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**John A. Ventosa**  
Site Vice President

September 8, 2014

NL-14-113

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Mail Stop O-P1-17  
Washington, DC 20555-0001

Subject: Steam Generator Examination Program Results 2014 Refueling Outage (2R21)  
Indian Point Unit No. 2  
Docket No. 50-247  
License No. DPR-26

Dear Sir or Madam:

Enclosed as Attachment 1 is a report of the results of the Indian Point Unit 2 Steam Generator Examination Program conducted during the 2014 refueling outage, submitted pursuant to Technical Specification 5.6.7.

No new regulatory commitments are being made by Entergy in this correspondence.

Should you or your staff have any questions regarding this matter, please contact Mr. Robert Walpole, Manager, Regulatory Assurance at (914) 254-6710.

Sincerely,

A handwritten signature in black ink, appearing to read "John A. Ventosa".

JAV/cbr

ADD  
NRR

Attachment 1: Steam Generator Examination Program Results, 2014 Refueling Outage (2R21)

Attachment 1-A: Service Induced Indication Tables by Steam Generator

Attachment 1-B: Listing of Individual Tubes Plugged This Inspection

Attachment 1-C: Steam Generator Tubesheet Map

Attachment 1-D: Steam Generator Landmark Information

cc: Mr. William M. Dean, Regional Administrator, NRC Region I  
Mr. Douglas Pickett, Senior Project Manager, NRC NRR DORL  
NRC Resident Inspectors Office, Indian Point Energy Center  
Mrs. Bridget Frymire, New York State Public Service Commission

ATTACHMENT 1 TO NL-14-113

Steam Generator Examination Program Results  
2014 Refueling Outage (2R21)

Entergy Nuclear Operations, Inc.  
Indian Point Unit No. 2  
Docket No. 50-247

Indian Point Unit 2  
Steam Generator Examination Program Results  
2014 Refueling Outage (2R21)

1.0 Introduction

Indian Point Unit 2 Technical Specification (TS) 5.6.7 Steam Generator Tube Inspection Report, requires Entergy Nuclear Northeast to submit a report to the NRC within 180 days after initial entry into Mode 4 following a steam generator inspection performed in accordance with Technical Specification 5.5.7, Steam Generator (SG) Program. The report shall include:

- a. The scope of inspections performed on each SG,
- b. Active degradation mechanisms found,
- c. Nondestructive examination techniques utilized for each degradation mechanism,
- d. Location, orientation (if linear), and measured sizes (if available) of service induced indications,
- e. Number of tubes plugged during the inspection outage for each active degradation mechanism,
- f. Total number and percentage of tubes plugged to date,
- g. The results of condition monitoring, including the results of tube pulls and in-situ testing, and
- h. The effective plugging percentage for all plugging in each SG.

Entergy performed a SG inspection in March 2014 during refueling outage 2R21. This inspection was the 4<sup>th</sup> in-service inspection (ISI) following SG replacement in 2000 and the 1<sup>st</sup> of 2 scheduled inspections in the 2<sup>nd</sup> inspection period. IP2 initially entered MODE 4 following this inspection on March 15, 2014.

2.0 Steam Generator Background

The original Westinghouse Model 44 SG's at Indian Point 2 were replaced in 2000 with Westinghouse Model 44F SG's. Each SG has 3214 tubes made from thermally treated Alloy 600. The nominal OD of each tube is .875 in. and the nominal tube wall is .050 in. thick. At the time of the 2014 refueling outage (2R21) at Indian Point 2, the steam generators had accumulated approximately 126 effective full power months (EFPM) of operation since the first in-service inspection performed in 2002. Refueling outage 2R21 was the first of two refueling outages in the second inspection period of 90 EFPM as defined in Section 5.5.7.d.2 of Technical Specifications and the first scheduled inspection of the period. The steam generator inspections were performed in March 2014.

