

~~11-9-72~~
10-30-72

BEFORE THE UNITED STATES
ATOMIC ENERGY COMMISSION

In the Matter of)
)
Consolidated Edison Company) Docket No. 50-247
of New York, Inc.)
(Indian Point Station, Unit No. 2))

STIPULATION

Pursuant to 10 C.F.R. §2.753, Consolidated Edison Company of New York, Inc. ("Con Edison"), the Hudson River Fishermen's Association ("HRFA"), and the Environmental Defense Fund, Inc. ("EDF"), parties to the above-mentioned proceeding, do hereby stipulate to the following facts for the purpose of eliminating the necessity for the examination of witnesses and to expedite the conduct of the hearing, without waiver by any party of its right to challenge the weight or significance to be attributed to any of the stipulated facts, and the parties agree that they may not submit any evidence in this proceeding, or seek to cross-examine witnesses for the purpose of eliciting testimony, which is inconsistent

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with the facts stipulated herein:

1. Indian Point Unit No. 1 has experienced the collection of fish on its intake screens.

2. Prior to December 1970, Con Edison did not count the number of fish collected at Indian Point Unit No. 1 on a regular daily basis. Counts were made at various times from March 1965 through March 1967. No counts were made during the balance of 1967 and all of 1968 and 1969, except for one count performed on December 16, 1969. Counts again were performed during January, February and March of 1970 and then intermittently until December 1970. During all this period prior to December 1970, counting was done only for specific purposes outside the normal operating routine of the plant.

3. An averaging of the data available from Con Edison counts prior to December 1970 is shown on Schedule A annexed hereto. The schedule shows an average of the number of fish collected for the days on which collections were counted and recorded, with, in some instances, minor adjustments. The parties do not stipulate that Schedule A shows a reasonable daily average of actual fish collections on all days for the indicated month.

4. The average of daily collections indicated on Schedule A for 1965-70 may reasonably be increased 25 percent for missed sampling during each day.

5. The average of daily collections indicated on Schedule A may reasonably be increased an additional 25 percent for undersampling (specimens lost in the collecting process).

6. From time to time throughout the operating life of Indian Point No. 1 counts of fish impinged at the intake screens have been made by persons who were not Con Edison employees. Raytheon Company employees undertook screen washing samples between September 1969 and January 1970. Charts showing the results of Raytheon sampling are annexed hereto as Schedule B, Item 1. The New York State Conservation Department conducted an investigation at Indian Point No. 1 between November 1969 and June 1970. A memorandum on that investigation is annexed hereto as Schedule B, Item 2. The parties do not stipulate that Schedule B, Items 1 and 2 correctly reflect the number of fish collected during the period in question or killed.

7. During the period commencing December 1970 to date, Con Edison has attempted to count fish collections on a regular daily basis. Schedule C shows a determination, based

on data collected between December 1970 and March 1972, of the number of fish collected on days for each month using counts on days when complete or nearly complete data are available at full flow operation and reduced flow operation. The parties do not stipulate that Schedule C shows a reasonable daily average of actual fish collections on all days for the indicated month.

8. Schedule C does not require any adjustment for missed sampling periods during a day.

9. The average daily collections indicated on Schedule C may reasonably be increased by 25 percent for undersampling.

10. Numerous changes have been made in the design of the intake and discharge structures at Indian Point Unit No. 1. The principal changes were as follows:

- | | |
|-------------|---|
| June 1965 | - moved point of injection of sodium hypochlorite at intake. |
| August 1965 | - removed sheet piling around wharf. |
| April 1966 | - intake openings enlarged (reducing intake approach velocities). |

- Spring 1966 - discharge extended to 540 feet from intake as opposed to original 320 feet.
- November 1967 - removed discharge extension because of construction of Unit No. 3, returning discharge to 320 feet from intake.
- December 1967 - completed installation of fixed fine screens on all intakes.
- Fall 1969 - fixed fine screens blocked in fully open position.
- December 1969 - fixed fine screens partially lowered.
- January 28, 1970 - fixed fine screens fully lowered and back-up screens installed.
- February 1970 - holes under screens plugged.
- February 6, 1970 - discharge moved 960 feet from intake.
- April 1970 - changed procedure for disposal of dead fish to minimize recirculation.

