State of New York
Department of Health
Albany, New York

TO: THE COMMISSIONER
DEPUTY, ASSOCIATE ASSISTANT, COUNTY AND CITY HEALTH COMMISSIONERS
REGIONAL HEALTH DIRECTORS AND DISTRICT HEALTH OFFICERS
DIRECTORS OF BUREAUS, STAFF OFFICES, HOSPITALS AND APPROVED LABORATORIES

FROM: Doctor Thompson

SUBJECT: Environmental Radioactivity in New York State - 1967

INTRODUCTION

The Bureau of Radiological Health, Division of General Engineering and Radiological Health, of the New York State Health Department routinely monitors the environment for radioactivity content. Radioactive materials originate from three basic sources; natural radioactive substances such as uranium, radium and thorium found in most rocks and soils; fallout, originating from weapons testing; man's uses in industry and science, such as power reactors, medicine, research laboratories and manufacturing processes. The State Health Department each year analyzes over 2,500 samples of water, milk, air, and other materials that may contain radioactive materials. The data obtained is evaluated so that necessary corrective action can be taken before the public receives exposures that may be deleterious to health. This is a report on the levels of radioactivity found during the 1967 calendar year and includes data from sampling stations around the Nuclear Fuel Services (NFS) plant in northern Cattaraugus County.

AIR

The radioactivity in air is determined by a gross beta test for particulates in the air removed on a filter. The sampling device is a 1 cubic foot per minute pump that pulls air through a glass fiber filter.

During 1967, the air monitoring stations picked up fallout originating from the Chinese nuclear tests on December 28, 1966 and on December 24, 1967. The maximum concentrations for all stations except Albany occurred in early January 1967 and was attributable to the weapons test in December 1966. The maximum concentration in Albany occurred on December 30-31, 1967 and resulted from the low level injection of material into the jet stream. Higher than usual fallout was noted by Brookhaven National Laboratory on Long Island at this same time. This fallout was due to the Chinese test on December 24, 1967. If fallout from weapons testing were to exceed 10 $pCi/meter^3$ for an extended period the surveillance program would be expanded. Since the concentrations noted during 1967 were usually between 1/10 and 1/100 of this level, no public health significance is attributable to airborne radioactivity.

The samples of air taken around the NFS plant were not significantly different from other areas of the State. The routine discharges from the stack of the plant were not detectable at the offsite sampling stations because of the large atmospheric dilution provided and because the discharges were within AEC limits.

FALLOUT

Fallout, the term used to denote radioactive materials originating from the atmosphere, is determined by placing an open large mouth jar outside and collecting the dust and precipitation for a period up to a month. At the Albany station the sample is collected weekly. The usual level of fallout has been low to undetectable with the exception of the fallout that occurred during the last week of 1967. Again, this was the direct result of the December 24, 1967 Chinese test and precipitation in New York State during that week which washed the activity out of the atmosphere.

Only a few monthly samples were taken in 1967. The laboratory was moved to a new location in May and it took a number of months to put the complex counting system back in working order. No significance, from the health standpoint, is given to the amount of fallout occurring in 1967.

MILK

Milk is one of the most sensitive indicators of radioactivity in the environment. For this reason, major dairys located in various parts of New York State, are routinely monitored. The portion of the public that is most susceptible to ionizing radiation is the small child. Also, the small child drinks a considerable quantity of milk compared to his total food requirement. Therefore, milk supplies are monitored to ensure that the radioactivity content remains below harmful levels.

During 1967, New York State milk was far below levels that are considered harmful. In many cases, the radioactivity level was below the detection capability of our instruments.

The isotope tritium (^{3}H) was measured in milk. This radioactive isotope of hydrogen is a component of fallout from weapons testing. The allowable concentration is 3 million pCi/liter and the levels found in 1967 are less than 1/1000 of this concentration.

