PDR

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

CHAIRMAN

November 1, 1989

The Honorable Louise M. Slaughter
United States House of Representatives
Washington, D.C. 20515

Dear Congresswoman Slaughter:

I am responding to your letter of September 21, 1989, regarding the Nuclear Regulatory Commission's (NRC's) involvement in the 1981 spill of radioactive material at the Nine Mile Point Nuclear Station Unit No. 1. You expressed concern because Niagara Mohawk Power Corporation allowed the condition to persist, uncorrected, since 1981.

The NRC staff became fully alerted to the potential magnitude of the problem on August 21, 1989. As a result of concern about the presence of the material and the length of time it had been allowed to remain in place, the staff dispatched an Augmented Inspection Team (AIT) to the site from August 22 to 28, 1989, to review the situation. The AIT concluded in the enclosed inspection report of October 2, 1989, that Niagara Mohawk had used the 225-foot elevation sub-basement of the radwaste building as a long-term liquid radioactive waste storage facility since July 1981. Niagara Mohawk has initiated efforts to decontaminate the sub-basement and currently anticipates that cleanup activities will be completed by March 1990.

You also expressed concern over NRC's oversight of the spill from 1981 to the present. As is the practice with other facilities, the NRC's Resident Inspector staff and region-based inspectors routinely inspect the facility. However, it is impractical for these inspectors to observe all activities that occur at the site. In general, our resident inspectors spend a considerable portion of their time focusing on site operations and systems which have a direct impact on reactor safety. Since our inspections are directed toward the most safety-significant plant activities and systems on an audited basis, the NRC requires licensees to make timely notification to the NRC of certain events.

From our review of this matter, it has become apparent that, at various times, some members of our inspection staff were aware of the existence of some contamination in the 225-foot elevation sub-basement. However, they were not aware of the magnitude of the problem. Although the condition was an undesirable one, the AIT inspection revealed that the radiological safety impact off site was negligible and worker exposures were within regulatory guidelines. The space was locked and controlled to prevent

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unnecessary exposure to personnel working at the facility. Accordingly, this was not a space that would be routinely visited by our inspectors during their periodic tours of the site. In hindsight, the condition in the sub-basement is something that should have been more vigorously pursued by the NRC.

After evaluating the sub-basement condition, the NRC is considering whether the licensee violated NRC regulations by failing to assess the acceptability and consequences of using the room as a liquid radwaste holding facility, and, if so, what enforcement action is appropriate. We are also concerned that the licensee did not notify the NRC of the situation that existed in the sub-basement.

As a result of the Nine Mile Point incident, the NRC staff surveyed all other U.S. nuclear power facilities to determine if similar conditions existed. Only one other situation was identified and it is currently under review. Because of the isolated nature of this incident and its limited safety significance, NRC does not believe that any changes to current regulatory requirements are necessary; however, we are in the process of reviewing our inspection procedures for appropriate modification. It is my view that our on-site inspectors need to periodically evaluate the utilization of various areas in nuclear power plants to detect changes in use which may not have been properly evaluated by the licensees.

I want to assure you that the Commission is concerned that the condition of the Nine Mile Point radwaste building had been allowed to persist and is considering enforcement action against the licensee. We will send you a copy of any enforcement action taken on this matter.

Sincerely,

Kenneth M. Carr

Kenneth M. Carr

Enclosure:
AIT Inspection Report
50-220/89-80

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PENNSYLVANIA 19406

OCT 0 2 1989

Docket No. 50-220
License No. DPR-63
EA No. 89-179

Niagara Mohawk Power Corporation
ATTN: Mr. Lawrence Burkhardt, III
Executive Vice President
Nuclear Operations
301 Plainfield Road
Syracuse, New York 13212

Gentlemen:

Subject: NRC Region I Augmented Inspection Team (AIT) Inspection (50-220/89-80) of the use of the Radwaste Building sub-basement as a long-term liquid waste retention facility at Nine Mile Point, Unit 1

This letter refers to the August 22-28, 1989, AIT review of the use of the Unit 1 Radwaste Building sub-basement as a long-term liquid waste retention facility. The AIT inspection, led by W. Pasciak of this office, was a fact-finding and safety implication determination effort. At the conclusion of the inspection, an exit interview was held with you and members of your staff to discuss the inspection findings. The AIT report is attached as Enclosure 1.

We are concerned that the sub-basement was used as a liquid radwaste holding facility since July, 1981, without adequate review of the acceptability or consequences of using the room in this manner. We are also concerned that you did not notify the NRC of the flooding of the sub-basement, of the decision to defer decontamination of the sub-basement, or of the costs and extent of the decontamination anticipated. Consistent with the telephone conversation between Mr. James Willis and myself on October 2, 1989, we have arranged an enforcement conference for October 23, 1989, at 11 a.m. in the Region I office. At that enforcement conference, please be prepared to discuss your use of the sub-basement as a long-term liquid radwaste holding facility without conducting an appropriate safety evaluation in accordance with 10 CFR 50.59; and, your failure to notify the NRC in accordance with the reporting requirements of 10 CFR 20.403. At the enforcement conference, you should also be prepared to discuss any corrective actions you have taken or propose to take, and any aggravating or mitigating circumstances of which the NRC should be aware.

Your cooperation with us is appreciated.

Sincerely,

M R Knapp

Malcolm R. Knapp, Director
Division of Radiation Safety
and Safeguards

Enclosure: NRC Region I Augmented Inspection Team Report No. 50-220/89-80

8910120056

cc w/encls:
J. Endries, President
C. Mangan, Senior Vice President
L. Burkhardt, III, Executive Vice President, Nuclear
J. Perry, Vice President Quality Assurance
J. Willis, General Station Superintendent
C. Terry, Vice President Nuclear Engineering and Licensing
J. F. Warden, New York Consumer Protection Branch
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NRC Resident Inspector
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U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-220/89-80

Docket No. 50-220

License No. DPR-63

Licensee: Niagara Mohawk Power Corporation
300 Erie Boulevard West
Syracuse, New York 13202

Facility Name: Nine Mile Point Unit 1

Inspection At: Scriba, New York

Inspection Conducted: August 22-28, 1989

Inspectors: T. Collins, Chief, Sect. A, RSB, NRR — 9/12/89 Date

R. Loesch, Radiation Specialist, RI — 9/11/89 Date

R. Laura, Resident Inspector, Nine Mile Point, RI — 9/12/89 Date

J. Lee, Sr. Health Physicist, NRR — 9/12/89 Date

R. Pederson, Sr. Health Physicist, NRR — 9/12/89 Date

Approved by: W. Pasciak, Team Leader, Facilities Radiation Protection Section, RI — 9/11/89 Date

8910120179

Inspection Summary:

Inspection conducted on August 22-28, 1989 (Inspection Report 89-80)

Scope of Inspection:

Announced Augmented Team Inspection of the circumstances and safety implications of the licensee using the Radwaste Processing Building 225' elevation sub-basement as a long-term liquid radwaste storage facility including review of the history of use of the sub-basement, review of the history of changes of radwaste equipment, identification of present radiological conditions of the room and contents, evaluation of onsite and offsite radiological safety consequences, and review of licensee's past and planned corrective actions.