- April 1970 - tested reduced flow operation.
- December 29, 1970 - discharge moved 1,155 feet from intake.
- January 1971 - commenced operation with flow at 60% of normal flow and continued until April and thereafter reduced flow on days when the numbers of fish collected appeared unusual.
- June 1972 - ports completed for submerged discharge, with adjustable gates designed for an exit velocity of approximately 10 fps.

11. Since April 1970, the fish collected have ranged 2-4 inches in length and average 0.2 ounces in weight.

12. Indian Point Unit No. 2 has experienced the collection of fish on its intake screens when the circulating pumps are operated. Data on pump operation, flow rate, hours of operation and numbers of fish collected prior to March 1, 1972 is set out in Schedule D annexed hereto.

Each party reserves the right to show that any particular conclusion shall be drawn from these stipulated facts.

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Dated: October 30, 1972

Schedule A

Indian Point Unit No. 1

Average Collections From Intake Screens
For Days When Fish Were Collected
From Con Edison Reports

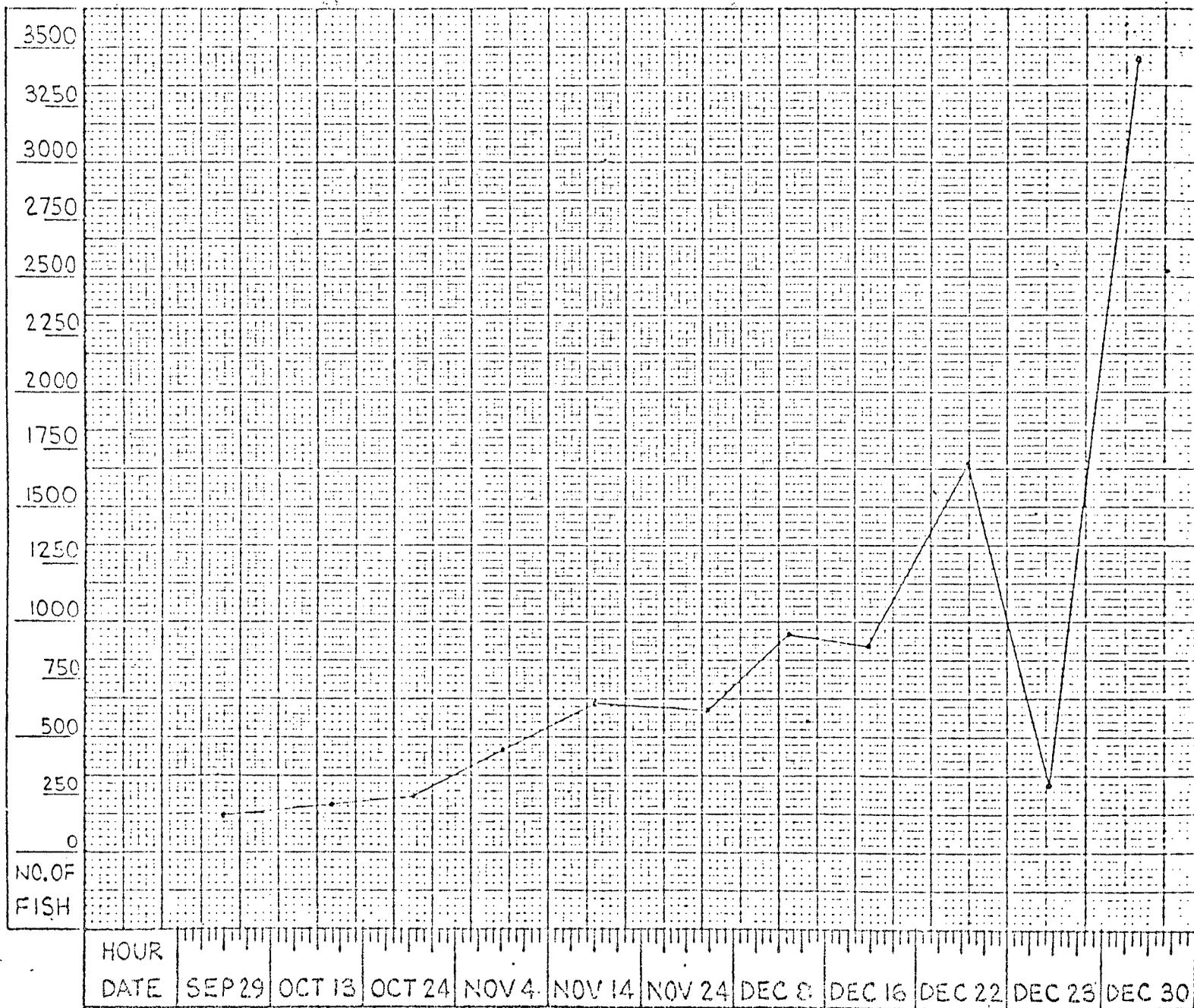
<u>Month</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1970</u>
January			7,200	20,000
February			4,300	6,000
March	1,100		4,400	8,000
April	1,500	500		
May		700		
June	500	600		
July	3,100	1,600		
August	6,300	1,000		
September	1,400	900		
October	1,000	1,300		
November	700	1,400		
December		4,600		

