

ATTACHMENT B

Safety Evaluation

Consolidated Edison Company of New York, Inc.
Indian Point Unit No. 2
Docket No. 50-247
May, 1980

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Safety Evaluation

A fuel design change is to be introduced during the upcoming Indian Point Unit No. 2 Cycle 4/5 refueling. Indian Point Unit No. 2 is presently operating in Cycle 4 with an all high parasitic (HIPAR) fueled core. For Cycle 5 and subsequent cycles, it is planned to refuel the reactor with low parasitic (LOPAR) fuel. As a result, future reloads will range from approximately a 1/3 LOPAR-2/3 HIPAR mixed core to eventually an all-LOPAR fueled core. The new LOPAR fuel will be used to decrease neutron parasitic capture and thereby attain more efficient fuel usage. The Indian Point Unit No. 2 LOPAR fuel has essentially the same design features as the standard Westinghouse 15x15 LOPAR fuel used in a number of plants, including Indian Point Unit No. 3. The major design difference between the Indian Point Unit No. 2 LOPAR fuel and the 15x15 standard LOPAR fuel is the use of 9 versus 7 inconel grids for compatibility with the 9 grid HIPAR fuel in the existing core. As a result, the operating performance of the Indian Point Unit No. 2 LOPAR fuel is expected to be equivalent to the standard LOPAR fuel.

The fuel assembly design changes in going from the current HIPAR to new LOPAR fuel are as follows:

1. Guide thimble and instrumentation tube material change from type 304 stainless steel to Zircaloy-4 (standard LOPAR design).
2. Reduction in Inconel grid strap thickness from 15.5 to 13.5 mils (standard LOPAR design).
3. A shorter top nozzle (standard LOPAR design).
4. Longer fuel rod (standard LOPAR design).
5. A change in top and bottom grid axial position, which have been set at the same evaluation as the standard Westinghouse 7-grid LOPAR design.
6. Use of a four leaf spring design rather than two for the top nozzle holddown spring package. Each leaf spring design is the same as previously used.

New plugging devices and burnable poison assemblies have been designed to accommodate the mechanical design differences of the new LOPAR fuel assemblies. The LOPAR assemblies have been designed such that the interface with the presently installed control rods is unchanged. When control rods are used in core locations containing LOPAR fuel, the control rod spiders and drive rods will be raised by three (3) inches (or approximately five (5) steps) over the present

HIPAR fuel in the fully withdrawn position. Thus, the rod position indication (RPI) system accuracy above 210 steps will be +17,-12 steps for LOPAR fuel versus the present +12 steps for HIPAR fuel. At or below 210 steps, the present RPI accuracy band of +12 steps will be maintained. In addition, a LOPAR fuel/control rod protection system has been designed to preclude potential fuel and/or control rod damage due to material thermal contraction differences during reactor coolant system (RCS) cooldown. This protection system is required when control rods are used in core locations containing LOPAR fuel. (At the present time, LOPAR fuel is not intended to be used in control rod locations until the Cycle 5/6 refueling scheduled for Fall, 1982). The control rod protection system will be designed to safety-grade criteria and, during RCS cooldown prior to the RCS cold leg temperature decreasing below 350°F (2/3 coincident logic), it will automatically open the reactor trip breakers thereby unlatching the control rod drive shafts from their respective control rod drive mechanisms. This system will provide a backup function to administrative controls which will require that the plant operator accomplish the above unlatching functions prior to decreasing T_{cold} below 350°F during RCS cooldown.

The hydraulic effects of having a mixed HIPAR-LOPAR core were evaluated by performing hydraulic tests at the Westinghouse Fuel Assembly Test Facility. A side-by-side HIPAR and LOPAR fuel assembly arrangement was tested under appropriate core hydraulic flow conditions. Test results included lift forces, pressure drops, cross flow and fuel vibrations. Based on these test results, it is concluded that hydraulic compatibility exists between LOPAR and HIPAR assemblies, that is, small pressure drop difference and cross flow, and potential fuel rod wear will be negligible.

In order to account for possible higher steam generator tube plugging in future reloads, design and safety evaluations (except for LOCA) were performed considering 25 percent steam generator tube plugging and a reduced thermal design flow (TDF) to 94% of the original design value. The LOCA evaluations were considered for up to 12% tube plugging at the original TDF. For the current Cycle 4 HIPAR core, accident analyses have been submitted for NRC approval (Ref. 1) on non-LOCA accidents impacted by 25% tube plugging and the LOCA accidents with 12% tube plugging. The present submittal represents a conservative, bounding-type analysis which is used to evaluate the effect of inserting LOPAR fuel assemblies. Using the standard Westinghouse reload methodology (Ref. 2), it has been determined from the LOPAR transition evaluations that the safety limits of the non-LOCA and LOCA accidents are satisfied for the tube plugging up to 25 and 12%, respectively.

hydraulic evaluations have concluded that the HIPAR/LOPAR fuel assemblies are hydraulically compatible, and current DNB limits under normal operation and transient conditions are satisfied. Nuclear design evaluations have concluded that the transition from HIPAR to LOPAR fuel or steam generator tube plugging will not result in any significant changes in nuclear characteristics. As is current practice, cycle by cycle changes will be treated on an individual basis as part of reload safety evaluations.