Indian Point 2 Steam Generator Primary Inspection Plan

Outage	Year	Cycle EFPM	SG Cumulative EFPM	Inspection Period EFPM	Sequential Inspection Period	Notes
2R15	2002	20.6	20.6	N/A	N/A	First ISI
2R16	2004	22	42.6	22	First	No Inspection
2R17	2006	16.6	59.2	38.6	First	
2R18	2008	21.8	81	60.4	First	No Inspection
2R19	2010	22.2	103.2	82.6	First	
2R20	2012	21.3	124.5	103.9	First	No Inspection
2R21	2014	22.4	146.9	22.4	Second	
2R22	2016	22 est.	169 (est)	44 (est)	Second	No Inspection
2R23	2018	22 est.	191 (est)	66 (est)	Second	
2R24	2020	22 est.	213 (est)	88 (est)	Second	No Inspection

3.0 Required Report Content – The following information is provided as required in Section 5.6.7 of IP2 Technical Specifications

a) Scope of Inspections

The eddy current examination scope consisted of the acquisition of 50% of all tubes in all four steam generators full length with a bobbin probe, 60% of the hot leg 1<sup>st</sup> span and 22% cold leg 1<sup>st</sup> span with an X-probe array coil probe, 50% of rows 1 and 2 u-bends with the single coil +Pt rotating probe. In addition, tubes containing indications from previous examinations were examined. All new indications identified during the bobbin coil had a diagnostic examination performed with the +Pt coil. The data analysis scope included the bobbin coil data, the array coil data, all +Pt coil data, and Anti-Vibration Bar (AVB) position verification.

In addition to the eddy current inspections, visual inspections were performed on all tube plugs and on the primary bowl drain area (bowl cladding integrity inspection).

Sludge lancing and Foreign Object Search and Retrieval (FOSAR) was performed on the secondary side of all SG's. Secondary side Steam Drum and Top Tube Support Plate (TTSP) inspections were performed on 21 and 22 SG's.

b) Active Degradation Mechanisms

AVB wear and Tube Support Plate (TSP) wear were the only active degradation mechanisms found during the SG inspection in 2R21. 5 tubes were preventatively plugged as a result of AVB wear. The largest AVB wear indication was measured at 38% through wall in Steam Generator 21 tube Row 33 Column 34. In 2R21, one TSP wear indication was identified with 8% TW depth which did not challenge any condition monitoring criteria.

c) Nondestructive Examination Techniques

NDE Techniques used for Potential Degradation Mechanisms

Technique	EPRI ETSS	Degradation Mechanism
Bobbin	96004.1 (Rev 13)	Wear at AVB supports, support plates & FDB
Bobbin	27091.2 (Rev 1)	Loose part volumetric wear, part not present
Bobbin	27091.3 (Rev 1)	Loose part volumetric wear, part not present
Bobbin	96005.2 (Rev 9)	Freespan pitting
Bobbin	96008.1 (Rev 14)	Axial ODSCC at sludge pile region
Bobbin	24013.1 (Rev 2)	Axial ODSCC in freespan dings
Bobbin	128411 (Rev 3)	Axial ODSCC at drilled tube support structure
Bobbin	128413 (Rev 3)	Axial ODSCC in freespan
+Pt	10908.4 (Rev 1)	Wear at AVB locations
+Pt	128424 (Rev 3)	Axial ODSCC at drilled TSP's
+Pt	128425 (Rev 3)	Axial ODSCC at broached TSP's
+Pt	21409.1 (Rev 7)	Axial ODSCC at support structures
+Pt	111524 (Rev 0)	Circ. PWSCC at expansion transitions
+Pt	20511.1 (Rev 8)	Axial PWSCC at expansion transitions
+Pt	21410.1 (Rev 6)	Circ. ODSCC at expansion transitions
+Pt	22842.3 (Rev 5)	Circ. ODSCC at dented tube supports
+Pt	21998.1 (Rev 4)	Freespan volumetric
+Pt	27901.3 – 27907.3 (Rev 1)	Loose part wear Morphology dependent
+Pt	96511.2 (Rev 16)	PWSCC, low row u-bend regions
+Pt	99997.1 (Rev 10)	PWSCC, HF, low row u-bend regions
+Pt	96910.1 (Rev 10)	Wear at supports and PLP wear
Array	20400.1 (Rev 5) 20402.1 (Rev 5)	Circ & Axial ODSCC at TTS, support structure
Array	20500.1 (Rev 4) 20501.1 (Rev 4)	Axial & Circ PWSCC indications at TTS

d) Service Induced Indications

The only service induced indications detected during 2R21 were wear indications. Tables A-1, A-2, A-3 and A-4 of Attachment 1-A list all service induced wear indications detected during 2R21, by Steam Generator, including which tubes were repaired and which tubes were left in service as a result of eddy current inspections.