WATER

Lakes and rivers are sampled at various intervals to determine if fallout is evident or if industrial--medical--educational facilities are discharging activity above allowable limits. Most of the water samples are taken near present or planned nuclear facilities. During 1967 many samples showed concentrations near or below the detectable limit of the instrumentation. In no case did any sample exceed the allowable concentrations. However, the effects of salt water intrusion in the lower Hudson River and the discharges from the NFS plant on Cattaraugus Creek were evident.

In the lower Hudson River, salt water intrusion up the river is evident to a point above Peekskill. The river samples in this area show higher gross beta levels because salt (sea) water contains over 200 pCi/l gross beta concentration due mostly to naturally occurring potassium-40. The Consolidated Edison Company operates a nuclear power plant at Indian Point on the Hudson River just south of Peekskill. Routine releases throughout the year were not detectable in the Hudson River at the state's sampling station because of the large dilution available and the small discharge of radioactivity.

The effects of the discharges from NFS are evident in Buttermilk and Cattaraugus Creeks. The AEC has not established a limit for that section of Buttermilk Creek which receives the waste because this section is within the NFS site boundary and under the control of NFS. The allowable limits are applied by the AEC to Cattaraugus Creek at the site boundary after inflow of Buttermilk Creek. The limits for gross beta or strontium 90 (if strontium 90 were the only radioactive material present) are a yearly average of 300 pCi/l and a maximum allowable concentration at any time not to exceed 600 pCi/l. The allowable average yearly concentrations in pCi/l for other radioactive materials if each were the only radioactive material present are Cs-137 - 20,000; Zr-Nb-95 - 60,000; Ba-La-140 - 30,000; Sr-89 - 3,000; Tritium - 3 million.

SUMMARY

During the year 1967 no radioactivity was detected that could be directly attributable to discharges from installations handling radioactive materials with the exception of the Nuclear Fuels Services plant in Cattaraugus County. The samples of air and water taken around the NFS plant indicated that AEC limits for discharge were not exceeded. Fallout from nuclear weapons testing was detected but was of no public health significance.

KEY

Curie (Ci):	The quantity of any radionuclide in which the number of disintegrations per second is 37 billion.
Millicurie (mCi):	One thousandth of one curie.
Picocurie (pCi):	One millionth of a millionth of a curie.
Cubic Meter (M^3):	Approximately 35.3 cubic feet.
Milliliter (ml):	One thousandth of liter (approximately 0.0011 quarts).
Liter (l):	One liter (approximately 1.06 quarts).
Kilogram (kg):	One thousand grams or 2.2 pounds.
-:	In report tables indicates that analysis was not made.
N.D.:	Non detectable with the limits of sensitivity as follows:
^{131}I	5 pCi/l or 20 pCi/l depending on method of analyses.
^{137}Cs	20 pCi/l
^{89}Sr	3 pCi/l
^{90}Sr	3 pCi/l
^{3}H	1000 pCi/l
Gross Beta (water)	1 pCi/l
(air)	0.001 pCi/M^3

MHT:WJE:mr

1967

Environmental Radioactivity in New York State

Report of Statewide Stations

January 1, 1967 - December 31, 1967

Air Samples

Gross Beta pCi/M^3

Station - Location			Gross Beta
Albany County	Sample No.	209	
Albany State Health Dept. Laboratory	Avg.		0.12
	Max.		1.40
	Min.		0.01
Cattaraugus County	Sample No.	9	
Ashford Site 04	Avg.		0.08
	Max.		0.21
	Min.		0.03
Ashford Site 14	Sample No.	4	
	Avg.		0.18
	Max.		0.33
	Min.		0.06
Ashford Site 43	Sample No.	9	
	Avg.		0.13
	Max.		0.53
	Min.		0.01
Ashford Site 44	Sample No.	13	
	Avg.		0.12
	Max.		0.27
	Min.		0.02
Ashford Site 45	Sample No.	46	
	Avg.		0.08
	Max.		0.26
	Min.		0.01
Dutchess County	Sample No.	7	
Pawling	Avg.		0.09
	Max.		0.35
	Min.		0.01
Erie County	Sample No.	1	
Concord	Avg.		0.11
	Max.		-
	Min.		-
Orange County	Sample No.	11	
Tuxedo Union Carbide Long Meadow Road	Avg.		0.14
	Max.		0.44
	Min.		0.03
Tompkins County	Sample No.	43	
Ithaca Sage Annex Cornell Univ.	Avg.		0.09
	Max.		1.53
	Min.		0.01
Westchester County	Sample No.	43	
Cortlandt Public Works Garage	Avg.		0.06
	Max.		0.31
	Min.		0.01
Peekskill Camp Field Filter Plant	Sample No.	49	
	Avg.		0.09
	Max.		0.30
	Min.		0.02