Based on the above discussion, the following technical specification changes are required to support the transition to LOPAR fuel:

- (a) Modifications to specification 5.3 to permit the use of LOPAR reload fuel.
- (b) Modifications to specifications 2.3, Table 3-2 and Table 4.1-1 to establish requirements for the Control Rod Protection System.
- (c) Modifications to specification 3.10 to accommodate the revised RPI accuracy for LOPAR fuel.

The transition to LOPAR fuel, the required design changes and the proposed technical specification changes have been reviewed by both the Station Nuclear Safety Committee and the Consolidated Edison Nuclear Facilities Safety Committee. Both committees concur that the proposed changes do not represent a significant hazards consideration and will not cause any change in the types or increase in the amounts of effluents or any change in the authorized power level of the facility.

Reference:

1. Indian Point Unit No. 2: "Application for Amendment to Operating License"; forwarded by letter dated April 25, 1980 from Mr. William J. Cahill, Jr. (Consolidated Edison) to Mr. Harold R. Denton(NRC).
2. Bordelon, F. M. et. al., "Westinghouse Reload Safety Evaluation Methodology", WCAP-9272(P), March 1978.

NRC FORM 35
(11-83)
NRCMD 3.53

U. S. NUCLEAR REGULATORY COMMISSION

RECORDS TRANSFER

INFORMATION AND RECORDS MANAGEMENT BRANCH COMPLETES BLOCKS 1-10, 22, AND 27-31.

1. JOB NUMBER 3480	2. FRC ACCESSION NUMBER	3. DATE JOB RECEIVED
4. VOLUME IN CUBIC FEET 032	5. LOCATION NUMBER(S)	6. DATE ELIGIBLE FOR DESTRUCTION 10/20/33
7. DATE ELIGIBLE FOR TRANSFER TO NARA	8. ORIGINATING OFFICE CODE FC/NRR	9. FACILITY CODE AF AF-V5 AF-V3 X FRC

10. COMMENTS
License expires 09/28/2013

TRANSFERRING OFFICE - COMPLETE BLOCKS 11-21 AND 23-25.

11. ORIGINATING OFFICE (Office / Division / Branch) FC/NRR	12. FILE CUSTODIAN (Name / Telephone) Tyrone Greene 415-7227	13. LOCATION OF RECORDS (Building / Room) T5E48
14. TITLE OF RECORD SERIES (Refer to NUREG-0910) (Complete a separate form for each series) NUCLEAR POWER PLANT DOCKET FILES	15. RECORD SCHEDULE NUMBER (Refer to NUREG-0910) NRCS 2-20.9b	

16. CLASSIFICATION OF RECORDS	17. RECORD MEDIUM		
<input checked="" type="checkbox"/> UNCLASSIFIED	<input checked="" type="checkbox"/> PAPER	<input type="checkbox"/> AUDIOVISUAL *	
<input type="checkbox"/> OTHER (Specify below)	<input type="checkbox"/> MICROFORM *	<input type="checkbox"/> MACHINE READABLE *	
HIGHEST CLASSIFICATION	* PROVIDE SPECIFIC MEDIUM		
18. TOTAL NUMBER OF CONTAINERS 32	19. TYPE OF CONTAINER(S) (NOTE: Paper records must be retired in 1-cubic-foot record center boxes)		
	<input checked="" type="checkbox"/> RECORD CENTER BOX		
	<input type="checkbox"/> OTHER (Specify)		

20. GENERAL DESCRIPTION OF RECORDS
(Provide a general description of the records using terms commonly used by the staff familiar with the records.)

50-247 Consolidated Edison Co.
Indian Point Unit #2

Date Span: 10/1965 thru 12/1992

50-247 REPORT

BOX NO.	DOCKET NO.	DESCRIPTION	DATE FROM	DATE TO
1	50-247	APPLICATION & AMENDMENTS	06/01/1979	12/31/1980
1	50-247	APPLICATION & AMENDMENTS	01/01/1981	04/30/1983
1	50-247	APPLICATION & AMENDMENTS	05/01/1983	12/31/1984
1	50-247	APPLICATION & AMENDMENTS	01/01/1985	12/31/1985
1	50-247	APPLICATION & AMENDMENTS	01/01/1986	12/31/1987
2	50-247	APPLICATION & AMENDMENTS	01/01/1988	01/31/1989
2	50-247	APPLICATION & AMENDMENTS	02/01/1989	12/31/1989
2	50-247	APPLICATION & AMENDMENTS	01/01/1990	12/31/1992
2	50-247	MISCELLANEOUS APPLICANT CORRESPONDENCE	08/01/1979	02/28/1980
2	50-247	MISCELLANEOUS APPLICANT CORRESPONDENCE	03/01/1980	05/31/1980
3	50-247	MISCELLANEOUS APPLICANT CORRESPONDENCE	06/01/1980	07/31/1980
3	50-247	MISCELLANEOUS APPLICANT CORRESPONDENCE	08/01/1980	12/31/1980
3	50-247	MISCELLANEOUS APPLICANT CORRESPONDENCE	01/01/1981	07/31/1981
3	50-247	MISCELLANEOUS APPLICANT CORRESPONDENCE	08/01/1981	03/31/1982
3	50-247	MISCELLANEOUS APPLICANT CORRESPONDENCE	04/01/1982	09/30/1982
4	50-247	MISCELLANEOUS APPLICANT CORRESPONDENCE	10/01/1982	07/31/1983
4	50-247	MISCELLANEOUS APPLICANT CORRESPONDENCE	08/01/1983	03/31/1984
4	50-247	MISCELLANEOUS APPLICANT CORRESPONDENCE	04/01/1984	09/30/1984
4	50-247	MISCELLANEOUS APPLICANT CORRESPONDENCE	10/01/1984	04/30/1985
4	50-247	MISCELLANEOUS APPLICANT CORRESPONDENCE	05/01/1985	09/30/1985

