Docket File

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

February 23, 1971

R. C. DeYoung, Assistant Director for Pressurized Water Reactors, DRL
THRU: D. R. Muller, Chief, PWR Projects Branch #1, DRL

MINUTES OF MEETING WITH CONSOLIDATED EDISON COMPANY OF NEW YORK, INC., INDIAN POINT NUCLEAR GENERATING UNIT NO. 2, DOCKET NO. 50-247

ADDITIONAL REVISIONS TO THE TECHNICAL SPECIFICATIONS

An up to date or "final" version of the Indian Point Unit 2 Technical Specifications is required as a future submittal at the evidentiary sessions of the Indian Point hearing which may resume sometime in late March or early April. The applicants most recent tech specs submittal made as a part of Amendment 20 resulted from numerous discussions with DRL and has been submitted in evidence at the hearing as a part of the FSAR and is available to the board and to the interveners. The purpose of the above meeting was to obtain agreement on any further revisions or additions to the technical specifications known to be desired at this time in preparation for submitting a "final" version into evidence.

In connection with Section 4.6 "Emergency Power System Periodic Tests" Con Ed requested that the surveillance testing requirement for the auxiliary diesel generators be changed somewhat. A proposed revised wording was made available informally which reflects their continued consideration of the tests to be performed. This revised wording does not appear to be a significant change but it will be reviewed by K. Kniel and O. Parr for verification of emergency auxiliary power requirements as reflected in the proposed tests and for consistency with other technical specifications.

Con Ed proposed changes to both the plant organization and corporate organization as presented in Section 6.1 "Organization, Review, and Audit." This revised organization differs significantly from that presented in either Section 12 of the FSAR or the proposed tech specs. This organization has already been put in the effect as of January 1, 1971.

The changes to the Indian Point plant organization involved the elimination of a single onsite authority for the Indian Point facility with this function to be shared between Unit 1 Station Manager and a Unit 2 Startup Manager. Staff support such as instrumentation, reactor physics, health physics, chemistry, etc., all report to the Unit 1 Station Manager so it is not clear that the Unit 2 Startup Manager could command adequate support.

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There was additional discussion regarding the requirement for the corporate organization to appear in the technical specifications leaving the implication that a corporate change would require prior approval by the AEC as a tech specs change. We stated that the requirement for corporate structure in the tech specs was limited to describing the lines of authority up through the organization with respect to operations at Indian Point. Also the position of the offsite review committee and its reporting officer should be included. Con Ed will consider our comments and resubmit their revised organization.

In accordance with our request Con Ed has added to Table 4.2-1 (Inservice Inspection) requirement for periodic ultra sonic testing of the pressurizer inclusion area as item 2.9 which follows the recommendations we received from DRS.

In Section 6.1 references to the general superintendent and assistant general superintendent will have to be changed appropriately and consistent with the revised plant organization.

In connection with emergency drills (p 6.7-2) it was agreed to specify a frequency of semi annually.

It was pointed out to the applicant that the FSAR is now incorrect or incomplete in a limited number of areas including plant organization, addition of extra check valves in the SIS lines, and no planned ultra sonic testing of the surge line nozzle on the pressurizer. There was some discussion as to the legally proper method of amending the FSAR as the application is in the hearing stage. It was suggested by the undersigned to the attorneys present (both applicant and regulatory) that it would be highly desirable to choose a method that would provide for continuing to update the FSAR so that this document would remain a complete and up to date description of the plant.

An attendance list for the meeting is attached.

Karl Kniel

Karl Kniel, Project Leader
PWR Projects Branch #1
Division of Reactor Licensing

Distribution:

Docket File	E. G. Case, DRS
DRL Reading	R. R. Maccary
PWR-1 Reading	Compliance (4)
P. A. Morris	Branch Chiefs, DRL/DRS
F. Schroeder	N. M. Brown
T. R. Wilson	R. Klecker
R. C. DeYoung	O. Parr
R. S. Boyd	F. Allenspach
D. Skovholt	S. Pawlicki

ATTENDANCE LIST

CON ED	WESTINGHOUSE	AEC/DRL
C. Jackson	R. Wiesemann	D. Muller
J. Grob, Jr.	J. Pfaeffli	R. Klecker
J. Prestele	B. Croley	K. Kniel
R. Koppe		M. McCoy
		O. Parr
LLL&M	**AEC/RO**	**AEC/OGC**
L. Trosten	F. Allenspach	M. Karman

D. R. Muller, DRL

RE: INDIAN POINT 2 - OUTSTANDING ITEMS LIST

The enclosed list of Outstanding Items to be completed before licensing of Indian Point 2 is forwarded for information. This list reflects Compliance's view as of this date.