Results:

The 225' elevation sub-basement of the Radwaste Processing Building has been used by the licensee as a liquid radioactive waste storage holding facility since July, 1981. The licensee's environmental monitoring program was reviewed and found to be adequate. Split sample water analyses indicated no detectable leakage of sub-basement liquid to perimeter drains. The radiological safety impact offsite was negligible and worker exposures were within regulatory guidelines. The licensee has initiated the construction of a robot to be used in the clean-up and decontamination of the 225' elevation sub-basement. Two problems were identified as follows: the licensee (1) did not perform evaluations to assess the acceptability and consequences of using the sub-basement as a liquid radwaste holding facility; and (2) did not notify the NRC of flooding the sub-basement, of the decision to defer decontamination of the sub-basement, or of the costs and extent of decontamination anticipated (Details, Section 4).

Details

1.0 Persons Contacted & Present at Exit

1.1 Niagara Mohawk

* J. Endries, President
* L. Burkhardt, Executive Vice President
* J. Willis, General Superintendent, Nuc. Generation
* K. Dahlberg, Station Superintendent, NMP1
M. Colomb, Nuc. Reg. Compliance Director
* R. Abbott, Station Superintendent, NMP2
* R. Remus, Superintendent, Chemistry & Radiological Management
* H. Master, III, Supervisor Incident Investigation
* W. Bandla, Assistant Operations Supervisor, NMP1
D. White, Compliance & Verification Tech.
* J. Aldrich, Special Assistant to NMP1 Supervisor
* R. Randall, Operations Supervisor, NMP1
* M. Dooley, Regulatory Compliance
W. Hansen, Mgr. of QA Audits
T. Newman, Supv. of QA Surveillance
R. Burtch, Jr., Public Relations
* E. Gordon, Supervisor Radiological Support
* J. Duell, Supervisor Chem. & Radiochemistry
* G. Brownell, Nuclear Regulatory Compliance
* E. Leach, Generation Specialist
* N. Spagnoletti, Manager Corporate Health Physics
* C. Gerber, Supervisor Radwaste
H. Wagner, Assistant Supervisor Radwaste

1.2 U.S. Nuclear Regulatory Commission

* M. Knapp, Director, Division of Radiation Safety and Safeguards, RI
* W. Pasciak, Chief, Facilities Radiation Protection Section, RI
* R. Loesch, Radiation Specialist, RI
* T. Collins, Section Chief, Sect. A, RSB, NRR
R. Pederson, Senior Health Physicist, NRR
* R. Laura, Resident Inspector, Nine Mile Point, RI
J. Lee, Senior Health Physicist, NRR
* B. Cook, Senior Resident Inspector, Nine Mile Point, RI
* R. Temps, Resident Inspector, Nine Mile Point, RI

* Denotes those individuals who attended the exit meeting on August 28, 1989. The inspectors also contacted other licensee personnel.

2.0 Purpose

The purpose of this augmented team inspection was to review and determine the following matters:

- Establish the circumstances under which the sub-basement was initiall flooded in 1981;
- Identify the present condition of the room, including radioactive material inventory, radiation and contamination levels, isotopic contents of the water and air and leakage paths;
- Determine if the room has been used since its initial flooding for further material/water storage and the circumstances associated with any of these uses;
- Assess the radiological impact of use of this room for water storage on plant workers and determine whether an evaluation per 10 CFR 50.59 had been performed to support use of the room for storage;
- Assess the offsite radiological impact of the use of this room for liquid waste storage;
- Assess any radwaste system design or operational inadequacies identified;
- Assess the scope, extent and timeliness of the licensee's corrective actions;
- Determine if NRC was or should have been notified of this situation;
- Determine environmental monitoring adequacy; obtain independent measurements if possible; and,
- Determine if there are other places onsite where radwaste is being stored in an analogous manner.

Enclosure 1 is a copy of the Memorandum from W. Russell to M. Knapp establishing the Augmented Inspection Team and specifying the inspection objectives and scope.

3.0 Background

3.1 Original Facility Design

Nine Mile Point Unit 1 became operational in 1969. As originally designed, the Radwaste Processing Building, located on the east side of the Reactor Building, housed the storage and processing equipment necessary to properly process, package and ship radioactive wastes generated during normal plant operations. Liquid wastes and their related storage tanks were segregated into the following five basic categories:

- Low conductivity waste	Waste Collector Tank
- High conductivity, non-chemical waste	Floor Drain Collector Tank
- High conductivity, chemical waste	Waste Neutralizing Tank
- Filter backwashes	Waste Building Filter Sludge Tank
- Spent resins	Spent Resin Tank

Low conductivity wastes from the Waste Collector Tank were processed through a Waste Collector Filter to remove suspended solids and a Waste Demineralizer to remove dissolved impurities. The final purified water was sent to one of two Waste Sample Tanks to allow for sampling and chemical analysis prior to being added to the Condensate Storage Tank for recycling back to the reactor system.

High conductivity wastes collected in the Floor Drain Collector Tank were filtered by a Floor Drain Filter prior to storage in the Floor Drain Sample Tank. After chemical analysis, the waste liquid was either discharged to the lake or further processed by the chemical waste system.

High conductivity (chemical waste) from the Waste Neutralizing Tank consisted of liquid from the laboratories, decontamination operations and acid and caustic rinses that resulted from the regeneration of resins. Upon neutralization, the waste was sent to the #11 Waste Concentrator which concentrated the liquid through evaporation. Some liquid was evaporated after which it was condensed and recycled to the Waste Collector Tank. The concentrated "evaporator bottoms" were then processed through a Concentrated Waste Tank, a Concentrated Waste Volume Tank, mixed with the appropriate solidification chemicals and placed into 55-gallon drums for eventual shipment to a waste burial site.

When the various filters became exhausted, the filter media were backwashed from the filter columns into the Waste Building Filter Sludge Tank. This slurry was then processed through a centrifuge to remove most of the free liquids. The liquids were routed to the Floor Drain Collector Tank while the resins were transported via a hopper for placement into 55-gallon drums for storage and later shipment offsite.

