A. Alan Blind Vice President

Consolidated Edison Company of New York, Inc. Indian Point Station Broadway & Bleakley Avenue Buchanan, NY 10511 Telephone (914) 734-5340 Fax: (914) 734-5718 blinda@coned.com

April 2, 2001

Re:

Indian Point Unit No. 2

Docket No. 50-247

NL-01-038

U.S. Nuclear Regulatory Commission Attn: Document Control Desk Mail Station P1-137 Washington, DC 20555-0001

Subject:

2000 Refueling Outage Inservice Inspection (ISI) Program Summary

Report – Second Outage, Second Period, Third Interval.

Reference:

1) Con Edison Letter to NRC dated October 9, 1997

Pursuant to the requirements of Indian Point Unit No. 2 Technical Specification Section 4.2.2, inspections of the primary and secondary side components (the reactor, steam generator, piping, and supports) were performed during the 2000 refueling outage. These inspections, performed during the second outage of the second period, are being applied to the second period of the third interval. During this refueling outage, the plant's originally installed steam generators were replaced, and preservice inspection examinations on the replacement steam generators were performed. These are annotated as PSI on the attached ASME Form NIS-1, "Owners Report for Inservice Inspections."

Summaries of the inservice/preservice inspections performed, snubber inspections, pressure tests performed, and Form NIS-1 (including the areas subject to examination, results, and corrective measures) are provided in Attachment 1.

A report summarizing the Class 1 and 2 code repairs and replacements performed since the last ISI summary report (Reference 1) will be provided by May 2, 2001. A report summarizing the replacement of the steam generators and related Form NIS-2, "Owners Report for Repair and Replacement" is provided in Attachment 2.

Pursuant to 10 CFR 50.55a(b)(2)(ix)(D), a summary of examinations of the containment liner and concrete surfaces is provided in Attachment 3.

Detailed information pertaining to these reports is available at IP-2 for review.

A047

Commitments made by Con Edison that are contained in this letter are listed in Attachment 4.

Should you or your staff have any concerns regarding this matter, please contact Mr. John McCann, Manager, Nuclear Safety & Licensing at 914-734-5074.

Sincerely, A. alan Blin

#### Attachments

C: Mr. Hubert J. Miller
 Regional Administrator-Region I
 US Nuclear Regulatory Commission
 475 Allendale Road
 King of Prussia, PA 19406

Mr. Patrick D. Milano, Senior Project Manager, Section 1 Project Directorate I Division of Licensing Project Management US Nuclear Regulatory Commission Mail Stop O-8-C2 Washington, DC 20555

Senior Resident Inspector US Nuclear Regulatory Commission PO Box 38 Buchanan, NY 10511

#### ATTACHMENT 1 TO NL-01-038

Inservice Inspection & Preservice Inspection Summary
Snubber Summary
Pressure Testing Summary
Form NIS-1

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

# Indian Point Unit No. 2 Second Outage, Second Period, Third Interval Non-Destructive Examination Report

#### Introduction

Inservice inspections were performed at Indian Point Unit No. 2 during the 2000 refueling outage, which occurred between February 2000 and January 2001.

Examinations were performed in accordance with the requirements of:

- 1. The Consolidated Edison Third Ten Year Inservice Inspection Program
- 2. Technical Specifications
- 3. ASME Boiler & Pressure Vessel Code, Section XI, 1989 Edition without Addenda

The following items were examined:

- 1. Reactor studs, nuts, washers, and vessel
- 2. Steam Generators 21, 22, 23, and 24 (PSI)
- 3. Residual Heat Removal (RHR) Heat Exchanger 22
- 4. Class 1 and 2 piping and supports

The examinations performed are summarized on the attached Form NIS-1.

Prior to the start of these examinations, certification documents relative to personnel, equipment, and materials were reviewed and determined to be satisfactory.

Personnel from the Hartford Steam Boiler Inspection and Insurance Company, and Con Edison conducted surveillances of and witnessed examinations and related activities. Management overviews were conducted by the Con Edison Nuclear Quality Assurance Department.

Visual examinations revealed the following indications, which exceeded the procedural acceptance criteria. This procedural acceptance criteria is more stringent than the Code acceptance criteria. There were nine (9) components identified with visual deficiencies.

Washers (14) for the reactor - visual inspection identified pitting on the inner surface of the washers. This pre-existing condition was evaluated and determined to be acceptable.

Valve bolting (3) in Class 1 systems - visual inspection identified minor leakage or corrosion. This leakage was corrected, the bolting re-inspected, and determined to be acceptable. The minor corrosion was accepted by VT Level III review.

Valve interior (1) in the RHR system - visual inspection identified marks in the body where the valve internals had previously made contact with the valve body. The marks in the valve body had been identified previously. The condition was determined to be acceptable.

Pipe supports (4) in the CVCS and SI systems - visual examinations identified misalignment, bending, frozen bearings and chipped grout. These supports were determined to be operable. One was accepted as is, one corrected and subsequently accepted, and two were accepted with recommendations for future corrective action.

In all cases the components were evaluated and determined to be operable. Minor maintenance was performed, or scheduled, to ensure continued satisfactory performance.

Unless otherwise indicated evaluations of visual indications were conducted by Con Edison Nuclear Engineering, and dispositioned appropriately, as noted on the data evaluation sheet.

Information regarding the above-mentioned indications and their dispositions is contained on the attached Form NIS-1, Item 15 – Abstract of Corrective Measures.

#### 2000 REFUELING OUTAGE

#### **INSERVICE INSPECTION PROGRAM SUMMARY-SNUBBERS**

#### AREA AND EXTENT OF EXAMINATION

IWB-2500	
REFERENCE	

EXAMINATION PROCEDURE

#### **QUALITY GROUP A PIPE SUPPORT**

F1.10	LINE 10	SR-807, SR-809, SR-809A	VISUAL-NOTE 1
	LINE 16	56-SR-1	
	LINE 41	SR-952, SR-953, SR-953A	
	LINE 43	SR-1020A, SR-1024A	
		SR-1025A, SR-1026	
	LINE 44	SR-1072, SR-1073	
	LINE 56	56-SR-12	
	LINE 61	SR-887	
	LINE 62	62-SR-1, 62-SR-2,	
		62-SR-3, SR-924	
	LINE 70	70-SR-10, SR-13	
	LINE 79	SR-902, SR-907, SR-908	
	LINE 80	SR-920A	
	<b>LINE 351</b>	PWR-127, PWR-128	
		PWR-129, 351-SR-1	
	<b>LINE 352</b>	PWR-152	
	LINE 353	PWR-147A	

#### **QUALITY GROUP A COMPONENT SUPPORT**

F1.40

21 STEAM GENERATOR

VISUAL-NOTE 1

SG-21-1, SG-21-2, SG-21-3, SG-21-4, SG-21-5, SG-21-6

22 STEAM GENERATOR

SG-22-1, SG-22-2, SG-22-3, SG-22-4, SG-22-5, SG-22-6

23 STEAM GENERATOR

SG-23-1, SG-23-2, SG-23-3, SG-23-4, SG-23-5, SG-23-6

24 STEAM GENERATOR

SG-24-1, SG-24-2, SG-24-3, SG-24-4, SG-24-5, SG-24-6

\*

\*

#### INSERVICE INSPECTION PROGRAM SUMMARY-SNUBBERS

#### AREA AND EXTENT OF EXAMINATION

#### **QUALITY GROUP B PIPE SUPPORT**

F1.20	LINE 1	MSR-2V, SR-M4	VISUAL-NOTE 1
		SR-M5A, SR-M5B	
	LINE 2	SR-M2, SR-M3A, SR-M3B	
		SR-M1, SR-M51	
	LINE 3	MSR-1V, SR-M6, SR-M7	
		SR-M8A, SR-8AA	
	LINE 4	SR-M9, SR-10A, SR-M56	
	LINE 6	BF-SR-9	
	LINE 9	SR-55	
	LINE 10	SR-65	
	LINE 56	56-SR-6, 56-SR-26	
	LINE 60	SR-73A, SR-703-1, SR-703-2	
		SR-746A, SR-746B, SR-746C	
	<b>LINE 155</b>	SR-50A	
	<b>LINE 293</b>	SR-761, SR-763A	
	<b>LINE 355</b>	SR-748	
	<b>LINE 356</b>	SR-716, SR-718A, SR-720	
	<b>LINE 358</b>	SR-738A, SR-738B	
	<b>LINE 361</b>	SR-732A, SR-749, SR-749A	
		SR-749B, SR-749C, SR-755	
		SR-756	
	LINE 518	SR-71A	
	LINE V-3	SR-M29	
	LINE V-4	SR-M25	

NOTE 1:VISUAL EXAMINATION OF SNUBBERS WAS PERFORMED PER PLANT TECHNICAL SPECIFICATION 4.12.A. THE VISUAL INSPECTION WAS PERFORMED IN ACCORDANCE WITH SURVEILLANCE TEST PROCEDURE PI-V1A AND PI-V1B.

\*

#### 2000 REFUELING OUTAGE

#### **INSERVICE INSPECTION PROGRAM SUMMARY-SNUBBERS**

#### **AREA AND EXTENT OF EXAMINATION**

#### NON QUALITY GROUP SNUBBERS

#### FOR INFORMATION ONLY

THE FOLLOWING **NON SECTION XI** SNUBBERS WERE VISUALLY INSPECTED IN ACCORDANCE WITH SURVEILLANCE TEST PROCEDURE PI-V1A AND PI-V1B.

SR-M50
SR-M8B, SM-53
SR-M10B, SR-M55
SR-B-3
SR-B1
SR-B7
SR-B5
SR-936, SR-937, SR938, SR-1027A, SR-1030, SR-1031, SR-1037A, SR-1051
SR-1053, SR-1060, SR-1079, SR-1080, SR-1099, SR-1100, SR-1103
14-SR-1, SR-927, SR-927A, SR-928, SR-928A, SR-971, SR-1035, SR-1039A
SR-1042, SR-1049, SR-1057, SR-1093, SR-1095, SR-954
SR-1001, SR-1002, SR-1075, SR-1076, SR-1078, SR-1120, SR-1122, SR1123
SR-1077
17-SR-2, SR-941, SR-941A, SR-1010, SR-1069
38-SR-21, 38-SR-22, 38-SR-24
45-SR-9, 45-SR-30
46-SR-2, 46-SR-3, 46-SR-30
47-R-30
48-SR-30
70-SR-3, 70-SR-4, 70-SR-5, 70-SR-6, 70-SR-11, 70-SR-12, 70-SR-14, RCS-5,
RCS-6, 70-RCS-5A
71-SR-1, SR-963, SR-964, SR-964A, SR-967A
72-SR-1, SR-1125, SR-1126, SR-1127, SR-1128, SR-1129, SR-1131
SR-1016A, SR-1017, SR-1017A, SR-1017B, SR-1018A
74-SR-1, SR-1085, SR-1086, SR-1087, SR-1087A, SR-1089, SR-1092
76-H-15
78-SR-1
SR-752, SR-752A, SR-753
SR-759
SR-250, SR-250A, 163-SR-5

- LINE 250 250-SR-1
- LINE 342 342-SR-6
- LINE 343 343-SR-5
- LINE 344 344-R-4
- LINE 353 PWR-148, SR-736, SR-737, SR-737A
- LINE 361 361-SR-10
- LINE 577 577-SR-1, 577-R-5, 577-SR-13, 577-SR-15, 577-SR-17
- LINE V-2 SR-V20A, SR-V20B
- LINE V-3 SR-M30, SR-M31, SR-M33
- LINE V-4 SR-M27, SR-M52
- LINE V-5 SR-M34, SR-M35, SR-M36, SR-M37, SR-M54
- LINE V-6 SR-M39, SR-M40, SR-M41
- LINE MS-3 SR-499, SR-501, SR-M503, MS-SR-129

#### **EXAMINATION, INDICATION & DISPOSITION**

#### ISI INDICATIONS- QUALITY GROUP A PIPE SUPPORT

- LINE 10 SR-807- Snubber is frozen: paddles will not rotate on the bearings.

  A+ B dimension is 6 3/8". Low as left oil.

  ACCEPTED BY EXAMINATION AFTER CORRECTION
  - ACCEPTED BY ANALYSIS
  - SR-809- Reservoir indicator markings not clear.

Equivalent B dimension must be calculated and the As Left A+B must be evaluated.

ACCEPTED BY ANALYSIS

SR-809A- Snubber is frozen: paddles will not rotate on bearings. A+B dimension is 5 3/4".

