

JUN 11 1971

50-247

R. DeYoung, Assistant Director for PWR's, DRL

ANSWERS TO INDIAN POINT 2 ASLB QUESTIONS (MARCH 24, 1971 HEARING)

Attached are proposed answers for the two questions assigned us by PWR Branch #1 from the paraphrased version of the ASLB interrogatory abstracted from the transcript.

H. R. Denton, Assistant Director
Site and Radiological Safety
Division of Reactor Licensing

Enclosure
Questions 6 & 10

cc w/enclosure
D.Muller
M.McCoy
K.Kniel

8111140145 710611
ADOCK 05000247
CF

OFFICE ▶	DRL	DRL					Memo
SURNAME ▶	GBURLEY	HRDENTON					
DATE ▶	6/11/71	6/11/71					

10. Extensive experimental data on the iodine removal capability of sodium hydroxide additive spray systems has been compiled, primarily at the Oak Ridge National Laboratory and at the Battelle Northwest Laboratory. All results indicate rapid removal of elemental and inorganic iodides, somewhat slower removal of particulate associated iodine, and very slow removal of organic iodides. Selected references giving detailed experimental conditions and results are listed below:

1. ORNL-4360, Spray and Pool Absorption Technology Program (1969)
2. ORNL-4511, Annual Report, Nuclear Safety Program (1968)
3. ORNL-4374, Annual Report, Nuclear Safety Program (1969)
4. ORNL-4647, Annual Report, Nuclear Safety Program (1970)
5. Nuclear Technology April 1971 issue
6. BNWL-894, 926, 1009, 1084, 1187, 1266, 1315-1 and 1315-2, Quarterly Reports, Nuclear Safety Program, Battelle Northwest Lab. (1968-70)
7. BNWL-1244, Removal of Iodine and Particles from Containment Atmospheres by Sprays (1970)
8. BNWL-1485, Effect of Continuous Spray Operation on the Removal of Aerosols and Gases in the Containment Systems Experiment (1970)

6. The change from sodium thiosulfate to sodium hydroxide was proposed by the applicant. Since either additive provides iodine reduction capability, the staff considers this substitution an acceptable alternative for the previous commitment.

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 has not revised their construction completion date from May 15, 1971. This completion date is not attainable. A June 15, 1971 date appears to be more realistic.

Enclosure:
As Stated

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

J. P. O'Reilly, CO

5/13/71

OFFICE ▶	<i>FJ</i> CO				
SURNAME ▶	FJ Nolan:mm JP O'Reilly				
DATE ▶	5/13/71				



UNITED STATES
ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE
REGION I
970 BROAD STREET
NEWARK, NEW JERSEY 07102

201 645.3942

May 7, 1971

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

CONSOLIDATED EDISON COMPANY (INDIAN POINT NO. 2)
OUTSTANDING ITEMS LIST

The enclosed list of outstanding items to be completed before licensing of Indian Point No. 2 is forwarded for information. This list reflects Compliance's view as of this date. Wedco has not revised their construction completion date from May 15, 1971. This completion date is not attainable, and a June 15, 1971 date appears to be more realistic.

N. C. Moseley
Senior Reactor Inspector

Enclosure:
List

IS/O'R/Staff 5/13/71
RHE
JBH
LK

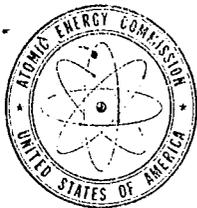
12569

CONSOLIDATED EDISON COMPANY
INDIAN POINT NO. 2

OUTSTANDING ITEMS LIST

1. Resolve question on adequacy of SIS valves which were fabricated of CF8 material rather than CF8M.
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.
3. Verify completion of installation of electrical cable separation barriers.
4. Verify the installation of fire protection system in electrical tunnel.
5. Verify the installation of strong motion seismograph.
6. Verify the performance of a test of the hydrogen recombiner throttle back.
- *7. Verify installation of modern fuel failure detection instrumentation.
8. Verify installation of seismic reinforcement in buildings.
9. Verify installation of additional turbine overspeed protection.
10. Verify procedures for reactor power X-Y stability tests during power ascension.
11. Verify that iodine and HEPA filters are installed in containment air recirculating system.
12. Complete the review of preoperational testing procedures.
 - a. Four of 86 proposed procedures have not been finalized.
 - b. Seven additional tests are under consideration.
13. Observe selected preoperational tests being performed.

