procedure No. 4.5.1 entitled Safety Injection Functional Testing. In addition, Con Ed and Wedco stated that a review of the proposed preoperational test outline versus FSAR requirements is presently in progress. The inspector indicated that Test Procedure No. 4.5.1 will be reviewed to determine that the above questionable condition, with respect to the IVSWS, is satisfied.

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\*Page 6.5-9 and Table 13.1-1, Item 15

With the exception of the above, the reviewed procedures appear to provide sufficient detail to provide attainment of the functional test objectives.

B. Electrical

1. Electrical Cable Installation

Placement and termination of electrical cabling is better than 90 percent complete. Con Ed and Wedco are continuing their surveillance programs for determining conformance of installation to cable pulling schedules\*. Wedco reports that their proposed sample audit has been completed and no significant problems have been identified. Wedco submitted the results of their inspection to Con Ed; however, some pertinent information was not contained and the significance of the data could not be readily determined. Con Ed has requested the additional information and Wedco indicated that the information would be transmitted within a week.

As a result of Con Ed's finding of questionable conditions relating to separation of containment pressure transmitters and instrument cables at termination boxes\*\*, the instrument transmitter racks and electrical termination boxes for the pressurizer level, containment liner pressurization, reactor coolant flow, steam generator level, and reactor coolant pump seal and cooling water were monitored. Con Ed reports that no additional questionable conditions had been identified.

The inspector inquired as to Con Ed's intent for additional cable installation surveillance, and was informed that additional safeguard power and control cable surveillance probably will not be performed and that they are presently evaluating the results of the Wedco and Con Ed review of instrument cable. The inspector asked if a composite report relating to the cable surveillance program was to be prepared. Mr. Dadson indicated that they have not decided exactly how this package would be presented; but, they realize that a convincing reply on the subject of acceptability of cable installation is needed. The inspector indicated that the total status of this subject would be covered during the next site inspection.

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\*CO Report No. 247/70-5, paragraph II. B.

\*\*CO Report No. 247/70-7, paragraph II. B. 1.

The inspector contacted Con Ed Engineering to discuss their decision relating to the need for additional design reviews of safeguards instrument cabling as a result of questionable areas found in the containment pressure instrument cabling\*. Mr. Sabodas indicated that additional sample reviews have been conducted and the evaluation of this matter continues. He also indicated that Westinghouse had performed some design review in this area and that this involvement would be factored into their thinking and decision relating to a need for additional auditing.

C. Mechanical Systems Cleanup

During the last inspection, the inspector noted that installation of pipe supports and restraints was in progress and that the work was being accomplished with no special protection for the piping\*\*. The net effect was deposition of weld splatter on the subject pipe. Mr. Dadson informed the inspector that the welders have been informed of the concerns and issued asbestos blankets to use in the protection of adjacent pipe during welding or cutting of metal. During a tour of the site, the inspector observed that this precaution was being implemented.

The total system cleanup is estimated to be 80 percent complete. The inspector indicated that a reaudit of the systems will be performed once Wedco and Con Ed indicate 100% acceptance of a system.

D. Reactor Pressure Boundary

Con Ed has received additional documentation from Westinghouse relating to Code compliance and/or Table A "Nondestructive Testing" for reactor pressure boundary components. Con Ed indicated that all the necessary information is now available. The present status is as follows:

1. Pipe and Fittings

As reported previously, Con Ed has initiated actions to determine that documentation on pipe and fittings, greater than 3 inches in diameter, is traceable or the weldments or castings were RT and PT in the field\*\*\*. Subsequently, Con Ed and Wedco performed audits on piping with diameters less than 3 inches. The vendor (Tubeco) was visited and audits indicated that no welded piping in these diameters

\*CO Report No. 247/70-7, paragraph II. B. 1.

\*\*CO Report No. 247/70-7, paragraph II. C.

\*\*\*CO Report No. 247/70-6, paragraph II. E. 1.



had been received. In addition, Con Ed and Wedco's walking of the lines at the site failed to reveal the presence of any welded pipe in diameters less than three inches.

Con Ed indicated to the inspector that the pipe and fittings installed in the reactor boundary at IP-2 meets the requirements of code and/or Table A non-destructive testing criteria, with the exception of approximately three percent of the pipe welds which were not accessible for RT or PT in the installed position.

