POWER AUTHORITY OF THE STATE OF NEW YORK

10 COLUMBUS CIRCLE NEW YORK, N. Y. 10019

(212) 397-6200

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March 19, 1979
IPN-79-11

Director of Nuclear Reactor Regulation
c/o Distribution Services Branch, DDC, ADM
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: Indian Point 3 Nuclear Power Plant
Docket No. 50-286
Local Leak Rate Testing

Dear Sir:

By letter dated November 2, 1978 (IPO-166), the Authority transmitted copies of the Reactor Containment Integrated Leak Rate Test Report and a Summary Analysis of Periodic Type B and Type C Local Leak Rate Tests (LLRT) for the Indian Point 3 facility. The measured valve leakages reported in this Summary Report of the LLRT were reported as a single total.

During an NRC Inspection and Enforcement Office inspection conducted December 5-8, 1978 (I&E No. 50-286/78-33), one of the areas investigated was LLRT. The inspector questioned the format of the Summary Report, suggesting a more desirable format would list the leakage per individual valve or groups of valves which are tested simultaneously. In response to this unresolved item (286/78-33-03), enclosed are twelve (12) copies of the Indian Point 3 Containment Isolation Valve Leakages which list individual and group valve leakages measured during performance of the Type B and Type C Testing.

Very truly yours,

Paul J. Early
Assistant Chief Engineer-
Projects

REGULATORY DOCKET FILE COPY

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INDIAN POINT UNIT #3

CONTAINMENT ISOLATION VALVE LEAKAGES

AUGUST 1978

Valve Number	Letter Symbol	T.S. Penet. Number	Minimum Test Pressure	Pipe Size	Line Number	Test Fluid	Leakage in cc/min or as Noted	Component Name
549	Y	1	45	3/8"	Line 24	Water (4)		PRT Gas Anal. Isolation
548	Y	1	45	3/8"	Line 24	Water (4)		PRT Gas Anal. Isolation
956E	W	12	45	3/8	Line 59	Water (4)		RCS Sample Isolation
956F	W	12	45	3/8"	Line 59	Water (4)		RCS Sample Isolation
1786	V	19	45	3/4"	Line 23	Water (4)		Containment Vent Header Isolation
1787	V	19	45	3/4"	Line 28	Water (4)		Containment Vent Header Isolation
1788	V	20	45	3/8"	Line 30	Water (4)		RCDT Gas Anal. Isolation
1789	V	20	45	3/8"	Line 30	Water (4)		RCDT Gas Anal. Isolation
PCV-1215	AA	37	45	2"	Line 45	Water (4)		S/G Blowdown Isolation
PCV-1215A	AA	37	45	2"	Line 45	Water (4)	Station 1 Total 1450 cc/hr.	S/G Blowdown Isolation
PCV-1214	BB	37	45	2"	Line 46	Water (4)		S/G Blowdown Isolation
PCV-1214A	BB	37	45	2"	Line 46	Water (4)		S/G Blowdown Isolation
PCV-1216	CC	37	45	2"	Line 47	Water (4)		S/G Blowdown Isolation
PCV-1216A	CC	37	45	2"	Line 47	Water (4)		S/G Blowdown Isolation
PCV-1217	DD	37	45	2"	Line 48	Water (4)		S/G Blowdown Isolation
PCV-1217A	DD	37	45	2"	Line 48	Water (4)		S/G Blowdown Isolation
956A	W	52	45	3/8"	Line 25	Water (4)		Pzr. Steam Space Isolation
956B	W	52	45	3/8"	Line 25	Water (4)		Pzr. Steam Space Isolation
956C	W	53	45	3/8"	Line 26	Water (4)		Pzr. Liquid Space Isolation
956D	W	53	45	3/8"	Line 26	Water (4)		Pzr. Liquid Space Isolation
552	Y	3	45	3"	Line 33	Water (4)		PRT PW Makeup Isolation
519	Y	3	45	3"	Line 45	Water (4)		PRT PW Makeup Isolation
859A	Y	16	45	3/4"	Line 31	Water (4)	Station 2 Total 200 cc/hr.	SIS Test Line Isolation
859C	Y	16	45	3/4"	Line 31	Water (4)		SIS Test Line Isolation
SA-24	Y	41	45	2"	Line 34	Water (4)		Station Air Isolation
SA-24	Y	41	45	2"	Line 34	Water (4)		Station Air Isolation
1728	Y	31	45	2"	Line 338	Water (4)		Cont. Sump Pump Discharge Isol.
1723	Y	31	45	2"	Line 338	Water (4)		Cont. Sump Pump Discharge Isol.
1833A	Q	15	45	3/4"	Line 270	Water (4)		SIS Bit Tank Isolation
1833B	Q	15	45	3/4"	Line 270	Water (4)		SIS Bit Tank Isolation
201	X	8	45	2"	Line 27	Water (4)		Letdown Isolation
202	X	8	45	2"	Line 27	Water (4)		Letdown Isolation
1702	Z	21	45	3"	Line 40	Water (4)		RCDT Pump Disch. Isolation
1705	Z	21	45	3"	Line 40	Water (4)	Station 3 Total 450 cc/hr.	RCDT Pump Disch. Isolation
791	U	29	45	3"	Line 22	Water (4)		Excess Letdown Heater Ex. Cooling Water Supply
798	U	29	45	3"	Line 22	Water (4)		Excess Letdown Heater Ex. Cooling Water Supply
796	U	30	45	3"	Line 18	Water (4)		Excess Letdown Heater Ex. Cooling Water Return