14. Verify that all preoperational test results are being reviewed, analyzed and approved by applicants and appropriate contractors.
15. Perform independent analysis of selected preoperational test data.
16. Complete the preoperational inspection of the health physics area.
 - a. Resolution of deficiencies in design and installation of stack monitoring when compared to ANSI Standard N13.1 -1969.
 - b. Resolution of apparent lack of continuous monitoring of stack for halogens and particulates.
 - c. Resolution of apparent deficiencies in liquid waste disposal system in light of problems experienced at Ginna (which has a similar system).
 - d. Resolution of apparent deficiencies in liquid sampling stations when compared to ASTM Standard D510-68, Section 11.g.
 - e. Followup on licensee action on absence of charcoal filters in containment purge in light of apparent iodine release problems at Ginna.
17. Complete the review of operating and equipment emergency procedures and resolution of identified deficiencies.
18. Complete the review of the startup testing procedures.
 - a. Twenty of 29 procedures have not been finalized.
 - b. Seven items have been identified where the proposed program fails to meet PI 6000/1.
19. Verify that scheduled training programs have been completed and that the plant organization is functioning in preparation for plant operation.
20. Review of Primary System Expansion Test Results for pipe hanger loadings and piping clearances.
21. Completion of installation of pipe hangers, seismic restraints and pipe whip restraints.
22. Modification of circulating water intake --Fish kill problem.
23. Resolution of RHR flow unbalance to 4 loops.
24. Welder qualifications --14 main steam line welds.



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

P. S. Boyd

~~SECRET~~
~~CONFIDENTIAL~~
~~TOP SECRET~~
~~RESTRICTED~~
~~CONFIDENTIAL~~
~~SECRET~~

May 11, 1971

P. A. Morris, Director, Division of Reactor Licensing

COMMONWEALTH EDISON COMPANY (DRESDEN 3) - DOCKET NO. 50-247 ²⁴⁹

In our memorandum of March 2, 1971, we informed you that the Dresden 3 reactor facility had been completed in accordance with the amended application with certain exceptions. The current status of these exceptions is as follows:

1. The three outstanding items identified in item 1 of our March 2, 1971, memorandum have been completed satisfactorily. A TWX report from our Regional Office is enclosed.
2. A CO₂ protection system has not been installed for the off-gas holdup line, as stated in the FSAR. The licensee notified DRL by telegram on March 1, 1971, that the statement made in the FSAR should be deleted and that purging of the off-gas line would be accomplished using air. We understand that this position is acceptable to DRL.
3. The adequacy of the liquid radwaste system, as a shared system for Dresden 2 and 3, has still not been demonstrated. We note, however, that Commonwealth Edison's report to DRL, dated March 22, 1971, provides results of their investigation of the failures and problems experienced with this system and their plans to modify the system. We understand that DRL is re-evaluating the acceptability of this system. We will continue to direct special inspection attention to the performance of this system during the operation of Dresden 2, and Dresden 2 and Dresden 3, when Dresden 3 is licensed to operate at significant power levels.

As you know, two new problems have developed at Dresden 3 since our March 2, 1971 memorandum that relate to the operating capability of the reactor plant. Specifically, a weld purge block was found restricting flow through one of the jet pump assemblies and a potential has been identified that some fuel rods may contain pellets of improper enrichment. Corrective actions to resolve these two problems have not been completed. We understand that these two problems will be resolved prior to the resumption of operations.

May 11, 1971

Based on the above information, and in recognition of the status of the three problems identified above (the radwaste system, the purge block, and fuel enrichment), we recommend that the existing 5 Mwt power level restriction be removed from Dresden 3 Operating License No. DPR-25 and that full power operation be authorized.