Con Ed indicated that formal documentation, as discussed previously,\* would be made available to the inspector in about two weeks.

## 2. Valves

The scope of the valve review program, as it relates to the reactor pressure boundary requirements of Table A, was previously reported\*\* Westinghouse's course of action and resultant findings with respect to Table A is as follows:

- a. Initially 21 valves were selected for review. This grouping included the three pressurizer safety valves, two pressurizer relief valves, and the first two valves greater than 2" in diameter in lines leading from the reactor coolant loops. As a result of records review, the safety valves were returned to the vendor for additional RT and PT of the valve bodies, bonnets and discs. In addition, the discs of two relief valves and four check valves (located between the SIS accumulators and the RHR Heat Exchanger) were RT in the field. As a result of these actions, Westinghouse contends that these valves meet the criteria included in Table A.
- b. As previously reported\*\*\*Con Ed met with DRL to discuss the definition of reactor pressure boundary as it relates specifically to valve discs. During the course of the meeting, 26 valves were selected as those requiring NDT conformance of valve discs as defined in Table A. A comparison of this listing to (a) above disclosed that 14 of the 21 initial valves selected are included in this group of 26 valves. A documentation review was conducted and data presented. This document review revealed that seven of the 12 valves contained discs which were not previously RT. The specific valves are included in the following table:

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\*CO Report No. 247/70-2, paragraph II. A.

\*\*CO Reports Nos. 247/69-11, paragraph II. C. 2. and 247/70-2, paragraph II. C. 2.

\*\*\*CO Report No. 247/70-2, paragraph II. C. 2.

<u>Valve No.</u>	<u>Size</u>	<u>System</u>	<u>System Pressure</u>	<u>Location</u>
850A	4"	SIS	1500	HP Pump Discharge
850B	4"	SIS	1500	" " "
222	4"	CVCS	150	Excess Letdown
205	3"	CVCS	2500	Charging Line to Regen- erative Heat Exchanger
374	3"	CVCS	2500	" " "
888A	6"	SIS	600	Between RHR Exchangers and HP-SIS Pumps
888B	6"	SIS	600	" " " " "

With the exception of the above lack of disc RT, Westinghouse considers that the 26 valves received NDT equivalent to or surpassing the Table A criteria.

Con Ed pointed out that the data presented by Westinghouse indicated that 13 of this group of 26 valves lack specific certification but instead were evaluated on the basis of complete records for a group of valves with no identification of any specific valve to its record. The lack of traceability may be for the body, bonnet or disc.

- c. Con Ed requested and Westinghouse performed a documentation review of 27 additional valves. Westinghouse concluded that the NDT performed on the bodies and bonnets of this grouping meets the Table A criteria. Once again, several of these valves were evaluated on the basis of complete records for a group of valves with no identification of a specific valve to its record. The lack of traceability may be for the body, bonnet, or disc.

Con Ed is presently evaluating the data presented by Westinghouse. Mr. Waselinko indicated that a summary statement relating to the valves and degree of compliance would be prepared. This report is to specify deviations from Table A and a disposition of each item that does not meet Table A, as previously discussed\*. Mr. Waselinko indicated that the final Con Ed position on this subject would be completed in about two weeks.

## E. Containment

### 1. Pipe Penetrations

As previously reported, questions have been raised with regard to weldment quality and material compatibility at pipe penetration expansion bellows for the containment building\*\*. Cleanup and PT or MT of the weldments

\*CO Report No. 247/70-2, paragraph II. C. 2.

\*\*CO Report No. 247/70-6, paragraph II. F.

is nearing completion. Documentation relating to materials in the penetrations is only partially traceable. Con Ed and Wedco are presently gathering all available materials documentation and have performed an alloy detector acid test of the subject components. The alloy test indicated the bellows material to be stainless and all end components to be carbon steel. Con Ed indicated that the investigation on this subject is not complete.

## 2. Containment Liner

The inspector reviewed containment liner survey information for the three temporary construction openings. Nine conditions exist where the nominal diameter of the liner exceeds the two inch tolerance limit of the FSAR\*. The maximum measured deviation from the nominal diameter was three inches. Wedco presented the inspector with a deficiency report that outlined the above condition and gave reasons for acceptability of the condition. The deviation report has been forwarded to UE&C for a design evaluation. The inspector indicated that the results of the design review and final disposition of this subject would require additional CO followup.