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BOX NO.	DOCKET NO.	DESCRIPTION	DATE FROM	DATE TO
5	50-247	MISCELLANEOUS APPLICANT CORRESPONDENCE	10/01/1985	01/31/1986
5	50-247	MISCELLANEOUS APPLICANT CORRESPONDENCE	02/01/1986	07/31/1986
5	50-247	MISCELLANEOUS APPLICANT CORRESPONDENCE	08/01/1986	12/31/1986
5	50-247	MISCELLANEOUS APPLICANT CORRESPONDENCE	01/01/1987	09/30/1987
5	50-247	MISCELLANEOUS APPLICANT CORRESPONDENCE	10/01/1987	06/30/1988
5	50-247	MISCELLANEOUS APPLICANT CORRESPONDENCE	07/01/1988	02/28/1989
5	50-247	MISCELLANEOUS APPLICANT CORRESPONDENCE	03/01/1989	10/31/1989
5	50-247	MISCELLANEOUS APPLICANT CORRESPONDENCE	11/01/1989	05/31/1990
6	50-247	MISCELLANEOUS APPLICANT CORRESPONDENCE	06/01/1990	03/31/1991
6	50-247	MISCELLANEOUS APPLICANT CORRESPONDENCE	04/01/1991	11/30/1991
6	50-247	MISCELLANEOUS APPLICANT CORRESPONDENCE	12/01/1991	07/31/1992
6	50-247	ABNORMAL OCCURRENCE FILE	01/01/1987	10/31/1988
6	50-247	ABNORMAL OCCURRENCE FILE	11/01/1988	10/31/1990
6	50-247	ABNORMAL OCCURRENCE FILE	11/01/1990	10/31/1992
6	50-247	MONTHLY REPORTS FILE	10/01/1987	12/31/1991
7	50-247	MEMORANDA CORRESPONDENCE	11/01/1980	07/31/1981
7	50-247	MEMORANDA CORRESPONDENCE	08/01/1981	07/31/1982
7	50-247	MEMORANDA CORRESPONDENCE	08/01/1982	12/31/1982
7	50-247	MEMORANDA CORRESPONDENCE	01/01/1983	01/31/1984
7	50-247	MEMORANDA CORRESPONDENCE	02/01/1984	08/31/1984

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8	50-247	MEMORANDA CORRESPONDENCE	09/01/1984	03/31/1985
8	50-247	MEMORANDA CORRESPONDENCE	04/01/1985	09/30/1985
8	50-247	MEMORANDA CORRESPONDENCE	10/01/1985	08/31/1986
8	50-247	MEMORANDA CORRESPONDENCE	09/01/1986	03/31/1987
8	50-247	MEMORANDA CORRESPONDENCE	04/01/1987	02/29/1988
8	50-247	MEMORANDA CORRESPONDENCE	03/01/1988	02/28/1989
8	50-247	MEMORANDA CORRESPONDENCE	03/01/1989	09/30/1989
8	50-247	MEMORANDA CORRESPONDENCE	10/01/1989	02/28/1990
9	50-247	MEMORANDA CORRESPONDENCE	03/01/1990	12/31/1990
9	50-247	MEMORANDA CORRESPONDENCE	01/01/1991	12/31/1992
9	50-247	ACRS, STATE OFFICIALS & OTHER MISCELLANEOUS LETTERS	01/01/1980	03/31/1981
9	50-247	ACRS, STATE OFFICIALS & OTHER MISCELLANEOUS LETTERS	04/01/1981	04/30/1984
9	50-247	ACRS, STATE OFFICIALS & OTHER MISCELLANEOUS LETTERS	05/01/1984	12/31/1984
9	50-247	PREDECISIONAL INFORMATION	01/01/1980	10/31/1988