Lawrence D. Low, Director
Division of Compliance

Enclosure:
TWX Report

cc w/enclosure:

C. K. Beck, DR

M. M. Mann, DR

S. H. Hanauer, DR

E. G. Case, DRS

A. Giambusso, CO

~~R. S. Boyd, DRL~~

R. C. DeYoung, DRL

D. J. Skovholt, DRL

L. Kornblith, CO

R. Tedesco, DRL

B. H. Grier, CO:III

Regions I, II, IV, V

May 1, 1971

P. A. Morris, Director, Division of Reactor Licensing

CONSOLIDATED EDISON COMPANY - INDIAN POINT 2, CO REPORT NO. 247/71-3

The enclosed report of an inspection of the subject facility on January 20-21, 1971, is forwarded for information and for possible action. A copy of a report by our consultant, R. Lofy, Parameter, Inc., is provided as an attachment to the enclosed report. The purpose of the inspection was to obtain information relating to engineering criteria used in the design, fabrication and installation of piping supports for reactor systems important to nuclear safety.

The possible need for action relates to the fact that the licensee's flexibility analysis of piping systems takes into account the temperature and pressure transients described in the FSAR but does not include fluid dynamic effects such as pump surges, water hammer and steam flow changes. It is the licensee's view that such considerations are not clearly required by the Nuclear Piping Code, B31.7.

The failure to incorporate dynamic effects in the flexibility analysis of piping systems at PWR's is very similar to the philosophy that prevails for BWR's and which was discussed in my memorandum, L. D. Low to P. A. Morris, dated March 18, 1971. As discussed in the memorandum, several unusual occurrences, involving piping and pipe supports, have been caused by dynamic effects that resulted in excessive forces, pipe movements and vibration. We consider the potential for similar situations at PWR's to be significant. Therefore, we reiterate our suggestion that applicants for construction permits and operating licenses be required to specifically evaluate dynamic effects in piping designs. In addition, applicants should be required to clearly document in their FSAR's that the test program adequately provides for dynamic measurements of pipe movement during preoperational and power ascension testing as required by Section 1-701.5.4 of the USA Standard B31.7 Nuclear Piping Code. The documentation should provide test acceptance criteria as required by Appendix B to 10 CFR 50. We also suggest that licensees with operating reactors be required to verify that installed piping adequately provides for movement associated with dynamic loads. This suggestion was discussed in my memorandum, L. D. Low to P. A. Morris, dated April 8, 1971.

Original signed 

L. D. Low

OFFICE ▶			Lawrence D. Low, Director	
SURNAME ▶	Enclosure:		Division of Compliance	
DATE ▶	CO Report No. 247/71-3			
	Distribution on Page 2			

Distribution:

- H. L. Price, DR
- C. K. Beck, DRR
- M. M. Mann, DRR
- S. H. Hanauer, DR
- E. G. Case, DRS(3)
- R. S. Boyd, DRL(2)
- R. C. DeYoung, DRL(2)
- D. J. Skovholt, DRL(3)
- T. R. Wilson, DRL, Acting (2)
- A. Giambusso, CO
- L. Kornblith, Jr., CO
- Regional Directors, CO
- R. H. Engelken, CO
- REG Files

*LK reviewed
see 4/30/71 Buck Slip
LK to Low
See AG pencil
note AG to Low
dabed 4/28/71*

OFFICE ▶	<i>FM</i> CO	CO	CO			
SURNAME ▶	FJNolan:mm JPOReilly <i>Mill</i>	<i>RH</i> Engelken	AGiambusso	<i>LL</i>		
DATE ▶	4/27/71	4/28/71		4/30		

MEMO ROUTE SLIP

Form AEC-93 (Rev. May 14, 1947) AEC 240

See me about this.

For concu...e.

For action.

Note and return.

For signature.

For Information.

TO (Name and unit)

INITIALS

REMARKS

how

4/30

DATE

I agree with The technical position taken. I have two other comments

TO (Name and unit)

INITIALS

REMARKS

(Keep - see yellow)

DATE

on the letter, however (1) We should recognize, in the letter, that one

TO (Name and unit)

INITIALS

REMARKS

DATE

suggestion is backfitting (2) Some of the suggestions are of the "sticky" type

FROM (Name and unit)

REMARKS

Korubl. Th

we were discussing earlier today hK

PHONE NO.