## 3. Containment Closure

Closure of the three construction access openings in the containment building continues. Placement of concrete at these locations is presently scheduled for October 1970.

A survey of reinforcement bar and cadweld placement for the north opening was forwarded to CO Headquarters for evaluation relative to design adequacy\*\*. The CO Headquarters reply indicated that the only real concern is that there appears to be a potential for insufficient concrete coverage for some exterior cadwelds\*\*\*. The UE&C design engineers have evaluated the survey data and concluded that the existing placement of reinforcement bars and cadweld splices is acceptable and recommend that the concrete forms be placed to assure at least a three inch concrete coverage of cadwelds and reinforcement bar. Westinghouse and Con Ed concur with this evaluation and consider the north opening to be prepared for concrete placement.

Similar survey data is to be made available to the inspector for the personnel and equipment access openings.

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\*Page 5.1.2-1

\*\*CO Report No. 247/70-5, paragraph II. C.

\*\*\*Memo from J. P. O'Reilly, to N. C. Moseley dated June 6, 1970

F. Circulating Water Pumps

During the service checkout of the circulating water pumps, upper shaft bearing sleeve failures were encountered\*. The cause of the failures was determined to be insufficient clearance between the sleeves and bearing, which prevented adequate passage of cooling water. The sleeve to bearing clearance on the six pumps was increased and initial checkout of the pumps was satisfactory. Subsequently, the sleeve of one pump was removed for inspection and was found to contain a crack. The six pumps are scheduled to be returned to the factory for additional modifications.

G. ASME Section III Class C Vessels

Thirteen vessels were noted which had not been stamped with a letter N as required for ASME Section III, Class C vessels\*\*. Subsequently, Wedco initiated actions to correct this condition. The status of actions is as follows:

1. One vessel was reclassified as a ASME Section VIII Tank.\*\*\*
2. Seven vessels were determined to be outside of the code jurisdiction due to being less than 6 inches in diameter. Westinghouse has agreed to provide certification or letter of compliance that these vessels were designed and fabricated to the code requirements.
3. Approval for affixing an N stamp on the other five vessels has been obtained. Four of these have been properly stamped. The volume control tank is to be properly stamped by the code inspector during the next couple of weeks.

The above actions are considered responsive and the subject is considered resolved, with the exception of final stamping of the volume control tank.

H. Accumulator Check Valves

As previously reported, the eight accumulator check valves were fabricated of CF8 rather than the specified CF8M material and the acceptability of these valves for the intended use was questioned.\*\*\*\* Con Ed initiated actions for justifying the acceptability of these valves. The results of the subsequent actions by Westinghouse have been previously reported.\*\*\*\*\* Con Ed and Westinghouse have concluded that the

\*CO Report No. 247/70-6, paragraph II. H.

\*\*CO Report No. 247/70-3, paragraph II. F. 1.

\*\*\*FSAR, Table 6.2-1

\*\*\*\*CO Report No. 247/69-10, paragraph II. C. 2.

\*\*\*\*\*Memo to J. P. O'Reilly, from N. C. Moseley, dated August 31, 1970

subject valves are technically adequate for the intended use. Westinghouse's position is based on the application of the (13,300 psi) high allowable stress value of ASME Section I being applied to the equations of MS-SP-66 rather than the lower (10,650 psi) Section I allowable stress number in that the value is conservative when compared to the 15,300 psi allowable stress number of ASME Section III or ANSI-31.7-1969, with a comparable quality control level. Con Ed still had reservations relating to the use of allowable stress numbers other than those specified in Code Case N-10. Con Ed became aware of a recent, June 17, 1970, ASME subcommittee meeting which concluded that the application of Section III allowable stress numbers in conjunction with the MS-SP-66, valve standard for determining pressure ratings, is acceptable. On this basis, Con Ed concluded that since the N-10 or Section I allowable stress values are lower than the Section III (15,300 psi) values and since the valves were inspected to the requirements of applicable code cases, that the valves are acceptable for use. The inspector concludes that the valves were not fabricated to the Westinghouse specification, the 11,500 psi allowable stress number of N-10 should have been the maximum number applied, and the valves would be acceptable for use if the (15,300 psi) Section III stress value is applied to the MS-SP-66 formulas\*. The final resolution of this subject is dependent on ASME's approval of applying the Section III stress values in the calculations.