50-247 REPORT

BOX DOCKET NO.	DESCRIPTION	LTR DATE
10	50-247 DESCRIPTION AND SAFETY ANALYSIS FOR A CONCEPTUAL UNIT AT INDIAN POINT, VOLUME I	10/04/1965
10	50-247 DESCRIPTION AND SAFETY ANALYSIS FOR A CONCEPTUAL UNIT AT INDIAN POINT, VOLUME II	10/04/1965
10	50-247 PRELIMINARY SAFETY ANALYSIS REPORT, EXHIBIT B, VOLUMES 1 AND 2 (PARTS A AND B)	12/06/1965
10	50-247 FIRST SUPPLEMENT TO: PRELIMINARY SAFETY ANALYSIS REPORT, EXHIBIT B-1	03/31/1966
10	50-247 SECOND SUPPLEMENT TO: PRELIMINARY SAFETY ANALYSIS REPORT, EXHIBIT B-2	05/31/1966
10	50-247 THIRD SUPPLEMENT TO: PRELIMINARY SAFETY ANALYSIS REPORT, EXHIBIT B-3	06/20/1966
10	50-247 FOURTH SUPPLEMENT TO: PRELIMINARY SAFETY ANALYSIS REPORT, EXHIBIT B-4	07/25/1966
10	50-247 FIFTH SUPPLEMENT TO: PRELIMINARY SAFETY ANALYSIS REPORT, EXHIBIT B-5	07/28/1966
11	50-247 SIXTH SUPPLEMENT TO: PRELIMINARY SAFETY ANALYSIS REPORT, EXHIBIT B-6	04/17/1967
11	50-247 SEVENTH SUPPLEMENT TO: PRELIMINARY SAFETY ANALYSIS REPORT, EXHIBIT B-7	10/16/1967
11	50-247 FINAL FACILITY DESCRIPTION AND SAFETY ANALYSIS REPORT, EXHIBIT B-8, VOLUMES 1-3	10/13/1968
12	50-247 FINAL FACILITY DESCRIPTION AND SAFETY ANALYSIS REPORT, EXHIBIT B-8, VOLUMES 4-6	10/13/1968
13	50-247 INSPECTION REPORTS 81-01 THROUGH 81-19	
13	50-247 INSPECTION REPORTS 81-21 THROUGH 81-22	
13	50-247 INSPECTION REPORTS 89-01 THROUGH 89-19	
13	50-247 MAINTENANCE TEAM INSPECTION REPORT 89-80	08/21/1989
13	50-247 INSPECTION REPORTS 89-20 THROUGH 90-14	
13	50-247 INSPECTION REPORTS 90-15 THROUGH 91-10	

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13	50-247 INSPECTION REPORTS 91-11 THROUGH 91-80	
14	50-247 INSPECTION REPORTS 91-81 THROUGH 92-20	
14	50-247 SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE (SALP) REPORT FOR 03/01/81 THROUGH 02/28/82	09/09/1982
14	50-247 SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE (SALP) REPORT FOR 02/01/82 THROUGH 01/31/83	08/19/1983
14	50-247 SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE (SALP) REPORT NO. 85-99 FOR 08/01/84 THROUGH 07/31/85	10/11/1985
14	50-247 SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE (SALP) REPORT NO. 86-99 FOR 08/01/86 THROUGH 02/07/88	04/04/1988
14	50-247 EVALUATION OF SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE (SALP) REPORT NO. 86-99 ON 03/17/88	05/23/1988
14	50-247 SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE (SALP) REPORT NO. 88-99 FOR 02/08/88 THROUGH 02/28/89	05/03/1989
14	50-247 RESPONSE TO SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE (SALP) REPORT FOR 02/08/88 THROUGH 02/28/89 AND 03/12/89 MEETING WITH NRC	06/01/1989
14	50-247 AMENDED SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE (SALP) REPORT NO. 88-99 FOR 02/08/88 THROUGH 02/28/89 PER 05/12/89 MEETING	06/23/1989
14	50-247 INITIAL SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE (SALP) REPORT NO. 89-99 FOR 03/01/89 THROUGH 03/31/90	06/26/1990
14	50-247 RESPONSE TO 06/26/90 INITIAL SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE (SALP) REPORT NO. 89-99 FOR 03/01/89 THROUGH 03/31/90	08/09/1990
14	50-247 FINAL SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE (SALP) REPORT NO. 89-99 FOR 03/01/89 THROUGH 03/31/90	08/20/1990
14	50-247 INITIAL SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE (SALP) REPORT NO. 90-99 FOR 04/01/90 THROUGH 04/30/91	07/15/1991

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14	50-247 RESPONSE TO INITIAL SYSTEMATIC ASSESSMENT TO LICENSEE PERFORMANCE (SALP) REPORT NO. 90-99 FOR 04/01/90 THROUGH 04/30/91	08/12/1991
14	50-247 FINAL SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE (SALP) REPORT NO. 90-99 FOR 04/01/90 THROUGH 04/30/91	09/20/1991
14	50-247 INITIAL SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE (SALP) REPORT NO. 91-99 FOR 05/01/91 THROUGH 09/26/92	12/04/1992
14	50-247 REQUALIFICATION PROGRAM EVALUATION REPORT NO. 89-03 (OL-RQ) OF EXAM ADMINISTERED DURING THE WEEK OF 02/06/89 THROUGH 02/10/89	05/05/1989
14	50-247 EXAMINATION REPORT NO. 89-11 (OL) ON 05/15/89 AND 05/22/89	08/09/1989
14	50-247 OPERATOR LICENSING EXAMINATIONS AND REQUALIFICATION RETAKE EXAMINATION REPORT NO. 89-20 (OL) DURING WEEK OF 10/30/89	12/07/1989
14	50-247 OPERATOR LICENSING EXAMINATION REPORT NO. 91-01 (OL) FOR 03/11/91 THROUGH 03/14/91	04/18/1991
14	50-247 EMERGENCY OPERATIONS FACILITY CONCEPTUAL DESIGN	06/01/1981
14	50-247 EMERGENCY OPERATIONS FACILITY CONCEPTUAL DESIGN	06/26/1981
14	50-247 EVALUATION OF EMERGENCY RESPONSE FACILITIES 10/81	11/24/1981
14	50-247 PLANNING FOR EMERGENCIES--RADIATION, HAZARDOUS MATERIALS, WEATHER	10/12/1990
14	50-247 FEMA POST-EXERCISE ASSESSMENT FOR THE 11/90 FULL PARTICIPATION EXERCISE	12/01/1991
14	50-247 EMERGENCY PLAN DRILL SCENARIO	08/17/1992
14	50-247 EXERCISE SCENARIO NO. 1992	10/13/1992
14	50-247 PROPOSED TASK INTERFACE AGREEMENT RE. THE EMERGENCY ACTION LEVEL SCHEME	12/15/1992
14	50-247 TECHNICAL SPECIFICATION REVISIONS 02/83	02/14/1983