e) Number of Tubes Plugged by Mechanism

For this inspection two active degradation mechanisms were present, AVB wear and TSP wear. 5 tubes were preventatively plugged due to AVB wear. No tubes were plugged due to TSP wear. Additionally, 9 tubes were preventatively plugged and stabilized due to foreign objects which were left in the SG's. One foreign object in SG 21 was dispositioned by preemptively plugging and stabilizing 4 tubes. One

foreign object in SG 23 was dispositioned by preemptively plugging and stabilizing 5 tubes. No associated tube wear was identified with either of these foreign objects.

Degradation Mechanism	SG 21	SG 22	SG 23	SG 24	Total
AVB Wear	2	0	3	0	5
TSP Wear	0	0	0	0	0
Totals	2	0	3	0	5

f) Tubes Plugged to Date

	SG 21	SG 22	SG 23	SG 24	Total
Total Number of Tubes	3214	3214	3214	3214	12856
Tubes Plugged Pre-Service	0	0	0	2	2
Tubes Plugged in Prior Outages	14	5	5	8	32
Tubes Plugged in 2R21	6	0	8	0	14
Total Tubes Plugged to Date	20	5	13	10	48
% of Tubes Plugged to Date	0.6%	0.2%	0.4%	0.3%	0.4%

g) Condition Monitoring Results

AVB wear and TSP wear were the only active degradation mechanisms identified during the 2R21 eddy current inspection. 2R21 was the first occurrence of TSP wear in the IP2 steam generators with one indication at 8% TW. None of the indications exceeded condition monitoring limits. There was no detectable SG primary-to-secondary leakage during the previous operating period. Therefore, all of the steam generator performance criteria were met for the two previous operating cycles. Because the tube degradation found was sized less than the condition monitoring limit, in situ pressure testing was neither required nor performed. No tube pulls were performed.

The tube plug and primary bowl drain (bowl cladding integrity) inspections had no findings. All plugs were present and in the correct positions with no evidence of leakage or degradation. There were no anomalies or degradation detected during the primary bowl drain area inspections. The secondary side steam drum and top tube support plate inspections had no anomalies or degradation observed and revealed extremely good to excellent conditions in all areas and components viewed. The deposit loading in the secondary side of the steam generators was minimal, with a total of 45 lbs of deposit material removed from the 4 steam generators. The feed ring, J nozzles, primary separators and all associated welds and hardware were in satisfactory condition and were solid and intact. All J nozzles in both steam generators were visually inspected, both externally and internally looking for signs of erosion at the J nozzle to feed ring interface. The internal surfaces of the J nozzles inspected were intact and of sound condition, with a few areas showing minor signs

of erosion/corrosion. The AVB position verification results were compared to the 2000 baseline examination data to compare the AVB insertion depths. The comparison confirmed that the insertion depths have not changed from the 2000 baseline examination.

A Condition Monitoring assessment was performed, on a defect-specific basis, to demonstrate compliance with integrity criteria by the comparison of 2R21 NDE measurements with calculated burst and leakage integrity limits. Calculated integrity limits, including consideration for appropriate uncertainties, burst and leak analytical correlations, material properties, NDE technique, and analyst uncertainties were provided in the degradation assessment report. All indications in this inspection were below the calculated integrity limits and, therefore, met integrity requirements without further testing. Based upon the inspection results, all four steam generators were found to be in compliance with Condition Monitoring requirements.

h) Effective Plugging Percentage

Since there are no sleeves installed, the effective tube plugging is equivalent to the percentage of tubes plugged.