WEDCO personnel stated that construction is scheduled to be completed by March 15, 1971. Based on discussions with the Licensee and Construction personnel, this date appears unrealistic. Our current estimate for the completion date is early May 1971.

J. P. O'Reilly, CO

Enclosure:
As stated

7421 2/18/71

cc w/encl.
R. C. DeYoung, DRL
R. H. Engelken, CO
K. K Neil, DRL
N. Moseley, CO:I
G. Madsen, CO:I
F. Nolan, CO

OFFICE ▶	CO	CO				
SURNAME ▶	FNolan:bjm	JPO'Reilly				
DATE ▶	2/18/71					

Consolidated Edison Company
Indian Point No. 2

OUTSTANDING ITEMS LIST

1. Resolve question on adequacy of SIS valves which were fabricated of CS8 material rather than CS8M.

2. Outstanding items from preoperational tests and FSAR discrepancies on the fuel storage building that are to be resolved are as follows:

   a. A pipe was observed which extends into the pool below the top of fuel racks. Possible siphon effect.

   b. Main crane can be operated above the fuel racks. FSAR states that crane facilities do not permit the handling of heavy objects over fuel racks.

   c. Procure burnable poisoned handling tool.

   d. Resolve deficiencies in spent fuel rack link removal tool.

   e. Provide procedure to drain spent fuel pool.

   f. Complete cable installation and operator checkout on radiation monitor.

   g. Operational checkout of fuel transfer system.

3. Determine the acceptability of nonmetallic inclusions in the pressurizer base plate.

4. Verify completion of installation of electrical cable separation barriers.

5. Verify completion of audit by applicant of cable tray loading.

6. Resolve the lack of UT of pressurizer surge nozzles.

7. Verify installation of airlines support and air compressor guards in the vicinity of the 480V switch gear.

8. Verify the installation of fire protection system in electrical tunnel.

9. Verify the installation of strong motion seismograph.

10. Verify the performance of a test of the hydrogen recombiner throttle back.

11. Verify alarm arrangement on protection channels.

12. Verify that manual scram may not be defeated with reset buttons.

13. Verify that trip breaker annunciation and bypass interlocks are tested.

14. Verify installation of remote controls and instrumentation outside of the control room.

15. Verify installation of modern fuel failure detection instrumentation.

16. Verify installation of seismic reinforcement in buildings.

17. Verify installation of additional turbine overspeed protection.

18. Verify procedures for reactor power X-Y stability tests during power ascension.

19. Verify that iodine and HEPA filters are installed in containment air recirculating system.

20. Complete the review of preoperational testing procedures.

21. Observe selected preoperational tests being performed.

22. Verify that all preoperational test results are being reviewed, analyzed and approved by applicants and appropriate contractors.

23. Perform independent analysis of selected preoperational test data.

24. Complete the preoperational inspection of health physics area.

25. Complete the review of operating and equipment emergency procedures.

26. Complete the review of the startup testing procedures.

27. Verify that scheduled training programs have been completed and that the plant organization is functioning in preparation for plant operation.

28. Verify completion of preoperational testing.

29. Review of Primary System Expansion Test Results for pipe hanger loadings and piping clearances.

30. Completion of installation of pipe hangers, seismic restraints and pipe whip restraints.

31. Modification of circulating water intake -- Fish Kill problem.

32. Resolution of RHR Heat exchanger tube leaks.

33. Resolution of RHR flow unbalance to 4 loops.

34. Reduction of pressurizer relief valve control time.

35. Resolution of emergency diesel problems -- governor overspeed, air start motor for unit 23 and governor neutral harmonic.

36. Operating procedure deficiencies.

37. Main coolant pump repair.

38. Welder qualifications -- 14 main steam line welds.

FEB 12 1971

J. P. O'Reilly, Chief
Inspection and Enforcement Branch
Division of Compliance

CONSOLIDATED EDISON COMPANY - INDIAN POINT 2, CO REPORT NO. 247/71-1

The enclosed report of inspections of the subject facility on December 16, 1970 and January 6-7, 1971 is forwarded for information.