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14	50-247 APPLICATION FOR AMENDMENT TO OPERATING LICENSE REVISING TECHNICAL SPECIFICATIONS	04/10/1985
14	50-247 APPLICATION FOR AMENDMENT TO OPERATING LICENSE REVISING TECHNICAL SPECIFICATIONS	11/19/1985
15	50-247 PROPOSED CHANGE TO TECHNICAL SPECIFICATIONS SURVEILLANCE INTERVALS TO ACCOMMODATE A 24-MONTH FUEL CYCLE	05/29/1992
15	50-247 PROPOSED CHANGES IN TECHNICAL SPECIFICATION SURVEILLANCE INTERVALS TO ACCOMMODATE A 24-MONTH FUEL CYCLE	07/29/1992
15	50-247 PROPOSED CHANGE TO TECHNICAL SPECIFICATIONS SURVEILLANCE INTERVALS TO ACCOMMODATE A 24-MONTH FUEL CYCLE	11/25/1992
15	50-247 1984 ANNUAL REPORT FOR CON EDISON (FINANCIAL)	07/02/1985
15	50-247 1991 ANNUAL REPORT FOR CON EDISON (FINANCIAL)	06/24/1992
15	50-247 TER: DRAFT INTERIM EQUIPMENT ENVIRONMENTAL QUALIFICATION (PROPRIETARY)	09/18/1980
15	50-247 INFORMATION RESPONSE TO NRC CONCERNS RE. 10/17/80 INCIDENT OF WATER IN CONTAINMENT BUILDING (PROPRIETARY)	12/22/1980
15	50-247 TER: FINAL DRAFT EQUIPMENT ENVIRONMENTAL QUALIFICATION (PROPRIETARY)	01/31/1981
15	50-247 TER: EQUIPMENT ENVIRONMENTAL QUALIFICATION (PROPRIETARY)	04/09/1981
15	50-247 SUMMARY REPORT (NONPROPRIETARY AND PROPRIETARY VERSIONS)	09/04/1981
15	50-247 WCAP-13438 INSTRUMENTATION CALIBRATION AND DRIFT EVALUATION PROCESS FOR FUEL CYCLE EXTENSION TO 24 MONTHS (VOLUMES 1 AND 2) (NONPROPRIETARY AND PROPRIETARY)	08/03/1992
16	50-247 RESPONSE TO FRANKLIN RESEARCH CENTER TECHNICAL EVALUATION REPORT NO. C52257/200 "EQUIPMENT ENVIRONMENTAL QUALIFICATION"	01/14/1981

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16	50-247 IDENTIFICATION AND LISTING OF ELECTRICAL EQUIPMENT IMPORTANT TO SAFETY PURSUANT TO 10CFR50.49	05/20/1983
16	50-247 EVALUATION OF THE INDIAN POINT 2 FIRE PROTECTION PROGRAM FOR CONSOLIDATED EDISON - SUPPLEMENT NO. 1	07/03/1983
16	50-247 RESPONSE TO GENERIC LETTER 83-28 "REQUIRED ACTIONS BASED ON GENERIC IMPLICATIONS OF SALEM ATWS EVENTS"	11/04/1983
16	50-247 POST ACCIDENT SAMPLING SYSTEM RESPONSE TO NRC LETTER DATED 06/30/82	11/15/1983
16	50-247 DETAILED CONTROL ROOM DESIGN REVIEW PROGRAM PLAN	02/14/1984
16	50-247 INSERVICE TESTING PROGRAM SUMMARY FOR THE INTERVAL 07/01/84 THROUGH 06/30/94	02/16/1984
16	50-247 REACTOR VESSEL MATERIAL SURVEILLANCE PROGRAM FOR INDIAN POINT ANALYSIS OF CAPSULE Z	05/07/1984
16	50-247 OPERATIONS ADMINISTRATIVE DIRECTIVE 7 REV. 10 - OPERATING PROCEDURE DEVELOPMENT AND CONTROL	06/04/1984
16	50-247 FINAL REPORT - EXPERIMENTAL EVALUATION OF POLYTROPIC INDEX OF NITROGEN GAS USED IN BORON INJECTION TANKS	06/29/1984
16	50-247 BOARD NOTIFICATION: POTENTIAL REACTOR VESSEL FLAW AT INDIAN POINT (BN-84-146)	08/21/1984
16	50-247 BOARD NOTIFICATION: ONGOING REVIEW OF PWR STEAM EXPLOSIONS (BN-84-150)	08/27/1984
16	50-247 INVESTIGATION OF AN ULTRASONIC INDICATION IN THE INDIAN POINT UNIT 2 REACTOR PRESSURE VESSEL	09/21/1984
16	50-247 METHODOLOGY FOR ASSESSMENT OF CORE DAMAGE FOLLOWING A POSTULATED ACCIDENT	10/29/1984
17	50-247 REACTOR CONTAINMENT BUILDING INTEGRATED LEAKAGE RATE TEST (FINAL REPORT)	01/15/1985
17	50-247 TER: CONTROL OF HEAVY LOADS	01/31/1985
17	50-247 BOARD NOTIFICATION: A REVIEW OF THE CURRENT UNDERSTANDING OF THE POTENTIAL FOR CONTAINMENT FAILURE ARISING FROM IN-VESSEL STEAM EXPLOSION (BN-85-042)	04/23/1985