ATTACHMENT 1-A TO NL-14-113

Service Induced Indication Tables by Steam Generator

Table A-1  
 SG 21 Service Induced Indications – Wear – 2R21

Count	SG	Row	Column	Volts	% TW	Locn	Inch	Repair or Leave in service
1	21	20	30	0.23	11	AV2	-0.26	Leave in Service
2	21	20	30	0.2	10	AV1	-0.14	Leave in Service
3	21	26	64	0.71	20	AV3	0.16	Leave in Service
4	21	26	64	0.33	11	AV2	0.05	Leave in Service
5	21	27	38	0.29	12	AV2	-0.16	Leave in Service
6	21	27	63	0.28	10	AV4	-0.28	Leave in Service
7	21	27	63	0.37	12	AV2	-0.16	Leave in Service
8	21	29	19	0.2	10	AV3	-0.19	Leave in Service
9	21	29	64	0.3	10	AV2	0.00	Leave in Service
10	21	30	37	0.27	11	AV4	0.07	Leave in Service
11	21	30	37	0.32	13	AV3	-0.14	Leave in Service
12	21	30	38	0.22	10	AV3	-0.14	Leave in Service
13	21	30	47	1.43	30	AV3	-0.24	Leave in Service
14	21	30	47	0.92	24	AV2	0.21	Leave in Service
15	21	30	47	0.69	19	AV1	-0.21	Leave in Service
16	21	30	47	0.38	12	AV4	0.14	Leave in Service
17	21	30	50	0.25	10	AV3	-0.21	Leave in Service
18	21	31	57	0.33	11	AV3	0.71	Leave in Service
19	21	31	57	0.49	15	AV2	0.12	Leave in Service
20	21	31	57	0.28	10	AV1	-0.14	Leave in Service
21	21	32	39	0.32	11	AV1	-0.12	Leave in Service
22	21	33	29	0.21	10	AV3	0.09	Leave in Service
23	21	33	29	0.24	11	AV4	-0.16	Leave in Service
24	21	33	33	0.82	27	AV3	0.16	Removed From Service
25	21	33	33	1.15	32	AV2	0.16	Removed From Service
26	21	33	34	0.26	12	AV4	-0.02	Removed From Service
27	21	33	34	1.43	36	AV3	0.26	Removed From Service
28	21	33	34	1.61	38	AV2	-0.02	Removed From Service
29	21	33	34	1.53	37	AV1	0.26	Removed From Service
30	21	33	37	0.23	11	AV2	-0.17	Leave in Service
31	21	33	38	0.31	12	AV3	-0.17	Leave in Service
32	21	33	38	0.33	13	AV2	-0.19	Leave in Service
33	21	33	46	0.28	12	AV2	0.07	Leave in Service
34	21	33	46	0.33	13	AV1	-0.02	Leave in Service
35	21	34	47	0.32	11	AV3	-0.21	Leave in Service
36	21	34	47	0.47	15	AV2	0.21	Leave in Service
37	21	34	60	0.4	13	AV4	0.42	Leave in Service
38	21	34	60	0.61	18	AV2	-0.52	Leave in Service
39	21	34	60	0.91	23	AV1	-0.26	Leave in Service
40	21	35	70	0.34	11	AV3	-0.21	Leave in Service
41	21	35	70	0.3	10	AV2	-0.21	Leave in Service

42	21	37	36	0.23	11	AV1	-0.07	Leave in Service
43	21	37	47	0.34	13	AV3	-0.19	Leave in Service
44	21	37	47	0.32	13	AV1	-0.19	Leave in Service
45	21	37	54	0.36	14	AV3	-0.19	Leave in Service
46	21	38	68	0.23	10	AV2	0.05	Leave in Service
47	21	40	57	0.32	11	AV4	-0.23	Leave in Service
48	21	40	57	0.28	10	AV3	-0.28	Leave in Service
49	21	40	67	0.24	10	AV3	-0.16	Leave in Service
50	21	41	28	0.36	11	AV1	-0.61	Leave in Service
51	21	41	39	0.28	12	AV3	-0.24	Leave in Service
52	21	42	40	0.25	10	AV2	0.07	Leave in Service
53	21	44	37	0.21	10	AV2	-0.16	Leave in Service
54	21	45	43	0.23	10	AV2	-0.16	Leave in Service
55	21	45	48	0.23	10	AV1	0.02	Leave in Service
56	21	45	52	0.25	10	AV4	-0.19	Leave in Service
57	21	45	52	0.26	11	AV3	-0.19	Leave in Service