The report provides preliminary information concerning a recent "fish kill" problem at the Indian Point 2 site. This has been a recurring problem at Indian Point 1.

A number of deficiencies were detected during our review of the preoperational, hot functional and power ascension testing procedures. We have discussed these deficiencies with the licensee; however, we have not reached complete agreement regarding the resolution of all items. We will continue to follow up on this subject with the licensee and will keep you informed.

Information obtained since these inspections is as follows:

1. The hot functional testing program was initiated on January 18, 1971.

2. A loss of all offsite power occurred on January 28, 1971. The test was temporarily resumed and was subsequently terminated on February 3, 1971 for a detailed examination of the main coolant pumps for damage resulting from a loss of seal cooling during the power failure.

Details of this problem will be reviewed during the next inspection.

/S/OR/Staff 3/1/71

F. J. Nolan
Senior Reactor Inspection
Specialist
Division of Compliance

Enclosure:
~~CO Report No. 247/71-1~~

OFFICE ▶						
SURNAME ▶						
DATE ▶						

cc w/enclosure:
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P. A. Morris, DRL
R. S Boyd, DRL (2)
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OFFICE ▶	CO					
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DATE ▶	2/12/71					

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

Report of Inspection

CO Report No. 247/71-1

Licensee:	Consolidated Edison Company Indian Point No. 2 (IP-2) License No. CPPR-21 Category B
Dates of Inspection:	December 16, 1970 January 6 and 7, 1971
Dates of Previous Inspection:	December 6-10, 1970

Inspected By: G. L. Madsen, Reactor Inspector — 1/30/71 Date

Reviewed By: F. J. Nolan, Senior Reactor Inspection Specialist — 2/6-71 Date

Proprietary Information: None

SCOPE

Announced inspections were made to the Indian Point No. 2 (IP-2) construction site on December 16, 1970 and January 6 and 7, 1971. Major items reviewed included preoperational testing, core loading, power ascension, mechanical system cleanup, resolution of previously identified items and Con Ed's response to questions presented at the December 2, 1970 preoperational testing program meeting.

SUMMARY

Eighty percent of the proposed Phase II system preoperational procedures have been prepared and approved for use by Wedco and Con Ed. The remaining 20 percent are in the final review status. (Section II.A.1)

The inspector pointed out the apparent need for several additional preoperational tests as a result of comparisons made between the present test program and the requirements of the FSAR and PI 5800/2. (Section II.A.2)

The target date for starting hot functional testing is January 18, 1971. About 35 percent of the preoperational testing scheduled to be performed prior to hot functional testing is nearing completion. (Section II.A.3)

The proposed power ascension program was compared against the FSAR requirements and PI 6000/1. This comparison revealed four differences in the test requirements. In addition, the need for a power ascension procedure which outlines organization, responsibilities, training, involvement of operators and implementation of operating procedures was discussed. (Section II.B)

The initial fuel loading procedures were compared to the FSAR and PI 5900/1 and are considered to be consistent with specified requirements. (Section II.C)

Responses to the December 2, 1970 preoperational program meeting were discussed. Con Ed has taken positions relative to rod drop testing, loss of power testing, testing of the safety injection system which are contrary to previously stated CO positions. Con Ed has agreed to pursue preparation of a program for maximizing the involvement of operators and checkout of operating procedures during hot functional testing. (Section II.D)

The present mechanical system surface cleanup program is providing acceptable conditions and is considered to be a satisfactory resolution to the previous question relating to the presence of arc strikes, weld splatter and other evidence of lack of first line quality control. (Section II.E)

Complete documentation relating to containment pipe penetrations are not available; however, based on additional field tests, available records and the continual pressurization of these penetrations, Con Ed considers these items to be acceptable for use. (Section II.F)

During operational testing of the circulating water pumps, an excessive collection of fish was encountered. Installation of outlet orifices is in progress and additional testing is planned. (Section II.G)

Con Ed's surveillance of pipe supports has identified some condition which will require additional study or alteration. Con Ed and Wedco are engaged in an expanded review of all supports included within the hot functional test boundaries. (Section II.H)

The resolution of nine previously identified items is included. (Section II.I)

A listing of items requiring resolution and followup is included in this report. (Section II.J)

DETAILS

I. Persons Contacted

Con Ed

*Mr. G. Nicholson, Assistant Vice President, Construction
*Mr. A. Corcoran, Construction Project Superintendent
Mr. E. Dadson, Quality Assurance Supervisor
*Mr. R. Kohler, Nuclear Engineering, Construction
Mr. R. Cosgrove, Mechanical Engineer, Startup
Mr. J. Makepeace, Startup Manager, IP-2
Mr. O. Buesse, Electrical, Startup
Mr. S. Cantone, Superintendent, Performance

*Attended the December 16, 1970 meeting.