50-247 REPORT

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17	50-247 RESPONSE TO GENERIC LETTER 83-28 "REQUIRED ACTIONS BASED ON GENERIC IMPLICATIONS OF SALEM ATWS EVENTS"	06/04/1985
17	50-247 TEN-YEAR INSERVICE INSPECTION AND TESTING PROGRAM (07/01/84 THROUGH 06/30/94)	09/30/1985
17	50-247 TER: ANALYSIS OF STEAM EXPLOSION UNCERTAINTIES - ESTIMATION OF CONTAINMENT FAILURE FREQUENCY RESULTING FROM STEAM EXPLOSIONS (TER-C5506-580)	04/22/1986
17	50-247 TER: PUMP AND VALVE INSERVICE TESTING PROGRAM	11/23/1987
17	50-247 STEAM GENERATOR REVIEW MEETING 01/24/91	02/05/1991
17	50-247 EVALUATION OF THE ADEQUACY OF EXISTING NEUTRON FLUX INSTRUMENTATION FOR NUREG-0737, SUPPLEMENT 1	08/07/1991
17	50-247 REACTOR CONTAINMENT BUILDING INTEGRATED LEAKAGE RATE TEST TYPES A, B, AND C PERIODIC TEST 06/91	09/20/1991
17	50-247 SUBMISSION OF SIMULATOR FACILITY CERTIFICATION	03/26/1992
17	50-247 1991 STEAM GENERATOR INSPECTION, EVALUATION AND REPAIR ACTIVITIES	04/15/1992
18	50-247 RESPONSE TO GENERIC LETTER 87-02, SUPPLEMENT 1 AND SUPPLEMENTAL RESPPONSE TO GENERIC LETTER 88-20 SUPPLEMENT 4	09/21/1992
18	50-247 REVISION 2 TO QUALITY ASSURANCE PROGRAM	12/28/1984
18	50-247 REVISION 3 TO QUALITY ASSURANCE PROGRAM	12/20/1985
18	50-247 REVISION 9 TO QUALITY ASSURANCE PROGRAM	12/19/1991
18	50-247 REVISION 10 TO QUALITY ASSURANCE PROGRAM	05/15/1992
18	50-247 INDIVIDUAL PLANT EXAMINATION	08/12/1992
18	50-247 INDIAN POINT PROBABILISTIC SAFETY STUDY (VOLUMES 1 AND 2)	03/05/1982
19	50-247 INDIAN POINT PROBABILISTIC SAFETY STUDY (VOLUMES 3-6)	03/05/1982
20	50-247 INDIAN POINT PROBABILISTIC SAFETY STUDY (VOLUMES 7-10)	03/05/1982

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BOX NO.	DOCKET NO.	DESCRIPTION	LTR DATE
21	50-247	INDIAN POINT PROBABILISTIC SAFETY STUDY (VOLUMES 11 AND 12)	03/05/1982
21	50-247	HEARING TRANSCRIPT PAGES 1 THROUGH 70	08/17/1966
21	50-247	HEARING TRANSCRIPT PAGES 71 THROUGH 109	09/13/1966
21	50-247	HEARING TRANSCRIPT PAGES 110 THROUGH 363	09/14/1966
21	50-247	HEARING TRANSCRIPT PAGES 364 THROUGH 585	09/15/1966
22	50-247	HEARING TRANSCRIPT PAGES 1 THROUGH 97 (PREHEARING CONFERENCE)	12/01/1970
22	50-247	HEARING TRANSCRIPT PAGES 98 THROUGH 362	12/17/1970
22	50-247	HEARING TRANSCRIPT PAGES 363 THROUGH 452	12/18/1970
22	50-247	HEARING TRANSCRIPT PAGES 453 THROUGH 508	01/19/1971
22	50-247	HEARING TRANSCRIPT PAGES 509-A THROUGH 720	03/24/1971
22	50-247	HEARING TRANSCRIPT PAGES 721-A THROUGH 838	05/13/1971
22	50-247	HEARING TRANSCRIPT PAGES 839 THROUGH 1076	07/13/1971
22	50-247	HEARING TRANSCRIPT PAGES 1077 THROUGH 1287	07/14/1971
22	50-247	HEARING TRANSCRIPT PAGES 1288 THROUGH 1474	07/15/1971
22	50-247	HEARING TRANSCRIPT PAGES 1 THROUGH 60 (IN CAMERA)	07/15/1971
22	50-247	HEARING TRANSCRIPT PAGES 1475 THROUGH 1668	07/16/1971
22	50-247	HEARING TRANSCRIPT PAGES 1669 THROUGH 1728 (IN CAMERA)	07/21/1971
23	50-247	HEARING TRANSCRIPT PAGES 1728-A THROUGH 1921	07/21/1971
23	50-247	HEARING TRANSCRIPT PAGES 1922 THROUGH 2067	10/05/1971
23	50-247	HEARING TRANSCRIPT PAGES 1475 THROUGH 1620	10/05/1971
23	50-247	HEARING TRANSCRIPT PAGES 2068 THROUGH 2258	11/01/1971
23	50-247	HEARING TRANSCRIPT PAGES 2259 THROUGH 2484	11/02/1971