Table A-2  
 SG 22 Service Induced Indications – Wear – 2R21

Count	SG	Row	Column	Volts	% TW	Locn	Inch	Repair or Leave in service
1	22	23	54	0.81	27	AV4	0.23	Leave in Service
2	22	23	54	0.41	17	AV3	-0.09	Leave in Service
3	22	23	54	0.39	16	AV2	-0.18	Leave in Service
4	22	23	54	0.45	18	AV1	-0.23	Leave in Service
5	22	30	35	0.24	10	AV1	-0.19	Leave in Service
6	22	30	35	0.29	12	AV2	-0.28	Leave in Service
7	22	30	53	0.34	12	AV3	-0.22	Leave in Service
8	22	30	53	0.31	11	AV2	-0.09	Leave in Service
9	22	30	53	0.35	12	AV1	-0.20	Leave in Service
10	22	30	67	0.28	10	AV2	0.09	Leave in Service
11	22	36	41	0.31	12	AV1	0.12	Leave in Service
12	22	36	41	0.29	11	AV2	0.14	Leave in Service
13	22	36	44	0.51	16	AV3	-0.23	Leave in Service
14	22	36	44	1.31	30	AV2	-0.31	Leave in Service
15	22	36	44	0.51	16	AV2	0.14	Leave in Service
16	22	36	44	0.60	18	AV1	-0.23	Leave in Service
17	22	36	62	0.52	17	AV2	-0.16	Leave in Service
18	22	36	64	0.28	13	AV2	-0.11	Leave in Service
19	22	36	64	0.34	15	AV1	-0.20	Leave in Service
20	22	37	53	0.26	12	AV1	-0.20	Leave in Service
21	22	37	54	0.37	14	AV2	-0.18	Leave in Service
22	22	37	54	0.33	14	AV1	-0.18	Leave in Service
23	22	37	69	0.20	10	AV2	-0.16	Leave in Service
24	22	37	73	0.32	14	AV3	-0.18	Leave in Service
25	22	37	73	0.50	20	AV1	0.11	Leave in Service
26	22	38	49	0.53	20	AV2	-0.27	Leave in Service
27	22	38	49	0.44	18	AV1	-0.18	Leave in Service
28	22	38	55	0.57	21	AV2	-0.25	Leave in Service
29	22	38	55	0.31	14	AV1	-0.20	Leave in Service
30	22	40	57	0.95	29	AV2	0.20	Leave in Service
31	22	40	57	0.30	13	AV3	-0.16	Leave in Service
32	22	41	52	0.41	17	AV2	0.11	Leave in Service
33	22	41	52	0.31	14	AV1	-0.04	Leave in Service
34	22	42	62	0.36	15	AV4	-0.18	Leave in Service

