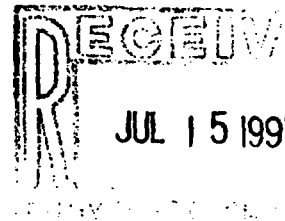


James A. FitzPatrick
Nuclear Power Plant
P.O. Box 41
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**New York Power
Authority**



July 11, 1991
JPI-91-079

Linda Downing
State University of New York
Research Center
319 Piez Hall
Oswego, NY 13126

Dear Linda:

I finally determined why the attached comments you requested concerning your "Nine Mile Point Nuclear Surveillance Program -- A Summary" didn't get out sooner. Barrie Gorman and I thought the other person sent them out. Once again I regret the delay.

The cover sheet of the comments reflects the technical staff who reviewed your summary. Their collective comments were collated by Barrie and put to paper. The comments are being provided by them for the purpose of improving the technical accuracy and objectivity of the report.

If you would like any clarification or additional input, please call me at 349-6681 and I will arrange for it.

Sincerely,

Elwood J. Berzins
Manager of Communications

EJB:jaa

Att

The following represents the typed response of Mr. James Kottan of the Nuclear Regulatory Commission, received on June 5 1991, to the original draft document. Kottan's responses were hand written on the original draft mailed to him at the NRC office in King of Prussia, Pennsylvania. The original draft was then mailed back to the Research Center at SUNY Oswego. Mr. Kottan's responses were typed to facilitate reading. Some comments made by Kottan of the NRC were not included in the following as these were grammatical or spelling errors; some of these comments and/or recommendations have been used in the finalized document and are bold printed with the initials NRC enclosed in parenthesis after the comment and/or recommendation. Care was taken to ensure comments of James Kottan of the NRC were acknowledged with the correct heading, page number, a paragraph or recommendation. Some of Kottan's comments were not be in complete sentences but to insure integrity, these comments and/or recommendations were typed as written.

ABSTRACT

Kottan first response was, "Data alone can't be used to assess the monitoring protocols."

INTRODUCTION

Page 1, Paragraph 2: The reference of the critical zone "is not NRC terminology and is not used in environmental monitoring program requirements."

METHODS

Page 4, Paragraph 3: In reference to the total n (number) as it appears in the document, "It isn't clear from the data whether n is the total number of samples or the total number of positive results."

Air Particulates

Page 5, Paragraph 1: In reference to the sites being sampled annually, Kottan responded with, "This is misleading since the licensee is required to sample continuously at each station and to analyze the samples weekly."

Page 5, Paragraph 2: In reference to only one DOH (Department of Health air particulate sampling location, "Note that this station is calculated with the licensee's and its purpose is to provide a quality check of the licensee's sampling and monitoring capability."

Milk

Page 7, Paragraph 1: In reference to TS requirement for milk sampling sites with the highest D/Q value, "Note: the TS are only applicable to the utilities and not to DEC or DOH."

Thermoluminescent Dosimeters

Page 9, Paragraph 1: In reference to the four NYSDOH TLD monitors first installed in 1983 and the recent more distant relocation of three of these sites from point sources, "Note; NRC TLD network has been in place at this site for about 11 years. NRC has ~ 20 locations within 10 miles and several upwind controls."

Fish

Page 10, Paragraph 1: In reference to reported nuclide concentrations varying by more than an order of magnitude. "Type of fish and portion analyzed (e.g., edible portions or bone) make a significant difference."

DISCUSSION OF NINE MILE POINT SAMPLING PROTOCOLS

Page 12, Paragraph 1: In reference to Kottan's overall review of the report. "Note: while the paper indicates that it is a review of the utility and NYS data, only NYS data have been reviewed in the tables. NYS program is meant to be a quality control of the utilities program and therefore limited in scope. The utilities have the responsibility for monitoring and because of the layer scope should provide a better assessment of the overall environmental situation."

Page 12, Number 1: In reference to one air sampler as not sufficiently sampling the NMP area, "NYS is quality assessment (Q/A) only." In reference to the monitoring of the noble gases, "Noble gas exposure is monitored via TLD's."

Page 12, Number 2: In reference to inconsistency of milk sampling sites. "NYS report under agreement with NRC provides comparison of NYS utility measurements."

Page 12, Number 3: In reference to control site contamination, "NYS has Q/A program, both NRC and licensees cover area."

Page 13, Number 5: In reference to monitoring of fish bones and/or selected organs, "Purpose of environmental monitoring? Usually major portion is assessment of dose to man, therefore, monitor edible portions. Bone etc, can be used as indicators of nuclides, but not in exposure assessments."

RECOMMENDATIONS FOR SAMPLING PROTOCOLS

Air Particulates

Page 13, Recommendation 1: In reference to only one NYSDOH air particulate sampling site, "See Previous comments on purpose of NYS program."

Page 13, Recommendation 2: In reference to meteorological conditions prior to and during sampling, "These effects are fairly well averaged over the year and by all stations. Analysis of such data would be very effort-intensive."