ACCEPTED BY EXAMINATION AFTER CORRECTION ACCEPTED BY ANALYSIS

- LINE 41 SR-953A- Hanger and tube interference. Unknown source of oil.

  ACCEPTED BY EXAMINATION AFTER CORRECTION
- LINE 43 SR-1020A- End attachment rotated 90 degrees. As left A+B is below 6 3/4".

  ACCEPTED BY EXAMINATION AFTER CORRECTION ACCEPTED BY ANALYSIS
  - SR-1025A- Covered with oil form Reactor Coolant Pump.

    Threaded section from paddle to snubber is loose.

    ACCEPTED BY EXAMINATION AFTER CORRECTION

LINE 56	56-SR-12- White paint on snubber piston. No threads showing on turnbuckle.  ACCEPTED BY EXAMINATION AFTER CORRECTION
LINE 61	SR-887- Turnbuckle locknut not snug. A+B oil level is ½". ACCEPTED BY EXAMINATION AFTER CORRECTION ACCEPTED BY ANALYSIS
LINE 62	62-SR-1- Snubber body jammed against line 74. Low as left oil level.  ACCEPTED BY EXAMINATION AFTER CORRECTION ACCEPTED BY ANALYSIS
	62-SR-2- Snubber body in contact with spring can. Low as left oil level.  ACCEPTED BY EXAMINATION AFTER CORRECTION ACCEPTED BY ANALYSIS
	62-SR-3- Light oil coating from Reactor Coolant Pump. The clamp to the paddle is splayed (clamp ears not parallel).  ACCEPTED BY EXAMINATION AFTER CORRECTION
	SR-924- Low as left oil level. ACCEPTED BY ANALYSIS
LINE 70	70-SR-10- Low as left oil level. ACCEPTED BY ANALYSIS
	70-SR-13- Top pipe to snubber bent.  ACCEPTED BY EXAMINATION AFTER CORRECTION
LINE 79	SR-908- Reservoir oil tag missing. ACCEPTED BY ANALYSIS
LINE 80	SR-920A- Reservoir oil tag missing. ACCEPTED BY ANALYSIS
LINE 352	PWR-152- Reservoir oil tag missing. ACCEPTED BY ANALYSIS

### ISI INDICATIONS- QUALITY GROUP A COMPONENT SUPPORT

### 21 STEAM GENERATOR

SG-21-1- As left A dimension is beyond acceptance criteria.

ACCEPTED BY ANALYSIS

#### 22 STEAM GENERATOR

- SG-22-1- Oil leak at braided connection.

  ACCEPTED BY EXAMINATION AFTER CORRECTION
- SG-22-2- Snubber difficult to remove. Snubber locked in position. Snubber removed for testing.

  ACCEPTED BY ANALYSIS
- SG-22-3- As left A dimension is beyond acceptance criteria. ACCEPTED BY ANALYSIS
- SG-22-4- Failed functional test on high compression bleed rate.

  ACCEPTED BY ANALYSIS

#### 23 STEAM GENERATOR

- SG-23-1- Oil at reservoir and reservoir to body connection. Re-inspection Showed no active leak.

  ACCEPTED BY EXAMINATION.
- SG-23-3- Failed functional test on high compression bleed rate. Piston Threads damaged. As left A dimension is beyond acceptance criteria.

  ACCEPTED BY EXAMINATION AFTER CORRECTION ACCEPTED BY ANALYSIS
- SG-23-5- Failed functional test on high compression bleed rate.

  ACCEPTED BY ANALYSIS

#### 24 STEAM GENERATOR

SG-24-5- Failed functional test on high compression bleed rate.

ACCEPTED BY ANALYSIS

#### ISI INDICATIONS- QUALITY GROUP B PIPE SUPPORT

- LINE 1 MSR-2V- Two hilti bolts not installed in base plate #14.

  Lock nuts not installed on top threaded rod.

  Heavy tape residue on snubber piston.

  Snubber alignment rotated approx. 10°

  counterclockwise causing contact with pipe clamp.

  ACCEPTED BY EXAMINATION AFTER CORRECTION
  - SR-M5A- Score marks on piston. Low as left oil level.

    ACCEPTED BY EXAMINATION AFTER CORRECTION

    ACCEPTED BY ANALYSIS

SR-M5B- Low as left oil level.

ACCEPTED BY ANALYSIS

LINE 3	MSR-1V- Light scratches on piston. Tape residue on piston.  Clamp has gap and top stud and nut are not snug against clamp. Bottom nuts are not fully engaged.  Snubber and pipe clamp not aligned with cold setting per cut sheet.  ACCEPTED BY EXAMINATION AFTER CORRECTION ACCEPTED BY ANALYSIS
LINE 2	SR-M2- Bracket on base plate not installed as per cut sheet. ACCEPTED BY ANALYSIS
	SR-M51- Low as left oil level.  ACCEPTED BY ANALYSIS
LINE 3	SR-8AA- Loose turnbuckle nut. ACCEPTED BY EXAMINATION AFTER CORRECTION
LINE 4	SR-10A- Bolt installed in clamp. Minor wear on piston rob adjacent to snubber body.  ACCEPTED BY EXAMINATION AFTER CORRECTION
	SR-M56- Snubber attachment to building not per cut sheet. ACCEPTED BY ANALYSIS
LINE 9	SR-55- Low oil. As left A+B less than 6 ¾" ACCEPTED BY ANALYSIS
LINE 10	SR-65-Spherical bearings are frozen. Paddle and pin corroded. Thread engagement at plate is insufficient. Glue like substance on piston.  ACCEPTED BY EXAMINATION AFTER CORRECTION
LINE 60	SR-73A- Low as left oil level. ACCEPTED BY ANALYSIS
	SR-746A- Threads not visible in turnbuckle. Item 4 not installed. Snubber attachment not installed per cut sheet.  ACCEPTED BY EXAMINATION AFTER CORRECTION ACCEPTED BY ANALYSIS
LINE 293	SR-761- Snubber rubbing against unistrut and cannot rotate. ACCEPTED BY EXAMINATION AFTER CORRECTION
LINE 355	SR-748- Snubber rubbing on adjacent hanger.  ACCEPTED BY EXAMINATION AFTER CORRECTION

LINE 356 SR-716- Bolts dry. Light rust. Loose bolt on snubber to support rod.

ACCEPTED BY EXAMINATION AFTER CORRECTION

LINE 358 SR-738B- Reservoir oil indicator tag missing. ACCEPTED BY ANALYSIS

#### **Summary of Inservice Inspection Pressure Tests**

#### Performed on Quality Groups A and B (ASME Section XI

#### Classes 1 and 2) Pressure Retaining Components

INSERVICE SYSTEM PRESSURE TESTS OF QUALITY GROUPS A AND B SYSTEMS AND COMPONENTS WERE CONDUCTED AT THE INDIAN POINT UNIT NO. 2 NUCLEAR POWER PLANT IN ORDER TO MEET ASME SECTION XI REQUIREMENTS FOR THE INTERVAL. THIS TESTING OCCURRED AT THE END OF THE REFUELING AND STEAM GENERATOR REPLACEMENT OUTAGE IN DECEMBER, 2000. THE QUALITY GROUP A AND B SYSTEMS AND COMPONENTS WERE INSPECTED USING PROCEDURES UPDATED TO THE CURRENT PROGRAM REQUIREMENTS.

THIS PROGRAM UTILIZED VISUAL EXAMINATION METHODS IN ACCORDANCE WITH THE REQUIREMENTS OF:

- A) ASME B&PV CODE, SECTION XI, 1989 EDITION
- B) PLANT TECHNICAL SPECIFICATIONS, AND
- C) CON EDISON TEN YEAR INSERVICE INSPECTION PROGRAM INCLUDING RELIEF REQUESTS.

THE AREAS TESTED AND INDICATIONS REPORTED ARE SUMMARIZED IN TABLES 1 AND 2 OF THIS ATTACHMENT.

THE QUALITY GROUP A EXAMINATIONS REVEALED FIVE INDICATIONS AT FITTINGS AND FLANGES (MECHANICAL PRESSURE BOUNDARY) AND THREE INDICATIONS AT VALVE PACKING (MECHANICAL NON-PRESSURE BOUNDARY). ALL INDICATIONS WERE REPAIRED EXCEPT ONE IN EACH CATEGORY. A BODY TO BONNET LEAK WAS STOPPED BY RETORQUING, BUT ACTION TO REPLACE THE GASKET AND DAMAGED BOLTING HAS BEEN DEFERRED TO THE NEXT REFUELING OUTAGE. A PACKING LEAK WAS DETERMINED NOT TO BE ACTIVE, BUT ACTION TO REPACK THE VALVE HAS BEEN DETERMINED TO BE NECESSARY AND WAS DEFERRED TO THE NEXT REFUELING OUTAGE.

THE QUALITY GROUP B EXAMINATIONS REVEALED TEN INDICATIONS. ALL INDICATIONS WERE REPAIRED EXCEPT ONE VALVE REPACKING WHICH WAS DEFERRED TO THE NEXT REFUELING OUTAGE.

#### TABLE 1

#### **AREAS TESTED**

TEST NO.	TITLE	QUALITY GROUP	<u>DRAWINGS</u>
PT-R75	RCS INTEGRITY INSPECTION	A	9321-F-2738, 9321-F-2745, 208168
PI-3Y74	STEAM GENERATOR SYSTEMS INSERVICE INSPECTION	В	9321-F-2019 9321-F-2729

TABLE 2

#### SUMMARY OF REPORTED INDICATIONS

#### QUALITY GROUPS A AND B PRESSURE RETAINING COMPONENTS

QUALITY GROUP A PRESSURE RETAINING COMPONENTS						
LEAKAGE TYPE	# FOUND	# REPAIRED	# DEFERRED			
THROUGH WALL	0	0	0			
MECHANICAL PRESSURE BOUNDARY	5	4	1			
MECHANICAL NON-PRESSURE BOUNDARY	3	2	1			
TOTAL ITEMS BY STATUS	8	6	2			

QUALITY GROUP B PRESSURE RETAINING COMPONENTS						
LEAKAGE TYPE	# FOUND	# REPAIRED	# DEFERRED			
THROUGH WALL	0	0	0			
MECHANICAL PRESSURE BOUNDARY	2	2	0			
MECHANICAL NON-PRESSURE BOUNDARY	8	7	1			
TOTAL ITEMS BY STATUS	10	9	1			

#### FORM NIS-1 OWNER'S REPORT FOR INSERVICE INSPECTIONS

(As required by the Provisions of the ASME Code Rules)

<del></del>	(Name and	Address of Owner)		
2. Plant Indian Point	Station Broadway and Bleakley	Ave. Buchanan, NY 10511		
<del></del>	(Name and	Address of Plant)		
3. Plant Unit 2	4. Own	er Certificate of Authorization	(if required) N/A	<b>1</b>
5. Commercial Service D	ate 07/01/1974 6. Natio	onal Board Number for Unit	N/A	
7. Components Inspected	1			
Component or Appurtenance	Manufacturer or Installer	Manufacturer or Installer Serial No.	State or Province No.	National Board No.
Reactor Vessel	Combustion Engineering	65201		20756
Class 1 & 2 Piping	United Engineers & Constructors			
Steam Generator 21	Westinghouse	MMGL-11058		25*
Steam Generator 22	Westinghouse	MMGL-11059		26*
Steam Generator 23	Westinghouse	MMGL-11060		27*
Steam Generator 24	Westinghouse	MMGL-11061		28*
RHR Heat Exchange 22	Atlas	IPPACAHRS - 2		659
-				

(\*) See Code Data sheets contained in Attachment 2 NIS-2.

Note: Supplemental sheets in form of lists, sketches, or drawings may be used, provided (1) size is 8-1/2 in. x 11 in., (2) information in items 1 through 6 on this report is included on each sheet, and (3) each sheet is numbered and the number of sheets is recorded at the top of this form.

## FORM NIS-1 (Back)

)	10 01/03/2001
September 19, 1998	to December 2, 2002 **
July 1, 1994	to April 6, 2006 **
1989	Addenda None
: January 19, 1994; Rev 0	
sts. Include a list of examinations a	and tests and a statement concerning status of work required for the
ons and Tests. identified below.	
es, attached.	
rective measures taken conform to applicable)	b) the examinations and tests meet the Inspection Plan as required by the the rules of the ASME Code, Section XI.  Expiration Date  Ed: 50~ ANY By  3-25-6
CERTIFICATE	OF INSERVICE INSPECTION
have in have i	of Boiler and Pressure Vessel Inspectores and the State or provinces of State of Provinces of State of Provinces of Spected the components described in this Owner's Report during the peroid tate that to the best of my knowledge and belief, the Owner has performed r's Report in accordance with the inspection plan and as required by the ASME any warranty, expressed or implied, concerning the examinations, tests, and he Inspector nor his employer shall be liable in any manner for any personal in this inspection.  The state of province and Endorsements
	September 19, 1998  July 1, 1994  1989  January 19, 1994; Rev 0  sts. Include a list of examinations a ched.  ons and Tests. identified below.  es, attached.  es, attached.  ces, attached.