Table A-3  
 SG 23 Service Induced Indications – Wear – 2R21

Count	SG	Row	Column	Volts	% TW	Locn	Inch	Repair or Leave in service
1	23	29	55	0.63	17	AV4	0.05	Leave in Service
2	23	29	55	0.32	10	AV2	-0.17	Leave in Service
3	23	30	22	0.41	11	AV1	0.12	Leave in Service
4	23	32	62	0.38	10	AV1	0.00	Leave in Service
5	23	32	63	0.35	10	AV1	0.14	Leave in Service
6	23	33	31	0.53	13	AV2	0.17	Leave in Service
7	23	34	44	0.46	12	AV2	0.26	Leave in Service
8	23	34	62	0.41	11	AV1	0.20	Leave in Service
9	23	34	62	0.68	16	AV2	-0.14	Leave in Service
10	23	34	64	0.55	14	AV4	-0.24	Removed From Service
11	23	34	64	1.88	32	AV3	0.26	Removed From Service
12	23	34	64	1.13	23	AV2	-0.05	Removed From Service
13	23	34	64	0.58	14	AV1	-0.17	Removed From Service
14	23	34	65	0.40	10	AV3	-0.19	Leave in Service
15	23	34	65	0.47	12	AV2	-0.19	Leave in Service
16	23	35	46	0.43	11	AV2	0.30	Leave in Service
17	23	35	46	0.56	14	AV3	0.22	Leave in Service
18	23	35	59	0.87	19	AV2	-0.22	Leave in Service
19	23	35	59	1.25	24	AV3	-0.26	Leave in Service
20	23	36	60	0.45	11	AV1	-0.02	Leave in Service
21	23	38	62	0.60	14	AV2	-0.16	Leave in Service
22	23	39	56	1.56	28	AV3	-0.09	Leave in Service
23	23	39	56	0.91	20	AV1	-0.24	Leave in Service
24	23	39	59	0.77	18	AV1	-0.14	Removed From Service
25	23	39	59	2.58	36	AV3	-0.24	Removed From Service
26	23	40	53	0.58	14	AV4	0.22	Leave in Service
27	23	40	58	0.82	19	AV3	-0.31	Leave in Service
28	23	40	58	0.66	16	AV2	-0.21	Leave in Service
29	23	41	40	0.52	14	AV4	-0.19	Removed From Service
30	23	41	40	0.62	16	AV3	-0.21	Removed From Service
31	23	41	40	1.70	31	AV2	-0.26	Removed From Service
32	23	41	40	0.40	11	AV1	-0.19	Removed From Service
33	23	41	43	0.38	10	AV1	0.16	Leave in Service
34	23	41	64	0.50	14	AV2	-0.24	Leave in Service

Table A-4  
 SG 24 Service Induced Indications – Wear – 2R21

Count	SG	Row	Column	Volts	% TW	Locn	Inch	Repair or Leave in service
1	24	28	64	0.48	16	AV4	-0.25	Leave in Service
2	24	28	64	0.46	15	AV3	0.09	Leave in Service
3	24	28	73	0.40	14	AV4	-0.16	Leave in Service
4	24	32	45	0.41	11	AV2	-0.02	Leave in Service
5	24	32	45	0.44	11	AV1	-0.18	Leave in Service
6	24	32	69	0.51	16	AV3	-0.18	Leave in Service
7	24	32	69	0.42	14	AV2	-0.18	Leave in Service
8	24	33	63	0.70	17	AV4	-0.18	Leave in Service
9	24	33	63	0.37	10	AV3	0.27	Leave in Service
10	24	33	63	0.55	14	AV2	-0.18	Leave in Service
11	24	33	64	0.77	18	AV4	0.13	Leave in Service
12	24	33	64	0.85	20	AV3	-0.25	Leave in Service
13	24	33	64	0.34	10	AV2	-0.18	Leave in Service
14	24	33	64	0.36	10	AV1	-0.27	Leave in Service
15	24	33	69	0.60	15	AV3	-0.13	Leave in Service
16	24	33	69	0.40	11	AV1	-0.18	Leave in Service
17	24	33	71	0.43	12	AV4	-0.22	Leave in Service
18	24	33	71	0.40	11	AV3	-0.18	Leave in Service
19	24	33	71	0.52	14	AV2	-0.20	Leave in Service
20	24	33	71	0.36	10	AV1	0.09	Leave in Service
21	24	34	59	0.34	10	AV3	0.00	Leave in Service
22	24	34	59	0.59	14	AV2	0.14	Leave in Service
23	24	34	59	0.73	17	AV1	0.56	Leave in Service
24	24	34	65	0.33	12	AV2	-0.13	Leave in Service
25	24	35	72	0.40	14	AV3	-0.18	Leave in Service
26	24	35	73	0.34	10	AV3	-0.22	Leave in Service
27	24	36	32	0.32	10	AV3	-0.16	Leave in Service
28	24	36	32	0.73	19	AV2	-0.29	Leave in Service
29	24	36	71	0.28	10	AV3	-0.16	Leave in Service
30	24	36	71	1.01	26	AV2	-0.25	Leave in Service
31	24	36	71	0.39	13	AV1	-0.20	Leave in Service
32	24	37	25	0.42	12	AV1	-0.20	Leave in Service
33	24	37	33	0.33	10	AV1	-0.22	Leave in Service
34	24	37	70	0.43	12	AV2	0.11	Leave in Service
35	24	38	60	0.41	11	AV3	-0.22	Leave in Service
36	24	38	60	0.36	10	AV2	-0.16	Leave in Service
37	24	41	32	0.26	10	AV1	-0.20	Leave in Service
38	24	41	65	0.28	8	05C	0.35	Leave in Service
39	24	43	39	0.50	17	AV1	-0.16	Leave in Service
40	24	45	41	0.96	27	AV3	-0.25	Leave in Service
41	24	45	41	0.55	18	AV2	-0.18	Leave in Service