Valve Number	Letter Symbol	T.S. Penet. Number	Minimum Test Pressure	Pipe Size	Line Number	Test Fluid	Leakage in cc/min or as Noted	Component Name
793	R	30	45	3"	Line 18	Water (4)		Excess Letdown Heater Ex. Cooling Water Return
956G	RR	18	45	3/8"	Line 69	Water (4)		Acc Sample Line Isol.
956H	RR	18	45	3/8"	Line 69	Water (4)		Acc Sample Line Isol.
UH-37	S	45	45	3"	Line 20	Water (4)		Auxiliary Steam
UH-38	T	46	45	3"	Line 95	Water (4)		Auxiliary Steam
205	R	9	45	3"	Line 19	Water (4)		Charging Water Isolation
226	R	9	45	3"	Line 19	Water (4)		Charging Water Isolation
227	R	9	45	3"	Line 19	Water (4)		Charging Water Bypassing
241C	Z	10	45	2"	Line 43	Water (4)		RCP Seal H_2O Supply Isolation
241B	Z	10	45	2"	Line 42	Water (4)		RCP Seal H_2O Supply Isolation
250C	Z	10	45	2"	Line 43	Water (4)		RCP Seal H_2O Supply Isolation
250D	Z	10	45	2"	Line 44	Water (4)		RCP Seal H_2O Supply Isolation
241D	Z	10	45	2"	Line 44	Water (4)		RCP Seal H_2O Supply Isolation
222	R	11	45	4"	Line 44	Water (4)		RCP Seal H_2O Return
869A	GG	14	45	8"	Line 51	Water (4)	Station 4	Containment Spray Header Isolation
869B	P	14	45	8"	Line 15	Water (4)	762.5	Containment Spray Header Isolation
851A	NN	15	45	4"	Line 145	Water (4)	cc/hr.	SIS from Pumps Isolation
850A	NN	15	45	4"	Line 56	Water (4)		SIS from Pump Isolation
797	N	22	45	6"	Line 13	Water (4)		RCP Cooling Water Supply
769	N	22	45	6"	Line 13	Water (4)		RCP Cooling Water Supply
784	O	23	45	6"	Line 4	Water (4)		RCP Cooling Water Return
786	O	23	45	6"	Line 4	Water (4)		RCP Cooling Water Return
FCV-625	C	24	45	3"	Line 21	Water (4)		RCP Cooling Water Return
789	C	24	45	3"	Line 21	Water (4)		RCP Cooling Water Return
250A	Z	10	45	2"	Line 41	Water (4)		RCP Seal H_2O Supply Isolation
241A	Z	10	45	2"	Line 41	Water (4)		RCP Seal H_2O Supply Isolation
250B	Z	10	45	2"	Line 42	Water (4)		RCP Seal H_2O Supply Isolation
990A	TT	51	41	3/8"	Line 711	Nit. (4)		Recirc. Pump Sample Line
990B	TT	51	41	3/8"	Line 711	Nit. (4)		Recirc. Pump Sample Line
744	J	4	41 (3)	14"	Line 9	Nit. (4)		RHR Loop in Check Valve
1835A	Q	15	41	4"	Line 16	Nit. (4)		SIS from Bit Tank
1835B	Q	15	41	4"	Line 16	Nit. (4)		SIS from Bit Tank
741	J	4	45 (3)	14"	Line 9	Nit. (4)	N_2 Inject.	RHR Loop in Check Valve
888A	QQ	5	41	8"	Line 60	Nit. (4)	Hdr.	RHR to SIS
888B	QQ	5	41	8"	Line 60	Nit. (4)	Total	RHR to SIS
958	N/A	5	41	3/4"	Line 294	Nit. (4)	510	RHR Loop Sample
959	N/A	5	41	3/4"	Line 294	Nit. (4)	cc/hr.	RHR Loop Sample
990C	N/A	5	41	3/4"	Line 294	Nit. (4)		RHR Loops Sample Bypass
1870	N/A	5	41	3"	Line 337	Nit. (4)		RHR Mon. Flow Isolation
743	N/A	5	41	3"	Line 337	Nit. (4)		RHR Mon. Flow Isolation
732	K	6	41	14"	Line 10	Nit (4)		RHR Loop Out
891A	RR	17	41	1"	Line 68	Gas	< 20	Accumulator N_2 #31 Tank
891B	RR	17	41	1"	Line 68	Gas	< 20	Accumulator N_2 #32 Tank
891C	RR	17	41	1"	Line 68	Gas	< 20	Accumulator N_2 #33 Tank
891D	RR	17	41	1"	Line 68	Gas	< 20	Accumulator N_2 #33 Tank
8406	RR		41	1"	Line 68	Gas	≤ 20	Accumulator N_2 Isolation Check