#### I. Pipe Supports

As previously reported, carbon steel supports were observed to be welded to stainless steel pipe\*\*. Westinghouse reviewed the condition and authorized UE&C to evaluate the various stainless steel pipe designs. UE&C concluded that either the supports should be firmly anchored to the pipe or a 20 gauge stainless protective band should be provided between the support and pipe. In addition, supports welded to the pipe were to be stainless steel plate material. UE&C prepared a listing of nuclear plant supports requiring corrective actions. The licensee reports that all supports material that is welded to stainless pipe is now stainless steel. Westinghouse has indicated that the installation of protective bands should be limited to systems where normal temperatures exceed 300°F, whereas the UE&C listing included all systems. The licensee agreed to keep the inspector informed on a final decision on this subject.

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\*Memo, J. P. O'Reilly, from N. C. Moseley, dated August 31, 1970

\*\*CO Report No. 247/69-7, paragraph II. J.

J. Pressurizer

During pre-service UT inspections of the pressurizer welds, a question relating to the base plate emerged which initially gave the appearance of laminations in the base material. Con Ed and Westinghouse analyzed the UT calibration techniques employed and concluded the sensitivity would be greater than is required by code for base plate materials. Subsequent UT of the suspect area was performed under the observation of Westinghouse, Con Ed, and Southwest Research. The general consensus of these parties is that lamination of the base material does not exist; however, an inclusion (metallic or non-metallic) does exist in a 25 square inch area. Additional testing is scheduled to begin August 31, 1970. A detailed evaluation of these results is to follow.

K. Labor Strike

The operating engineers were on strike for two weeks. The establishment of picket lines was only partly effective, in that several crafts continued to report for work.

L. Technical Specifications

The IP-2 Technical Specifications were submitted as Supplement No. 11. The inspector reviewed these specifications and comments were forwarded to CO Headquarters\*. The inspector attended a DRL meeting on this subject on August 7, 1970.

M. Schedule

The present scheduled core loading date is November 23, 1970. The effects of the recent operating engineers' strike have not been evaluated. The net result is that the present published core loading date will be in for another revision.

N. Resolution of Previously Identified Items (CO Report Reference in Parenthesis)

1. In-Depth Quality Control (247/70-1, Appendix A)
  - a. Pressurizer surge line not PT. The FSAR (Table 4.5-1) was revised and deleted the PT requirement.
  - b. Pressurizer safety valves - RT. The valves were returned to the vendor for additional NDT. The results of the final status of the valves are included in Section II. D. 2. a. of this report.

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\*Memo to J. P. O'Reilly, from N. C. Moseley, dated August 17, 1970

2. Completeness of safety injection system weld records (247/69-11, Section II. B. 2.)

- a. A program for verification of proper installation and record-keeping was initiated by Con Ed and Westinghouse\*. The resulting isometrics were reviewed by the inspector. Evidence of independent checks having been performed and the completion status is evident. Therefore, this item is considered resolved.

0. Items Requiring Followup

Resolution is required for the following items from previous compliance inspections (CO Report Reference in parenthesis):

1. SIS Valves-CF8 vs CF8M (247/69-11, Section II. B. 3.)
2. Reactor Pressure Boundary - Table A (247/69-11, Section II. C.)
3. Fuel Storage Building - completion of preops - FSAR discrepancies (247/69-9, II. G.)
4. Closure of Containment (247/69-9, Section II. E.)
5. Pipe Supports - Stainless Shims (247/69-9, Section II. J.)
6. Code "N" Stamp on Section III, Class "C" Vessels (247/69-7, Section II. N.)
7. Lateness of Preoperational procedure preparation (247/70-2, Section II. B.)
8. Replacement of Main Steam Flow Nozzles (247/70-4, Section II. I.)
9. Containment Penetration Bellows (247/70-6, Section II. F.)
10. Electrical barriers installed (247/70-5, Section II. B.)
11. Cable tray loading audit (247/70-5, Section II. B.)
12. Pipe support installation and clearance review (247/70-6, Section II. C.)
13. Circulating Water Pump Bearing Sleeve Modification (247/70-8, Section II. F.)