Wedco

Mr. M. Snow, Manager, Reliability

II. Results of Inspection

A. Preoperational Testing

1. Status of Procedure Preparation

Eighty percent of the Phase II system preoperational test procedures have been approved by Con Ed and Wedco. The remaining 20 percent are in the final review status.

2. Review of System Functional Test Procedures

The following listed systems test procedures were reviewed to varying depths by the inspector:

4.1.6 Heat Loss Test

4.1.13 RCS Flow Measurement

4.3.2 Residual Heat Removal

4.11.3 Fixed In-Core Monitor

4.20.1 Feedwater Heater and Drain Systems

4.26.2 Inverters, Batteries and Chargers

4.28.2 Main Turbine Stop Valves

4.28.3 Main and Reheat Steam

4.29.1 Flash Evaporators

4.30.1 SG Blowdown

4.35 Hot Penetration Cooling

4.36 Service Boilers

4.38 Closed Cooling Water

4.39.1 VC Pressure Test

4.40 Condenser Air Removal

4.8.3 Reactor Protection Time Response

The review of the above procedures revealed the following:

a. Some acceptance values were not included.

b. Procedure 4.3.2 covers hydraulic testing of the RHR system; however, injection of water to the hot pressurized reactor coolant system is not included. Mr. Kohler indicated that RHR injection to the hot pressurized RCS is included in test 4.3.4. The inspector confirmed this and hence this item is considered closed.

c. Procedure 4.39.1 covers containment leak rate testing. This procedure does not specify the performance of an instrument error analysis or computations based on regression analysis of hourly data to demonstrate a 95% confidence that the actual containment leakage is less than the acceptance criterion. Mr. Kohler stated that Westinghouse has agreed to include this information in their leak rate results evaluation report.

The inspector pointed out that an evaluation of the test program presented to date versus the FSAR requirements and the CO acceptance criteria (PI 5800/2) reveals the need for additional test coverage. The additional test requirements include the following:

a. Site testing of the pressurizer safety valves.

b. Testing of the RCS leak rate detection instrumentation.

c. Testing of the boron line heat tracing.

d. Check of rod drive speeds.

e. Check of the voice communication systems.

f. Test the containment recirculation fan capacity.

g. Test of hydrogen recombiners.

h. Valve sequencing test of IVSWS.

i. Filter testing.

3. Status of Test Performance

Phase II system preoperational testing is in progress in preparation for the hot functional target date of January 18, 1971. Portions of some 20 Phase II tests are scheduled to be completed prior to hot functional testing. To date, about 35 percent of this testing is nearing completion.

The following tests have been completed and the results have been evaluated by Wedco and Con Ed:

4.15.1 Service Water
4.16.1 Instrument Air
4.21.1 Circulating water

These three systems have been accepted by Con Ed with exceptions noted on punchlists approved by Wedco and Con Ed.

A review of the test results, by the inspector indicated actual results compared favorably with anticipated values and the punchlist items were generally concerned with items such as insulation, paint, instrument glasses broken, etc. Con Ed indicated that a signoff of all punchlist items remains. The inspector considers the results of these tests and the subsequent evaluation by Con Ed and Wedco to be acceptable; however, the verification of completion of punchlist items will require additional followup.

B. Power Ascension Program

The available power ascension program outlines and procedures were compared with the FSAR* and CO PI 6000/1 requirements. The following apparent dif-

*Section 13

ferences exist with respect to testing:

PI 6000/1	Planned Test
1. Loss of flow (50, 100%)	None
2. Turbine Trip (50, 100%)	10%
3. Generator Trip (50, 100%)	35%
4. Loss AC Power Test at a reactor power level	None

The inspector informed Con Ed of these apparent deficiencies. Con Ed replied that these items would be given serious consideration. The inspector pointed out that the above loss of power test is the same type of test that has been previously discussed.*

The inspector verified that the power ascension program test procedures are being prepared by Westinghouse and/or Wedco, are reviewed by Con Ed personnel, and are approved for use by the Joint Test Group as is described in the FSAR.**

Upon questioning, the inspector was informed that test results will be evaluated by Westinghouse/Wedco startup engineers to determine adequacy of test data for verification of design objectives. Detailed analysis of the test results and issuance of a test report will be by Wedco or Westinghouse. Con Ed will then review the final test results and give final approval as to the acceptability of components, system and operating characteristics. The inspector considers this approach to be acceptable and consistent with the FSAR requirements*** and PI 6010.03.