Valve Number	Letter Symbol	T.S. Penet. Number	Minimum Test Pressure	Pipe Size	Line Number	Test Fluid	Leakage in cc/min or as Noted	Component Name
863	RR	17	41	1"	Line 68	Gas	< 20	Accumulator N_2 Isolation
1610	V	19	41	1"	Line 67	Gas	< 20	N_2 to RCDT
1616	V	19	41	1"	Line 67	Gas	< 20	N_2 to RCDT
867A	BB	14	41	8"	Line 51	Gas	< 25	#32 Cont. Spray Pump Discharge
878A	BB	14	41	3/4"	Line 164	Gas		#31 Recirc. Isolation
867B	P	14	41	8"	Line 15	Gas	< 25	#32 Cont. Spray Pump Discharge
878B	P	14	41	3/4"	Line 41	Gas		#32 Recirc Isolation Valve
CB-1		69	41	1"		Gas	< 25	Containment Personel Air Lock Valve
CB-2		69	41	1"		Gas		Containment Personel Air Lock Valve
CB-5			41	1"		Gas	< 25	Equipment Air Lock Valves
CB-6			41	1"		Gas		Equipment Air Lock Valves
CB-7			41	3"		Gas	268	Equipment Air Lock Valves
CB-8			41	3"		Gas	139.6	Equipment Air Lock Valves
550	Y	2	41	3/4"	Line 32	Gas	< 25	Prt N_2 Supply Isolation
518	Y	2	41	3/4"	Line 32	Gas	< 25	PRT N_2 Supply Isolation
1814A	RR	54	41	3/4"	Line 368	Gas	< 25	Containment Air Press Isolation
1814B	LL	55	41	3/4"	Line 369	Gas	< 25	Containment Air Press Isolation
1890G	R	57	41	3/4"	Line 836	Gas		Post Accident Sampling Return
1890H	R	57	41	3/4"	Line 837	Gas	< 20	Post Accident Sampling Return
1890J	O	57	41	3/4"	Line 837	Gas		
1882A	O	58	41	3/4"				
IV-2A	O	58	41	1"	Line 571	Gas	< 20	O_2 Supply to Containment
IV-2B	O	58	41	1"	Line 571	Gas		O_2 Supply to Containment
1875A	SS	59	41	3/4"	Line 576	Gas	< 20	H_2 Supply to 31 Combustor
IV-3A	SS	59	41	3/4"	Line 576	Gas		H_2 Supply to 31 Combustor
1876A	SS	60	41	2"	Line 575	Gas	< 20	H_2 Supply to 31 Combustor
IV-5A	SS	60	41	2"	Line 575	Gas		H_2 Supply to 31 Combustor
1875B	TT	61	41	3/4"	Line 574	Gas	< 20	H_2 Supply to #32 Combustor Isol.
IV-3B	TT	61	41	3/4"	Line 574	Gas		H_2 Supply to #32 Combustor Isol.
1876B	TT	62	41	2"	Line 573	Gas	< 20	H_2 Supply to #32 Combustor Isol.
IV-5B	TT	62	41	2"	Line 573	Gas		H_2 Supply to #32 Combustor Isol.