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\*CO Report No. 247/69-11, paragraph II. B. 2.

14. Pressurizer - Base Plate question (247/70-8, Section II. K.)
15. In-Depth Quality Control followup items (247/70-1, Appendix A):
  - a. Pressurizer surge nozzles not UT
  - b. SIS - evidence of lack of first line quality control
  - c. Need for independent cable design review
  - d. Lack of control on electrical cable installation
  - e. Emergency diesel control cables lack separation
  - f. SIS boron tank valve modification
  - g. Single electrical penetration
  - h. 480 switchgear - air lines and air compressor
  - i. Diesels in common room
16. DRL report to ACRS, dated July 2, 1970
  - a. LOCA analysis question
  - b. IP-1 stack - removal of 80 feet
  - c. Installation of strong motion seismograph
  - d. Diesel auto start from 480 volt buses
  - e. Internals vibrational preoperational test coverage
  - f. Demonstration of hydrogen recombiner throttle back - pre-operational test
  - g. Alarm arrangement on protection channels
  - h. Installation of hydrogen recombiner
  - i. Installation of redundant electrical tunnel fans
  - j. Tunnel fire protection installed.



17. DRL Requests:

- a. Possibility of defeating manual trip with reset buttons
- b. Trip breaker annunciation and bypass interlocks

18. FSAR, Volume V

- a. Remote control and instrumentation outside of control room
- b. Installation of modern fuel failure detection instrumentation

III. Management Interviews

Management interviews were conducted with Messrs. Corcoran and Dadson. Items discussed included:

A. Preoperational Testing

The inspector related his continued concerns relative to lateness of procedures preparation, hot functional testing, and lack of anticipated values in the test procedures. Mr. Corcoran indicated that procedure preparation continues to be ahead of construction, the hot functional program is being prepared, and desirability of including additional acceptance values will be given consideration.

B. Electrical

The status of the electrical design review and cable installation surveillance program was discussed. Mr. Corcoran stated that the cable installation review is progressing and would proceed until Con Ed has a high degree of assurance that the installation is acceptable.

C. Mechanical System Cleanup

The inspector indicated a desire to reaudit the condition of the mechanical systems after Wedco and Con Ed has indicated acceptance of the system. Mr. Dadson indicated that this was a reasonable approach. The inspector indicated satisfactory observations with respect to the protection of pipe during installation of supports.

D. Reactor Pressure Boundary

The inspector stated progress on the reactor pressure boundary (Table A) is evident. Mr. Corcoran indicated that Con Ed's position and deviation dispositions should be available in about two weeks.

E. Containment

The need for additional followup on the containment pipe bellows and liner diameter questions was pointed out. Mr. Dadson stated the subjects are being pursued and the inspector would be kept informed of progress.

The inspector indicated that CO was in basic agreement with Con Ed with respect to placement of cadwelds and reinforcement bars at the north opening. In addition, the assurance of a three inch minimum concrete coverage was indicated to be acceptable to CO. Mr. Dadson stated that survey information, for the other two openings, would be made available to the inspector.

F. Circulating Water Pumps

The status and condition of the circulating water pumps was reviewed. Mr. Corcoran indicated that the inspector would be informed relative to course of corrective actions.

G. Section III, Class C Vessels

The inspector indicated satisfactory resolution of this item, with the exception of stamping of the volume control tank. Mr. Dadson indicated that this tank should be properly stamped in the next couple of weeks.

H. Accumulator Valves

The inspector stated that the information relating to the acceptability of the accumulator valves would be forwarded to CO Headquarters for evaluation and the results would be forwarded to Con Ed through the inspector.

I. Pipe Supports

The inspector stated a need for a better definition relating to locations where stainless steel protective bands are to be installed. Mr. Corcoran indicated that UE&C and Westinghouse are discussing this item and answers should be forthcoming.

J. Pressurizer

The pressurizer base plate material question was reviewed. Mr. Corcoran stated that the inspector would be kept informed of progress on this item and would be given the opportunity to witness the additional testing.

K. Resolution of Previously Identified Items

The inspector indicated that the items in Section II. N. of this report are considered to be resolved.