ATTACHMENT 1-B TO NL-14-113

Listing of Individual Tubes Plugged This Inspection

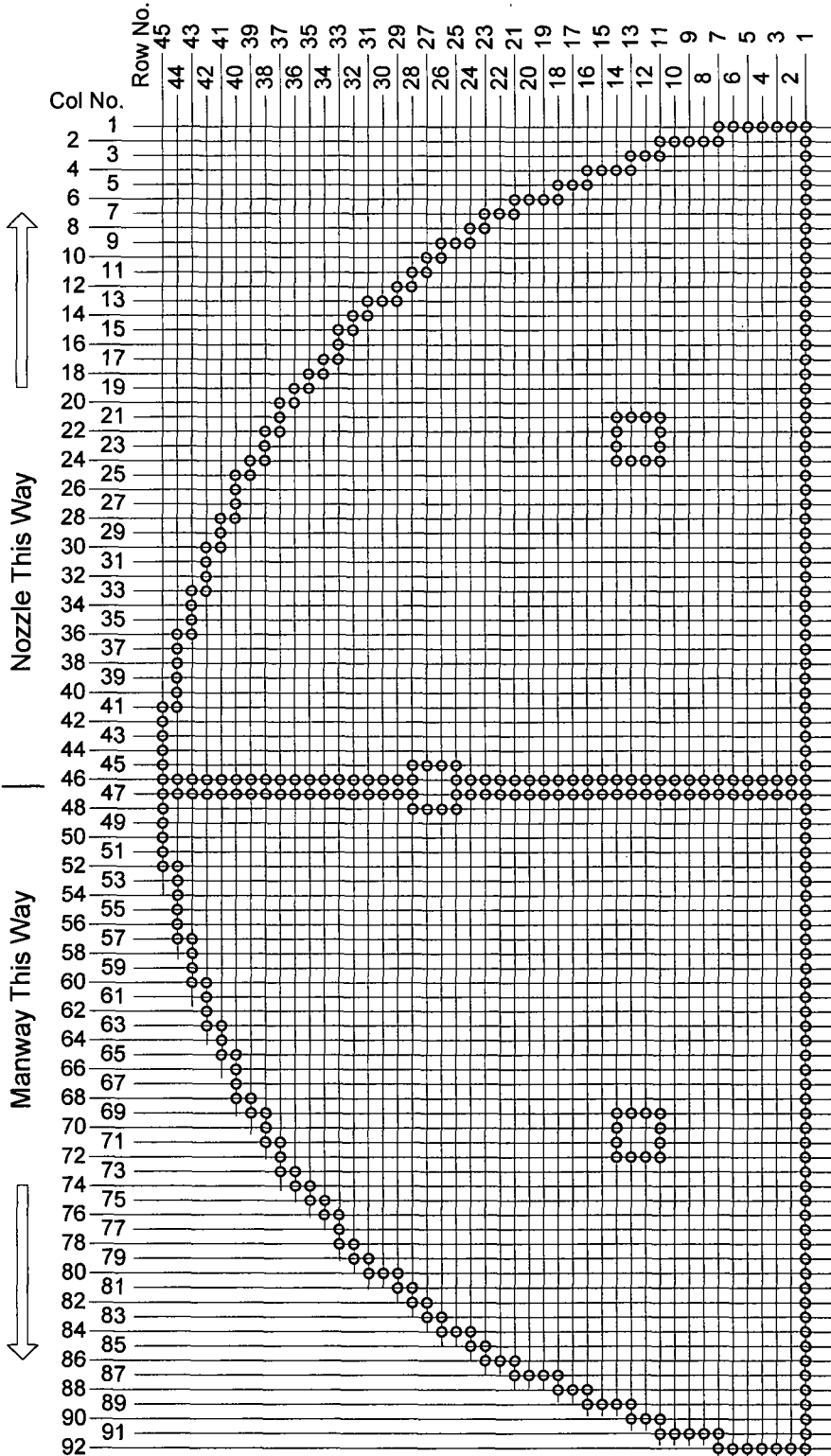
Count	SG	Row	Col	Reason for Plugging	Stabilized
1	21	33	33	Preventative due to AVB Wear	No
2	21	33	34	Preventative due to AVB Wear	No
3	21	14	71	Preventative to bound a secondary side foreign object which could not be removed	Yes
4	21	14	72	Preventative to bound a secondary side foreign object which could not be removed	Yes
5	21	15	72	Preventative to bound a secondary side foreign object which could not be removed	Yes
6	21	15	73	Preventative to bound a secondary side foreign object which could not be removed	Yes
7	23	32	24	Preventative to bound a secondary side foreign object which could not be removed	Yes
8	23	33	24	Preventative to bound a secondary side foreign object which could not be removed	Yes
9	23	33	25	Preventative to bound a secondary side foreign object which could not be removed	Yes
10	23	34	25	Preventative to bound a secondary side foreign object which could not be removed	Yes
11	23	34	26	Preventative to bound a secondary side foreign object which could not be removed	Yes
12	23	34	64	Preventative due to AVB Wear	No
13	23	39	59	Preventative due to AVB Wear	No
14	23	41	40	Preventative due to AVB Wear	No