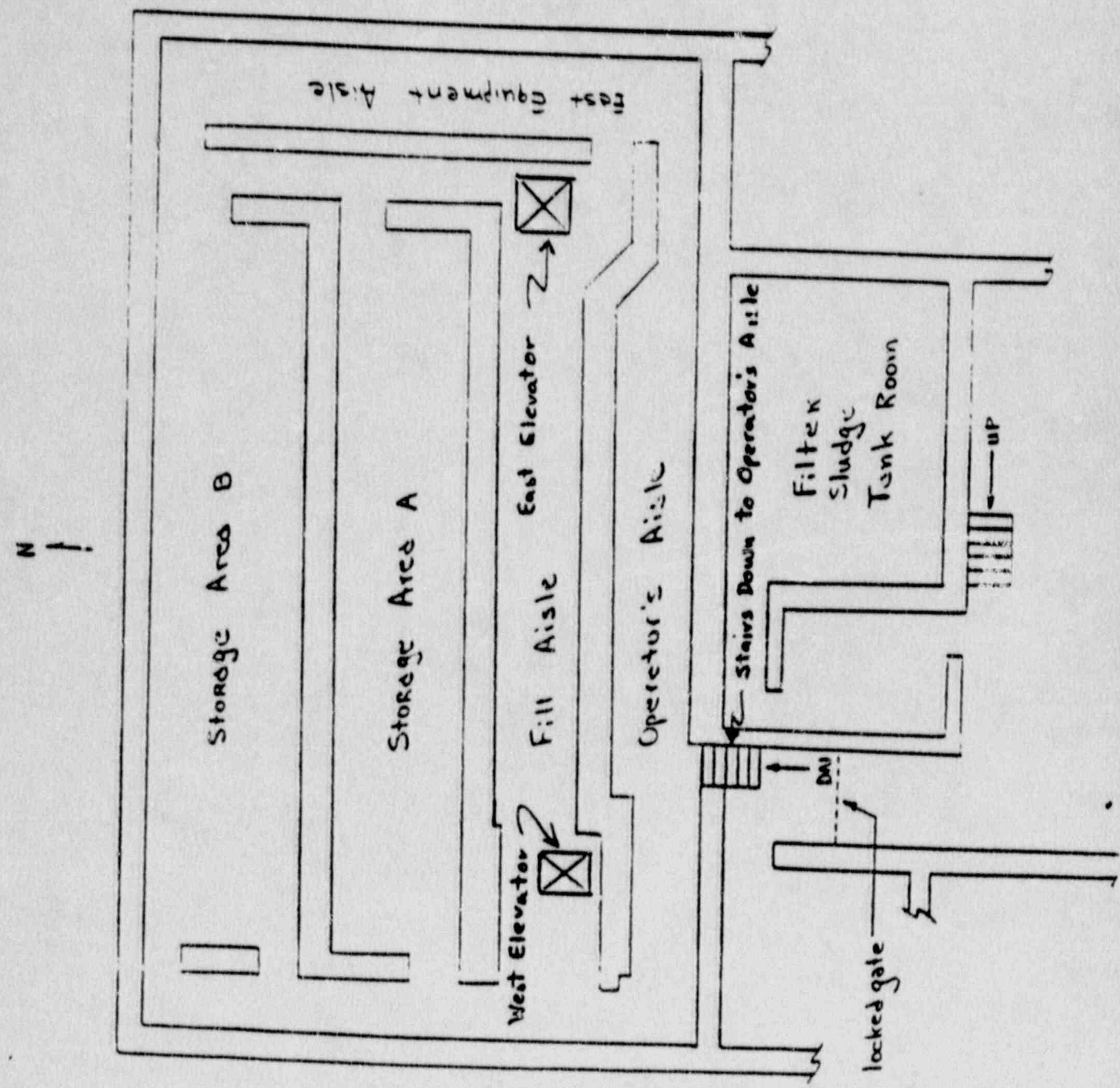
Spent resins from the demineralizers were transferred to the Spent Resin Tank. The spent resins were processed by the same centrifuge mentioned above and were then loaded into drums for ultimate offsite disposal.

The 225' elevation of the Radwaste Processing Building is a sub-basement of approximately 2400 square feet, subdivided by 30" thick shield walls into five working areas: the operator's aisle, the fill aisle, storage areas A and B, and the east equipment aisle (see Figure 1). The room is the lowest point in the radwaste building and contains two floor drain sumps. The #11 sump is located in the east equipment aisle and the #12 sump is located at the west end of the operator's aisle. The sumps were used for the collection of waste from routine washdowns/decontaminations of the processing line. In addition, the sumps received additional inputs from other sources within the radwaste building. Both the floor and the lower portions of the walls were painted with a protective coating to facilitate decontamination of the room. The room was designed to receive processed wastes in the form of dewatered resins and sludges, transfer the waste material into 55-gallon drums, provide temporary storage capability, and to make final transfer to a loading dock for shipment in shielded casks.

During normal operations, empty drums were loaded onto a drum elevator and lowered to the 225' elevation where they were automatically loaded onto carriers which hung from a monorail track. The drums were routed into the fill aisle where a vibrating bed automatically lifted up under the carrier. The vibrating bed facilitated the efficient filling of the drums. Waste from the centrifuge, located on the 261' elevation passed down through a hopper to the 225' elevation and was loaded into drums under control of the radwaste operators working from the operator's aisle. Waste from the waste concentrator stored in the Concentrator Waste Volume Tank was mixed with chemicals in a mixer located on the 236' elevation and was used to fill drums at a different location in the fill aisle. The operator had the capability to remotely cap the drums. However, to facilitate the further drying of the waste product, the drums were routinely left open, and capped only prior to shipment. The filled drums were routed by the monorail conveyor system to storage locations in the A and B storage aisle.

3.2 Operational History

During the first few years of operation (1969-1971), the licensee determined that the as-built liquid handling systems were undersized and would have to be supplemented with additional capacity to adequately handle future demands. Occasionally, when backlogs of unprocessed liquids were experienced, incoming liquids would back up from the two sumps into the sub-basement, resulting in a few inches of waste water on the floor. However, when the backlog was corrected, the 225' elevation would be decontaminated and returned to operation. Due to operational problems being experienced with the centrifuge, a flat-bed filter system was installed in 1972. This unit was essentially a shallow container, the bottom of which was a movable,



Floor Plan
225' Elevation Sub-basement
Radwaste Building

Figure 1

porous belt. Waste was forced through the belt; the liquid exiting from the bottom was recycled. At the appropriate time, the belt would move the filtered waste for transfer through a hopper to 55 gallon drums. Since bead type resins from the Spent Resin Tank would not hold together when dry, they were transferred and dewatered directly in the shipping casks.

After 1973, use of the #11 waste concentrator was curtailed due to operational difficulties. To continue processing operations, an outside vendor was brought in to dewater and/or solidify wastes from the Floor Drain Sample Tank and the Waste Neutralizing Tank. During the 1973-1974 period, an addition was built onto the Radwaste Processing Building. This addition housed a new #12 waste concentrator, a concentrated waste storage tank and supporting equipment and effectively replaced the inoperable #11 waste evaporator which was removed and scrapped in 1976. During the 1977-1979 period, burial site requirements drastically decreased the allowable water content of waste. Therefore, the licensee shifted the dewatering of sludges and resins from the flat-bed filter to predominately in-cask dewatering. After this time, the drum processing area on the 225' elevation sub-basement was not used except for storage of approximately 150 previously filled drums.