### FORM NIS-1 (Back), continued.

#### Notes:

\*\* The Inservice Inspection Interval has been extended per IWA-2430(e) to the dates indicated. These were documented in letters to the NRC dated April 9, 1999 and January 4, 2001.

## NIS 1 Examinations Item 13

CODE ITEM	COMPONENT	DESCRIPTION	ISO	VOL	SUR	VIS	NOTES
Reactor Vessel							
B6.10	RFN 15, 16, 17, 18, 19, 20,	Reactor Vessel Nut	206913		Х		
	21, 22, 23, 24, 25, 26, 27						
	& 28					l	
B6.30	RFS 15, 16, 17, 18, 19, 20,	Reactor Vessel Stud	206913		Х		
	21, 22, 23, 24, 25, 26, 27						
	& 28					İ	
B6.50	RFW 15, 16, 17, 18, 19,	Reactor Vessel Washer	206913			Х	
	20, 21, 22, 23, 24, 25, 26,						
	27 & 28						
B7.80	RHMJ L15	CONOSEAL 92	206913			Х	
	RHMJ R11	CONOSEAL 93	206913			Х	
B13.10	RV V INT	Vessel Interior	206913			Х	
Pressurizer							
B3.120	PZRN3	IN RAD LN342	206918			Х	
RCP 24	<u> </u>						
B17.10	PFW 24	Flywheel	206923	Х		Х	
Steam Generator	21						
B2.40	SGC 21-8	TS-CH Weld	206914	Х			1
B3.140	SGN 21- 4R & 5R	IN RAD	206914	Х			1
B5.70	SGS 21- 4 & 5	CW-DM LP 21	206914	Х	Х		1
B7.30		MWY Bolts 21	206914			Х	1
	3C, 3H, 4C, 4H, 5C, 5H,	ł					
	6C, 6H, 7C, 7H, 8C, 8H,						
	9C, 9H, 10C, 10H, 11C,						
	11H, 12C, 12H, 13C, 13H,						
	14C, 14H, 15C, 15H, 16C						
	& 16H						
BF1.40	SG 21	Support-GFA	206914			X	1
C1.10	SGC 21- 3, 4 & 6	Circ Weld	206914	X		<u> </u>	1
C1.20	SGC 21-1	CW HD-SHELL	206914	$\frac{\hat{x}}{x}$			1
C1.30	SGC 21-7	CW TS-SHELL	206914	X			1
C2.21	SGN 21- 1	NOZ-SHELL MS	206914	X	Х		i
C2.21	SGN 21- 2	NOZ-SHELL FW	206914	X	X		1
C2.22	SGN 21- 2R	IN NOZ FW	206914	X	<u> </u>		1
Steam Generator	<del> </del>	111111111111111111111111111111111111111	200714				
B2.40	SGC 22- 8	TS-CH Weld	206915	Х	<del>                                     </del>		1
B3.140	SGN 22- 4R & 5R	IN RAD	206915	X			1
B5.70	SGS 22- 4 & 5	CW-DM LP 22	206915	X	X	<b></b>	i
B7.30	SGB 22- 1C, 1H, 2C, 2H,	MWY Bolts 22	206915		<u> </u>	X	1
5,100	3C, 3H, 4C, 4H, 5C, 5H,	litti bollo LL				^`	•
	6C, 6H, 7C, 7H, 8C, 8H,	·			1		
	9C, 9H, 10C, 10H, 11C,						
	11H, 12C, 12H, 13C, 13H,				1		
	14C, 14H, 15C, 15H, 16C						
	& 16H						
DE1 40		Cupport CEA	206015		<del> </del>	<del>                                     </del>	7
BF1.40	SG 22	Support-GFA	206915			X	1

## NIS 1 Examinations Item 13

CODE ITEM	COMPONENT	DESCRIPTION	ISO	VOL	SUR	VIS	NOTES
Steam Genera							
B2.40	SGC 23-8	TS-CH Weld	206916	Χ			1
B3.140	SGN 23- 4R & 5R	IN RAD	206916	Х			1
B5.70	SGS 23- 4 &5	CW-DM LP 23	206916	Х	Х		]
B7.30	SGB 23- 1C, 1H, 2C, 2H,	MWY Bolts 23	206916			Х	1
	3C, 3H, 4C, 4H, 5C, 5H,						
	6C, 6H, 7C, 7H, 8C, 8H,						
	9C, 9H, 10C, 10H, 11C,						
	11H, 12C, 12H, 13C, 13H,				İ		
	14C, 14H, 15C, 15H, 16C						
	& 16H						
BF1.40	SG 23	Support-GFA	206916		<u> </u>	Х	1
Steam Genera							
B2.40	SGC 24-8	TS-CH Weld	206917	Х			1
B3.140	SGN 24- 4R & 5R	IN RAD	206917	X			i
B5.70	SGS 24- 4 &5	CW-DM LP 24	206917	X	Х		i
B7.30	SGB 24- 1C, 1H, 2C, 2H,	MWY Bolts 24	206917	<del>- ``</del>	<u> </u>	Х	i i
27.00	3C, 3H, 4C, 4H, 5C, 5H,					<b> </b> ^`	'
	6C, 6H, 7C, 7H, 8C, 8H,						
	9C, 9H, 10C, 10H, 11C,						
	11H, 12C, 12H, 13C, 13H,						
	14C, 14H, 15C, 15H, 16C		ŀ				
	& 16H						
BF1.40	SG 24	Support-GFA	206917			X	1
DI 1.40		Quality Group A	1200717		<b>.</b>		<u>'</u>
B7.50	19 F 2	Flange Bolting	206684	Γ		Х	
D7 .00	27 F 4	Flange Bolting	206685			X	
B7.70	19 374	Valve Bolting	206684	-		X	
B9.11	10 17	CW-Pipe-Elbow	206669		X	<del>  ^`</del>	
	10 18	CW-Elbow-Pipe	206669		X		
	353 3	CW-Bent Pipe-Elbow	206905		X	<u> </u>	
B9.21	19 1AA	CW-Tee-Elbow	206684	<del> :</del>	X		
D7.21	19 5AA	CW-Valve-Flange	206684		X		
	27 7AA	CW-Pipe	206685		X		
	27 12AA	CW-Valve-Flange	206685		X		
B9.31	353 1	BW-Branch Connection	206905	X	X		
B9.40	27 17	SW-3"Tee-2"Pipe	206685		X		
	27 18	SW-Pipe-Elbow	206685	<del>• • • • • • • • • • • • • • • • • • • </del>	X		
	41 1	SW-Pump-1 1/2" Pipe	206687		X		
	41 2	SW-1 1/2" Pipe-2" Red	206687		X		
	41 3	SW-2" Reducer-Pipe	206687		Х		
	41 4	SW-Pipe-3/4"Tee	206687	1	X		
	41 6	SW-3/4"Tee-Pipe	206687		X		
	42 6	SW-2" Pipe-3/4"Tee	206689		X		
	42 7	SW-Elbow-Pipe	206689		X		
	42 8	SW-Pipe-Elbow	206689		X		
	42 9	SW-Valve-Pipe	206689		X		
	42 10	SW-Bent Pipe-Valve	206689		X	1	1
	43 52	SW-Pipe-Bent Pipe	206690	-	X		

## NIS 1 Examinations Item 13

CODE ITEN	M COMPONENT	DESCRIPTION	ISO	VOL	SUR	VIS	NOTES
B9.40	43 53	SW-Bent Pipe-Pipe	206690		Х		
	44 46	SW-Valve-Pipe	206692		Х		
	44 47	SW-Pipe-Valve	206692		Х		
	56 2	SW-Pipe-Coupling	206702		Х		
	56 3	SW-Elbow-Pipe	206702		Х		
	56 4	SW-Pipe-Elbow	206702		Х		
	56 5	SW-Coupling-Pipe	206702		Х		
	56 6	SW-Pipe-Coupling	206702		Х		
	56 7	SW-Pipe	206702		Х		
	56 10	SW-2"Tee-3/4"Flange	206702		Х		
	56 11	SW-Pipe-Tee	206702		Х		
	56 12	SW-Elbow-Pipe	206702		Х		
	56 13	SW-Pipe-Elbow	206702		Х		
	84 4	SW-Elbow-Pipe	206718		Х		
	84 5	SW-Pipe-Valve	206718		Х		
	84 6	SW-Valve-Pipe	206718		X		
B12.50	10 731	Valve Internals	206669			Х	
	Piping	- Quality Group B					
C5.11	10 22	CW-Elbow-Penetration	206669	Х	Х		
,	358 2	CW-Pipe-Flange	206908	X	X		
	358 3	CW-Flange-Pipe	206908	Х	Х		
	358 5	CW-Elbow-Pipe	206908	Х	Х		
	358 6	CW-Pipe-Elbow	206908	Х	Х		
	361 34	CW-Pipe-Elbow	206909	Х	Х		
	361 35	CW-Elbow-Pipe	206909	Х	Х		
	361 37	CW-Pipe-Elbow	206909	Х	Х		
	9 37	CW-Pipe-Elbow	206668	Х	Х		
	9 45	CW-Pipe	206668	Х	Х		
C5.30	56 74	SW-Pipe-Coupling	206701		Х		
	56 119	SW-Pipe-Coupling	206700		Х		
C5.51	1 18	CW-Elbow-Penetration	206655	Х	Х		
	1 1AA, 2AA &3AA	Circ Weld	206655	X	Х		1
	2 1AA, 2 & 2AA	Circ Weld	206657	X	Х		1
	3 1AA, 2AA & 3AA	Circ Weld	206659	Х	Х		1
	4 1AA, 2AA & 3AA	TE	206661	Х	Х		1
	5 1AA, 2AA & 3AA	Circ Weld	206663	Х	Х		1
	6 1AA, 2AA, 3AA & 4A	A/Circ Weld	206664	Х	Х		1
	7 1AA & 2AA	Circ Weld	206665	Х	Х		1
	8 1AA & 2AA	Circ Weld	206666	Х	Х		1
	Piping Sup	ports - Quality Group A					
BF1.10	42 H 6	HDFB-Clevis-Hanger	206688			Х	
	56 SR 11A	RUFA-U-Bolt-Restraint	206702			Х	
	PWR 94	RGFA-Guide-Restraint	206707			Х	
	R SR 8	HUFWA-U-Bolt-Hanger	206688			Х	
	SIH 213	SWFMW-Welded-Support	206908			Х	
	SR 895	RCFW-Clamp-Restraint	206684			Х	
	Piping Sup	ports - Quality Group B					
CF1.20	HBF 1	Hanger-WSW	206664			Х	1
	HBF 2	Hanger-WSW	206663			Х	1
	HBF 3	Hanger-WSW	206665			Х	1
	HBF 4	Hanger-WSW	206666			Х	1

NIS 1 Examinations Item 13

CODE ITEM	COMPONENT	DESCRIPTION	ISO VOL	SUR	VIS	NOTES
	HBF 12	Restraint-RWFM	206666		Х	1
CF1.20	HMS 1	Hanger-WSW	206657		Х	1
	HMS 2	Hanger-WSW	206655		Х	1
	HMS 3	Hanger-WSW	206659		Χ	1
	HMS 4	Hanger-WSW	206661		Χ	1
	HMS 6	Restraint-RWFM	206655		Χ	
	HMS 18	Support-WSA	206659		Χ	
	MSR 1V	Restraint-CHA	206659		Х	1
	MSR 2V	Support-CHA	206655		Χ	1
	PR 6&7	Restraint-WCM	206655		Х	1
	PR 8 & 9	Restraint-GCM	206657		Χ	1
	PR 12	Restraint-WCM	206659		Х	1
	PR 13	Restraint-GCM	206659		Х	1
	PR 14	Restraint-WCM	206661		Х	1
	PR 18	Restraint-WCM	206665		Χ	1
	SIH 151	Hanger-HCFW	206704		Х	
	SIH 153	Support-SWFM	206704		Х	
	SIH 188	Support-SGFA	206908		Χ	
	SR 700	Restraint-RCFW	206704		Х	
	SR 723	Restraint-RGFW	206909		Х	
	27 SR 40	Seismic Restraint	206685		Χ	
Natas						
Notes:		Doubles on onto				
<ol> <li>Preservice inspet</li> </ol>	ection of Steam Generato	or kepiacements				<u> </u>