Radioactivity Levels in Fallout

Result in $pCi/ft^2/day$

Station - Location		I-131	Cs-137	ZrNb-95	BaLa-140	Sr-89	Sr-90
Albany County	Sample No.	14	13	14	13	17	46
Albany	Avg.	6	N.D.	N.D.	N.D.	N.D.	N.D.
State Health Dept.	Max.	43	N.D.	N.D.	N.D.	6	N.D.
Laboratory	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Cattaraugus County	Sample No.	12	16	11	11	2	39
Ashford	Avg.	N.D.	N.D.	N.D.	N.D.	23	N.D.
Site 45	Max.	N.D.	45	N.D.	536	45	10
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Onondaga County	Sample No.	9	9	9	9	9	9
Syracuse	Avg.	70	N.D.	N.D.	100	N.D.	N.D.
State Office Bldg.	Max.	318	37	150	894	N.D.	N.D.
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Suffolk County	Sample No.	1	1	1	1	1	1
Brookhaven	Avg.	291	N.D.	37	364	N.D.	N.D.
Thee's Dairy	Max.	-	-	-	-	-	-
	Min.	-	-	-	-	-	-
Tompkins County	Sample No.	4	4	4	4	4	4
Ithaca	Avg.	21	N.D.	25	111	N.D.	N.D.
Cornell University	Max.	85	N.D.	99	444	9	N.D.
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Westchester County	Sample No.	4	4	4	4	4	4
Peekskill	Avg.	107	26	50	188	18	N.D.
Camp Field Filter	Max.	427	102	199	753	59	N.D.
Plant	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.

Radioactivity Levels in Milk

Result in pCi/liter

Station - Location		I-131	Cs-137	ZrNb-95	BaLa-140	Sr-89	Sr-90	Tritium
Albany County	Sample No.	100	98	93	93	14	19	17
Albany Normanskill Dairy	Avg.	N.D.	N.D.	N.D.	N.D.	N.D.	5.8	1512
	Max.	7	49	N.D.	N.D.	7.5	15.7	2820
	Min.	N.D.	N.D.	N.D.	N.D.	7.5	3.5	1150
Cattaraugus County	Sample No.	2	2	2	2	-	-	2
Ashford Site 12	Avg.	N.D.	24	N.D.	N.D.	-	-	N.D.
	Max.	N.D.	30	N.D.	N.D.	-	-	N.D.
	Min.	N.D.	N.D.	N.D.	N.D.	-	-	N.D.
Ashford Site 14	Sample No.	21	21	9	9	4	8	6
	Avg.	N.D.	25	N.D.	N.D.	N.D.	12	1970
	Max.	N.D.	47	N.D.	N.D.	N.D.	16	3300
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ashford Site 31	Sample No.	15	15	6	6	2	8	3
	Avg.	N.D.	27	N.D.	N.D.	N.D.	11	2270
	Max.	N.D.	56	N.D.	N.D.	N.D.	18	6800
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	6	N.D.
Ashford Site 43	Sample No.	18	14	6	6	2	10	5
	Avg.	N.D.	23	N.D.	N.D.	N.D.	19	1554
	Max.	5	31	N.D.	N.D.	N.D.	26	3660
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Ashford Site 44	Sample No.	1	1	1	1	-	-	1
	Avg.	N.D.	N.D.	N.D.	N.D.	-	-	1190
	Max.	-	-	-	-	-	-	-
	Min.	-	-	-	-	-	-	-
Ashford Site 45	Sample No.	19	18	8	8	4	9	5
	Avg.	N.D.	29	N.D.	N.D.	N.D.	13	N.D.
	Max.	6	49	N.D.	N.D.	N.D.	17	1810
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	7	N.D.