3.3 Other Radwaste Storage Areas

During the course of the inspection, the Radwaste Building was toured by the inspectors several times and numerous licensee personnel were questioned regarding the likelihood of there being an analogous location onsite where radwaste may be stored in a manner not consistent with the facility design. No such areas were found by inspectors nor were any identified by the licensee or their staff.

4.0 Summary of the 1981 Flooding Event

The inspectors reviewed operations and waste logs for the period of July 4, 1981, to July 20, 1981, in order to determine the sequence of events leading to the flooding. During the Unit 1 startup on July 5, 1981, higher than normal conductivity was noted in the low conductivity (high purity) waste water process stream (Waste Collector Tank). The higher than normal conductivity in the process stream caused a more rapid depletion of the resins in the waste demineralizer. The licensee therefore began a changeout of the waste demineralizer. The evolution of demineralizer changeout halts low conductivity stream processing. At the same time, this evolution creates large volumes of high conductivity waste because of the resin regeneration and resin transfers involved.

During this period (July 5-7), the #12 waste concentrator in the high conductivity process stream was out of service for extended periods. Since the waste concentrator is the only means for reducing conductivity to a low enough level that the water can be transferred to the low conductivity stream, all high conductivity waste is stored in holdup tanks whenever the waste concentrator is out of service. Therefore, during this period when the demineralizers were being changed out and the waste concentrator was out of service, both the low and high conductivity process streams were unavailable and large amounts of waste water were being generated.

By July 7, all radwaste tanks were full. However, the very process needed to return the low conductivity processing system to operation would also generate additional waste water. In particular, regeneration of the demineralizer was essential for establishing low conductivity stream processing. Since no additional waste storage tanks were available, the licensee elected to overflow the radwaste storage tanks with the intention of using the 225' elevation sub-basement area as a temporary storage area. Apparently, consideration was not given at the time of this decision to the potential impact of room flooding on the drums of solid waste which were stored at that location. Further, the licensee did not perform a safety evaluation of using the sub-basement as a liquid radwaste holding facility under the requirements of 10 CFR 50.59. The overflow in the waste building flooded the sub-basement area to just above the 229' elevation. At the time of the flooding, there were approximately 150, 55 gallon drums in the area, most of which were filled with radioactive waste made up mostly of filter sludges and spent resins. As was discovered in October, 1981, the water floated many of the waste storage barrels off of their carriers, resulting in tipping and spilling of the contents of many into the water. Late on July 7, the waste concentrator was returned to service and processing of the high conductivity stream started. Processing of the high conductivity stream was not successful however, because the transfer point between the high and low conductivity streams is the equipment drain sump located on the flooded 229' level. The flooding at the 229' level allowed flow from the high conductivity to the low conductivity process streams and thus recontaminated the low conductivity processed water. The occurrence of the recontamination problem is further evidence that a safety evaluation had not been performed prior to the flooding event. In order to reestablish separation between the high and low conductivity streams, it was first necessary to reduce the water level to below the 229' elevation. On July 8, the licensee therefore began a controlled discharge of water to Lake Ontario from the 50,000 gallon Waste Surge Tank at a rate of 30 gallons per minute in order to make the surge tank available for storage of the water currently flooding the 225' and 229' elevations. The licensee notified the NRC of this discharge by letter dated October 30, 1981, but did not describe the flooding of the 225' elevation or its consequences (Reference 9.1). By July 10, level recovery in the radwaste tanks had begun. On July 16, decontamination of the 229' elevation was initiated. In August and September, 1981, attempts were made to decontaminate the 225' level. These efforts were discontinued in October, 1981, based upon radiation protection priorities. Decontamination efforts are more fully discussed in Section 7.1.

In October, 1981, after the licensee terminated their initial decontamination effort of the July, 1981, flooding event, it was decided that the sub-basement area would be left flooded at about a depth of one foot until decisions on ultimate clean up were made. A depth of one foot was maintained to help control potential airborne contamination. The inspectors did not find evidence that the NRC had been notified of the decision to defer decontamination of the sub-basement.

5.0 Current Status of Room

The inspector reviewed radiological survey data and analyses performed by the licensee to support three decontamination efforts of the 225' elevation (1981, 1985, and 1986), video tapes recorded during a remote-robotic survey in September 1986, and recent surveys of the area, to determine the radiological conditions of the 225' elevation. These decontamination efforts and surveys are described in detail in Section 7. An exact accounting of the barrels and their contents is difficult due to the loss of the operating log for the system. It is believed that the log book was disposed of as radioactive waste during the 1985 decontamination effort (see Section 7.1). However, based on the licensee's knowledge of the system and review of a status board within the 225' elevation sub-basement, the licensee estimates there are no more than 150 barrels (their best estimate is that there are 130 barrels) of expended powdered filter/ion exchange resin and filter sludge. The video recording by the SURVEYOR robot of the drum storage areas in September, 1986, shows 55-gallon drums in disarray. Many of these drums were off the conveyor system and lying in various orientations. Several drums were lying on their sides without their tops and with their contents spilled out. The practice when the system was in operation was to leave the tops off the drums until just before shipment to promote drying of the contents. The video recording indicated some corrosion had occurred on the drums. The extent of damage to the drums was not clear in the recording. Based on the contact dose rates measured on the drums when they were initially filled, it is believed that the present contact dose rates associated with some of these drums is as high as 500 R/hr. This is the estimated dose rate at the surface of some drums within the shielded walls of the room. Dose rates at the entrance to the locked gate were less than 10 mR/hr. Contamination levels are discussed below.

In November, 1985, an isotopic analysis and a dose rate survey were performed on an accessible barrel in preparation for the 1986 decontamination effort. Based on the results of this analysis (and the assumption of 150 barrels in the area) the licensee's "best estimate" of the total radioactive material in the area is 7570 Curies. Currently, the licensee is maintaining 10 to 18 inches of water on the floor of the 225' elevation to minimize the drying of the resin/sludge material and reduce the potential for radioactive particulates from becoming airborne. During this inspection, the licensee sampled water from the area at the bottom of the stairs leading to the operator's aisle. The isotopic analysis of the sample indicated concentrations of cesium-137, cobalt-60 and manganese-54 of 5E-3 uCi/ml, 3E-4 uCi/ml and 3E-5 uCi/ml, respectively. However, since the majority of the spilled resins are located in the rear of the sub-basement, the sample obtained may not be representative of actual concentrations in the storage aisles. Assuming that the water at the bottom of the stairs is representative of the water throughout the room, these results indicate that less than 4 Curies (less than 0.05 percent of the radioactive material in the area) is dissolved in the water standing on t floor. Samples of the water in the area at the bottom of the stairs leadi to the operator's aisle were also analyzed by the NRC (see Section 6.0) a results were in agreement with those of the licensee.

