

LICENSEE EVENT REPORT

CONTROL BLOCK: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

(PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

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CONT

0 1 REPORT SOURCE L 6 0 5 0 0 0 3 3 3 7 1 2 1 1 8 0 8 1 2 2 3 8 0 9
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES 10

0 2 During normal operation, as a result of Environmental
0 3 Radiological Monitoring, radioactive I-131 was detected
0 4 in milk. The source of I-131 is believed to be the result
0 5 of an atmospheric nuclear weapons test conducted on 10/16/80
0 6 by the People's Republic of China. I-131 concentrations were
0 7 well below action levels. No significant hazard existed. See
0 8 attachment for details.
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 800 9 SYSTEM CODE Z Z 11 CAUSE CODE X 12 CAUSE SUBCODE Z 13 COMPONENT CODE Z Z Z Z Z Z 14 COMP SUBCODE Z 15 VALVE SUBCODE Z 16
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
17 LER NO REPORT NUMBER 8 0 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
ACTION TAKEN FUTURE ACTION EFFECT ON PLANT SHUTDOWN METHOD HOURS ATTACHMENT SUBMITTED NPD-4 FORM SUB PRIME COMP. SUPPLIER COMPONENT MANUFACTURER
X 18 X 19 Z 20 Z 21 0 0 0 0 22 Y 23 N 24 Z 25 Z 9 9 9 9 26
33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS 27

1 0 Additional samples were collected. See
1 1 attachment for details.
1 2
1 3
1 4
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 801 5 FACILITY STATUS E 28 % POWER 1 0 0 29 OTHER STATUS NA 30 METHOD OF DISCOVERY B 31 DISCOVERY DESCRIPTION SURVEILLANCE 32
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
1 6 ACTIVITY CONTENT RELEASED OF RELEASE Z 33 Z 34 AMOUNT OF ACTIVITY NA 35 LOCATION OF RELEASE NA 36
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
1 7 PERSONNEL EXPOSURES NUMBER 0 0 0 37 TYPE Z 38 DESCRIPTION NA 39
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
1 8 PERSONNEL INJURIES NUMBER 0 0 0 40 DESCRIPTION NA 41
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
1 9 LOSS OF OR DAMAGE TO FACILITY TYPE Z 42 DESCRIPTION NA 43
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
2 0 PUBLICITY ISSUED N 44 DESCRIPTION NA 45
7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

NRC USE ONLY

NA 8012800 638

POWER AUTHORITY OF THE STATE OF NEW YORK
JAMES A. FITZPATRICK NUCLEAR POWER PLANT

DOCKET NO. 50-333

ATTACHMENT TO LER 80-091/C4T-0

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The following Environmental Radiological Monitoring Sample is an anomalous measurement based on criteria outlined in the James A. FitzPatrick Nuclear Power Plant Technical Specifications, Appendix B Paragraph 5.6.2.b:

Milk Samples, I-131 pCi/l

<u>Sample Location</u> ¹	<u>Sample Dates 1980</u>				
	10/6 *	10/27 **	11/3 *	11/26 **	12/1 *
16	< 0.198	< 0.211	< 0.351	< 0.372	< 0.297
4	< 0.152	< 0.196	0.367±0.16	< 0.258	< 0.272
14	< 0.270	< 0.189	0.335±0.14	< 0.267	< 0.267
25	< 0.211	< 0.343	< 0.732	5.40±0.54	8.8±0.88
12	< 0.206	< 0.227	< 0.280	< 0.295	< 0.251
13 ²	< 0.196	< 0.200	1.41±0.27	< 0.306	< 0.277
(Control)					

* Regular Sample

** Special Sample

¹ See 1979 James A. FitzPatrick Nuclear Power Plant Radiological Environmental Surveillance Report

² Sample location is 18 miles SSW of the site

The New York State Department of Environmental Conservation collected milk samples during this time period. The results of these collections are as follows:

DEC MILK SAMPLES I-131 pCi/l

<u>Location</u> ¹	<u>Sample Dates 1980</u>	
	11/2	11/26
25	10.0±1.0	8.5±1.1

The activity level of I-131 in the 11/26/80 and 12/1/80 sample at location 25 are greater than 10 times the control station value for the same sample period which is the basis for this report.