(Con't)

Radioactivity Levels in Milk (Con't)

Result in pCi/liter

Station - Location		I-131	Cs-137	ZrNb-95	BaLa-140	Sr-89	Sr-90	Tritium
Ashford	Sample	18	17	7	7	2	10	8
Site 46	No.							
	Avg.	N.D.	25	N.D.	N.D.	N.D.	13	1375
	Max.	8	62	N.D.	N.D.	N.D.	23	2880
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	10	N.D.
Ashford	Sample	1	1	1	1	-	-	1
Site 66	No.							
	Avg.	N.D.	25	N.D.	N.D.	-	-	2010
	Max.	-	-	-	-	-	-	-
	Min.	-	-	-	-	-	-	-
Ashford	Sample	18	17	6	6	4	11	5
Site 68	No.							
	Avg.	N.D.	21	N.D.	N.D.	3	12	1800
	Max.	7	35	N.D.	N.D.	7	20	3240
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
East Otto	Sample	19	17	6	6	3	11	9
Site 02	No.							
	Avg.	N.D.	N.D.	N.D.	N.D.	N.D.	11	1900
	Max.	6	35	N.D.	N.D.	6	16	3240
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	5	N.D.
Machias	Sample	19	18	7	7	2	11	8
Site 47	No.							
	Avg.	N.D.	26	N.D.	N.D.	N.D.	14	1425
	Max.	10	56	N.D.	N.D.	N.D.	19	2820
	Min.	N.D.	14	N.D.	N.D.	N.D.	9	N.D.
Yorkshire	Sample	16	15	5	5	3	11	7
Site 13	No.							
	Avg.	N.D.	20	N.D.	N.D.	N.D.	12	1430
	Max.	9	36	N.D.	N.D.	N.D.	14	1980
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	9	1000
Erie County	Sample	20	18	17	17	17	22	-
	No.							
Buffalo	Avg.	N.D.	N.D.	N.D.	N.D.	6.0	6.0	-
Sterling Amherst	Max.	N.D.	26	N.D.	N.D.	9.0	10.0	-
Farm Dairy	Min.	N.D.	N.D.	N.D.	N.D.	4.0	4.0	-

(Con't)

Radioactivity Levels in Milk (Con't)

Result in pCi/liter

Station - Location		I-131	Cs-137	ZrNb-95	BaLa-140	Sr-89	Sr-90	Tritium
Concord Site 49	Sample No.	18	17	7	7	4	8	9
	Avg.	N.D.	27	N.D.	N.D.	N.D.	14	2140
	Max.	6	52	N.D.	152	N.D.	29	3350
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	8	N.D.
Concord Site 50	Sample No.	18	17	6	6	4	10	5
	Avg.	N.D.	26	N.D.	N.D.	N.D.	14	2740
	Max.	N.D.	65	N.D.	N.D.	N.D.	29	3190
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	2350
Concord Site 51	Sample No.	19	18	8	8	3	9	5
	Avg.	N.D.	N.D.	N.D.	N.D.	N.D.	22	2136
	Max.	7	42	N.D.	N.D.	4	50	3050
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Sardinia Site 48	Sample No.	19	19	7	7	4	10	8
	Avg.	N.D.	22	N.D.	N.D.	N.D.	6	1932
	Max.	14	38	N.D.	N.D.	N.D.	11	6010
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Nassau County	Sample No.	6	6	5	5	2	3	-
Oyster Bay Armstrong Dairy	Avg.	N.D.	22	N.D.	N.D.	N.D.	7.2	-
	Max.	N.D.	28	N.D.	N.D.	N.D.	7.3	-
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	7.1	-
New York City	Sample No.	22	22	18	18	18	22	-
All Five Boroughs	Avg.	N.D.	N.D.	N.D.	N.D.	7.0	9.3	-
	Max.	N.D.	33	N.D.	N.D.	9.0	14.9	-
	Min.	N.D.	N.D.	N.D.	N.D.	3.0	4.0	-
Onondaga County	Sample No.	9	9	9	9	9	9	-
Geddes Marble Farm Dairy	Avg.	6	N.D.	N.D.	N.D.	N.D.	6.3	-
	Max.	6	23	N.D.	N.D.	N.D.	10.5	-
	Min.	6	N.D.	N.D.	N.D.	N.D.	4.8	-