The inspector reviewed airborne contamination surveys performed during periods of access to the area. These surveys indicated levels from 4-8% the maximum permissible concentration (MPC) of 10 CFR 20 for restricted areas. An airborne survey taken in the operator's aisle during this inspection (August 24, 1989) indicated 4.8% of MPC. In addition to airborn contamination, the licensee also performed an area radiation survey and a removable surface contamination (smear) survey of accessible areas of the 225' elevation and the 229' elevation access. Dose rates just above the surface of the water in the operator's aisle and the fill aisle were measured at up to 200 mR/hr and up to 2500 mR/hr respectively. The dose rates in the operator's aisle were measured by means of an extendable prot survey instrument (teletector) extended from the area of the stairs, and the dose rates in the fill aisle were measured with a teletector extended down the elevator shafts from the floor above. Smear samples on the 229' elevation were measured at up to 94,000 dpm/100 cm^2 on the landing inside the locked access gate, up to 30,000 dpm/100 cm^2 outside the locked acces gate, and up to 450,000 dpm/100 cm^2 on the stairs leading to the 225' elevation. These dose rates and contamination levels are not inconsistent with what would be expected in areas of a radwaste processing building.

6.0 Environmental and Onsite Impacts

The inspector reviewed results of the licensee's Environmental Monitoring Program, plant layout and design, plant system drawings and records of effluent discharges to determine if radioactive material spilled on the 225' elevation area is being or has been inadvertently released to the environment. Possible means of radioactive release from the 225' elevation include release of water to the surrounding ground through some unidentified leakage in the room or a release to the air of any airborne radioactive material from the room. The inspector noted that the 225' elevation was originally designed as an area of high potential for airborne activity. As such, the ventilation was designed so that air from the 225' elevation is taken into the exhaust ventilation system. This air is exhausted through a High Efficiency Particulate Air (HEPA) filter into the plant's stack. An alarming Continuous Air Monitor is provided in the flow path before the HEPA filter. There have been no indications of radioactive materials being released other than what is normally expected by this path. Surveillance of the stack radiation monitors to assure operability is routinely performed in accordance with plant Technical Specifications and reviewed by the NRC during routine transportation and effluent inspections.

As noted in Section 5, air concentration measurements in the room are generally below 10% of MPC.

In reviewing the possible pathways for release of liquid radioactive material from the 225' elevation sub-basement, the inspector noted that the lower levels of the plant are recessed into the bedrock underlying the facility. A drain system has been provided surrounding the plant buildings at the bottom of the back fill area between the plant walls and the bedrock walls. This perimeter drain system consists of a perforated collecting pipe that channels water to a sump. At the exterior of the radwaste building, this piping is at the 225' elevation. Any groundwater flowing into the channel would be collected in the sump and pumped to the plant Storm Drain System. Similarly, any leakage from the Radwaste Building would be collected and pumped into the storm drain. In response to an NRC Information Notice, the licensee has been monitoring the discharge at the storm drain system on a weekly basis since August, 1981. Between June, 1979, and August, 1981, it was monitored on a monthly basis. The results of this monitoring program do not indicate any leakage of radioactive material from the Radwaste Building or any other buildings onsite. The inspector requested that the licensee draw a sample from the perimeter drain sump; however, there was not enough flow in the discharge header with the sump pumps running to get flow out of the sample point at the top of the discharge pipe. The licensee did, however, manage to obtain a water sample and smear samples from the internals of the pump located in the sump by partially disassembling the system. No detectable activity was found, which further indicates no leakage from the 225' elevation sub-basement. It is the conclusion of the inspection team that leakage of radionuclides from the room is negligible.

The inspectors revisited an issue of offsite environmental contamination raised in the second half of 1981. The public concern expressed over cesium-137 detected in milk samples in the area of the plant (Reference 9.2) and a related report of anomalous environmental water sample results (Reference 9.3) were reviewed with the licensee in terms of whether the contamination of the 225' level could have contributed to these concerns. No pathway of radioactive material from the 225' level to the environment was identified; therefore, the conclusions drawn in References 9.2 and 9.3 remain valid.

During the inspection, liquid samples from the floor of the operator's aisle of the 225' elevation and the plant storm drain were split between the licensee and the NRC for purposes of intercomparison. The samples were analyzed by the licensee using normal methods and equipment. The NRC samples were sent to the NRC reference laboratory, Department of Energy, Radiological and Environmental Sciences Laboratory (RESL), Idaho Falls, Idaho, for analysis. These samples were analyzed for strontium-90, gross alpha, and by gamma spectroscopy.

The results of these sample measurements indicated that all of the measurements were in agreement. The results of this comparison are listed in Table 1. In addition, the inspector performed surveys of the general area radiation levels and removable contamination, from accessible areas outside the locked gate access to the 225' elevation sub-basement room, that confirmed the licensee's survey results.

7.0 Corrective Actions

7.1 Past Corrective Actions

Subsequent to the spill that occurred in July, 1981, the licensee attempted a manual cleanup. At this time, the water level in the room was 3 to 4 feet deep. The #11 sump was unclogged and the water level was lowered. The water/sludge mixture was being pumped to a cask liner for shipment. During October, 1981, while the licensee was conducting decontamination of the operator's aisle, currents, which were caused by a decreasing water level in the room, caused a barrel to float around the east corner of the room. The barrel had a dose rate of approximately 300 R/hr on contact. Prior to this, the licensee apparently was not aware that the flooding had caused barrels to float off their carriers. The cleanup effort was terminated, at which time approximately 1.3 person-rem had been expended. Most of the sludge in the operator's aisle had been removed. The room water level was pumped down to about a one foot depth and maintained that way to minimize airborne contamination. No further cleanup actions were taken until July, 1985, nor was any additional solid radioactive waste put in the room for storage. It was stated by the licensee that in the years following the July, 1981, flooding event, on occasion the room was used to accommodate slight overflows, but there were no significant additional flooding events like the one that happened in July, 1981.

During July and August, 1985, the licensee again attempted to clean up the room and sent a crew into it to initiate desludging. The decontamination effort initially involved setting up plywood dams on both sides of the stairs in the operator's aisle. Sludge was vacuumed off the floor in the area between the dams. The decontamination of the room was not completed since it was clear from the experience in the operator's aisle that the level of effort and person-rems that would have been incurred to complete the decontamination were significantly underestimated. The licensee then decided that, because of the high dose rates, manual decontamination was not feasible and that robotic decontamination was necessary. The licensee began actively pursuing robotic methods for decontaminating the area.