As noted, positive concentrations of I-131 were detected in the 11/3/80, 11/26/80 and the 12/1/80 samples. In the 11/3/80 samples I-131 was detected in three of the six locations with the control station (13) having the highest concentration with a level of 1.41 pCi/l. In the following weeks (11/26/80, 12/1/80) I-131 was detected at only one farm, location 25. In addition to JAF/NMP samples the NYSDEC also collected milk samples from location 25 on 11/12/80 and 11/25/80 with results of 10.0 pCi/l and 8.5 pCi/l respectively.

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The source of the measured I-131 was from an atmospheric bomb detonated on 10/16/80 by People's Republic of China. The resulting fallout from this detonation was expected to pass over the Eastern United States on 10/21/80. The fact that I-131 was detected in the control sample on 11/3/80 strongly suggests that the expected fallout was the source of the radioactive material detected in recent milk samples. The fact that positive levels of I-131 were detected in the milk samples collected on 11/26/80 and 12/1/80 at sample location 25 (on-site) and not at the other milk sample locations can be contributed to a difference in farming practices. Based on communications with the owners of the farms sampled, it was determined that the dairy herds were taken off pasture on approximately November 1, 1980. The exception was sample location 25. According to the owner, his cow (milk herd is comprised of 1 cow) was left to feed on pasture as long as possible for economic reasons, which was until shortly after December 1, 1980. At the other locations, cows were fed stored feed indoors and were allowed to exercise 3-4 hours per day outside. At these locations there were very small amounts of accessible pasture grass available, therefore, pasture feeding was very limited during the exercise period.

An investigation was undertaken to further evaluate the suspected source of the I-131 in the milk samples. Plant operating parameters, environmental factors, related data and effluent calculations were scrutinized. The results of this investigation further indicated that the I-131 in the milk samples was the direct result of fallout from nuclear weapons test. November 3, 1980 milk samples showed that positive levels were detected at locations southeast and southwest of the site. Meteorological data between 10/26/80 and 11/3/80 was reviewed showing that during this time period winds were from a southerly and northerly direction. Analysis of air radioiodine samples around the site, both on-site and off-site showed no detectable I-131. Further, a review of Mile Point Unit 1 and the James A. FitzPatrick Plant Stack and Vent Effluent Data showed no effluent release rates that could account for the detectable levels found in the milk samples (based on preliminary data generated using the USNRC Regulatory Guide 1.109 Rev. 1) at any of the milk sample locations. A review of meteorological data with respect to the 11/26/80 and 12/1/80 samples for location 25 showed that wind roses with a potential for depositing material from the site effluents existed less than 20% of the time (11/17/80 - 12/1/80).

Two additional factors are important in determining the source of the I-131 in the milk samples. Positive levels of I-131 in milk were detected by three other nuclear power plants located in the northeast. These plants were the Salem Nuclear Power Plant, Peach Bottom Nuclear Power Plant and the Susquehanna Nuclear Power Plant. It should be noted

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that the Susquehanna plant is not yet in commercial operation. The fact I-131 was detected by other utilities in the northeast indicates that there was a wide area of fallout deposition as a direct result of the nuclear weapons test. The final item which indicates the presence of nuclear test fallout is the result of high sensitivity gamma spectral analysis of air particulate samples collected during the milk sample period (on-site 10/27 to 12/1, off-site 10/28 to 12/2). The results of these analyses showed positive identification of the following radionuclides at both the on-site and off-site air monitoring locations (composite samples):

<u>Isotope</u>	<u>Half-Life</u>
Neodymium - 147	11 days
Cerium - 144	284 days
Cerium - 141	32 days
Iodine - 131	8 days
Ruthenium - 103*	39 days
Barium - 140	13 days
Zirconium - 95	64 days
Niobium - 95	4 days
Lanthanum - 140	40 hours

* detected only in the off-site composite

The array of radionuclides identified in the air particulate composites could be considered a "fingerprint" of nuclear atmospheric test fallout, as all these nuclides are fission products with relatively short half-lives and are not routinely identified in plant effluents. The presence of these "fallout" nuclides add additional support to the observation that the source of the Iodine-131 in recent JAF/NMP milk sample is a direct result of atmospheric fallout from a nuclear device detonated on 10/16/80 by the People's Republic of China.

As a corrective action, additional milk samples were collected on 12/12/80 and 12/15/80. Preliminary results for the 12/12/80 samples indicate that 11 results are less than the lower levels of detection (<LLD) for I-131. Results for the 12/15/80 samples are not yet available.