## NIS 1 Corrective Measures Item 15

CODE ITE	M COMPONENT	DESCRIPTION	EXAM	ISO	VOL SUR	VIS
		Quality Group A				
B06.50	RFW 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27 & 28	Reactor Vessel Washers - Reported pitting on Id. Surface.	ISI	206913		X
	Accepted as pre-existing	g condition.				
B07.50	19 F 2	Flange Bolting - Reported loose bolting, incomplete thread engagement and a boron leak.	ISI	206684		X
_		examined and accepted.				
B07.50	19 374	Valve Bolting - Reported general corrosion of the valve bolting.	ISI	206684		X
	Accepted as meeting co	ode, <5% reduction in diameter.				
B07.70	351 895A	Valve Bolting - Reported leakage and incomplete thread engagement.	ISI	206903		X
	Recommended correcti	on. Completed, reexamined and a	ccepte	d.		
B12.50	10 731	Valve Internals - visual indications, minor indentations were reported in the valve body.	ISI	206669		X
	This previously identified	condition determined to be accept	able.			
BF1.10	RSR 8	Hanger-HUFWA - Reported bent hanger rods.	ISI	206688		Х
	Accepted as being ope	rational. Recommended correction	to be s	cheduled	ā	
BF1.10	SR 895	Restraint-RCFW - Reported misalignment and clamp movement.	ISI	206684		X
	Accepted as being ope	rational. Recommended correction	to be s	cheduled		
		Quality Group B				
CF1.20	SIH 188	Support-SGFA - Reported chipped grout.	ISI	206908		X
	Accepted as being ope	rational. No corrective action requi	red.			
CF1.20	SR 700	Restraint-RCFW - Reported misalignment and frozen bearings.	ISI	206704		Х
	Accepted as being ope accepted.	rational. Recommended correction	n. Comp	oleted, ree	examined o	and

### ATTACHMENT 2 TO NL-01-038

Code Repair & Replacement, Steam Generator Replacement Form NIS-2

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

## FORM NIS –2, OWNER'S REPORT FOR REPAIRS OR REPLACEMENT AS REQUIRED BY THE PROVISIONS OF THE ASME CODE SECTION XI

#### 1. OWNER. Revision Date 11/9/00

Consolidated Edison of New York, Inc.

4 Irving Place
New York, New York 10003

#### 2. PLANT

Indian Point Station Unit:No.2 Broadway and Bleakely Avenue Buchanan, New York 10511

#### 3. DESCRIPTION OF WORK

Four Westinghouse Model 44 Steam Generators were replaced with four Westinghouse model 44F Steam generators. This entailed installing temporary piping supports ;cutting of Reactor Coolant , Main Steam ,Boiler Feedwater and Boiler Blowdown piping ;and removing the Model 44 SG's . The Model 44F SG'S were then installed , the piping rewelded and the temporary supports removed. Minor modifications were also made to the upper SG lateral supports and the Model 44F SG's.

#### 4. IDENTIFICATION OF SYSTEMS

The plant systems affected by the SG replacement project were the Reactor Coolant, Main Steam, Boiler Feedwater and Boiler Blowdown Systems.

5. WORK PERFORMED	VENDOR	Purchase Order Number
Replacement of Steam Generators	SGT	028806
Primary Head Drain Plug Installation	SGT	022806
Primary Manway Insert Fastener Installation	Westinghouse	31150
•	WestingHouse	31143

#### 6. APPLICABLE CODES

Model 44F SG's	Design Code	Primary and Secondary Side	ASME III Class A 1965/S66
	Fabrication Code	Primary and Secondary side	ASME III Class A 1980/w81
Piping	Design Code	ANSI B31.1-1973	with ANSI B31.1b1973 Addenda
	Installation Code	e	ASME III 1989 Edition
Supports			AISC 9th Edition
Applicable ASMI	E Section XI Edition	on	ASME XI 1989

#### 7.IDENTIFICATION OF REPLACEMENT COMPONENTS

Name	Manufacturer	Serial No.	National Board	Year Built	ASME Code	Construction
			Number		Stamped	Code
SG21	Westinghouse	MMGL-11058	25	1987	YES (N)	<b>ASME III 80/81</b>
SG22	"	MMGL-11059	26	"	66	"
SG23	"	MMGL-11060	27	"	66	"
SG24	"	MMGL-11061	28	**	"	"

Page 2 of 4

The following tests were conducted under the auspices of ASME XI CODE CASE N-416-1.

Primary side – inservice leakage test at normal operating pressure and temperature; approximately 2235 psig and 574F.

Secondary side.- inservice leak test at normal operating pressure and temperature; ranging from 775 psig minimum to 1005 psig maximum at corresponding saturation temperatures.

#### 9. REMARKS

Work activities which are related to ASME Section XI Repair and Replacement Rules and which were accomplished during the Steam Generator Replacement Project are included in the attached NIS-2 Table.1. These work activities occurred between August 8,2000 and January 3, 2001.

Attached are copies of Form N-1, Certificate Holders Data Report For Nuclear Vessels for the four replacement steam generators.

## WORK ACTIVITIES INCLUDED IN THE STEAM GENERATOR REPLACEMENT PROJECT THAT ARE WITHIN THE SCOPE OF ASME XI 1989.

ACTIVITY	WORK PACKAGE NUMBER	MOD PACKAGE
Stage and prep RSG	3020 A-D	N/A
Install RSG	3040 A-D	N/A
Install RSG Supports	3050 A-D	MP-03-FMX- 00-52429-C
RCS prep	3065 A-D	GM-01-FMX- 00-52429-A
Install MS piping	3080 A-D	GM-01-FMX- 00-52429-A
Install FW piping	3085A-D	GM-01-FMX- 00-52429-A
Install Secondary Small Bore Piping	3520A-D	GM-01-FMX- 00-52429-A & GM-02-FMX- 00 -52429-A
Secondary Manway Stud, Nut, Washer Changeout	N/A	FMX-00- 52429-I
Channel Head Drain Plug Installation	N/A	FXM-00- 52429-G
Primary Manway Insert Fastener Installation	N/A	FMX-00- 52429-E

#### CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and these repairs/replacements conform to the rules of the ASME Code, Section XI.

Type code symbol stamp: None

Certificate of Authorization No.: None

Expiration date: NA

Signed A. Clay Blind UP Nuclear Power

Owner or Owner's designee, Title

Date 3/26/01

#### CERTIFICATE OF INSERVICE INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the state or province of New York and employed by HSB T: T.Co. of Hacrock of have inspected the components described in this owner's report during the period 8/8/pp to 1-3-p/, and state that to the best of my knowledge and belief, the owner has performed examinations and taken corrective measures described in this owner's report in accordance with the requirements of the ASME Code, Section XI.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the examinations and corrective measures described in this owner's report. Furthermore, neither the Inspector nor his employer shall be liable I any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date \_\_\_\_

Inspector's Signature

Commissions 100/1

National Board, State, Province

& Endorsements

			As Barriage	by the Pro	wisions of	the ASME C	ade Rules, S	ection III, Div.	1	
		W. Z	TINGRUUSE	ELELIA	IC CURP	UKATTUN	- NUCLEAR	COMPONENT	S DIVIS	ION
1	Man	ufactured by 830	1 Scenic	Highway	- Pens	acola, E	lorida 3	Sik - Plac	L No. 5	
						•				
		ufactured for Con				(Name and add	trame of Purent	mar )		
	_	Vertical -	Steam (	Generato	OF Venezi Ni	11058	) CRNA	to Nat'l	Bd. No. 25	Yr. Suit_1987
3.	Тур	Vertical (Horiz, or vert.)	(Tank, jack)	eted, heat sa	y essen (4)	(Mfrs. Serie	Na.)			
<b>3</b> a.	Aoc	HICEOIR ASME Code:	Section III, Ec	tition19	80	Addende date	¥ '81	; Cam No}	<u>1-20</u>	Taxx1
						<del> </del>				
lterr		8 inclusive to be com	pletted for sing	le wall vessel	s, jackets of	jacketed vesse	is, or shells of	heet exchangers.		
	-	SA-53 II: Meterial GCA C	3 T	s 90 00	00 psi	Nom. The	. 50 Corr.	ulowin. Dia	<u>,13 ;.3 ;</u>	h. Length 63 1.62
4.		Kind 4	Soc. No.i	(Min. of	range specifi	ied) M	in.	_		
5.	Sea	ms: Long Weld	Dbl Burr	н.т.!	Full	8. T.	Full	Efficien	ণ	100
		11-1-4	.t.		511		511	No. of (	, et	6
		Girth Weld	DOI BULL	, H.T.'	ruii	н.т.	FULL	NO. Of (	-041345	
	N.	eds: (a) Material <u>SA</u> -	-533 GrA	C12 T.S.	90,000	psi	Material		T.S	
٥.	1764	Location (top.	c	rown K	nuckie	Elliptical	Conical	Hemispherical Radius	Flat Olem	Side to Fressure (convex or concave)
٠.			nkanem A 50 min		ledius 	2:1	Apex Angle			Concave
- 1	-		<del>20 111111</del> •							
	( <b>b</b> )									
٠.	(c)	Design Pressure <sup>3</sup>	atic, or Combin	nation Test	Pressure	<u>1357</u> p	ونء	100	nin.	•
110	ms 9	and 10 to be comple	red for tubers	ections.			··			(See
9.	. Tu	ibe Sheets: Stationar	y: Material SA	-508 C1	2A_Diam	. 129.2	j in.	Thk. 21 81	in. Attachm	ent Welded   Te (Weided, boited)
			(K	ind & Spec.	NO.1	(Subject to		nin.	in Attaches	-01
		Floating:	Material	(ind & Spec.	No.I	·		Thk	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
		CD_	163, Allo	y on .	875	- nsi				
10	) Ti	IDES: Material UNS	NUY YOU			Ink	in, or gage	Number	3214	Type II
		Des: Material UNS (Kin	4 Spec. No.1	l					3214	Type [] (Straight or U)
		ibes: Material UNS	4 Spec. No.1	or inner chai	moers of jac	keted vessels 0	r channels of	heat exchangers.		Type U (Straight or U)
In	ecros 1	Des: Material UNS (Kin 11 to 14 inclusive to I	be completed f	or inner chai	moers of jac	keted vessels 0	r channels of	heat exchangers.		Type U (Straight or U)
In	ecros 1	ubes: Material <u>UNS</u> (Kin 11 to 14 inclusive to I	be completed f	or inner chai	moers of jac	keted vessels 0	r channels of	heat exchangers.		Type U (Straight or U)
In	erns 1	in to 14 inclusive to l	be completed for Spec. No.)	or inner chai	mbers of jac	Nom. T	r channels of	nest exchangers.		Type U (Straight or U)
In	erns 1	Abes: Material UNS (Kin 11 to 14 inclusive to the the transfer to the transfer	d & Spec. No.)  & Spec. No.)  d, obt., single)	T.S. (Min. o	moers of jac of range spec (Yes or no	Nom. T	r channels of i	r. Allowin. C	13214	Type U (Straight or U)
In	erns 1	Abes: Material UNS (Kin 11 to 14 inclusive to the the transfer to the transfer	be completed for Spec. No.)	T.S. (Min. o	mbers of jac	Nom. T	r channels of i	r. Allowin. C	7_3214	Type U (Straight or U)
111	HTTE 1	heil: Material UNS (Kind to 14 inclusive to I heil: Material (Kind aums: Long (Welde Girth Welld)	d & Spec. No.)  & Spec. No.)  d, obt., single)    Bd   But!	or inner chai	mpers of jac of range spec (Yes or no Full)	Ketted vessels o	r channels of i	r. Allowin. C	iemft	Type U (Straight or U)
111	HTTE 1	Abes: Material UNS (Kin 11 to 14 inclusive to the the transfer to the transfer	d & Spec. No.)  & Spec. No.)  d, obt., single)    Bd   But!	or inner chai	moers of jac  or range spec  (Yes or no  Full)	Nom. T	r channels of inthe	r. Allowin. C	iliemft	Type     (Straight or V)
111	HTTE 1	heil: Material UNS (Kind to 14 inclusive to I heil: Material (Kind aums: Long (Welde Girth Welld)	d & Spec. No.)  & Spec. No.)  d, obt., single)    Bd   But!	or inner chai	mpers of jac of range spec (Yes or no Full)	Ketted vessels o	r channels of i	r. Allowin. CEffiNo. 00 PS(É) Mater	isency	Type       (Straight or U)
11	H775 1. SI 2. Si 3. H	to 14 inclusive to I  to 14 inclusive to I  tell: Material (Kind  tell: Material (Welde  Girth Weld  leads: (a) Material —  Location  Top, bottom, ends	to completed (  a Spec. No.)  d, obt., single)  Bd   But!  Thickness	or inner chai	trange spec	Nom. Total	Ful Tr.s 70.0	r. Allowin. C Effit No.  00 PS(É) Mater	iliemft	Type     (Straight or V)
111	11. SI 14.  Abes: Material UNS (Kin  11 to 14 inclusive to I  hell: Material (Kina  nams: Long (Weide Girth Weld  leads: (a) Material —  Location a) Top, bottom, ends b) Channel	to completed (  a Spec. No.)  d. obt., single)  Bd1 But1  Thickness	or inner chai	trange spec	Nom. Total	Ful Tr.s 70.0	r. Allowin. C Effit No.  00 PS(É) Mater	diemft	Type     (Straight or V)   (Straight or V)	
111	11. SI 14.  to 14 inclusive to I  to 14 inclusive to I  tell: Material (Kind  tell: Material (Welde  Girth Weld  leads: (a) Material —  Location  Top, bottom, ends	to completed (  a Spec. No.)  d, obt., single)  Bd   But!  Thickness	or inner chai	trange spec	Nom. Total	Ful Tr.s 70.0	r. Allowin. C Effit No.  00 PS(É) Mater	diemft	Type     (Straight or V)   (Straight or V)	
111	1. SI	Abes: Material UNS (Kin  11 to 14 inclusive to I  hell: Material (Kina  nams: Long (Weide Girth Weld  leads: (a) Material —  Location a) Top, bottom, ends b) Channel	to completed (  a Spec. No.)  d. obt., single)  Bd1 But!  Thickness  5.22	or inner chai	(Yes or no Full)  [b] Mate: Knuckle Radius	Nom. Tolling Nom.	Ful T.S 70.0	r. Allowin. C  Effi  No.  00 PS(É) Mater  Herricherical Redius	isin	Type     (Straight or V)   (Straight or V)
12	1. Si (1.	Abes: Material UNS (Kind) (Kin	to completed (  a Spec. No.)  d, obt., single)  Bd1 But1  Thickness  5.22	Or inner chair. T.S. (Min. c. H.T.) CH.T.) Crown Radius	(Yes or no Full)  [b) Mate: Knuckle Redius	R.T. SA 216 Frat G rWCC Elliptical Ratio	Ful T.S.70.0 Canical Apex Ange	r. Allow in. C  Effication No. 100 PS(É) Mater  Hernricherical Redius	iliamft ciency of Courses_ list Flat Olam 59_25 astening(De	Type
112	11. SI (11. SI	Abes: Material UNS (Kind) (Kin	to completed (  a Spec. No.)  d. obt., single)  Bd1 But!  Thickness  5.22	or inner chai	(Yes or no Full)  [b) Mate: Knuckle Redus  [b)	R.T. SA 216 Frat G rWCC Elliptical Ratio	Ful T.S 70.0	Pr. Allowin. C	isin	Type