(Con't)

Radioactivity Levels in Milk (Con't)

Result in pCi/liter

Station - Location		I-131	Cs-137	ZrNb-95	BaLa-140	Sr-89	Sr-90	Tritium
Orange County	Sample No.	17	17	16	16	16	18	-
Newburgh Crowley's Milk Company	Avg.	N.D.	21	N.D.	N.D.	N.D.	8.5	-
	Max.	6	37	N.D.	N.D.	10.3	13.4	-
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	5.3	-
St. Lawrence County	Sample No.	10	10	8	8	8	9	-
Massena Homestead Dairies	Avg.	N.D.	31	N.D.	N.D.	N.D.	9.3	-
	Max.	N.D.	51	N.D.	N.D.	7	14.7	-
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	6.7	-
Suffolk County	Sample No.	3	3	3	3	-	-	-
Brookhaven (Center Moriches) Thee's Dairy	Avg.	N.D.	38	N.D.	N.D.	-	-	-
	Max.	7	60	N.D.	N.D.	-	-	-
	Min.	N.D.	N.D.	N.D.	N.D.	-	-	-
Yaplank County Farm	Sample No.	3	3	3	3	3	3	-
	Avg.	N.D.	N.D.	N.D.	N.D.	N.D.	7.7	-
	Max.	10	N.D.	N.D.	N.D.	N.D.	9.6	-
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	5.2	-
Mt. Sinai Randall Farm	Sample No.	2	2	2	2	-	-	-
	Avg.	N.D.	25	N.D.	N.D.	-	-	-
	Max.	N.D.	35	N.D.	N.D.	-	-	-
	Min.	N.D.	N.D.	N.D.	N.D.	-	-	-
Westchester County	Sample No.	4	3	-	3	2	2	-
Mt. Pleasant Grasslands Farm	Avg.	N.D.	20	-	N.D.	N.D.	5.1	-
	Max.	N.D.	23	-	N.D.	N.D.	6.6	-
	Min.	N.D.	N.D.	-	N.D.	N.D.	3.6	-
Yorktown Hanover Hill Farm	Sample No.	4	4	4	4	3	3	-
	Avg.	N.D.	N.D.	N.D.	N.D.	N.D.	6.8	-
	Max.	9	31	N.D.	N.D.	N.D.	8.8	-
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	5.0	-