In the spring of 1986, the room was entered to desludge and remove two drums in the west aisle. This was done to allow access for a robot the licensee was planning to bring onsite to survey the room. The licensee

Split Sample Analysis Comparison

225' Sub-basement Water Sample

Radionuclide	NMP (uC/ml)	RESL (uC/ml)
Cobalt-60	(2.39 +/- 0.09)E-4	(2.49 +/- 0.13)E-4
Cesium-134	(7.51 +/- 0.39)E-5	(6.3 +/- 0.6)E-5
Cesium-137	(5.35 +/- 0.17)E-3	(5.41 +/- 0.19)E-3
Manganese-54	(3.02 +/- 0.21)E-5	(2.8 +/- 0.4)E-5
Strontium-90	NAF	(3.15 +/- 0.14)E-5
Gross Alpha	NAF	(3 +/- 5)E-9

Perimeter Drain Water Sample

Radionuclide	NMP (uC/ml)	RESL (uC/ml)
Cesium-137	ND	(1.5 +/- 2.1)E-8
Potassium-40	ND	(9 +/- 3)E-7
Gross Alpha	NAF	(2.8 +/- 0.5)E-9
Gross Beta	NAF	(1.4 +/- 0.4)E-8

NOTE:

NMP - Nine Mile Point
RESL - Radiological and Environmental Sciences Laboratory, Idaho
NAF - Not analyzed for
ND - Not detected

Table 1

obtained a robot (SURVEYOR) in the early summer of 1986 for video surveying the room. The robot was sent into the 225' elevation sub-basement in September, 1986. A videotape of the conditions was made. As noted previously in this report, the videotape indicated many of the drums had floated off their carriers and were spread in disarray around the storage aisles. Some of the drums were lying on their sides with their contents spilled out.

7.2 Planned Corrective Actions

The licensee's plan is to clean, decontaminate and repaint the entire 225' elevation sub-basement. As noted above, there are approximately 150 barrels of filter sludge in this area, some of which have tipped over and spilled their contents. The licensee estimated that if the area was cleaned using manual methods approximately 150 person-rem would be expended. The licensee has contracted with an outside vendor to build and deliver a Tethered Remote Operating Device (TROD). The use of the TROD will result in the expenditure of approximately 10 person-rem as compared to 150 person-rem estimated for manual decontamination.

The TROD is a teleoperated, electro-hydraulic system which will ride on the overhead conveyor present in the area and will be operated remotely from the 261' elevation of the building. Niagara Mohawk Radwaste Department will operate the TROD and is in charge of the cleanup effort. The licensee is in the process of developing an ALARA (As Low As Reasonably Achievable) Plan for the cleanup activity. The ALARA Plan will contain the methodology and detailed instructions on the cleanup operation.

Although the ALARA Plan was not available for review, the inspector discussed with radwaste supervision the cleanup methodology. The operator's aisle will be decontaminated manually because the monorail barrel carrying system does not go through this aisle. The TROD will be lowered to the 225' elevation through the west elevator and then connected to the monorail track. It will be used to decontaminate all areas except the operator's aisle and the east equipment aisle. Two drums located in the fill aisle will first be desludged and removed. Next, the west aisle will be decontaminated using the TROD, and the east equipment aisle will be decontaminated manually. The TROD will then be used to clean out the drum filling aisle and then the 'A' and 'B' storage areas. Other equipment in the area, such as control panels and the conveyor system, will then be removed. Final decontamination of all surfaces and removal of all equipment associated with the earlier drumming operation will be completed and then the area will be repainted.

The schedule of the planned decon/cleanup has been developed; it is planned to begin the last week in September, 1989, and to take seven months. The licensee stated that the effort will cost between $1.5 an $2.0 million. The inspectors did not find evidence that the NRC had been notified of this estimate or the cleanup plans prior to this inspection.

7.3 Timeliness of Licensee's Corrective Actions

The flooding of the 225' elevation sub-basement occurred in July, 1981, which caused barrels of filter sludge to tip over and spill their contents. The radioactive material was contained and the room was monitored for leakage. The licensee considered the spill not to be a safety concern since it was contained. While initial decontamination was attempted and terminated in October, 1981, no further work was initiated until August, 1985. Work was not reinitiated until August, 1985, because station management assigned a low priority to the cleanup and diverted financial resources to other projects. These other projects included of the Unit 1 recirculation pipe replacement outage, the Austerity Program developed to deal with the increasing cost of building Unit 2, and major radwaste processing system modifications. As described in Section 7.1, in August, 1985, the licensee initiated a second manual cleanup, which was terminated soon after starting. At that point, the licensee decided to approach the cleanup with robotic methods. In March, 1988, a "Request for Proposal" was let for a robotic system. In July, 1988, a "Purchase Order" to initiate design was issued, and in July, 1989, a design was selected and system ordered.

In summary, the team found the licensee did not pursue cleanup of the sub-basement for approximately a four year time span between 1981 to 1985. The team did not find an adequate justification for not dealing with the situation in the room during that period.

8.0 Exit Interview

The team met with licensee representatives (denoted in Section 1.0) at the conclusion of the inspection on August 28, 1989. The team summarized the purpose and scope of the inspection and the findings.

9.0 References

9.1 Letter from Niagara Mohawk Power Corporation to R.C. Haynes (NRC), dated October 30, 1981 (describes controlled release of 50,000 gallons of Waste Surge Tank water to Lake Ontario).

9.2 Letter from Victor Stello, Jr., then Director of OIE to Mr. Peter Dalton, Sierra Club Radioactive Waste Campaign, dated October 19, 1981.

9.3 Preliminary Notification of Event or Unusual Occurrence, PNO1-81-130 (Anomalous Environmental Water Sample Measurements), dated December 12, 1981.

NIAGARA MOHAWK POWER CORPORATION

NIAGARA MOHAWK

300 ERIE BOULEVARD WEST
SYRACUSE, N.Y. 13202

October 30, 1981

Mr. Ronald C. Haynes, Director
United States Nuclear Regulatory Comm.
Region I
631 Park Avenue
King of Prussia, PA 19406

Re: Docket No. 50-220

Dear Mr. Haynes,

On July 8-9, 1981, after four months of refueling outage and during startup, a controlled discharge of liquid radioactive waste into Lake Ontario totaling 5.3 curies occurred at the Nine Mile Point Unit #1 generating facility. Enclosed herein, in compliance with Environmental Technical Specification 2.4.1.h, is a report detailing (I) the causes of the release and (II) actions taken to reduce the frequency and magnitude of future releases.

Sincerely,

T. E. Lempges

Thomas E. Lempges
Vice President
Nuclear Generation

TEL/jb/jm
Enclosures

I. CAUSES OF THE RELEASE

The following conditions directly or indirectly necessitated the release of liquid radioactive waste into Lake Ontario in July 1981:

1) The influx of floor drain waters into the Radwaste facility during the first week of July 1981 exceeded the storage capacity of the system and the processing capabilities of the Waste Concentrator. #11 and #12 Floor Drain Sample Tanks, the Floor Drain Collector Tank, the Waste Neutralizer Tank and the Waste Surge Tank were all filled or nearly filled with high conductivity liquid waste.

2) The performance of the Radwaste demineralizer was unexpectedly poor during the latter part of the outage, resulting in considerable downtime, frequent resin regenerations and a backlog of "clean waste" (ie, radioactive liquid waste with a conductivity less than 20umhos/cm).

3) The processing of approximately 500,000 gallons of torus water in the early part of the outage yielded a high inventory of filter sludge and necessitated additional resin regenerations.