Page 14, Recommendation 1: In reference to the meteorological D/Q value of a site and subsequently publishing this information, "This varies continuously with meteorology conditions."

Page 14, Recommendation 3: In reference to monitoring the open Lake Ontario area north of NMP with buoys from spring to fall, "What do you propose for power for the stations?" "Who is getting exposed there?" "How often?"

Page 14, Recommendation 4: In reference to beryllium 7 varying by one order of magnitude in NYSDOH reports, "Agree! Not a plant produced nuclide."

Page 14, Recommendation 5: In reference to monitoring the noble gases from nuclear plants, "Major reason for the TLD's."

Milk

Page 14, Recommendation 1: In reference to the inability to compare data results from NYSDOH to those of the NRC or Utilities, "See comment above re: NRC agreement and reporting."

Page 14, Recommendation 2: In reference to the inconsistency or for the continuation of Sr-90 monitoring in milk, "Sr-90 monitoring has been deleted from most TS after years of monitoring because Sr-90 has not been released in sufficient quantities from nuclear plants to provide any significant potential for exposure to man."

Page 14, Recommendation 3: In reference to the variations of an order of magnitude in data, "Without stated uncertainties the values are meaningless. Were the values listed all above the MLD (minimum detectable level)?"

Water

Page 15, Recommendation 1: In reference to the leaking vents or purging of the nuclear plants, Kottan refers to these as, "air not water pathways."

Page 15, Recommendation 5: In reference to monitoring water at recreational beaches which are frequently used in the summer, "Levels of activity, if not seen in the near-field locations will not likely be seen farther away."

Page 15, Water, Recommendation 6: In reference to monitoring plutonium in the water, "Effluents are monitored for these releases."

Thermoluminescent Dosimeters (TLD)

Page 15, Recommendation 1: In reference to the TLD sites not considering the seasonal variation of wind directions, "See previous comment re: Q/A purpose of NYS program."

Page 16, Recommendation 5: In reference to control sites which should be beyond the fifty mile radius, "Note: NYS has TLD's at Ginna site in Rochester, NY, at Peakskill, NY (Indian Point), and Tuxedo NY, as well as Albany!"

Sediment

Page 16, Recommendation 1: In reference to the recommendation that sediment traps be used for sediment sampling, "Review purpose of program and nexus to rad. assessment."

Page 16, Recommendation 2: In reference to the large variations of radionuclides, "Agree."

Page 16, Recommendation 3: In reference to the core sediment sampling and analysis of the deep water area, the question "Why?" is asked.

Fish

Page 17, Recommendation 4: In reference to Lake Ontario Samonoids and other migratory species as inadequate indicators of bioaccumulation of radionuclides, "They are however, highly representative of human food pathway!"

Page 17, Recommendation 5: In reference to benthic organisms, especially Zebra mussels, as bioaccumulators of radionuclides, "Again consider purpose of monitoring program."

Page 17, Recommendation 6: In reference to Oswego Harbor as inadequate as a control location, the question "Where?" is asked.

Page 18, Recommendation 7: In reference to monitoring bone and select organs of fish, "These exposures will not add to human exposure pathway."

Vegetation

Page 18, Recommendation 1: In reference to the inconsistency in sampling sites and to the impossibility of comparing data from various monitoring programs, "See comment re: NYS reports."

Page 18, Recommendation 2: In reference to the lack of specific location for vegetation site identification and to the recommendation that additional sampling sites be added, "Q/A program."

Page 18, Recommendation 3: In reference to the preferential cabbage and tomato monitoring by the NYSDOH, "Green leafy vegetation is usually selected because of large surface areas for deposition. Root uptake is usually much less of dose significance. Both tomatoes and cabbage have small surface to volume ratios."

Page 18, Recommendation 5: In reference to venison monitoring, "Sometimes done."

Accessibility of Information

Page 18, Recommendation 5: In reference to the inclusion of meteorological D/Q values with the sampling sites monitored and published in the annual reports, "changes with met. condition, i.e., continuously."

Page 19, Recommendation 6: In reference to the recommendation of tabulating and reporting the minimum detection levels of radionuclide pCi/kg for air, fallout, water and milk, "Note: because of sensitivity changes over the years (instruments, techniques, ect.) data of the 1970's may not be comparable with data of the 1990's."

SUMMARY

Page 20: Kottan's suggestion was to "Use all data including utility and NRC data." rather than just the NYSDOH data as was done with this report.

Table 1

Kottan questioned if the "total n (number) of samples with positive results?" was the data base.

Kottan commented that in "1976 - People's Republic of China weapons testing resulted in much fallout over northern US. As the data are tabulated, one cannot see when maximum values occurred, or if they coincide with releases or testing."

Kottan noted "Period ?", because no dates are noted for the Chernobyl sampling."

Also questioned was "Chernobyl samples included?" with other monitored samples.

Kottan also wondered "What about weapons testing dates?"

Kottan also highlighted "All data in these Tables:

1. Are they positive results?
2. or are they Minimum Detection Levels
(or Lower Limit of Detections)?"