11f postweld heat-treated. <sup>2</sup> List other internal or external pressures with coincident temperature when applicable.
\*Supplemental sheets in form of lists, sketches, or grawings may be used provided: (1) size is 8% in. x 11 in.; (2) information in items 1 through 3 of this Oata Report is included on each sheet; and (3) each sheet is numbered and the number of sheets is recorded in item 19, \*Remarks\*.

a register

This form (E00038) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017 (12/31/79)

#### FORM N-1 (Back)

			245.d =		Location			
	Nozzies: SEE SCHE					<del></del>		
	Purpose (Inlet.		_				Reinforcament	Hew
	outlet, drain)	Number	Diam. or Size	Type	Material	Thickness	Mesonel	Attached
			<del></del>	· <del></del>				
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MESTINGHOUSE ELECTRIC CURPORATION - NUCLEAR COMPONENTS DIVISION

Manufactured by 8301 Scenic Highway - Pensacnia, Florida 32514 - Plant No. 5

(Name and express of M Cartifless Header)

2. Menufactured for Consolidated Edison Company, Indian Point Unit #2, Buchanan, New York
(Name and address of Purchaser)

3. Type Vertical Kind Steam Generator Vessel No. ( 11058 ) CRN No. --- Nat'l 8d, No. 25 Yr. Built 1987 (Henz, or vert.) (Tens. jeczeses, neet ex.) (Mirr. Seriel No.)

3a. Applicable ASME Code: Section III, Edition 1980 Addende date W 181 Case No. N-20 Class 1

	PURPOSE	NO.	DIA.	TYPE	MATT	тнк.	MATT	HOW
•3	Primary Side Inlet	1	31.00 ID	Cast 4	SA 216 Gr WCC	3.55	SA 216 Gr WCC	ATTACHED Integrally Cast
•3	Primary Side Outlet	1	31.00 ID	Cast Integral	SA216 GR WCC	3.55	SA 216 GR WCC	Integrally Cast
	Sheil Blowdown	2	2.5*	Weld End	SA 508 CI 1A	.92		Welded
	Secondary Shell Drain	1	1.00"	Weld End	SA 508 Cl 1A	.67		Welded
	Feedwater Inlet	1	16.31° ID	Weld End	SA 508 Cl 2A	.84	SA 508 CI 2A	Welded
	Wide Range Water Level Tap	2	.75*	Weld End	SA 508 Cl 1A	.65		Welded
	Narrow Range Water Level Tap	6	.75*	Weld End	SA 508 Cl 1A	.65		Welded
	Stexm Outlet	1	22.00" ID	Weld End	SA 508 Cl 2A	1.38	SA 508 CI 2A	Welded
	Steam Drum Pressure Tap	1	1.00*	Weld End	SA 508 CI 1A	.67		Welded
	Wet Layup Nozzie	1	2.00*	Weld End	SA 508 Cl 1A	.33		Weided

#### INSPECTION & ACCESS OPENINGS:

Description	No.	Diameter
Maaway - Primary Side	2	16*
Manway - Secondary Side	2	16"
Secondary Side Inspection Port	1	3"
Secondary Side Handboles	6 .	6"

<sup>\*1</sup> Reference Westinghouse Electric Corp. Dwg. 6136E16 for supplemental information.

<sup>\*2</sup> Provided by Others.

<sup>&</sup>lt;sup>e3</sup> Primary coolant nozzles fabricated with Type 308 stainless steel safe ends.

#### As Required by the Provisions of the ASME Code Rules, Section III, Dir. 1

DESTINGUOSE ELECTRIC CURPORATION - NUCLEAR COMPONENTS DIVISION Manufactured by 8301 Scenic Highway -Pensacola.

2. Manufactured for Consolidated Edison Company, Indian Point Unit

Vertical Kine Steam Generator Vessel No. 1 11058 Nex'l Bd. No. 25 Yr. Buit 1987 (Tank, jacketed, heet ex.) (Mfr. Series No.)

1980 N-20 Addends date V 181 34. Applicable ASME Code: Serpon III, Edition

ASME:

Section III: Paragraph NB 4622.10 applies.

SCOPE:

Cladding repairs after post weld heat treat.

PROCEDURE:

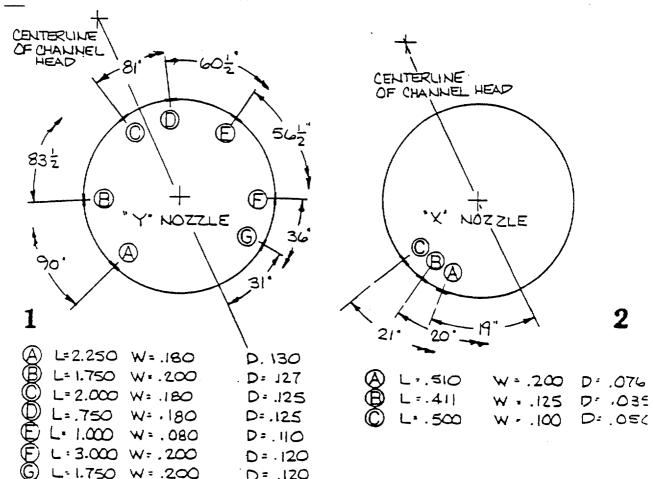
Repair weld techniques were utilized in accordance with approved procedures commensurate with applicable ASME Code requirements. Supportive documentation is on file as part of Quality Assurance

records.

#### **DETAILS**:

#### Repair Area:

- Y-nozzie, OD at inconel band. Refer to sketch below for size and location.
- X-nozzie, ID at nozzie radius (knuckle) area in stainless clad. Size and location below.



D= .120

3107

psig

<u>650</u>

2485 psig - 31.

14. (a) Design Pressure<sup>1</sup>.

100 Hin.

<sup>(</sup>c) Pneumatic, Hydrostatic, or Combination Test Pressure. 1 If postweld heat-treated. 1 List other internal or external pressures with coincident temperature when applicable. \*Supplemental sheets in form of lists, sketches, or grawings may be used provided: (1) size is 5% in. x 11 in.; (2) information in items 1 through 3 of this Data Report is included on each sheet; and (3) each sheet is numbered and the number of sheets is recorded in item 19. Remarks . This form (E00038) may be obtained from the Order Dept., ASME, 345 E. 47th St., New York, N.Y. 10017 (12/31/79)

As Required by the Provisions of the ASME Code Rules, Section III, Div. 1

WESTINGROUSE ELECTRIC CORPORATION - NUCLEAR COMPONENTS DIVISION

1 Manufactured by 8301 Scenic Highway - Pensacola, Florida 32514 - Plant No. 5
(Name and sources of N Cartificate Pendar)

2. Manufactured for Consolidated Edison Company, Indian Point Unit 17, Buchanan, New York (Name and address of Purchase)

3. Type Vertical Kind Steam Generator Vessel No. ( 11059 ) CRN No. --- Nat'l 8d. No. 26 Yr. Built 1987 (Mrs. Serial No.)

3a. Applicable ASME Code: Section III, Edition 1980; Addenda date V 181 Case No. N=20 Class 1

	TURNOSE	NO.	DIA.	TYPE	MATL	THK.	MAT'L	HOW ATTACHED
•3	PURPOSE Primary Side Inlet	1	31.00° ID	Cast Integral	SA 216 Gr WCC	3.55	SA 216 Gr WCC	Integrally Cast
•3	Primary Side Outlet	1	31.00 ID	Cast Integral	SA216 GR WCC	3.55	SA 216 GR WCC	Integrally Cast
	Shell Blowdown	2	2.5"	Weld End	SA 508 Cl 1A	.92		Welded
	Secondary Shell Drain	1	1.00"	Weld End	SA 508 Cl 1A	.67		Welded
	Feedwater Inlet	1	16.31" ID	Weld End	SA 508 Cl 2A	.84	SA 508 Cl 2A	Welded
	Wide Range Water Level Tap	, 2	.75*	Weld End	SA 508 Cl 1A	.65		Welded
	Narrow Range Wate	r 6	.75*	Weld End	SA 508 Cl 1A	.65		Welded
	Steam Outlet	1	28.00" ID	Weld End	SA 508 C1 2A	1.38	SA 508 Cl 2A	Welded
	Steam Drum Pressure Tap	1	1.00*	Weld End	SA 508 Cl 1A	.67		Welded
	Wet Layup Nozzle	1	2.00"	Weld End	SA 508 Cl 1A	.88.	•	Welded

### INSPECTION & ACCESS OPENINGS:

Description	No.	Diameter
Manway - Primary Side	2	16"
Manway - Secondary Side	2	16"
Secondary Side Inspection Port	1	3"
Secondary Side Handholes	6	6"

<sup>\*1</sup> Reference Westinghouse Electric Corp. Dwg. 6136E16 for supplemental information.

<sup>\*2</sup> Provided by Others.

<sup>\*3</sup> Primary coolant nozzles fabricated with Type 308 stainless steel safe ends.