4) The cation tank lateral network, an integral part of the resin regeneration system, was readjusted during the outage and required about one week downtime. This further reduced the frequency of permissible Radwaste demineralizer regenerations and the associated processing of equipment drain waters.

5) Cross contamination of equipment drain sumps in Radwaste Building 229' elevation with high conductivity floor drain - filter sludge waters from Radwaste 225' elevation was imminent unless prompt action was taken.

In response to the backlog of Radwaste waters noted above, several actions, including liquid waste discharge to Lake Ontario, were evaluated. To prepare for a potential discharge, the 50,000 gallon Waste Surge Tank (on a continuous recirculation mode) was sampled and isotopically analysed on July 7, 1981. Finally, on July 8, 1981, condition #5 noted above dictated no alternative recourse and the discharge commenced.

Pertinent data associated with the release is listed on Table #1. The discharge conformed with all 10CFR20 and Environmental Technical Specification limits regarding nuclide concentrations and quantities.

ACTION PLAN

Nine Mile Point #1 has made a conscious effort in recent years to limit the discharge of liquid radioactive waste into Lake Ontario. For example, in the 42 month period between late 1977 and July 1981, less than 3 curies of liquid waste was discharged. This value, on the average, represents only about 12% of the design objective release goal of 5 curies/year (Environmental Technical Specifications - Section 3.4).

Despite present capabilities to stay well within 10CFR20 and design objective discharge limitations during normal operation, several measures are now under consideration (°), planned for implementation (°°) or already being implemented (°°°); which should further enhance the station's commitment toward the 10CFR50 ALARA concept and reduce the frequency and magnitude of future liquid radioactive discharges.

1) The processing of filter sludge material through a newly installed phase separator thereby reducing concentrator inputs (°°).

2) The procurement of two large capacity, semi-portable, standby demineralizers for use during Radwaste demineralizers downtimes (if necessary). (°°°)

3) The installation of an additional 15gpm evaporator for the processing of high conductivity waste. (°°)

4) Replacement of the Waste Surge Tank with a new tank of larger capacity. (°)

5) The installation of either or both an additional storage tank and an additional demineralizer in the Radwaste Complex. (°)

TABLE I

Tank Discharge Rate (gpm)	30
Dilution Water Flow (gpm)	2.11E5
Batch MPC (µCi/ml)	1.9E-5
Activity Concentration in Discharge Canal (µCi/ml)	7.4E-6
% MPC in Discharge Canal	39

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TERA

OCT 1 0 1981

Docket Nos. 50-220
50-333

Mr. Peter Dalton
Sierra Club Radioactive Waste Campaign
3164 Main Street
Buffalo, NY 14214

Dear Mr. Dalton:

I am responding to your letter to Mr. Philip Polk of our agency, dated June 19, 1981. In that letter you requested that the Nuclear Regulatory Commission inspect the Nine Mile Point and James A. FitzPatrick reactors to determine the source of radioactive cesium in milk from the area near these plants. In support of your request, you enclosed a copy of the Sierra Club critique of the report NUS-3620, "An Evaluation of the Cesium Concentrations in Environmental Milk Samples and their Significance at the Nine Mile Point - James A. FitzPatrick Sites."

Members of my staff have prepared the enclosed response to the Sierra Club report. This response is based primarily on the results of routine inspections at the Nine Mile Point and James A. FitzPatrick plants during February 1981. Those routine inspections included the review you requested concerning the high concentrations of cesium-137 in milk. These inspections also included review of elevated levels of iodine-131 in milk that are mentioned in the Sierra Club critique. We realize that the results of these inspections were not available until after the date of your letter to Mr. Polk. Copies of these inspection reports (Nos. 50-220/81-02 and 50-333/81-05) are also enclosed.

In brief, the average levels of cesium-137 in milk near the site have not been consistently higher than the rest of the State. Our assessment of both the observed cesium-137 and iodine-131 concentrations in milk in this area is that, from the information available, one cannot determine precisely the relative contributions of fallout and reactor effluents to the detected radioactivity. The dose to the general public, at the observed levels, and regardless of the source, would be only a small fraction of that received from natural background radiation. This small dose would be well below regulatory limits even if one made an assumption that all observed radioactivity came from the reactors.

8111290250

If you have any questions or require additional information regarding this matter please contact me.

Sincerely,

Original Signed By
R. C. DeYoung

Victor Stello, Jr., Director
Office of Inspection and Enforcement

Enclosures:
as stated

Distribution
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Record Note: Original draft response prepared by RI (Ref: Memorandum from G. H. Smith to F. Congel, NRR, 7/29/81). NRR/DSI/RAB concurs in this response that incorporates additional suggested information (Ref: Memorandum F. J. Congel to L. J. Cunningham, 8/27/81). ELD (S. Burns) has no legal objections; ELD editorial suggestions have been incorporated.

WPU:JD	RSB:IE	RSB:IE	RSB:IE	D:SASI:IE	DD:IE	D:IE
5520	JBuchanan	LCunningham	LHigginbotham	HThornburg	RDeYoung	VStello
9/25/81	/0/ /81	/8/2/81	/8/2/81	/0/ /81	/9/ /81	/9/ /81

Enclosure

RESPONSE TO SIERRA CLUB REPORT ON HIGH CESIUM LEVELS IN MILK AT THE NINE MILE POINT AND JAMES A. FITZPATRICK SITES

As part of a routine inspection conducted at the Nine Mile Point (NMP) and the James A. FitzPatrick (JAF) Nuclear Power Plants on February 9-13 and 24-17, 1981, NRC staff investigated the elevated levels of Cesium-137 (Cs-137) in milk observed in 1979.

In conjunction with this investigation, the following were reviewed:

1. State of New York, Department of Environmental Conservation, Environmental Radiation Bulletins.

2. NMP and JAF site environmental monitoring program data and effluent data.

3. NUS-3620, "An Evaluation of the Cesium Concentrations in Environmental Milk Samples and their Significance at the Nine Mile Point - James A. FitzPatrick Sites."

Based on a review of the above, it does not appear possible to rule out the NMP-JAF plants as a source of some of the Cs-137 in milk, although neither does it appear likely that the plants are the only source. This view is taken for the following reasons:

1. There is no evidence of high Cs-137 levels in the air near the site (see Table 1).

2. There is no evidence of high Cs-134 levels in the air near the site, or in fact, of Cs-134 even being observed routinely in the air near the site. The Cs-134 concentrations measured at about 4½ miles SW from the site are indistinguishable from Cs-134 background levels and have large uncertainties associated with them (see Table 2).

3. Analyses for cesium are performed using gamma-ray spectroscopy. Thus, if Cs-134 were present in a sample, it would be detected along with Cs-137.

4. The average levels of Cs-137 in milk near the site have not been consistently higher than the rest of the state (see Table 3) and Cs-134 has not been routinely detected in area milk samples.