The inspector pointed out the need for a power ascension procedure which includes provision for organization responsibilities and authorities, methods of resolution of disagreements, training, involvement of operators, implementation of operating procedures and determination of test results acceptance and approval to proceed to the next higher power level. Con Ed indicated that this information was contained in the FSAR. The inspector replied that the ready availability of this control information should be part of the power ascension program and should include the FSAR requirement and additional supplemental control measures prescribed and approved by Con Ed and Westinghouse. Con Ed personnel indicated that this item would be given consideration. Additionally, the inspector indicated a concern relative to the status of preparation of power ascension programs and reminded Con Ed that the procedures for this program must be completed prior to licensing.

*CO Report No. 247/70-12, Paragraph II.B.9.
**Page 13 A-6.
***Page 13 A-7

C. Fuel Loading

The initial fuel loading procedures 5.0, 5.1, 5.2, 5.3 and 5.4 were reviewed and are considered to be consistent with the requirements of the FSAR (Section 13.2.1) and PI 5900/1.

D. Responses to December 2, 1970 Meeting* (Reference Paragraph in Parenthesis)

The Con Ed responses to the December 2, 1970 preoperational test program meeting were discussed with Messrs. Nicholson, Corcoran and Kohler on December 16, 1970. The responses presented are as follows:

1. Proposed Guide for Planning of Preoperational Testing Programs (II.A)

Con Ed indicated that most of the information presented relating to the proposed guide for preoperational testing would not be implemented for IP-2, but would receive consideration by Con Ed and Westinghouse for future plants.

2. Indian Point No. 2 Preoperational Program

a. General (II.B.1)

Con Ed indicated that at this point the timeliness of procedure preparation versus plant completion can not be measurably altered because of the construction status of IP-2. With respect to the need for additional acceptance values, more specific prerequistes, and availability of data sheets, Con Ed indicated that some procedures have been modified, present plans do not include rewriting the existing procedures and that the CO concerns will be kept in mind during the review of additional procedures and during the review of test results.

b. Control Rod Drop Tests - SU 4.10.2 (II.B.2)

As a result of differences identified between the proposed control rod drop tests and the minimum acceptance program presented by Compliance, Westinghouse performed a study of previous drop test data. Based on these data Con Ed and Westinghouse have agreed to expand their previous program by measuring two additional rod drops in the cold-flow and hot-no-flow conditions. The inspector indicated that this testing program is still considered inadequate when compared to CO acceptance criteria. Con Ed indicated that their position on this matter is as follows:

(1) The proposed program meets the FSAR requirements.

(2) No additional degree of confidence would be gained by expanding the test program.

*CO Report No. 247/70-12.

(3) If indication of sticking rods is encountered the condition will be checked out thoroughly.

The inspector indicated that this item would be forwarded to CO:HQ for consideration.

c. Part Length Rod Mechanism Brake Test - SU 4.10.4 (II.B.3)

This procedure was given additional consideration by CO and is now considered to be an acceptable test.

d. Hot Functional Program (II.B.5)

Con Ed and Westinghouse reviewed the CO comments relating to the Hot Functional Program and stated the following:

(1) A complete rewrite of the hot functional program document is not planned.

(2) The individual test procedures contain sufficient detail and signoffs to support the hot functional testing.

(3) Con Ed indicated that additional means of obtaining operator involvement and checkout of operating procedures is under review. Method presently being considered includes:

(a) Plans to compare operating procedures to preoperational test procedures to determine consistency.

(b) Preparation of a program which will maximize involvment of operators and checkout of operating procedures on a scheduled basis. Con Ed indicated their intent to make full use of available time and to provide records relative to operator involvement.

The inspector indicated that the above seemed to be short of the CO desires.