Note: Computations are averages of days for which counts are available and do not take into account days plant was not in operation.

SCREEN WASHING SAMPLES

Sept. - Dec. 1969

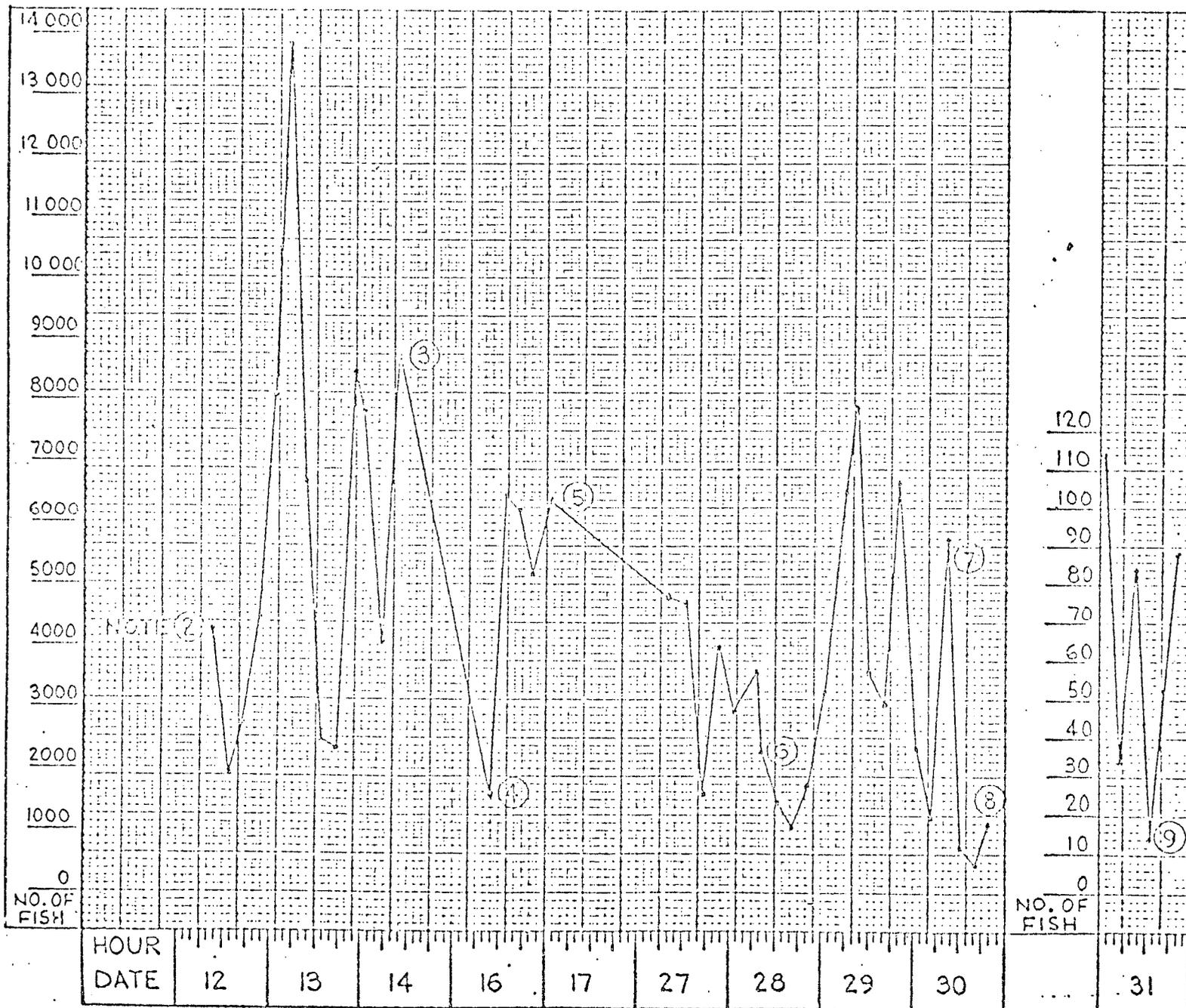
(See Note 1)