Valve Number	Letter Symbol	T.S. Penet. Number	Minimum Test Pressure	Pipe Size	Line Number	Test Fluid	Leakage in cc/min or as Noted	Component Name
1234	RR	32	41	1"	Line 46	Gas (7)		From C.B. Rad. Monitor
1235	RR	32	41	1"	Line 66	Gas (7)	Total	To C. B. Rad. Monitor
1236	RR	33	41	1"	Line 66	Gas (7)		To C. B. Rad. Monitor
1237	RR	33	41	1"	Line 66	Gas (7)		To C.B. Rad. Monitor
1170	EE	48	41	36"	Line 49	Gas (7)	0 SCFM	Control Bldg. Purge Supply
1171	EE	48	41	36"	Line 49	Gas (7)		Control Bldg. Purge Supply
1190	PP	50	41	36"	Line 58	Gas (7)		Containment Pressure Relief
1191	PP	50	41	36"	Line 58	Gas (7)		Containment Pressure Relief
1192	PP	50	41	36"	Line 58	Gas (7)		Containment Pressure Relief
PCV-1229	R	34	41	4"	Line 28	Gas (7)		From Steam Jet Air Ejectors
PCV-1230	R	34	41	4"		Gas (7)		From Steam Jet Air Ejectors
PS-7	LL	65	41	3"	Line 830	Gas (7)	Total	Post Accident Vent System Iso.
PS-10	LL	65	41	3"	Line 830	Gas (7)	.1 SCFM	Post Accident Vent System Iso.
PS-8	LL	65	41	3"	Line 830	Gas (7)		Post Accident Vent System Iso.
PS-9	LL	65	41	3"	Line 830	Gas (7)		Post Accident Vent System Iso.
1172	FF	49	41	36"	Line 50	Gas (7)	Total	Containment Bldg. Purge Exhaust
1173	FF	49	41	36"	Line 50	Gas (7)	.2 SCFM	
PCV-1224	W	38	45	1/2"	Line 365	Water (4)		#32 S/G Blowdown Sample Isolation
PCV-1224A	W	38	45	1/2"	Line 365	Water (4)		#32 S/G Blowdown Sample Isolation
PCV-1223	W	38	45	1/2"	Line 364	Water (4)		#31 S/G Blowdown Sample Isolation
PCV-1223A	W	38	45	1/2"	Line 364	Water (4)	Total 21.25	#31 S/G Blowdown Sample Isolation
PCV-1225	W	38	45	1/2"	Line 366	Water (4)		#33 S/G Blowdown Sample Isolation
PCV-1225A	W	38	45	1/2"	Line 366	Water (4)		#33 S/G Blowdown Sample Isolation
PCV-1226	W	38	45	1/2"	Line 367	Water (4)		#34 S/G Blowdown Sample Isolation
PCV-1226A	W	38	45	1/2"	Line 367	Water (4)		#34 S/G Blowdown Sample Isolation
IA-39	Y	64	41	2"	Line 39	Gas	36.7	Instrument Air Isolation
PCV-1228	Y	64	41	2"	Line 39	Gas	36.7	Instrument Air Isolation
1814C	R	56	41	3/4"	Line 370	Gas	76.2	Containment Air Pres. Isolation
CB-3		69	41	3"		Gas (7)	78.9	Containment Personel Air Lock Valve