### As Required by the Provisions of the ASME Code Rules, Section III, Dw. 1

VESTINGAUUSE ELECTRIC	CORPORATION - NUCL	ZEAR COMPONENTS	XX COMPONENTS DIVISION		
Ann Commission	Penescola Florida	- 17514 - Plane	<u> </u>		

(Name and address at N Cartifficate Holder)

2. Manufactured for Consolidated Edison Company, Indian Point Unit 17, Buchanan, New York

1 CRN No. \_\_\_\_ Net'l Bd. No. 26 Yr. Built 1987 3. Type Vertical Kind Steam Generator Vessel No. ( 11059 )
[Mark or work.] [Tent, jeckerse, heat ex.] [Mire. Seriel No.) (Tent. jeckeres, heat ex.)

\_: Addenda date\_V 181 3a. Applicable ASME Code: Section III, Edition 1980

ASME:

Section III: Paragraph NB 4622.10 applies.

SCOPE:

Cladding repairs after post weld heat treat.

PROCEDURE:

Repair weld techniques were utilized in accordance with approved procedures commensurate with applicable ASME Code requirements. Supportive documentation is on file as part of Quality Assurance

records.

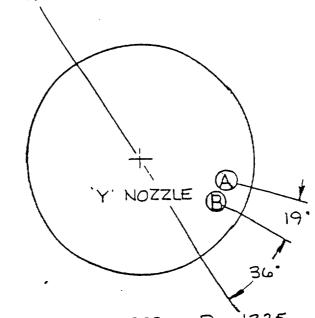
DETAILS:

Repair Area:

Y-nozzie, OD at inconel band. Refer to sketch below for size and location.

X-nozzle, ID at nozzle radius (knuckle) area in stainless clad. Size and location below.

LENTER UNE OF CHANNEL HEAD



L = 2.500 W = .200 L = 3.750 W = .200D. 1325

D. 1525

## FORM N-1 N CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR VESSELS" As Required by the Provisions of the ASME Code Rules, Section (II, Div. 1

	THE STORE	<u> </u>	TO COMP	DPATION -	MIRIFAR	PHENNERT	र प्रापार	LON
			Сопрал	y. Indian	Point U	nir #2, Bu		
Vertical Kin	Steam Ge	nerato	<u>r</u> Vessei No	. ( <u>1106</u> 0	L_] CRN No	oNet'l E	3d. No. <u>27</u>	Yr. Built 1987
Haris, or vert.)	Section III, Edit	tion <u>19</u>	., 80: A	doenda date_	y 181	. Cam No. N	<u>-20</u>	Dass 1
				·				
SA-53	3 12 т.s	. 90 00	O osi	Nom. The.	50 n. Corr. Al		13 ft.3 i	n. Length 63 1.62
••••				• • • •		Efficien	SY	100
Girm Weld	Obl Butt p	t.T. <sup>1</sup>	Full	R.T	Full	No. of C	Courses	6
s: (a) Material <u>SA</u> -	533 GrA C	12 T.S. 9						Side to Pressure
ottom, ends) Th	ickness Rac	dius A				Radius	Olem.	Concave
novable, boits used	{Met	erial, Spec.	No., T.S., S	ize, Number)	Othe	r fastening	(Describe o	f attach sketch)
et ClosureGit	th Weld -	Db1 8	urr: Fu	H.T.:	Full R.T. er, give almen	sions, describe, o	or sketch)	
Sesign Pressure <sup>2</sup>	1085 ps	ig at	_556 Pressure	°F (b) Міг 1357 — ро	i. Pressure-Tes Lig	t Temp. <u>180</u> 100	Max. Min.	*F
nd 10 to be comple	ted for tube sec	tions.						(See
e Sheets: Stationar	y: Material <u>SA-</u> (Kir	508 Cl	<u>2A</u> Diam. No.)	Subject to	pres.l	Thk. <u>21.81.</u> Min.	in. Attachm	(Welded, Dolled)
	Material	na & Spec.	No.1		in.	Thk	in. Attachm	ent
es. Material <u>UNS</u> (Kin	163, Alloy N06600 0 4 Soct. No.1	, _ 0.0	875in.	Thk	in. or 9898 _	Number	3214	Type U (Straight or U)
to 14 inclusive to i	be completed for	r inner char	moers of jac	keted vessels or	channels of h	eat exchangers.		
il: Material	& Spec. No.1	r.S. (Min. o	f range spec	Nom, T	nkin. Corr	, Allowin. O	)iemft	_in, Lengthftin.
ms: Long	a dpl. single)	+.T.'	(Yes or no	R.T		EHic	жису	×
					Full	No.	of Courses .	
ids: (a) Material	T.S.		(b) Mate	SA216 mai <u>GrWCC</u>	T.S.70.00	Q PS(t) Meter	iai <u></u>	T.S
Location	Thickness	Crown Regue	Knuckle Redius	Elliptical Ratio	Conical Apai Angle	Hamispherical Radius	Flat Diem.	Side to Pressure (convex or conceve)
Channel	5.22						59.25	R Concave
•	ed: (a)		_(b)	T S. Siza Num	cl	Other 1	estening	ecribe or attach scatch
	21.05							
Design Pressure1_	2465 ps	ig • •• —	070	°F (b) A	lin. Pressure-T	est 1emp10	0 Min.	- F
Preumatic, Hydro	Static, or Como							ion in items 1 through 1 n 19. <i>Remarks</i>
	actured by 830 actured by 830 actured for Con Vertical Killeriz, or vert.) capile ASME Code: Inclusive to be com Material GrA C (Kind & s: Long Weld Girth Weld s: Lai Material SA- ocation (too, nottom, ends) The Cop 3.5 Inclusive to be completed by the complete	setured by 8301 Scenic in setured for Consolidated  Vertical Kind Steam Ge (Hariz, ar vert.) (Tank, jacket capile ASME Code: Section III, Edit  miclusive to be completed for single  SA = 533 Material GrA C   2 (Kind & Spec. No.)  SI Long Weld Dbl Butt in  Girth Weld Dbl Butt in  SI lai Material SA = 533 GrA C  cocation (top. option, ends) Thickness Rain  Top 3.50 min. —  Material Closure Girth Weld —  Design Pressure 1 1085 ps  meumatic, Hydrostatic, or Combinated for tube sect  Sheets: Stationary: Material SA = 163, Alloy  Est. Material USS NO6600  IKind & Spec. No.)  To 14 inclusive to be completed for  III: Material USS NO6600  III: Material USS NO6600  III: Material USS NO6600  Thickness Spec. No.)  To 14 inclusive to be completed for  III: Material Tiking & Spec. No.)  To 14 inclusive to be completed for  III: Material Tiking & Spec. No.)  To 14 inclusive to be completed for  III: Material Tiking & Spec. No.)  To 14 inclusive to be completed for  III: Material Tiking & Spec. No.)  To 14 inclusive to be completed for  III: Material Tiking & Spec. No.)  Top, bottom, and Thickness  Top, bottom, and Thickness  Top, bottom, and Thickness  Top provable, boits used: (a)	sectured by 8301 Scenic Highway sectured for Consolidated Edison  Vertical Kind Steam Generato (Harit, or vert.) (Tank, jacksted, heat as caple ASME Code: Section III, Edition 19  Inclusive to be completed for single wall vessels  SA-533 Material GFA C12 T.S. 90 00 (Kind & Spec. No.) (Min. of rest of the completed for single wall vessels)  SI Long Weld Obl Butt H.T.  Girth Weld Obl Butt H.T.  SI Is) Material SA-533 GFA C12 T.S. 90 000 (Crown Radius Radi	actured by 8301 Scenic Highway - Pens (Name actured for Consolidated Edison Compan Vertical Kind Steam Generator Vessel No. (Haris, or vert.) (Tank, secketed, heat ek.)  capile ASME Code: Section III, Edition 1980 A motusive to be completed for single wall vessels, jackets of SA-533 Material SA-533 Cra C12 T.S. 90,000 psi (Min. of range specific site) (Kind & Saec. No.) (Min. of range specific site) Material SA-533 Cra C12 T.S. 90,000 psi (Min. of range specific site) Material SA-533 Cra C12 T.S. 90,000 psi (Min. of range specific site) Material SA-533 Cra C12 T.S. 90,000 psi (Min. of range specific site) Material SA-533 Cra C12 T.S. 90,000 psi (Min. of range specific site) Material SA-533 Cra C12 T.S. 90,000 psi (Material, Spec. No., T.S., Set Closure Girth Wold - Dbl Butt: Fu (Describe se ages & well being Pressure 1085 psi g at 556 neummatic, Hydrostatic, or Combination Test Pressure 10 to to be completed for tube sections.  The Sheets: Stationary: Material SA-508 C12A Diam (Kind & Spec. No.) (Min. of range specific site) Material UNS NOCSON (D.D. 875 in. (Kind & Spec. No.) (Min. of range specific site) Material UNS NOCSON (D.D. 875 in. 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(Mirrs Serial No.) (Mirrs	ectured by 8301 Scenic Highway - Pensacola Florida 32514 - Place Name and address of N Certificate Name (Control of Name and address of N Certificate Name)  Nemerous of Consolidated Edison Company (Indian Point Unit £2, 8L (Name and address of Purchasser)  Vertical King Steam Generator (Vessel No. ( 11060 ) CRN No	Vertical King Steam Generator Vessel No. ( 11060 ) CAN No

### FORM IN IN CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR VESSELS"

\_\_\_\_\_ Addende date \_\_V \_/ 81 \_\_\_\_ Care No. \_\_\_

Sheet 3 of 5

N-20

As Required by the Provisions of the ASME Code Rules, Section III, Div. 1: WESTINGHOUSE ELECTRIC CORPORATION - NUCLEAR COMPONERTS DIVISION 1 Menutactured by 8301 Scenic Highway - Pensacola Florida 32514 - Plans No. 5.
[Name and sections of N Continues Pensacol.] 2. Manufactured for Consolidated Edison Company, Indian Point Unit 12. Buchanan Hew York (Name and address of Furchaser) 3. Type Vertical Kind Steam Generator Vessel No. ( 11060 ) CRN No. --- Net'l Bd. No. 27 Yr. Built 1987 (Herit, or vert.) (Tank, petisted, heat sk.)

ASME:

Section III: Paragraph NB 4622.10 applies.

SCOPE:

Cladding repairs after post weld heat treat.

PROCEDURE:

Repair weld techniques were utilized in accordance with approved procedures commensurate with applicable ASME Code requirements. Supportive documentation is on file as part of Quality Assurance

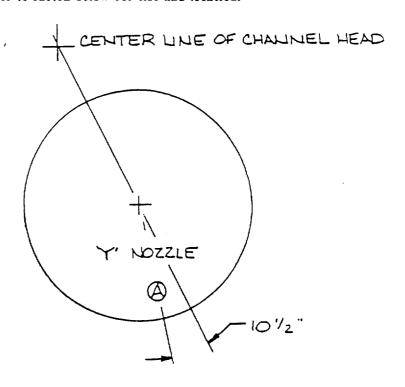
records.

Je. Applicable ASME Code: Section III, Edition 1980

DETAILS:

Repair Area:

Y-nozzle, OD at inconel band. Refer to sketch below for size and location.



 $\triangle$  L= 3.5 $\infty$  W=.2 $\infty$ D = .053

## FORM H-1 N CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR VESSELS"

As Required by the Provisions of the ASME Code Rules, Section III, Div. 1

1 Manufactured by 8301 Scenic Highway - Pensacnia Florida 32516 - Plans No. 5
(Name and sedered of N Carnicam Header)

2. Manufactured for Consolidated Edison Company, Indian Point Unit \$2. Buchanan, New York
(Name and sedered of Purchase)

3. Type Vertical Kind Steam Generator Vessel No. (11060 ) CRN No. --- Net'l 8d. No. 27 Yr. Built 1987
(North or vert.) (Tens. packeted, heat etc.) (Mitre. Series No.)

3a. Applicable ASME Code: Section III, Edition 1980 ; Addende date V 181 Care No. N-20 Class 1

ASME:

Section III: Paragraph NB 4622.10 applies.

SCOPE:

Cladding repairs after post weld heat treat.

PROCEDURE:

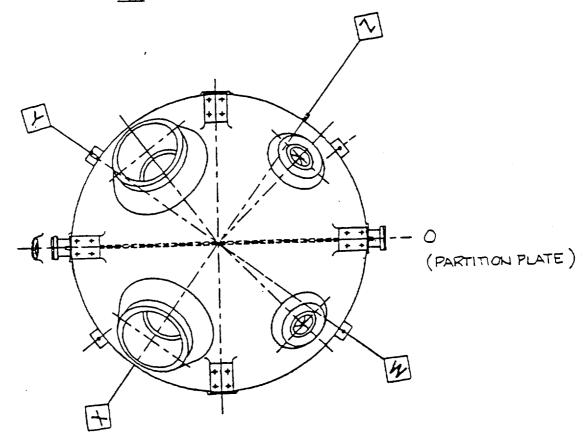
Repair weld techniques were utilized in accordance with approved procedures commensurate with applicable ASME Code requirements. Supportive documentation is on file as part of Quality Assurance

records.