Radioactivity Levels in Water

Result in pCi/liter

Station - Location		Cs-137	ZrNb-95	BaLa-140	Sr-89	Sr-90	Gross Beta	Tritium
Albany County	Sample No.	2	2	2	1	2	4	6
Albany State Health Dept. Laboratory	Avg.	N.D.	N.D.	N.D.	N.D.	N.D.	3	2186
	Max.	N.D.	N.D.	N.D.	-	N.D.	4	3800
	Min.	N.D.	N.D.	N.D.	-	N.D.	2	1000
Cohoes (Filtration plant) Mohawk River	Sample No.	6	6	6	6	6	5	2
	Avg.	N.D.	N.D.	N.D.	N.D.	N.D.	4	1570
	Max.	N.D.	N.D.	N.D.	N.D.	N.D.	6	2020
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	3	1120
Cohoes (Raw Surface) Mohawk River	Sample No.	4	4	4	-	-	25	24
	Avg.	N.D.	N.D.	N.D.	-	-	4	2828
	Max.	N.D.	N.D.	N.D.	-	-	25	7200
	Min.	N.D.	N.D.	N.D.	-	-	2	N.D.
Glenmont Hudson River	Sample No.	7	7	7	-	-	38	-
	Avg.	N.D.	N.D.	N.D.	-	-	5	-
	Max.	N.D.	N.D.	N.D.	-	-	19	-
	Min.	N.D.	N.D.	N.D.	-	-	N.D.	-
Watervliet French Mills Reservoir	Sample No.	5	5	5	1	1	4	-
	Avg.	N.D.	N.D.	N.D.	N.D.	N.D.	4	-
	Max.	N.D.	N.D.	N.D.	-	-	5	-
	Min.	N.D.	N.D.	N.D.	-	-	4	-
Cattaraugus County	Sample No.	8	2	2	2	6	7	7
Ashford Buttermilk Creek at Fox Valley Bridge Site 04	Avg.	N.D.	N.D.	N.D.	N.D.	N.D.	6	1570
	Max	N.D.	N.D.	N.D.	N.D.	N.D.	13	2900
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	3	N.D.
Ashford Cattaraugus Creek at Bigelow Bridge Site 07	Sample No.	17	12	12	4	11	10	11
	Avg.	N.D.	N.D.	N.D.	N.D.	N.D.	5	1860
	Max.	50	N.D.	N.D.	N.D.	8	10	4500
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	2	N.D.

(Con't)

Radioactivity Levels in Water (Con't)

Result in pCi/liter

Station - Location		Cs-137	ZrNb-95	BaLa-140	Sr-89	Sr-90	Gross Beta	Tritium
Ashford	Sample No.	23	2	2	4	28	42	37
Buttermilk Creek at Thomas Corners Rd. Site 35	Avg.	112	N.D.	N.D.	14	325	970	320,430
	Max.	506	N.D.	N.D.	51	1305	4668	1,452,000
	Min.	N.D.	N.D.	N.D.	N.D.	17	66	3,050
Dutchess County	Sample No.	1	1	1	-	-	8	-
Pawling	Avg.	N.D.	N.D.	N.D.	-	-	3	-
United Nuclear Corporation	Max.	-	-	-	-	-	5	-
	Min.	-	-	-	-	-	2	-
Erie County	Sample No.	3	3	3	-	-	3	-
Akron	Avg.	N.D.	N.D.	N.D.	-	-	7	-
Murdia Creek	Max.	N.D.	N.D.	N.D.	-	-	8	-
	Min.	N.D.	N.D.	N.D.	-	-	6	-
Brant	Sample No.	-	-	-	-	-	36	36
Cattaraugus Creek at Irving Bridge Site 65	Avg.	-	-	-	-	-	51	24,710
	Max.	-	-	-	-	-	112	82,670
	Min.	-	-	-	-	-	10	1,560
Collins	Sample No.	-	-	-	-	-	40	39
Cattaraugus Creek at Gowanda Site 60	Avg.	-	-	-	-	-	52	21,510
	Max.	-	-	-	-	-	157	100,950
	Min.	-	-	-	-	-	7	N.D.
Concord	Sample No.	40	39	38	12	18	233	123
Cattaraugus Creek at Springville Power Dam Site 42	Avg.	N.D.	N.D.	N.D.	N.D.	24	95	30,730
	Max.	77	121	444	17	53	315	183,170
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	8	1,700
Jefferson County	Sample No.	-	-	-	-	1	1	-
Cape Vincent	Avg.	-	-	-	-	3	3	-
St. Lawrence River	Max.	-	-	-	-	-	-	-
	Min.	-	-	-	-	-	-	-

(Con't)

Radioactivity Levels in Water (Con't)