(4) Functional testing of the safety injection systems will not include injection to the hot pressurized reactor coolant system. The inspector indicated that this item would require additional compliance evaluation. Con Ed indicated that the present test program

(a) meets the requirements of the FSAR

(b) performance of the flow test in the hot pressurized condition would provide little additional information beyond the present cold-low pressure conditions.

e. Containment Leak Rate Test (II.B.8)

The containment leak rate test procedure was forwarded to CO:HQ. Comments are included in Section II.A.2 of this report.

f. Loss of AC Power (II.B.9)

Con Ed indicated that the CO proposed loss of AC power test with the reactor at power would not be performed. They stated that the present test program fulfills the FSAR requirements and provides a thorough checkout of the electrical systems. Con Ed and Westinghouse feel that the CO proposed loss of AC power test would impose undue risks to equipment. However, this item is under further review by the licensee.

g. Initial Fuel Loading (II.B.10)

Procedure SU 5.1 has been made available to CO. This procedure contains core loading details such as loading patterns and sequences. This item is considered to be resolved.

3. Observation Relating to Other Plant Startups (II.C)

Items presented in the meeting and answers related by Con Ed were as follows:

a. Are lifting devices such as the polar crane and fuel storage cranes dead weight tested?

Answer -

The polar crane was utilized for lifting the reactor vessel, and no additional dead weight testing is planned. The Technical Specifications require testing of the fuel handling cranes prior to usage.

b. Why not have boron present in the reactor coolant system during hot functional testing?

Answer -

Addition of materials to the reactor coolant system is limited until the reactor systems have been functional tested.

c. Is the emergency boron system delta boron tested prior to core loading?

Answer - Yes.

d. Is checkout of the communication and evacuation system completed prior to fuel loading?

Answer -

This is a requirement for fuel loading.

e. Is the hydrogen removal system for the containment tested?

Answer -

The hydrogen recombiners will be tested. The test will be a chamber burn test.

f. Are charcoal filters tested?

Answer -

Yes, the filters will be tested as per the Technical Specifications.

g. Is the safety injection system pumping checked out using emergency power?

Answer -

Emergency power testing is included in Procedure SÜ 4.26.3.

h. Is the rad waste system functional checked and are operating procedures fully implemented?

Answer -

The preoperational program includes four procedures for testing of the rad waste systems. Con Ed is in the process of developing detail mechanisms for assuring implementation of operating procedures. This testing will include dummy runs of the systems.

i. Has the adequacy of the stack monitor calibration been evaluated?

Answer -

Calibration of radiation monitoring instrumentation has not been completed; however, the stack monitor will receive special attention.

E. Mechanical System Cleanup

As previously reported,* Wedco and Con Ed are presently performing a final inspection of mechanical system surfaces just prior to application of insulation. Discussions with Con Ed and Wedco Quality Control inspectors revealed that the present program includes the following steps:

1. Inspection of the systems and identification of conditions requiring cleanup.

2. Performance of surface cleanup of identified conditions.

3. PT of surface area mechanically cleaned.

4. Surface cleaning with solvent and demineralized water.

5. Inspection by Wedco QC for identification of additional conditions requiring cleanup or release for application of insulation.

6. Inspection and acceptance by Con Ed QC.

7. Application of insulation.

The inspector performed a field review of the program in action and inspected a line which had been released for application of insulation. No deficiencies were identified. This program provides acceptable resolution to previous question relating to the presence of arc strikes, weld splatter, and other evidence of lack of first line quality control.**

F. Containment Pipe Penetrations

As previously reported, questions have been raised with regard to weldment and material compatibility at the pipe penetration expansion bellows for the containment building.*** Wedco and Con Ed's findings related to welder documentation, additional nondestructive testing and material documentation has previously been reported.**** Con Ed engineering has reviewed the history of the bellow joints and concluded that documentation requirements are not met; however, there is evidence of their acceptability. This position is based on the results of field tests, the available radiographic, liquid penetrant and hydrostatic testing records and the fact that no evidence was discovered to indicate that any joint failed to meet any examination. Additionally, Con Ed

*CO Report No. 247/70-11, Paragraph II.B.
**CO Report No. 247/70-1, Appendix A, Item C.7.
***CO Report No. 247/70-6, Paragraph II.F.
****CO Report No. 247/70-10, Paragraph II.C.

relates that the penetrations are pressurized continuously by the containment penetration and weld channel pressurization system and if a leak should develop the leakage would be detected and would require repair. On the basis of information available and lacking contrary evidence, Con Ed considers the bellows joints acceptable for use. Based on the evaluation and research performed, the inspector considers this item to be resolved.*

G. Circulating Water Pumps

The inspector was informed that the circulating water pumps were being operated on January 6, 1971 for the purpose of supporting turbine building preoperational testing and to permit the evaluation of the potential collection of fish at the pump intakes. Information relating to this testing is as follows:

1. Three IP-2 pumps were being operated at full flow of 140,000 gpm and an intake velocity of 0.9 ft/sec. with fine mesh protective screens, which precede the traveling screen, in place.