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BOX NO.	DOCKET NO.	DESCRIPTION	LTR DATE
23	50-247	HEARING TRANSCRIPT PAGES 2485 THROUGH 2709	11/03/1971
23	50-247	HEARING TRANSCRIPT PAGES 2710 THROUGH 2884	11/04/1971
23	50-247	HEARING TRANSCRIPT PAGES 1 THROUGH 100 (IN CAMERA)	11/08/1971
23	50-247	HEARING TRANSCRIPT PAGES 2885 THROUGH 3000	11/08/1971
23	50-247	HEARING TRANSCRIPT PAGES 3001 THROUGH 3191	11/09/1971
23	50-247	HEARING TRANSCRIPT PAGES 3192 THROUGH 3368	11/10/1971
23	50-247	HEARING TRANSCRIPT PAGES 1 THROUGH 77 (IN CAMERA)	11/10/1971
23	50-247	HEARING TRANSCRIPT PAGES 3369 THROUGH 3721	11/11/1971
24	50-247	HEARING TRANSCRIPT PAGES 1 THROUGH 59 (IN CAMERA)	11/12/1971
24	50-247	HEARING TRANSCRIPT PAGES 3722 THROUGH 3859	11/12/1971
24	50-247	HEARING TRANSCRIPT PAGES 3860 THROUGH 3919	11/16/1971
24	50-247	HEARING TRANSCRIPT PAGES 3920 THROUGH 4157	11/17/1971
24	50-247	HEARING TRANSCRIPT PAGES 1 THROUGH 36 (IN CAMERA)	12/14/1971
24	50-247	HEARING TRANSCRIPT PAGES 4350 THROUGH 4593	01/11/1972
24	50-247	HEARING TRANSCRIPT PAGES 4594 THROUGH 4751	01/12/1972
24	50-247	HEARING TRANSCRIPT PAGES 4752 THROUGH 4984	04/05/1972
24	50-247	HEARING TRANSCRIPT PAGES 1 THROUGH 129	04/20/1972
25	50-247	HEARING TRANSCRIPT PAGES 4985 THROUGH 5287	05/17/1972
25	50-247	HEARING TRANSCRIPT PAGES 5288 THROUGH 5576	05/18/1972
25	50-247	HEARING TRANSCRIPT PAGES 5577 THROUGH 5757	05/19/1972
25	50-247	HEARING TRANSCRIPT PAGES 5758 THROUGH 5918	06/19/1972
25	50-247	HEARING TRANSCRIPT PAGES 5919 THROUGH 6062	06/20/1972
25	50-247	HEARING TRANSCRIPT PAGES 6063 THROUGH 6207	11/22/1972
25	50-247	HEARING TRANSCRIPT PAGES 6208 THROUGH 6256	12/04/1972

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BOX NO.	DOCKET NO.	DESCRIPTION	LTR DATE
25	50-247	HEARING TRANSCRIPT PAGES 6257 THROUGH 6272	12/04/1972
26	50-247	HEARING TRANSCRIPT PAGES 6273 THROUGH 6379	12/04/1972
26	50-247	HEARING TRANSCRIPT PAGES 6380 THROUGH 6620	12/05/1972
26	50-247	HEARING TRANSCRIPT PAGES 6621 THROUGH 6874	12/06/1972
26	50-247	HEARING TRANSCRIPT PAGES 6875 THROUGH 7038	12/07/1972
26	50-247	HEARING TRANSCRIPT PAGES 7039 THROUGH 7245	12/12/1972
26	50-247	HEARING TRANSCRIPT PAGES 7246 THROUGH 7437	12/13/1972
26	50-247	HEARING TRANSCRIPT PAGES 7438 THROUGH 7634	12/14/1972
26	50-247	HEARING TRANSCRIPT PAGES 7635 THROUGH 7798	12/15/1972
26	50-247	HEARING TRANSCRIPT PAGES 7799 THROUGH 8022	01/10/1973
26	50-247	HEARING TRANSCRIPT PAGES 8023 THROUGH 8241	01/11/1973
26	50-247	HEARING TRANSCRIPT PAGES 8242 THROUGH 8464	01/12/1973
27	50-247	HEARING TRANSCRIPT PAGES 8465 THROUGH 8692	01/15/1973
27	50-247	HEARING TRANSCRIPT PAGES 8693 THROUGH 8889	01/16/1973
27	50-247	HEARING TRANSCRIPT PAGES 8890 THROUGH 9126	01/17/1973
27	50-247	HEARING TRANSCRIPT PAGES 9127 THROUGH 9288	01/18/1973
27	50-247	HEARING TRANSCRIPT PAGES 9289 THROUGH 9387	01/19/1973
27	50-247	HEARING TRANSCRIPT PAGES 9388 THROUGH 9406	03/05/1973
27	50-247	HEARING TRANSCRIPT PAGES 9407 THROUGH 9557	03/05/1973
27	50-247	HEARING TRANSCRIPT PAGES 9558 THROUGH 9741	03/06/1973
27	50-247	HEARING TRANSCRIPT PAGES 9742 THROUGH 9939	03/07/1973
27	50-247	HEARING TRANSCRIPT PAGES 9940 THROUGH 10,152	03/08/1973
28	50-247	HEARING TRANSCRIPT PAGES 10,153 THROUGH 10,414	04/09/1973
28	50-247	HEARING TRANSCRIPT PAGES 10,415 THROUGH 10,608	04/10/1973