Valve Number	Letter Symbol	T.S. Penet. Number	Minimum Test Pressure	Pipe Size	Line Number	Test Fluid	Leakage in cc/min or as Noted	Component Name
SWN-41	SS	39	45	10"	Line 11A	Water (6)		#31 Fan Cooler Unit SW
SWN-43	LA	39	45	1"	Line 468	Water (6)		#31 Fan Cooler Unit SW
SWN-42	LA	39	45	1 1/2"	Line 468	Water (6)	Total	#31 Fan Cooler Unit SW
SWN-44	MB	40	45	10"	Line 12B	Water (6)	88	#31 Fan Cooler Unit SW
SWN-51	MB	40	45	1"	Line 12	Water (6)		#31 Fan Cooler Unit SW
SWN-71	SS	40	45	2"	Line 497	Water (6)	.02325 gpm	#31 Fan Cooler Unit SW
SWN-41	LA	39	45	10"	Line 116	Water (6)		#32 Fan Cooler Unit Service Water
SWN-43	LA	39	45	1"	Line 463	Water (6)	Total	#32 Fan Cooler Unit Service Water
SWN-42	LA	39	45	1 1/2"	Line 463	Water (6)	96	#32 Fan Cooler Unit Service Water
SWN-44	MB	40	45	10"	Line 120	Water (6)		#32 Fan Cooler Unit Service Water
SWN-51	MB	40	45	1"	Line 12	Water (6)	.02536 gpm	#32 Fan Cooler Unit Service Water
SWN-71	SS	40	45	2"	Line 498	Water (6)		#32 Fan Cooler Unit Service Water
885A	OO	7	45	14"	Line 57	Water (5)	130	Containment Sump Isolation
885B	OO	7	45	14"	Line 57	Water (5)	147	Containment Sump Isolation
CB-4		69	41	3"		Gas (7)	1396	Containment Personel Air Lock Valve
580A	RR	44	41	1/8"	Line 474	Gas	< 200	Dead Weight Calibrator Iso.
580B	RR	44	41	1/8"	Line 474	Gas	< 200	Dead Weight Calibrator Iso.
1890D	R	57	41		Line 834	Gas	< 200	From FCU #33
1890E	TT	57	41		Line 833	Gas	<200	From FCU #34
1890A	R	57	41	3/4"	Line 831	Gas	<200	Post Accident Sampling Supply
1890C	LL	57	41	3/4"	Line 833	Gas	< 200	Post Accident Sampling Supply
1890F	O	57	41	3/4"	Line 835	Gas	< 200	Post Accident Sampling Supply
1890B	TT	57	41	3/4"	Line 832	Gas	<200	Post Accident Sampling Supply
SWN-41	LA	39	45	10"	Line 11E	Water (6)		#35 Fan Cooler Unit Service Water
SWN-43	LA	39	45	1"	Line 471	Water (6)		#35 Fan Cooler Unit Service Water
SWN-42	LA	39	45	1 1/2"	Line 471	Water (6)	Total	#35 Fan Cooler Unit Service Water
SWN-44	MB	40	45	10"	Line 12E	Water (6)	1780	#35 Fan Cooler Unit Service Water
SWN-51	MB	40	45	1"	Line 12	Water (6)		#35 Fan Cooler Unit Service Water
SWN-71	SS	40	45	2"	Line 499	Water (6)	.01559 gpm	#35 Fan Cooler Unit Service Water
SWN-41	LA	39	45	10"	Line 11D	Water (6)		#34 Fan Cooler Unit Service Water
SWN-43	LA	39	45	1"	Line 470	Water (6)		#34 Fan Cooler Unit Service Water
SWN-42	LA	39	45	1 1/2"	Line 470	Water (6)	Total	#34 Fan Cooler Unit Service Water
SWN-44	MB	40	45	10"	Line 126	Water (6)	2496	#34 Fan Cooler Unit Service Water
SWN-51	MB	40	45	1"	Line 12	Water (6)		#34 Fan Cooler Unit Service Water
SWN-71	SS	40	45	2"	Line 495	Water (6)	.02198 gpm	#34 Fan Cooler Unit Service Water

Valve Number	Letter Symbol	T.S. Penet. Number	Minimum Test Pressure	Pipe Size	Line Number	Test Fluid	Leakage in cc/min or as Noted	Component Name
SWN-41	LA	39	45	10"	Line 11B	Water (6)		#33 Fan Cooler Unit Service Water
SWN-43	LA	39	45	1"	Line 469	Water (6)		#33 Fan Cooler Unit Service Water
SWN-42	LA	39	45	1 1/2"	Line 469	Water (6)		#33 Fan Cooler Unit Service Water
SWN-44	MB	40	45	10"	Line 12A	Water (6)	Total	#33 Fan Cooler Unit Service Water
SWN-51	MB	40	45	1"	Line 12	Water (6)	2508	#33 Fan Cooler Unit Service Water
SWN-71	SS	40	45	2"	Line 496	Water (6)	.02209 gpm	#33 Fan Cooler Unit Service Water

CONTAINMENT ISOLATION VALVES

NOTES:

1. Reference: FSAR Table 5.2-1, Penetration No.
2. Gas Test Fluid indicates either nitrogen or air as test medium.
3. Testable only when at cold shutdown.
4. Isolation Valve Seal Water System.
5. Sealed by Residual Heat Removal System fluid.
6. Sealed by Service Water System.
7. Sealed by Weld Channel and Penetration Pressurization System.

All (less than) symbols listed in the leakage column indicate the lowest calibration point on the flow meter used.