2. During the same period one IP-1 circulating water pump was being operated at 60% of full flow, an intake velocity of 0.5 ft/sec. and with comparable fine mesh protective screen installed.

3. Upon removal of the IP-1 and IP-2 protective screens, some 530 fish were collected at the IP-1 screen and some 20,000 to 25,000 were collected at each of the IP-2 intake screens. The fish collected at each location was reported to be generally of the same species and size.

4. The rate of fish collection was deemed to be excessive and shortly thereafter the IP-2 circulating water pumps were shutdown.

5. New York State Conservation personnel were at the site during the above test.

6. Present plans call for the installation of orifices in the outlet boxes to the IP-2 circulating water pumps to reduce flow to 70% and also reduce the intake velocity. Upon completion of the orifice installation, additional testing of the pumps and their effects on fish will be conducted.

Information relating to the above was previously forwarded to CO:HQ.**

*CO Report No. 247/70-6, Paragraph II.F.
**Memo to J. P. O'Reilly from N. C. Moseley dated January 11, 1971.

H. Pipe Supports

The pipe support and restraint control program of Wedco and Con Ed was previously reported.* Con Ed indicated that their surveillance resulted in the identification of conditions which would require additional study or alteration. Most of these conditions are linked to the presence of an anchor in areas where pipe movement is apparent. As a result of these findings, Wedco and Con Ed are engaged in an expanded review of all supports and hangers included in the hot functional test boundaries. Con Ed indicated that it was their desire to have the installation and checkout of all hangers, supports and restraints completed prior to hot functional testing and that exceptions will require engineering approval.

The inspector stated that CO still intends on performing a design review of the pipe supports on January 20, 21 and 22, 1971 as previously scheduled. Mr. Corcoran indicated approval.

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

1. Reactor Pressure Boundary, Table A (247/69-11, Section II.C)

The findings relating to reactor pressure boundary conformance to Table A was previously reported.** These findings were forwarded to Compliance Headquarters for review with DRL. This review resulted in an agreement that the licensee meets the intent of Table A in that each of the seven valves with unradiographed discs are separated from the reactor coolant system by at least two other isolation valves.*** On this basis, this item is considered to be resolved.

2. Pipe Supports - Stainless Shims (247/69-9, Section II.J)

The program definition relating to installation of stainless shims between stainless pipe and carbon steel supports was previously reported.**** The inspector made a spot field audit and the actual conditions conformed to recommended actions. This item is considered to be resolved in that an acceptable program has been defined, there is evidence of proper implementation and additional inspections are being conducted by Con Ed in conjunction with their overall pipe support installation review.

3. Code "N" Stamp on Section III, Class C Vessels (247/69-7, Section II.N)

Resolution of this item, with the exception of the volume control tank was previously reported.***** Approval for affixing on N

*Paragraph II.D of CO Reports No's. 247/70-9, 10 and 11.
**CO Reports No's. 247/70-8, Paragraph II.D and 247/70-10, Paragraph II.F.
***Memo J. P. O'Reilly to N. C. Moseley dated January 7, 1971.
****CO Report No. 247/70-10, Paragraph II.D.1.
*****CO Report No. 247/70-8, Paragraph II.G.

stamp has been obtained for the volume control tank and the tank has been so stamped.

4. Containment Bellows Penetrations (247/70-6, Section II.F)

The resolution of this item is included in Section II.F of this report.

5. Circulating Water Bearing Sleeve Modification (247/70-8, Section II.F)

The six circulating water pumps have been modified, tested and deemed acceptable for use by Wedco and Con Ed. This item is considered resolved.

6. SIS - Evidence of First Line Quality Control (247/70-1, Appendix A)

The resolution of this item is included in Section II.E of this report.

7. Safety Injection Boron Tank Modification (247/70-1, Appendix A)

The additional valving has been installed and the preoperational program includes testing of the modification to the SIS Boron Tank. This item is considered to be resolved.