DETAILS:

Repair Area: Twenty areas in channel head-to-tube plate weld seam in the inconel clad overlay in the "W" axis quadrant. The dimensions are referenced from the partition plate, running radially around the channel head I.D. in a clockwise direction.

Note: Refer to sketch below and page 5 for size and location.



CHANNEL HEAD

Sheet 4 of 5

## FORM N-1 N CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR VESSELS"

	As Required by the Provisions of the ASME Code Rules, Section III, Dir. 1
1	MESTINGROUSE ELECTRIC CORPORATION - NUCLEAR COMPONENTS DIVISION  Manufactured by \$301 Scenic Highway - Pensacola, Florida 3251h - Plant No. 5  (Name and address of N Cartificate Passes)
	(Name and address of N Cartificate Project)
2,	Manufactured for Consolidated Edison Company, Indian Point Unit 12, Buchanan, New York
•	(Name and address of Purchaser)
3.	Type Vertical Xind Steam Generator Vessel No. ( 11060 ) CRN No Net'l Sd. No. 27 Yr. Built 1987 (Mirk Seriel No.)
	Applicable ASME Code: Section III, Edition 1980 ; Addends date V 181 Case No. N-20 Class 1

	Length (In.)	Width (In.)	Depth (In.)	Distance from Partition Plate	Distance from Tube Sheet
1	1.800*	.600"	.100"	.250*	3.500*
2	4.000	1.300	.300	.500	1.250
3	2.300	.780	.150	20.00	4.500
4	3.000	.700	.100	23.00	4.600
5	2.100	.600	.100	26.00	4.250
6	1.900	.800	.100	39.00	4.250
7	2.000	.600	.100	41.50	4.200
8	2.000	,.700	.100	49.50	4.000
9	2.400	.680	.150	65.00	4.000
10	3.400	1.100	.150	68.50	4.200
11	2.200	.700	.100	84.00	4.250
12	2.300	.500	.100	88.00	4.500
13	1.500	.700	.100	89.00	4.250
14	2.000	.600	.150	91.00	4.200
15	1.500	.800	.100	93.00	4.250
16	2.300	.800	.150	95.50	4.200
17	1.000	.900	.100	97.50	4.250
18	3.000	1.000	.150	104.00	4.250
19	2.000	.900	.100	114.00	4.250
20	2.400	.800	.150	118.00	4.250

Sheet 5 of 5

(12/31/79)

FORM N-1 N CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR VESSELS"

								ection III, Div.			
		_						COMPONENT		STON	_
1	Manu	ractured by <u>830</u>	1 Scenic	Highwa	<u> </u>	sacola,	Florida 3	1514 - Plas Meideri	us_No-	5	
2.	Manu	factured for Con	solidated	Edisc	on Compa	ny, Indi	<u>an Point l</u>	lnit #2 Bi	ichanan	, Her York	
3.	Type.	Vertical X	nd Steam G	eneral	OF Vessel N	io. i <u>. 1106</u>	1 CRN N	loNet'l	8d. No2	8 Yr. Built 1	987
3a.	Appli	cable ASME Code:	Section III, Ed	ition	<u> 1980</u> .	Addenda dar	. V 181	C== NoN	- 20	a==	
			•								
terr	15 4-8	inclusive to be corr	pieted for singl	e wall ves	seis, jackets O	f jacketed ve	sseis, or shells of	heet exchangers.			
		SA - 53	13				2 EN	Mowin. Dia	12 2	6.2	1 6
4.	Shell	Meterial GTA	12T.	s. 90 J	000 psi	Nom. Ti	nein. Corr. /	ulow:in. Dia	4. <u>13</u> ft.3	in. Langthit_	
		(Kind (	Spec. No.)	(Min. a	t range specif	(100)	Min.				
5.	Seam	s: Long Weld	Dbl Butt	H.T.\	<u>Full</u>	A.	T. Full	Efficien	٩	_100	³
			.1							े 'ब	
		Girth Weld	Obl Butt	н.т.!	Full	R.	r. <u>Full</u>	No. of	Courses	6	
6.	Head	s: (a) Material <u>SA</u> -	-533 GrA C	12 T.S.	90,000	<u>psi</u>	(b) Material		T.S		<u></u>
		ocation (top,		own	Knuckie	Ellionesi	Conscal	Hemispherical Radius	Flet Diam.	Side to Fress (convex or con-	
	_			dius	Regiue	Ratio 2 · 1	Apex Angle	nacius		Concave	
~1	(a) _	3.	<u>50 min</u>	<del>-</del>		<u> </u>				Linicave	
	(P) _										
							0				
	If res	movable, bolts used	1(Ma	terial, Spe	c. No., T.S.,	Size, Numbe	<del>U</del> ui	er fastening	(Describe	of attach scatch)	
							Full R.T				
7.	Jack	at Closureii	cth Veld	10merica	DULL TU	eid, ber, etc.	If bar, give dime	nsions, describe,	er sketch)		
		Design Pressure <sup>3</sup>			_						
		nd 10 to be comple									(Se
9.	Tub	e Sheets: Stationar	y: Material <u>SA</u> (Ki	-508 C	<u>IZA</u> Diarr s. No.J	Subject	to pres.)	Hin.	in, Attachi	(Welded, bo	
			Managed		Disc		io	Thk	in. Attachn	nent	
			Material(X	ina & Soe	c. No.)	''· <del></del>			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
		SB - Material <u>UNS</u>	163, Allo	У	.875 in	The . C	50 in or see	Number	3214	_TypeU	
10	. 140	(Kir	a & Spec. Na.)	0.5	****			(Two	plugg	ed) (Straight	t or t
_		to 14 inclusive to	be executed to	e iones ch	ampers of iac	KRING VESSE	or channels of				
110	ms II	to 14 inclusive to	DE COMPIGNES IC	7 IIII CI							
	Sha	il: Material		T.S		Nom	. Thkin. Cor	r. Allowin. D	iamft	_in. Lengthf1	۲
٠.		Kind	& Spec. No.1	(Min.	of range spec	cified)					
17	See	rns: Long		н.т.'		R.	т	Effi	siency		
•	. ••••	[Weide	d, dbl., single)		(Yes or n	101					
		Girm Weld	Bdl Butt	H.T.!	Full	R.	T. <u>Ful</u>	No.	of Courses		
						SA 216	,				
•	) Ma.	os: (a) Material	T.S		(b) Mate	mai GrWCC	T.S.70,0	00 DS(E) Mater	el	T.S <del></del>	
1-4	, nei	PUS. 127 H-2-1-1-1-1						Hemmoherical	Flat	Side to Fre	esu/e
		Location	Thickness	Crown		Elliotical	Apex Angle	Redius	Diam.	(comes or co	
	[-1	Top, bottom, ends									
		Channel	5.22						59.25	JRConca	IVP.
	,	Floating									
	(5)	autory									
	14 -	emovable, boits us	ed: (a)		(b)		(c)	Other f	astening		
	11 1	emoveore, ports us									SECT
_		O	2485	ia =	650	*F 0	i Min. Pressure-	Test Temp. 25	O Max.		
14		Design Pressure <sup>2</sup>		-14 al.	Pracea	3107	osia	Test Temp. <u>25</u> 10	O Min.	"F	
			STATE, OF COME	THE COLUMN				ura when anothers	de.		
										tion in items 1 th	roug
	of this	mental sneets in 1. Data Report is inc	tuond on each t	neet: and	(3) each shee	it it numbere	G tud tue nouse.				
					^^^2	ne objected t	rom the Graet D	ept., ASME, 345	E. 47th St.	, New York, N.Y	. 10

Sheet 1 of :

#### FORM N-1 (Back)

5.										
••	Safety Valve Outlett:	Number		izo	!	Location				
<b>š</b> .	Nozzies: SEE SCHE	DULE ON	SHEET 2					Reinforcement	How	
	Purpose (Iniet.		Diam. or Si	Tu	<b>194</b>	Material	Thickness	Meterial	Armoned	
	outlet, druin)	Number	Otem. of 34							
			<del> </del>							
	INSPECTION AND	ACCESS	OPENINGS	PER SHE	DULE O	N SHEEL 2	4			
7.	Inspection Manholes:	No	Size _		Location	`				
	Openings: Hendholes:	No	Size _		Location					
	Threeced:	No	Size _		Location	n	FOUR SU	PPOPT (	CHANNEL HEA	
	, 41					_		A	S INTERGRAL	
9	Supports: Skirt	No	Lugs (Num	Le	W	Ot	PADS (Describe	A(G2200	(Where & how)	
٥.	(Y	m or nel	(Nurr	1041)	///	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
	Therefo	asion Re	port was	prepare	d in co	mpliance	with the	1965 editi	on	
19.	Remarks: Inco	ab Summe	r 1966 ad	denda .						
	throu	MII JUHENC	· · · / · · · ·				·			
	<del></del>									
		<del></del>	(Brief d	escription of	service to	which vessel	was designed.)			
									سيسا وا	
	We certify that the stat		in this moort at	re correct and	d that this	nuclear vessel (	conforms to the	rules of construct	ion of the ASME	
	We certify that the state	Militario unece	(III (IIII 1949) 1 C		Westing	ghouse		1 13 13		
	Code, Section III.	<	1987	Signed_	Electr	ic Corpor	ation by	<u> </u>	<del>3                                    </del>	
	Dette	<u></u>			(14 04	G11000	•	`	" jaco) (	
	Certificate of Authorization No. N-1869									
	Cartificate of Authorization Expires March 11, 1707									
_	CERTIFICATION OF DESIGN									
1										
	Ossign information on file at West Inghouse Electric Corp., Nuclear Components Div., Pensacola, F  Stress analysis report on file at West inghouse Electric Corp., Nuclear Components Div., Pensacola, F  Reg. No. 15441-E  Prof. Eng. Stress PA Reg. No. 15441-E									
1	Design information on	1.1.0	c e i nohous	Flectr	ic Cor	p. Nuclea	ar Compone	nts Div, I	Pensacola,	
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# FORM N-1 N CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR VESSELS" Sheet 2 of 3

As Required by the Provisions of the ASME Code Rules, Section III, Div. 1

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	THE COMPONENTS OF	VISION
	WESTINGROUSE ELECTRIC CORPORATION - NUCLEAR COMPONENTS DI	
	8301 Scenic Highway - Pensacula Florida 325th - Plant No	·
1 Manufactured I	(Name and address of N Cartificate Header)	
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- 2. Manufactured for Consolidated Edison Company, Indian Point Unit 12, Buchanan, New York (Name and address of Furchaser)
- 3. Type Vertical Kind Steam Generator Vessel No. ( 11061 ) CRN No. --- Net'l Bd. No. 28 Yr. Built 1987 (Mire. Series No.)
- 3a. Applicable ASME Code: Section III, Edition 1980; Addende date: ¥ 181 Case No. N=20 Class 1

								HOW
	PURPOSE	NO.	DIA.	TYPE	MATL	THK.	MAT'L	ATTACHED
•3	Primary Side	1	31.00 ID	Cast Integral	SA 216 Gr WCC	3.55	SA 216 Gr WCC	Integrally Cast
•3	Primary Side	1	31.00 ID	Cast Integral	SA216 GR WCC	3.55	SA 216 GR WCC	Integrally Cast
	Shell Blowdown	2	2.5*	Weld End	SA 508 CI 1A	.92		Welded
	Secondary Sheil Drain	1	1.00*	Weld End	SA 508 Cl 1A	.67		Welded
	Fredwater Inlet	1	16.31" ID	Weld End	SA 508 Cl 2A	.34	SA 508 Cl 2A	Welded
	Wide Range Water Level Tap	2	.75"	Weld End	SA 508 Cl 1A	.65		Welded
	Narrow Range Water Level Tap	6	.75"	Weld End	SA 508 Cl 1A	.65		Welded
	Steam Outlet	1	28.00" ID	Weld End	SA 508 Cl 2A	1.38	SA 508 Cl 2A	Welded
	Steam Drum Pressure Tap	1	1.00"	Weld End	SA 508 CI 1A	.67		Weided
	Wet Layup Nozzie	1	2.00*	Weld End	SA 508 Cl 1A	.23		Welded

## INSPECTION & ACCESS OPENINGS:

Description	No.	Diameter
Manway - Primary Side	2	16"
Manway - Secondary Side	2	16"
Secondary Side Inspection Port	1	3"
Secondary Side Handholes	6	6"

<sup>\*1</sup> Reference Westinghouse Electric Corp. Dwg. 6136E16 for supplemental information.