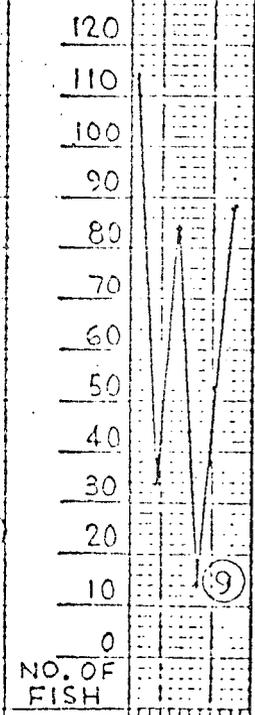
HOURS
0000 2400

SCREEN WASHING SAMPLES

January 1970



NOTE



HOURS
0000 2400

- NOTE 1 Techniques not standard but data factored to approximate results of January 12 through January 30.
- NOTE 2 All screens being sampled. Samples taken every 4 hours when revolving screens washed. Fixed screens 3 feet off bottom.
- NOTE 3 Fixed screens completely up.
- NOTE 4 Rotating screens had run continuously for several hours prior to sampling.
- NOTE 5 Fixed screens lowered to bottom.
- NOTE 6 Con Ed notified us to do sampling every 4 hours until further notice.
- NOTE 7 Hole in screen being repaired.
- NOTE 8 Modified Sampling. Screens being continuously washed and a 15 min. sample is taken every four hours.
- NOTE 9 Screens 13 and 14 not sampled. Diver repairing holes.

Numbers of Fish Withdrawn (x 1000)