DATE

4/30

Also I agree with AC's note

LK - JS memo
OK w/you
Jou
4/29

→ Low

I think this is a good example to consider in light of the discussion we had today on the respective roles of LK & RE

This memo covers a specific major technical area for IP-2 but also covers some problem on a generic basis. There is no evidence of concurrence from LK but more important how should we operate in terms of who should be taking responsibility for overall position ^{tech evaluation} coordination within CO and coord with other elem of REG (for example this should have been discussed with DNS and perhaps should include DNS concurrence or position)

Noted / [Signature]

See yellow

We should discuss - until we do I suggest LK be asked to review this

4/28

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 May 15, 1971. This date may be optimistic; however, we have planned our inspection program on the basis of this schedule.

J. P. O'Reilly, CO

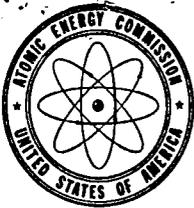
Enclosure: As stated

4/21/71

cc w/enclosure:

R. DeYoung, DRL K. Kneil, DRL G. Madsen, CO:I
R. H. Engelken, CO N. Moseley, CO:I F. Nolan, CO

OFFICE ▶	JMO					
SURNAME ▶	FJ Nolan:mm JPO'Reilly					
DATE ▶	4/21/71					



UNITED STATES
ATOMIC ENERGY COMMISSION
DIVISION OF COMPLIANCE
REGION I
970 BROAD STREET
NEWARK, NEW JERSEY 07102

201 645-3942

April 13, 1971

J. P. O'Reilly, Chief, Reactor Testing and Operations Branch,
Division of Compliance, HQ

CONSOLIDATED EDISON COMPANY (INDIAN POINT 2)
OUTSTANDING ITEMS LIST

The following list of outstanding items is to be completed before licensing
of IP-2 and reflects Compliance's view as of this date.

Our current estimate for completion of the items is no earlier than May 15,
1971.

N. C. Moseley
Senior Reactor Inspector

Enclosure:
List

*IS/O'R/staff 5/10/71
RAE
LK*

12075

CONSOLIDATED EDISON COMPANY
INDIAN POINT NO. 2

OUTSTANDING ITEMS LIST

1. Resolve question on adequacy of SIS valves which were fabricated of CF8 material rather than CF8M.
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 poison 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 operational checkout on radiation monitor.
 - g. Operational checkout of fuel transfer system.
3. Verify completion of installation of electrical cable separation barriers.
4. Verify completion of audit by applicant of cable tray loading.
5. Verify the installation of fire protection system in electrical tunnel.
6. Verify the installation of strong motion seismograph.
7. Verify the performance of a test of the hydrogen recombiner throttle back.
8. Verify that trip breaker annunciation and bypass interlocks are tested.
9. Verify installation of modern fuel failure detection instrumentation.
10. Verify installation of seismic reinforcement in buildings.
11. Verify installation of additional turbine overspeed protection.

12. Verify procedures for reactor power X-Y stability tests during power ascension.
13. Verify that iodine and HEPA filters are installed in containment air recirculating system.
14. Complete the review of preoperational testing procedures.
 - a. Six of 86 proposed procedures have not been finalized.
 - b. Eight additional tests are under consideration.
15. Observe selected preoperational tests being performed.
16. Verify that all preoperational test results are being reviewed, analyzed and approved by applicants and appropriate contractors.
17. Perform independent analysis of selected preoperational test data.
18. Complete the preoperational inspection of health physics area, and resolution of identified deficiencies.
19. Complete the review of operating and equipment emergency procedures, and resolution of identified deficiencies.
20. Complete the review of the startup testing procedures.
 - a. Twenty two of 29 procedures have not been finalized.
 - b. Seven items have been identified where the proposed program fails to meet PI 6000/1.
21. Verify that scheduled training programs have been completed and that the plant organization is functioning in preparation for plant operation.
22. Review of Primary System Expansion Test Results for pipe hanger loadings and piping clearances.
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