<sup>\*2</sup> Provided by Others.

<sup>\*3</sup> Primary coolant nozzles fabricated with Type 308 stainless steel safe ends.

# FORM N-1 N CERTIFICATE HOLDERS' DATA REPORT FOR NUCLEAR VESSELS"

A STAR Cours Bules Section III. Div. 1

	As Required by the Provisions of the ASME Code Rules, action in State Code
	THE PART OF THE PA
	WEST INCROSE ELECTION - Pensacola Florida 32514 - Plant No. 5
1	MESTINGROUSE ELECTRIC CUrroration Roberts 3251h - Plant No. 5  Manufactured by 8301 Scenic Highway - Pensacola, Florida 3251h - Plant No. 5  (Name and address of N Cartificate Passer)
	Manufactures for Consolidated Edison Company, Indian Point Unit 17, Buchanan, New York
2.	Mamuractured for Consolidated Edison (Name and address of Purchaser)
	11061 CRN No Nat'l Sd. No. 28 Yr. Suit 1987
٦	Type Vertical Kind Steam Generator Vessel No. (1061 ) CRN No Not'l Bd. No. 28 Yr. Built 1987 (Moris, or vert.) (Tone, jestered, neet es.)
٠.	(Highle, or vert.) (Tank, jestened, heat sk.)  Applicable ASME Code: Section III, Edition 1980 Addends date: V '181 Case No. N=20 Class 1
٠.	Assistance ASME Code: Section III, Edition 1980 Addende dette 2 01 Case No.
- 24	ACO COMPANY

ASME:

Section III: Paragraph NB 4622.10 applies.

SCOPE:

Cladding repairs after post weld heat treat.

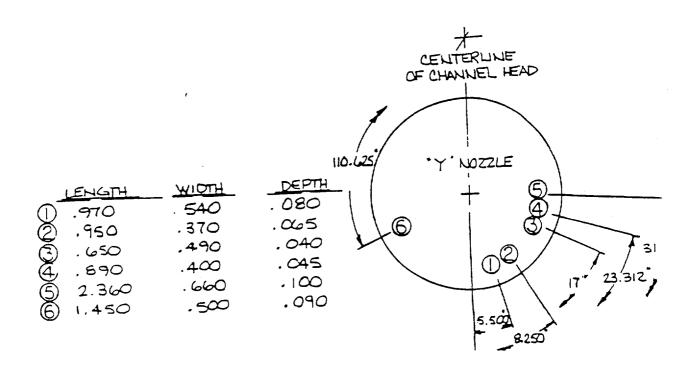
PROCEDURE:

Repair weld techniques were utilized in accordance with approved procedures commensurate with applicable ASME Code requirements. Supportive documentation is on file as part of Quality Assurance

records.

DETAILS:

Repair Area: Y-nozzie, OD at inconei band. Refer to sketch below for size and location.



Sheet 3 of 3

## ATTACHMENT 3 TO NL-01-038

Containment Inservice Report

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

#### IWE/IWL CONTAINMENT INSPECTIONS

The First Period Examinations under the Containment Inservice Inspection Program were conducted between March 10, 2000 and June 1, 2000. These examinations were performed for Consolidated Edison by Sargent & Lundy. The examinations required for the First Period were as follows:

- > General Visual Examination of the Containment Liner
- > VT-3 Examination of 1/3 of the Moisture Barrier
- > VT-1 Examination of 1/3 of the bolted connections
- > VT-1C & VT-3C Examinations of the Containment concrete surfaces

Results of the Examinations listed above are summarized below.

#### 1. Liner General Visual Examination

General visual examination was performed for all accessible areas of the Containment Liner, including penetrations and airlocks, in accordance with Table IWE-2500-1, category E-A, Item E1.11. The examinations were conducted by inspection zones as delineated in zone drawings of the containment developed exclusively for this inspection. Some of the inspections, (including most of the liner above 95' elevation), were performed by remote visual examination as permitted by 10CFR50.55a(b)(2)(ix)(B). These examinations revealed the following:

- Minor surface corrosion and or coating deterioration was observed on several electrical and mechanical penetrations. This deterioration was reviewed by the Responsible Engineer and was determined to not be significant relative to containment integrity
- Some minor coating deterioration was observed on various portions of the liner above elevation 95' and the dome area. Based on a review by the Responsible Engineer, the minor coating deterioration observed was determined not to be significant relative to containment integrity.
- Portions of the moisture barrier at the intersection point of the liner to the containment base mat were deteriorated. Closer inspection of these areas showed evidence of liner corrosion. As a result, the moisture barrier and liner insulation was removed at several areas around the circumference to determine the extent of liner degradation. Removal of the insulation revealed liner corrosion had occurred primarily 1" above to 4" below the liner/mat intersection. Based on UT readings taken in these areas, the remaining minimum general area liner thickness exceeded the design limit thickness. Additional evaluations performed by Sargent and Lundy demonstrate that the anticipated rate of future corrosion can be conservatively estimated at less than 1.1mils/year. This corrosion rate was based on chemical analysis of corrosion products from the liner and estimated environmental conditions (temperature and humidity). A corrosion rate of 1.1mils/year provides a minimum of

18 years before the minimum liner thickness will reach the design limit thickness. Based on the above, it was determined by the Responsible Engineer that observed corrosion did not prevent the liner from performing its intended safety function at the present time. Due to a lack of oxygen available to promote corrosion, and industry experience at other facilities, potential corrosion and corrosion rates on areas of the liner inaccessible (greater than 4" below the liner/mat intersection) will be much less than that observed as a result of these examinations. Future inspections of the liner in these areas are anticipated to verify that the corrosion rates are less than or equal to those estimated

#### 2.0 Moisture Barrier

VT-3 examination was performed on the moisture barrier (caulk between the concrete and insulation jacket at the liner/slab interface) in accordance with Table IWE-2500-1, Category E-D, Item E5.30. To meet the requirements of Table IWE-2412-1, 1/3 of the moisture barrier was examined. These examinations revealed the following:

> Several areas were found to have the caulking degraded. As discussed in the liner section above, this necessitated that the insulation be removed in representative areas to determine the extent of potential liner degradation. All areas of degraded caulking were repaired to re-establish the moisture barrier.

### 3.0 Bolting

VT-1 examination was performed on the bolted connections in accordance with table IWE-25001, Category E-G, Item E8.10. No indications were identified.

#### 4.0 Concrete Containment Inspections

Visual inspections were performed on all accessible surfaces of the containment exterior concrete in accordance with Table IWL-2500-1, Category L-A, Item L1.11 & L1.12. The concrete was divided into 47 inspection zones as presented in inspection drawings developed specifically for this examination. VT-3C examinations were performed on all of the concrete surfaces. Where suspect areas were identified, VT-1C examinations were performed.

Most of the examinations were performed by remote visual examination as permitted in Relief Request RR-45. High-powered binoculars and a spotting scope were used as optical aids. Several areas inside the plant could not be inspected at the distances required for direct visual examination, but were too close to view with optical aids. These areas were visually examined at distances up to 25 feet under sufficient lighting to reveal any significant indications.

Prior to the initiation of the concrete inspections discussed above, Raytheon Engineers and Constructors were contracted to develop the visual acceptance criteria for the in-

service inspection of the IP2 concrete containment structure. Included in this report were the margins available in the existing concrete reinforcing steel to resist the design basis forces when compared to the allowable code stresses. To capture the variations in the actual stresses and resulting margins within the reinforcing steel at various locations in the containment structure, the Raytheon evaluation divided the containment into three distinct zones:

- ➤ Red Zone: Areas where small margin exists in the existing rebar. This area is located in the cylinder portion of the containment near transition areas such as the equipment hatch, personnel air lock, large mechanical/electrical penetrations and the intersection of the containment cylinder to the base-mat.
- ➤ Green Zone: All areas in the cylindrical portion of the containment structure with the exception of the areas contained in the red zone. The reinforcing steel in this zone contains large margins and concrete irregularities such as cracking and spalling can be tolerated in this region.
- Yellow Zone: Dome portion of the containment. This area also has large margins for the reinforcing steel and can tolerate concrete irregularities such as cracking and spalling. The difference between the yellow and green zones is the amount of available margins. The yellow zone has slightly less margin than the green zone.

The results of the concrete inspections revealed several areas with spalling and exposed cadweld splices and reinforcing bars. After reviewing and evaluating the IWL inspection observations internally within engineering, (32 total indications), discussing them with Sargent and Lundy, and utilizing the Raytheon report, none of these indications represent structural concerns for the containment structure. These indications do not reduce the structural capacity or ability of the containment structure to perform its safety function based on the following:

- ➤ Some corrosion was exhibited for all of the situations where rebar and or cadwelds were exposed to the environment as a result of concrete spalling. Cadwelds are heavy walled cylinders used to splice together two pieces of rebar. Molten metal is injected into the cadweld cylinder to fuse together the two ends of rebar. These splices typically have a diameter twice that of the rebar they are joining. However, no flaking or aggressive corrosion processes were observed. The exposed areas of cadweld splices and reinforcing steel were approximately 4 inches by 8 inches.
- ➤ Of the Sargent and Lundy inspection zones (47) recorded during the IWL examination of the concrete containment structure, only two zones (IWL-043-002 and IWL-088-004) were located within the red zone. Within inspection zone IWL-043-002, delaminations were found near the floor line and penetrations but no evidence of staining or exposure of reinforcing steel was observed. Per the Raytheon acceptance criteria report, the reinforcing steel provides the structural strength to the concrete containment and is the primary concern. Staining of the concrete is the indication of possible corrosion of the reinforcing steel and is the first screening criteria for acceptance. Since no staining was observed, the reinforcing steel has not degraded in this area, and, per the Raytheon report, the structural capacity of the VC wall in this location is not degraded. Inspection zone IWL-088-004 is marginally located in the red zone and contained exposed steel that was

identified as a cadweld splice. The exposed cadweld splices are located in the upper end of the inspection zone, which borders the green stress zone. Based on the corrosion evaluation performed by Raytheon in their acceptance criteria report, ongoing corrosion for 40 years would only result in a decrease of 10% in the reinforcing steel cross-section. Since these indications are located on the border between the red and green stress zones, sufficient margins exist in the reinforcing steel in the green zone to allow for redistribution of forces if required. In addition, the location of this indication is removed from the personnel air lock penetration, which was the main area of concern in the Raytheon acceptance criteria report. Also, Sargent and Lundy observed no significant loss of wall section for the exposed cadweld splice in this area. These conclusions were discussed in detail with both the Responsible Professional Engineer for the IWL program and the Sargent and Lundy Project Engineer. Both agreed that no further analysis is required.

- The remaining Sargent and Lundy IWL inspection zones with exposed steel are located in the green and yellow stress zones as defined in the Raytheon acceptance criteria report. Per the Raytheon acceptance criteria report, for indications in the green and yellow stress zones, the maximum postulated reduction in reinforcing steel cross-section based on 40 years of corrosion will not result in any overstress conditions in the reinforcing steel. As a result, corrosion of reinforcing steel in the green and yellow zones due to spalling or cracking of concrete will not affect the structural integrity of the containment structure.
- ➤ Of the 49 identified findings in the 47 inspection zones, 19 findings concerned exposed cadweld splices and 13 concrete related findings were noted. These 32 findings were primarily isolated conditions and not grouped in any one location. In addition, and as mentioned earlier, the total area of exposed cadweld splices were very small, each being approximately 4 inches by 8 inches, when compare to the total surface area of the containment structure.

All of the observations/findings resulting from the IWL inspection will be monitored as required by the IWL portion of ASME code to document and track any potential changes to the observations noted.

## ATTACHMENT 4 TO NL-01-038

**Regulatory Commitments** 

Consolidated Edison Company of New York, Inc. Indian Point Unit No. 2 Docket No. 50-247 The following list identifies those actions committed to by Con Edison in this document. No further regulatory commitments are contained herein.

Commitment	Due Date
The Owner's Code Repair and Replacement Documentation and associated NIS-2 form for Class 1 & 2 components will be provided in a separate transmittal.	May 2, 2001