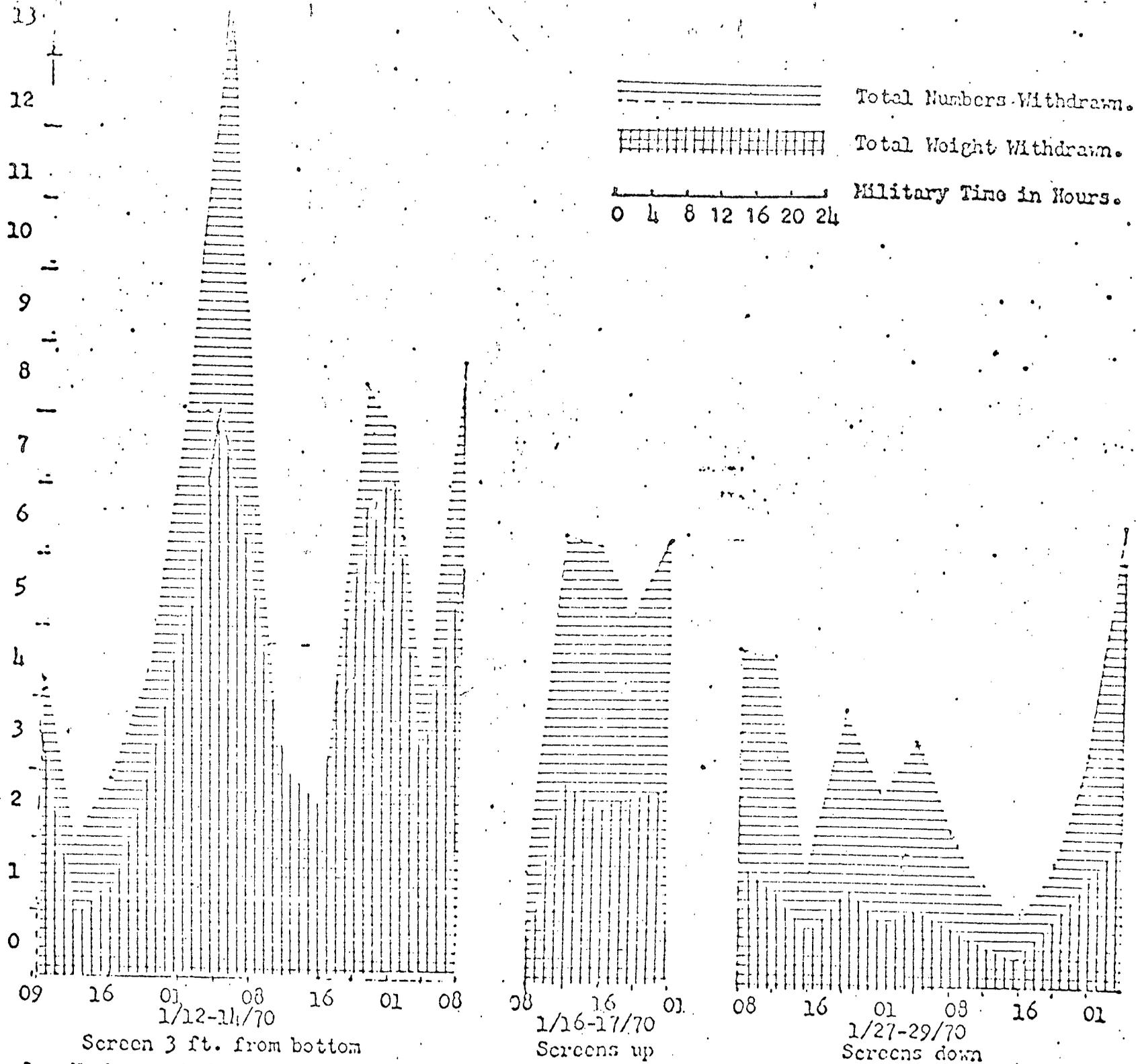


Figure 1. Number and Weights of Fish Withdrawn by Consolidated Edison Hydroelectric Plant

Table 1. (Continued)