Result in pCi/liter

Station - Location		Cs-137	ZrNb-95	BaLa-140	Sr-89	Sr-90	Gross Beta	Tritium
Watertown	Sample	2	2	2	-	1	20	-
Black River	No.							
	Avg.	N.D.	N.D.	N.D.	-	N.D.	4	-
	Max.	N.D.	N.D.	N.D.	-	-	13	-
	Min.	N.D.	N.D.	N.D.	-	-	N.D.	-
New York City	Sample	3	3	3	3	3	9	-
	No.							
Public Water Supply	Avg.	N.D.	N.D.	N.D.	N.D.	N.D.	3	-
	Max.	N.D.	N.D.	N.D.	N.D.	N.D.	5	-
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	1	-
Niagara County	Sample	2	2	2	-	-	8	-
	No.							
Niagara Falls	Avg.	N.D.	N.D.	N.D.	-	-	4	-
West Branch	Max.	N.D.	N.D.	N.D.	-	-	6	-
Site 1	Min.	N.D.	N.D.	N.D.	-	-	N.D.	-
Niagara Falls	Sample	2	2	2	-	-	3	-
East Branch	No.							
Site 2	Avg.	N.D.	N.D.	N.D.	-	-	4	-
	Max.	N.D.	N.D.	N.D.	-	-	4	-
	Min.	N.D.	N.D.	N.D.	-	-	4	-
Oneida County	Sample	3	3	3	-	-	3	-
	No.							
Rome	Avg.	N.D.	N.D.	N.D.	-	-	3	-
Fish Creek	Max.	N.D.	N.D.	N.D.	-	-	4	-
	Min.	N.D.	N.D.	N.D.	-	-	3	-
Ontario County	Sample	4	4	4	4	6	6	-
	No.							
Geneva	Avg.	N.D.	N.D.	N.D.	N.D.	N.D.	4	-
Seneca Lake	Max.	N.D.	N.D.	N.D.	N.D.	N.D.	4	-
	Min.	N.D.	N.D.	N.D.	N.D.	N.D.	3	-
Geneva	Sample	-	-	-	-	-	3	-
Raw Water Taps at	No.							
Geneva Pumping	Avg.	-	-	-	-	-	2	-
Station	Max.	-	-	-	-	-	4	
	Min.	-	-	-	-	-	N.D.	

(Con't)

Radioactivity Levels in Water (Con't)

Result in pCi/liter

Station - Location		Cs-137	ZrNb-95	BaLa-140	Sr-89	Sr-90	Gross Beta	Tritium
Orange County	Sample No.	2	2	2	-	-	2	-
Highland Falls Big Meadow Brook	Avg.	N.D.	N.D.	N.D.	-	-	4	-
	Max.	N.D.	N.D.	N.D.	-	-	4	-
	Min.	N.D.	N.D.	N.D.	-	-	3	-
Tuxedo Indian Kill	Sample No.	2	2	2	-	-	9	-
	Avg.	N.D.	N.D.	N.D.	-	-	4	-
	Max.	N.D.	N.D.	N.D.	-	-	5	-
	Min.	N.D.	N.D.	N.D.	-	-	2	-
Oswego County	Sample No.	-	-	-	-	-	4	-
Oswego City Hall Tap	Avg.	-	-	-	-	-	2	-
	Max.	-	-	-	-	-	4	-
	Min.	-	-	-	-	-	N.D.	-
Oswego Lake Ontario	Sample No.	3	3	3	-	2	5	-
	Avg.	N.D.	N.D.	N.D.	-	N.D.	3	-
	Max.	N.D.	N.D.	N.D.	-	N.D.	4	-
	Min.	N.D.	N.D.	N.D.	-	N.D.	N.D.	-
Oswego Oswego River	Sample No.	-	-	-	-	1	1	-
	Avg.	-	-	-	-	N.D.	4	-
	Max.	-	-	-	-	-	-	-
	Min.	-	-	-	-	-	-	-
Saratoga County	Sample No.	-	-	-	-	2	2	-
Waterford Waterford Water works	Avg.	-	-	-	-	N.D.	1	-
	Max.	-	-	-	-	N.D.	2	-
	Min.	-	-	-	-	N.D.	N.D.	-
Schenectady County	Sample No.	12	12	12	-	-	40	-
Schenectady General Electric Co. (Mohawk River)	Avg.	N.D.	N.D.	N.D.	-	-	3	-
	Max.	N.D.	N.D.	N.D.	-	-	6	-
	Min.	N.D.	N.D.	N.D.	-	-	N.D.	-