ATTACHMENT 1-C TO NL-14-113

Steam Generator Tubesheet Map

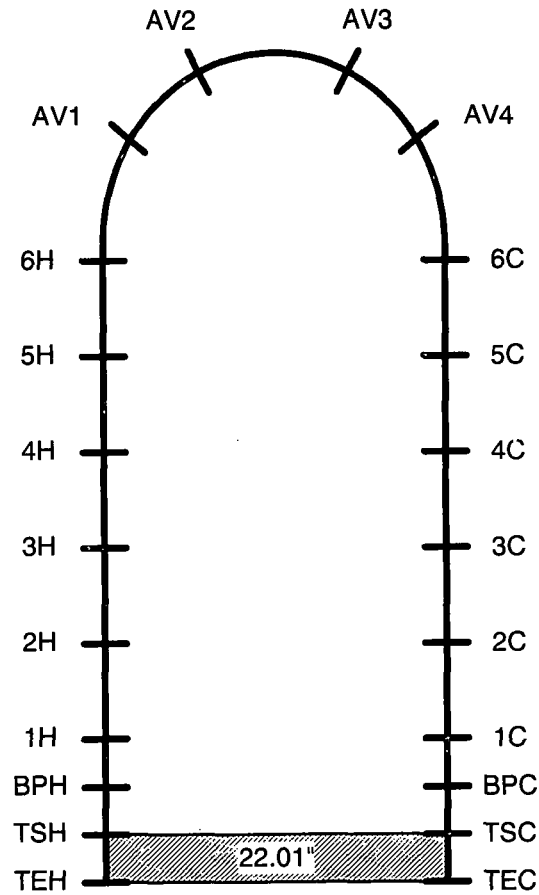
### Indian Point 2 Steam Generator Tubesheet Map



ATTACHMENT 1-D TO NL-14-113

Steam Generator Landmark Information

### Indian Point 2 Steam Generator Location Landmarks



Westinghouse Model 44F  
Steam Generator

#### **Legend**

- AV = Anti-Vibration Bar (AVB)
- C = cold leg
- H = hot leg
- # = support plate (TSP)
- BP = baffle plate (FDB)
- TS = tubesheet
- TE = tube end