DATE	TIME	DURATION OF SAMPLE (Minutes)	White Perch		Striped Bass		Tomcod		Spottail Shiner		White Catfish		Yellow Perch		Smelt	Alewife		Misc.		TOTALS		
			#	wt.	#	wt.	#	wt.	#	wt.	#	wt.	#	wt.		#	wt.	#	wt.		#	wt.
Jan. 27	0820	40	4450	74	353	8	12	<1.0	9	<1.0	5	4			2	<1.0			2	3	4833	89
1970	1253	45	4358	68	345	4	14	<1.0	3	<1.0	1	<1.0	1	<1.0	2	<1.0					4724	75
	1640	45	1458	29	93	4	14	<1.0	2	<1.0	1	<1.0			1	<1.0					1570	34
	2035	50	3559	57	362	8	12	<1.0	5	<1.0	1	<1.0			1	<1.0			1	<1.0	3944	67
Jan. 28	0101	48	2728	40	134	3	15	<1.0	4	<1.0	2	<1.0	2	<1.0	1	<1.0			2	<1.0	2885	45
1970	0615	40	3249	48	249	4	33	1	5	<1.0	2	<1.0			7	<1.0			2	<1.0	3545	54
24-Hour Total																					21501	362
	0848	40	2077	35	132	4	36	2	2	<1.0	2	<1.0	2	<1.0	2	<1.0			2	<1.0	2255	41
	1241	49	1326	23	66	2	26	1	3	<1.0	2	<1.0									1423	26
	1624	48	926	16	86	2	17	1			2	1			2	<1.0					1033	20
	2033	44	1497	31	159	9	78	3	4	<1.0	1	<1.0			6	<1.0					1745	43
Jan. 29	0123	47	2982	59	186	15	73	2	4	<1.0	1	<1.0			1	<1.0					3243	76
1970	0623	48	6060	92	389	10	54	2	2	<1.0									1	<1.0	6535	104
24-Hour Total																					16209	310
TOTALS (48 hours) Exterior Screens in Place (closed) at Bottom of Forebay																					37710	672
GRAND TOTAL			119809	3441	14648	350	2974	134	197	3	83	31	32	2	42	<1.0	73	<1.0	37	10	138995	3972*

*This value corrected to account for those species that made up <1.0 of the samples.

SPECIES

DATE	TIME	DURATION OF SAMPLE (Minutes)	White Perch		Striped Bass		Tomcod		Spottail Shiner		White Catfish		Yellow Perch		Smelt		Alewife		Misc.		TOTALS			
			#	wt.	#	wt.	#	wt.	#	wt.	#	wt.	#	wt.	#	wt.	#	wt.	#	wt.	#	wt.	#	wt.
Jan. 12	0903	60	3574	145	567	10	93	5	3	<1.0	4	2	4	<1.0	1	<1.0	3	<1.0	2	<1.0	4251	163		
1970	1245	60	1613	35	150	3	91	5	4	<1.0	3	<1.0	2	<1.0	1	<1.0	1	<1.0	1	<1.0	1865	43		
	1630	60	2290	47	361	8	91	4	3	<1.0					1	<1.0	1	<1.0			2747	59		
	2045	85	3820	136	444	10	92	4	3	<1.0	2	<1.0			1	<1.0			1	<1.0	4363	150		
Jan. 13	0100	40	7010	218	912	17	141	6	3	<1.0			2	<1.0	1	<1.0	22	<1.0	4	<1.0	8091	241		
1970	0415	60	11487	346	1961	35	309	15	21	<1.0	5	<1.0	3	<1.0			12	<1.0			13802	397		
24-Hour Total																						351.9	1053	
Jan. 13	0830	60	5149	245	1322	25	203	11	10	<1.0	10	6	2	1			2	<1.0	1	<1.0	6699	238		
1970	1259	40	2073	130	240	12	75	4	11	<1.0							1	<1.0	1	<1.0	2401	146		
	1630	45	2026	107	338	5	71	3	6	<1.0	3	3							2	<1.0	2276	118		
	2045	45	7148	295	1050	26	228	10	23	<1.0	5	<1.0	2	<1.0	6	<1.0	6	<1.0	3	1	8171	332		
Jan. 14	0100	30	6720	303	759	22	357	14	14	<1.0	7	6	5	<1.0	2	<1.0	3	<1.0	2	2	7869	352		
1970	0500	45	3246	132	563	13	195	9	6	<1.0	4	<1.0	1	<1.0					6	<1.0	4615	155		
	0840	60	7592	261	998	24	126	6	13	<1.0	5	2									8740	293		
24-Hour Total																						40471	1684	
TOTALS (48 hours) Exterior Screens Removed (opened) 3' from Bottom of Forebay																						75590	2737	
Jan. 16 ^{3/}	0845	45	1472	25	50	5	38	2													1	<1.0	1561	32
1970	1245	60	5070	104	1006	23	230	12	21	<1.0	2	<1.0	2	<1.0	2	<1.0	5	<1.0	1	1	6389	141		
	1605	60	5586	109	552	10	72	4	4	<1.0	4	<1.0	2	<1.0	1	<1.0	5	<1.0	2	<1.0	6228	123		
	2010	60	4572	110	526	12	86	3	7	<1.0	4	2					8	<1.0			5203	127		
Jan. 17	0130	40	5691	116	565	17	44	2	2	<1.0	5	<1.0	1	<1.0	1	<1.0	5	<1.0			6314	135		
1970	24-Hour Total ^{4/} Exterior Screens Removed from the Water																					25695	558	