(Con't)

Radioactivity Levels in Water (Con't)

Result in pCi/liter

Station - Location		Cs-137	ZrNb-95	BaLa-140	Sr-89	Sr-90	Gross Beta	Tritium
Tompkins County	Sample No.	-	-	-	-	-	1	-
Lansing Drilled Well No. 1	Avg.	-	-	-	-	-	2	-
	Max.	-	-	-	-	-	-	-
	Min.	-	-	-	-	-	-	-
R. K. Shively Drilled Well No. 2	Sample No.	-	-	-	-	-	1	-
	Avg.	-	-	-	-	-	N.D.	-
	Max.	-	-	-	-	-	-	-
	Min.	-	-	-	-	-	-	-
Tracy Tobey Drilled Well No. 4	Sample No.	-	-	-	-	-	1	-
	Avg.	-	-	-	-	-	1	-
	Max.	-	-	-	-	-	-	-
	Min.	-	-	-	-	-	-	-
G. E. Drilled Well No. 5	Sample No.	-	-	-	-	-	1	-
	Avg.	-	-	-	-	-	1	-
	Max.	-	-	-	-	-	-	-
	Min.	-	-	-	-	-	-	-
LaBarge Dug Well No. 7	Sample No.	-	-	-	-	-	1	-
	Avg.	-	-	-	-	-	N.D.	-
	Max.	-	-	-	-	-	-	-
	Min.	-	-	-	-	-	-	-
Kohr's Well No. 13	Sample No.	-	-	-	-	-	1	-
	Avg.	-	-	-	-	-	2	-
	Max.	-	-	-	-	-	-	-
	Min.	-	-	-	-	-	-	-
Westchester County	Sample No.	3	3	3	-	-	9	-
Peekskill Camp Field Filter Plant	Avg.	N.D.	N.D.	N.D.	-	-	3	-
	Max.	N.D.	N.D.	N.D.	-	-	8	-
	Min.	N.D.	N.D.	N.D.	-	-	N.D.	-

(Con't)

Radioactivity Levels in Water (Con't)

Result in pCi/liter

Station - Location		Cs-137	ZrNb-95	BaLa-140	Sr-89	Sr-90	Gross Beta	Tritium
Hudson River at Standard Brands	Sample No.	8	8	8	-	-	44	-
	Avg.	N.D.	N.D.	N.D.	-	-	11	-
	Max.	N.D.	N.D.	N.D.	-	-	31	-
	Min.	N.D.	N.D.	N.D.	-	-	N.D.	-
Ossining Indian Brook Reservoir	Sample No.	7	7	7	-	-	10	-
	Avg.	N.D.	N.D.	N.D.	-	-	4	-
	Max.	N.D.	N.D.	N.D.	-	-	18	-
	Min.	N.D.	N.D.	N.D.	-	-	3	-
Hudson River at Sing Sing	Sample No.	10	8	8	-	-	45	-
	Avg.	N.D.	N.D.	N.D.	-	-	21	-
	Max.	N.D.	N.D.	N.D.	-	-	50	-
	Min.	N.D.	N.D.	N.D.	-	-	N.D.	-
Yorktown Croton Reservoir	Sample No.	2	2	2	-	-	7	-
	Avg.	N.D.	N.D.	N.D.	-	-	4	-
	Max.	N.D.	N.D.	N.D.	-	-	7	-
	Min.	N.D.	N.D.	N.D.	-	-	2	-

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