In addition, the ratio of Cs-134 to Cs-137 from plant airborne effluents could not be used to determine the expected ratio of Cs-137 present in milk from fallout to that from the plants because the ratio of Cs-134 to Cs-137 in airborne effluents was not consistent for 1979 (0.09 to 1.96). Also, other factors such as precipitation patterns, farming practices, etc., were not taken into consideration.

Regardless of the source of the Cs-137, the observed concentrations in milk result in relatively low doses to humans. Even the highest concentration, 53 pCi/l (measured at licensee monitoring station 25), would produce a whole-body exposure of only 0.10 mrem/month to an adult (critical individual) and 0.89 mrem/month to an infant liver (critical organ), which is calculated using methodology presented in Regulatory Guide 1.109 for maximum exposed individuals and assuming that the milk remained at this concentration for a month. The measured level of 53 pCi/l did not appear to persist for more than one month and was not identified at any other sampling stations. Those doses are a small fraction of natural background and of the 25 mrem/year regulatory limit for members of the general public that is required by the EPA Uranium Fuel Cycle Standard (40 CFR 190).

TABLE 1

CESIUM-137 IN NY AIR SAMPLES*

	Average Concentration for Period in 10^{-3} pCi/m³**	
Date	Oswego Co.	Albany
1974 - 2nd Q	1.3 (13)	4.9 (12)
1975 - 1st Q	1.3	<2
1975 - 2nd Q	3.4	1.8
1975 - 3rd Q	1.2	<1.2
1975 - 4th Q	<1.0	2.2
1977 - 1st Q	<0.8	0.8
1977 - 2nd Q	1.2	1.0
1977 - 3rd Q	<1.5	<0.6
1977 - 4th Q	<1.1	<0.7

*Data from State of New York, Department of Environmental Conservation, Environmental Radiation Bulletins.

**Number of samples in parentheses.

TABLE 2

CESIUM-134 IN NY AIR SAMPLES*

	Average for period in 10^{-3} pCi/m^3**	
Date	Scriba, ~ 4 ½ mi. SW, Oswego Co.	Albany, (background)
1974 - 1st Q	<0.8 (12)	<2 (14)
1974 - 2nd Q	<0.7 (13)	<2 (12)
1974 - 3rd Q	<1 (12)	<1 (12)
1974 - 4th Q	<0.7 (14)	1.3 ± 1.1 (12)
1975 - 1st Q	<0.8	<1
1975 - 2nd Q	1.1 ± 1.0	1.2 ± 1.0
1975 - 3rd Q	<0.9	<1.1
1975 - 4th Q	<0.9	<1.3
1977 - 1st Q	<0.7	<0.4
1977 - 2nd Q	<0.7	<0.5
1977 - 3rd Q	<1.4	<0.6
1977 - 4th Q	<0.9	<0.6
1979 - 1st Q	<0.6	<1.5

*Data from State of New York, Department of Environmental Conservation, Environmental Radiation Bulletins. Similar data other years between 1971-1979 are not avilable for comparison.

**Number of samples in parentheses.

TABLE 3

CESIUM-137 IN NY MILK SAMPLES*

Date	Average Concentration for Period in pCi/l** Oswego Co.	Background	Location of Background Station
1971	35 (11)	21 (22)	Massena
1973	12 (11)	11 (3)	Massena
1974	<22 (11)	<15 (12)	Massena
1975	22 (13)	20 (12)	Massena
1976 - 1st Q	20 (2)	20 (3)	N. Hempstead
1976 - 2nd Q	22 (2)	19 (1)	Syracuse
1976 - 3rd Q	22 (3)	15 (3)	N. Hempstead
1976 - 4th Q	<17 (3)	<17 (22)	Brooklyn
1977	<22 (11)	<11 (8)	Syracuse
1978 - 3rd Q	17 (5)	21 (1)	Massena
1978 - 4th Q	19 (2)	15 (1)	N. Hempstead
1979 - 3rd Q	<12 (3)	19 (1)	Syracuse

*Data from State of New York, Department of Environmental Conservation, Environmental Radiation Bulletins.

**Number of samples in parentheses.

DCS No: N/A
Date: 12/11/81

PRELIMINARY NOTIFICATION OF EVENT OR UNUSUAL OCCURRENCE--PNO-I-81-130

This preliminary notification constitutes EARLY notice of events of POSSIBLE safety public interest significance. The information is as initially received without ver cation or evaluation, and is basically all that is known by IE staff on this date.

Facility: Nine Mile Point, Unit 1 (Niagara Mohawk Power Corp.) and J. A. Fitzpatrick (Power Authority of the State of New York), Scriba, New York (Docket Nos. 50-220; 50-333)

Licensee Emergency Classificatior
_____ Notification of Unusual E
_____ Alert
_____ Site Area Emergency
_____ General Emergency
__X__ Not Applicable

Subject: ANOMALOUS ENVIRONMENTAL WATER SAMPLE MEASUREMENTS

On December 2, 1981, the licensees reported to the NRC anomalous results of water sa collected at several farms located in the prevailing downwind area, in the vicinity the two plants. Sampling was conducted three times from June through October, 1981 farms from which milk is regularly sampled. One June sample, one July sample, and t August samples showed positive results. All four samples contained very similar lev of Cs-134 (about 15 pCi/l), Cs-137 (about 20 pCi/l), Mn-54 (about 6 pCi/l), and Co-6 (about 9 pCi/l). Three of the samples had very similar levels of Co-58 (about 4 pCi The licensees had previously determined that the June-July samples had been slightly contaminated (1-2 pCi/l of Cs-134 and Cs-137) through reagents and supplies used in the sampling, and made efforts to eliminate any sources of contamination from future samples. Soil and grass collected at each farm contained only expected naturally oc activity. None of the above sample results were of a level which would have require reporting by the licensee's technical specifications.

Because of the very similar levels of activity, it seems unlikely that the detected activity actually existed in the sampled water sources in that the four samples were collected at different times, the water sources are at various distances from the pl and all sources have various volumes and rates of dilution. These factors would be expected to result in different levels of activity in each location if the source of contamination were airborne plant releases. There appears to be no waterborne conta pathway from the plants to the water sources sampled. Irrespective of the source of the contamination, the measured activity would not produce a critical organ (liver) dose in excess of the 10 CFR 50, Appendix I, Part C limit of 15 mrem/yr if the sampl water were used for drinking over the course of one year. The licensees have stated, however, that none of the four water sources are used for drinking water. The licensees plan to collect additional samples in December, including sediment samples

CONTACT: T. Jackson, 488-1207; R. Bores, 488-1213

DISTRIBUTION:

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Region I Form 83
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and more complete water samples (up and downstream of farms as appropriate). Th
licensees consider it a possibility that there will be media interest and attent
associated with this round of sampling.

The licensees plan to continue to investigate and to publish the results in the
Annual Environmental Program Reports covering 1981. The licensees will continue
keep Region I apprised of any developments.

This PN is issued for information only. The State of New York is being informed
will not issue a press release, and the licensees do not plan to issue one at th
time.