^{1/} First column of figures (#) listed under each individual species indicates the number of fish taken during the sampling. The second column of figures (wt.) listed under each individual species indicates the weight in pounds of fish taken during the sampling.

^{2/} Miscellaneous species consists of 12 different species totaling 35 individuals (Table 2) of which no more than two of any given species was collected during any wash period.

^{3/} Rotating screens had run continuously for several hours

^{4/} Only five samples taken - generator was down most of night and we were unable to get 0400 sample Saturday morning

Schedule C

Average Daily Collection of Fish at Indian Point Unit 1¹

<u>Month</u>	<u>Number of Sample Days at Full Flow²</u>	<u>Mean Number of Fish/Day at Full Flow</u>	<u>Number of Sample Days at Reduced Flow²</u>	<u>Mean Number of Fish/Day at Reduced Flow</u>
January	-	-	22	756
February	-	-	23	3843
March	-	-	57	473
April	10	497	20	66
May	20	181	8	174
June	23	141	-	-
July	15	51	-	-
August	7	814	1	255
September	20	1217	4	108
October	10	2190	12	117
November	19	3958	8	930
December	6	2480	27	1064
Total	130		182	

¹Based on daily collections from December 1970 to March 1972.

²Only days with complete or nearly complete counts were used.

Fish Counts From Indian Point Unit 2

SCHEDULE D

1971

<u>Date</u>	<u>Pumps Operating</u>	<u>Flow Rate (X1000) gpm</u>	<u>Hours of Operation</u>	<u>Total Number of Fish</u>
1/5-6/71	22	140	27	
	24	140	24	
	25	140	24	79,984*
2/4/71	22	105	8**	260
	23	105	8**	626
	26	140	8**	1,016
2/5/71	22	105	24	1,664
	23	105	24	3,794
	26	140	24	1,898
2/6/71	22	105	24	1,624
	23	105	24	4,444
	26	140	24	1,738
2/7/71	22	105	24	1,373
	23	105	24	3,565
	26	140	24	2,776
2/8/71	22	105	24	119
	23	105	24	623
	26	140	24	180
2/9/71	22	105	24	9,468
	23	105	24	3,743
	26	140	24	8,607
2/10/71	22	105	24	571
	23	105	24	8,862
	26	140	24	11,483
2/22/71	22	105	--	108
	26	140	--	123
2/23/71	22	105	--	24
2/25/71	22	105	--	55
	24	105	--	137
	25	105	--	44

more...

<u>Date</u>	<u>Pumps Operating</u>	<u>Flow Rate (X1000)gpm</u>	<u>Hours of Operation</u>	<u>Total Number of Fish</u>
2/26/71	22	105	--	794
	24	105	--	1,937
	25	105	--	749
2/27/71	22	105	--	46
	24	105	--	2,359
	25	105	--	543
3/5/71	22	105	8 (approx)	11
	24	105	8 (approx)	44
	25	105	8 (approx)	43
3/10/71	22	105	--	30
	24	----	--	105
3/11/71	22	105	--	17
	24	----	--	43
3/12/71	22	105	--	17
	24	----	--	46
3/16/71	22	105	---	9
	24	----	---	17
3/17/71	22	105	--	1
	24	----	--	10
3/18/71	22	105	---	20
	24	----	---	36
3/19/71	22	105	---	19
	24	----	---	42
3/20/71	22	105	---	12
	24	----	---	29
3/21/71	22	105	---	(No count)
	24	----	---	fixed so not ran
3/22/71	22	105	---	24
	24	----	---	59

more...

