

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8709170295 DDC. DATE: 87/09/10 NOTARIZED: NO DOCKET #
 FACIL: 50-220 Nine Mile Point Nuclear Station, Unit 1, Niagara Powe 05000220
 50-410 Nine Mile Point Nuclear Station, Unit 2, Niagara Moha 05000410
 AUTH. NAME AUTHOR AFFILIATION
 LEMPGES, T. E. Niagara Mohawk Power Corp.
 RECIP. NAME RECIPIENT AFFILIATION
 Document Control Branch (Document Control Desk)

SUBJECT: Forwards responds to open items combined Insp Reptrs
 50-220/87-12 & 50-410/87-22 re post accident sampling,
 analysis & monitoring. Procedure N1-CSP-7V revised to include
 methods of limiting activity collected on sample cartridges.

DISTRIBUTION CODE: IE01D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 11
 TITLE: General (50 Dkt)-Insp Rept/Notice of Violation Response

NOTES: 21

05000410

	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL
	PD1-1 PD	1 1	BENEDICT, R	2 2
	HAUGHEY, M	2 2	BENEDICT, B	2 2
INTERNAL:	ACRS	2 2	AEOD	1 1
	DEDRO	1 1	NRR MORISSEAU, D	1 1
	NRR/DOEA DIR	1 1	NRR/DREP/EPB	1 1
	NRR/DREP/RPB	2 2	NRR/DRIS DIR	1 1
	NRR/PMAS/ILRB	1 1	OE LIEBERMAN, J	1 1
	OGC/HDS1	1 1	<u>REG FILE</u>	1 1
	RES DEPY GI	1 1	RGNI FILE 01	1 1
EXTERNAL:	LPDR	1 1	NRC PDR	1 1
	NSIC	1 1		

TOTAL NUMBER OF COPIES REQUIRED: LTTR 26 ENCL 26



NY NIAGARA MOHAWK

NIAGARA MOHAWK POWER CORPORATION/301 PLAINFIELD ROAD, SYRACUSE, N.Y. 13212/TELEPHONE (315) 474-1511

September 10, 1987
NMP1L 0182

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Re: Nine Mile Point Unit 1
Docket No. 50-220
DPR-63

Nine Mile Point Unit 2
Docket No. 50-410
NPF-69

Gentlemen:

Attached is our response to open items as requested in Combined Inspection Report Nos. 50-220/87-12 and 50-410/87-22. Areas to be covered are post accident sampling, analysis and monitoring.

Very truly yours,

NIAGARA MOHAWK POWER CORPORATION



T. E. Lempges
Vice President
Nuclear Generation

LW/PF/ps
3677G
Attachment

cc: Regional Administrator, Region I
Mr. W. A. Cook, Resident Inspector

8709170295 870910
PDR ADCK 05000220
Q PDR

IEQ1
1/1



4.1 Item 2 Inspector Follow Item (50-220/84-14-02)

Increase the heat trace temperature on the containment sample line to at least 100°C.

This has not yet been performed because of ongoing discussions between the corporate and site staff.

Response

The heat trace temperature recommendations were reviewed by the NRC Regional Inspector and members of our staff on July 22, 1987. It was agreed that (1) the containment PASS line heat trace tape should be maintained at 180°F during normal and post LOCA operation and (2) the PASS cabinet heat trace tape should be maintained at 180°F during normal operation and 225°F for post LOCA operation.

The controls for the heat tracing is being reset and the new setpoints specified in the appropriate procedure. Completion is expected by 10/1/87. We anticipate using 225°F as the normal and LOCA cabinet heat trace setpoint to preclude the unnecessary exposure associated with a setpoint change after a LOCA.

4.8 Inspector Follow Item (50-220/84-14-08)

This item included two subparts:

Item 1

An analysis should be provided of the licensee's ability to obtain, to handle and to analyze the levels of particulate and iodine activity anticipated during accident conditions and in the event that RAGEMS were partially or fully disabled by hardware and/or software malfunction.

The licensee provided procedure guidance for collection of a particulate and iodine effluent sample if the RAGEMS was partially or fully disabled. Although this method is a backup to the licensee's principal means of monitoring high effluent activities, the procedure guidance was considered in need of improvement in that the procedure did not specify methods to limit activity collected on sample cartridges to ensure capability for analysis and minimize unnecessary personnel exposure.

Licensee representatives concurred with the inspector's observations and indicated procedure quality would be upgraded to address this matter.

Response

We will perform an analysis for Nine Mile Point Unit 2 to evaluate the station Post-Accident Sampling System similar to that performed for Unit 1 in October 1981.

Procedure NI-CSP-7V will be revised to incorporate methods of limiting the activity collected on the sample cartridges to assure adequate backup sampling methods. Scheduled completion date for issuing a procedure revision is 2/1/88.