8. Internals Vibrational Preoperational Test Coverage (DRL Report to ACRS, July 2, 1970)

Preoperational Test SU 4.1.11 provides coverage for internal vibration detection and is consistent with FSAR requirements.* On this basis, this item is considered to be resolved.

9. Installation of the Hydrogen Recombiners (DRL Report to ACRS, July 2, 1970)

Two hydrogen recombiners have been installed. Demonstration testing is a separate outstanding item. This item is considered resolved.

J. Items Requiring Followup

Resolution is required for the following items (CO Report reference in parenthesis):

1. SIS Valves - CF8 vs. CF8M (247/69-11, Section II.B.3.)

2. Fuel Storage Building - completion of pre-ops (247/69-9, Section II.G)

*Question 13.1.

3. Lateness of Preoperational Procedure Preparation (247/70-2, Section II.G)

4. Pressurizer - Base Plate Question (247/70-8, Section II.K)

5. Electrical Barriers Installed (247/70-5, Section II.B)

6. Cable Tray Loading Audit (247/70-5, Section II.B)

7. Pipe Support Installation and Clearance Review (247/70-6, Section II.C)

8. In-depth Quality Control Followup Items (247/70-1, Appendix A):

   a. Pressurizer surge nozzles not UT.

   b. 480 switchgear - air lines and air compressor.

   c. Single electrical penetration.

9. DRL Report to ACRS, dated July 2, 1970:

   a. Tunnel fire protection installed.

   b. Installation of strong motion seismograph.

   c. Demonstration of hydrogen recombiner throttle back - preoperational test.

   d. Alarm arrangement on protection channels

10. DRL Requests:

    a. Possibility of defeating manual trip with reset buttons.

    b. Trip breaker annunciation and bypass interlocks.

11. FSAR, Volume V

    a. Remote control and instrumentation outside of control room.

    b. Installation of modern fuel failure detection instrumentation.

12. DRL Report to ACRS, dated September 4, 1970

    a. Seismic reinforcement of building.

    b. Additional turbine overspeed protection.

c. X-y stability test - power ascension.

d. Iodine filters installed - recirculation fans - preceded by HEPA filters.

13. Need for additional preoperational tests (247/71-1, Section II.G)

14. Modification of Hot Functional Program (247/71-1, Section II.D)

15. Circulating Water Intake - Fish concerns (247/71-1, Section II.G)

III. Management Interview

A management interview was conducted with Mr. Corcoran at the completion of the site visit on January 6 and 7, 1971. Items discussed included:

A. Preoperational Testing

The status of preoperational procedure preparation and test performance was reviewed. The need for receiving the final procedures was stressed The inspector was informed that all procedures required for hot functional testing would be available during the coming week in that they had been approved by Con Ed. The inspector stated the apparent need for additional test procedure coverage. Mr. Corcoran indicated that these items will be given consideration.

B. Power Ascension Program

The inspector related observations of differences between the presently proposed power ascension program and the CO requirements, and outlined the need for a control procedure for this program. Mr. Corcoran indicated that efforts were being expended in this area. The inspector stated the need for completing the power ascension procedures prior to licensing. Mr. Corcoran indicated some surprise that this would be required but stated that actions will be taken to accomplish this.

C. December 2, 1970 Meeting

The responses to the questions raised at the preoperational meeting were reviewed. The inspector indicated that the positions relating to the rod drop testing, loss of AC power test, and testing of the safety injection system and the hot functional program do not meet present CO criteria and would require additional evaluation by CO. Mr. Corcoran indicated that he would await a reply from CO on this matter.

D. Circulating Water Pumps

The fish collection problem at the circulating water pump intakes was discussed. Mr. Corcoran agreed to keep the inspector informed on the status of revisions and future testing.

E. Pipe Supports

The general status of the pipe surveillance and the need for installation of all pipe supports prior to hot functional testing was reviewed. Mr. Corcoran indicated that an engineering evaluation will be performed for supports not installed prior to hot functional to determine the consequence thereof.

F. Resolution of Items

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

G. Recent Experiences at a Facility similar to IP-2

1. The inspector indicated that the Wisconsin Michigan Power Company plant at Point Beach encountered a 125% turbine overspeed during a generator trip from 70% power. As a result they are restricting power level to 80%.

2. The inspector pointed out that the Carolina Power and Light, H. B. Robinson plant did not have the capability to return to normal offsite power from emergency diesel operation without shutting down the diesels.

   Mr. Corcoran indicated that these items will be pursued to determine applicability to IP-2.