<u>Date</u>	<u>Pumps Operating</u>	<u>Flow Rate (X1000) gpm</u>	<u>Hours of Operation</u>	<u>Total Number of Fish</u>
3/23/71	22	105	--	4
	24	---	--	22
3/24/71	22	105	--(Pumps ran	3
	24	---	--until 0930	8
				on 3/25/71)
5/3/71	22	105	14	0
	26	140	14	36
5/4/71	22	105	24	7
	26	140	24	164
5/5/71	22	105	24	61
	26	140	24	121
5/6/71	22	105	24	3
	26	140	24	150
5/7/71	22	105	24	13
	26	140	24	42
5/8/71	22	105	24	15
	26	140	24	144
5/9/71	22	105	24	(No count,
	26	140	24	fixed screw
				not raised)
5/10/71	22	105	24	46
	26	140	24	234
5/11/71	22	105	24	29
	26	140	24	62
5/12/71	22	105	24	53
	26	140	24	146
5/13/71	22	105	24	14
	26	140	24	229
5/14/71	22	105	24	14
	26	140	24	68
5/15/71	22	105	24	3
	26	140	24	17
5/16/71	22	105	24	12
	26	140	24	126

more.

<u>Date</u>	<u>Pumps Operating</u>	<u>Flow Rate (X1000)gpm</u>	<u>Hours of Operation</u>	<u>Total Number of Fish</u>
5/17/71	22	105	24	11
	26	140	24	523***
5/18/71	22	105	24	7
	26	140	24	153
5/19/71	22	105	24	10
	26	140	24	56
5/20/71	22	105	24	0
	26	140	24	39
5/21/71	22	105	24	4
	26	140	24	57
5/22/71	22	105	24	2
	26	140	24	43
5/23/71	22	105	24	(No count)
	26	140	24	fixed sc
5/24/71	22	105	24	not clear
	26	140	24	30
5/25/71	22	105	24	109
	26	140	24	41
5/26/71	22	105	24	199
	26	140	24	24
5/27/71	22	105	24	356
	26	140	24	55
5/28/71	22	105	24	182
	26	140	24	31
10/21/71	22	---	---	329
				7

more...

* Traveling screens run simultaneously during some of the washes in this time interval. A total of 75,000 was estimated following the cleaning of the fixed screens on 1/6/71. The remaining fish, 4,984, were collected during traveling screen washes prior to raising the fixed screens.

** Pumps ran continuously from 0000 on 2/4/71, 8 hours refers to hours running prior to fixed screen cleaning.

*** F-screen 26 blocked off bottom by debris.

Fish Counts From Indian Point Unit 2

1972

<u>Date</u>	<u>Pumps Operating</u>	<u>Flow Rate (X1000) gpm</u>	<u>Hours of Operation</u>	<u>Total Number of Fish</u>
1/11/72	25	140	17	
	22	140	17	
	24	140	17	1483
1/12/72	25	140	24	
	22	140	24	
	24	140	24	7000
1/13/72	25	140	17	
	22	140	24	
	24	140	17	12005
1/14/72	22	140	14	6539
2/2/72	22	140	14	
	25	140	14	No Count
2/3/72	22	140	14	
	25	140	24	No Count
2/4/72	25	140	8	3000
2/19/72	24	140	10	
	25	140	10	No Count
2/20/72	24	140	23	
	25	140	15	No Count
2/21/72	24	140	10	204
2/22/72	24	140	5	No Count
2/23/72	24	140	20	36500
2/24/72	24	140	24	35700
2/25/72	24	140	24	16035
2/26/72	24	140	24	36805
2/27/72	24	140	15	No Count

BEFORE THE UNITED STATES
ATOMIC ENERGY COMMISSION

In the Matter of)
)
Consolidated Edison Company of) Docket No. 50-247
New York, Inc.)
(Indian Point Station Unit No. 2))

CERTIFICATE OF SERVICE

I hereby certify that I have served a document entitled:
"Stipulation", by mailing copies thereof first class and
postage prepaid to each of the following persons this 9th
day of November, 1972.

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