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BOX NO.	DOCKET NO.	DESCRIPTION	LTR DATE
28	50-247	HEARING TRANSCRIPT PAGES 10,609 THROUGH 10,827	04/11/1973
28	50-247	HEARING TRANSCRIPT PAGES 10,828 THROUGH 11,028	04/12/1973
28	50-247	HEARING TRANSCRIPT PAGES 11,029 THROUGH 11,065	04/24/1973
28	50-247	HEARING TRANSCRIPT PAGES 11,066 THROUGH 11,262	04/25/1973
28	50-247	HEARING TRANSCRIPT PAGES 11,263 THROUGH 11,451	04/26/1973
28	50-247	HEARING TRANSCRIPT PAGES 1 THROUGH 179	07/02/1973
28	50-247	HEARING TRANSCRIPT PAGES 11,452 THROUGH 11,801	09/12/1973
29	50-247	HEARING TRANSCRIPT PAGES 1 THROUGH 176	01/09/1974
29	50-247	HEARING TRANSCRIPT PAGES 1 THROUGH 177 (IN CAMERA)	11/13/1974
29	50-247	HEARING TRANSCRIPT PAGES 1 THROUGH 71	09/22/1976
29	50-247	HEARING TRANSCRIPT PAGES 72 THROUGH 294	10/05/1976
29	50-247	HEARING TRANSCRIPT PAGES 1 THROUGH 99	10/27/1976
29	50-247	HEARING TRANSCRIPT PAGES 100 THROUGH 389	12/07/1976
29	50-247	HEARING TRANSCRIPT PAGES 390 THROUGH 608	12/08/1976
29	50-247	HEARING TRANSCRIPT PAGES 295 THROUGH 329	12/08/1976
29	50-247	HEARING TRANSCRIPT PAGES 609 THROUGH 867	12/09/1976
29	50-247	HEARING TRANSCRIPT PAGES 868 THROUGH 1,053	12/10/1976
29	50-247	HEARING TRANSCRIPT PAGES 1 THROUGH 119	02/09/1977
30	50-247	HEARING TRANSCRIPT PAGES 1054 THROUGH 1267	02/23/1977
30	50-247	HEARING TRANSCRIPT PAGES 1268 THROUGH 1554	02/24/1977
30	50-247	HEARING TRANSCRIPT PAGES 1555 THROUGH 1703	02/25/1977
30	50-247	TER: RADIOLOGICAL EFFLUENT TECHNICAL SPECIFICATION IMPLEMENTATION (A-2)	06/06/1984
30	50-247	SEMIANNUAL EFFLUENT AND WASTE DISPOSAL REPORT FOR 07/01/84 THROUGH 12/31/84	03/13/1985

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BOX DOCKET NO.	DESCRIPTION	LTR DATE
30	50-247 SEMIANNUAL EFFLUENT AND WASTE DISPOSAL REPORT FOR 01/01/85 THROUGH 06/30/85	08/30/1985
30	50-247 TER: RADIOLOGICAL EFFLUENT RELEASE AND RADIOLOGICAL ENVIRONMENTAL OPERATING REPORTS FOR 1983 (TER-C5506-547)	09/20/1985
30	50-247 SUPERSEDED PAGES PER AMENDMENT #2 TO PSAR	06/01/1966
30	50-247 SUPERSEDED PAGES PER REV 1 TO UPDATED FSAR	07/22/1983
31	50-247 SUPERSEDED PAGES PER REV 2 TO UFSAR	07/20/1984
31	50-247 SUPERSEDED PAGES PER REV 3 TO UFSAR	07/19/1985
31	50-247 SUPERSEDED PAGES PER REV 4 TO UFSAR	07/22/1986
31	50-247 SUPERSEDED PAGES PER REV 5 TO UFSAR	06/23/1987
32	50-247 SUPERSEDED PAGES PER REV 11 TO UFSAR	06/28/1993
32	50-247 SUPERSEDED PAGES PER REV 13 TO UFSAR	12/21/1995
32	50-247 SUPERSEDED PAGES PER REV TO EP	12/08/1982
32	50-247 SUPERSEDED PAGES PER REV TO EPIP	02/25/1993
32	50-247 SUPERSEDED PAGES PER REV TO EPIP	03/25/1993
32	50-247 SUPERSEDED PAGES PER REV TO ERP	02/21/1972
32	50-247 SUPERSEDED PAGES PER REV 7 TO FPPP	03/03/1993
32	50-247 SUPERSEDED PAGES PER SUPPLEMENT #1	09/22/1977
32	50-247 SUPERSEDED PAGES PER SUPPLEMENT #3 INSERVICE INSPECTION AND TESTING PROGRAM	02/28/1979
32	50-247 SUPERSEDED PAGES PER AMENDMENT #1 TO PROBABILISTIC SAFETY STUDY	01/29/1983
32	50-247 SUPERSEDED PAGES PER AMENDMENT #2 TO PROBABILISTIC SAFETY STUDY	04/10/1984