4.9 Unresolved Item (50-220/84-14-09)

The licensee was not able to provide sufficient information to demonstrate that the High Range Containment Monitor and associated equipment were qualified for the harsh accident environment they might be subjected to.

The detectors and associated equipment are not subjected to drywell atmosphere. The detectors do protrude into the drywell via penetration but are located in the Reactor Building. The licensee considers the monitor to be subject to a mild environment as discussed in Regulatory Guide 1.89. The licensee demonstrated that the detectors are qualified for anticipated radiation dose rates and integrated doses to be encountered. The licensee provided memoranda which provided a general discussion of temperature and humidity acceptability of the detectors and equipment. However, specific maximum values of temperature and humidity to be encountered were not readily available.

The acceptability of the detectors qualifications relative to temperature and humidity remains unresolved.

The licensee will supply the data to support qualifications for these items.

Response

As was discussed with the Regional Inspectors during the inspection, the high range containment monitor radiation detectors are located in wells and are not subjected to the drywell atmosphere. Calculations are available to show that the temperature exposure of the detectors is minimal and we will review these calculations with your Inspector at his next site inspection. Temperature and humidity qualification data will also be available for his inspection.

5.5 Reactor Coolant Sampling

The reactor coolant sampling subsystem is designed to obtain samples of liquids and dissolved gases during all modes of operation. During this operational test, diluted and undiluted samples were collected from the jet pump loop during low-power reactor operation. Although both liquid and dissolved gas samples could be obtained from the sampling points, the following improvement items were discussed with the licensee.

The licensee indicated that these matters will be reviewed and clarification or improvements will be considered, as appropriate (50-410/87-22-01):

1. Although licensee personnel had received training and procedures covering hydrogen determination by Henry's Law in undiluted samples, the licensee had not practiced the procedure during Unit 2 drills. Reactor conditions did not allow the collection of a sample for this purpose.



2. No intercomparison of results with normal and other PASS samples had been made to ensure that hydrogen gas determinations could be made by Henry's Law method.
3. A ball valve is used to provide 0.1 ml reactor coolant samples for dilution with 9.9 ml of demineralized water (i.e., 100:1 dilution) for the PASS diluted sampling capability. No records were available of calibrations of the ball valve to show that it reproducibly and reliably provided 0.1 ml samples for subsequent dilution.

Response

- (1) Additional practical factors training will be performed covering hydrogen determination by Henry's Law in undiluted samples.
- (2) A comparative evaluation will be made between the Henry's law method and the other normal methods.

Both of the above items will be completed by 2/1/88.

- (3) The ball valve volume will be evaluated and documented to assure accurate assessment of the sample volume. This will be completed by 12/15/87.

5.6 Containment Air Sampling

Atmosphere samples can be obtained from the drywell, reactor building and suppression pool. During the operational test, samples were collected from the drywell. The following item needing improvement was identified. The licensee indicated this item would be reviewed and clarification or improvements will be considered as appropriate. (50-410/87-22-02):

Procedural guidance based on the analysis described in the response to Item 4.8 for gathering containment particulate and iodine samples was not provided to restrict total radioactivity to ensure that the samples could be safely handled and counted.

Response

The maximum total activity permitted in samples will be evaluated and incorporated in the appropriate procedure. This item will be completed by 2/1/88.

5.7.1 Chloride

The licensee's primary method for chloride analysis is the use of a specific electrode. Backup capability is provided offsite through the Pooled Inventory Management System (PIMS) which includes resources for analysis of samples. NRC's chloride standards were submitted to the licensee for analysis in-house. The results are listed in Attachment 3. The licensee's analysis results were acceptable.



The following improvement item related to the offsite transport of samples was noted. The licensee indicated that this item would be reviewed and clarification or improvements will be considered as appropriate: (50-410/87-22-03)

The licensee planned to use a NUPAC Model PAS-1 (Certificate of Compliance No. 9184) for offsite shipments of undiluted reactor coolant. However, the licensee was not a registered user of the shipping cask and procedures for sample loading and handling the cask had not been established.

The licensee indicated that registration as a user of the NUPAC Model PAS-1 would be completed and procedures for its use would be established and maintained.

Response

We have registered as a user of the Nuclear Packaging Inc. Shipping Cask PAs-1. This registration was included in our letter NMP1L 0172 dated July 24, 1987, Mr. T. E. Lempges to Mr. John G. Davis.

We are in the process of obtaining missing parts of the vendor manual. The cask sample loading and handling requirements will be incorporated into the appropriate Radiation Protection and Radwaste handling procedures. This will be completed on receipt of data from Nuclear Packaging Inc.

5.7.2 Boron

Boron analysis is performed by the carminic acid method in the licensee's laboratory on a diluted reactor coolant sample (200:1). NRC's boron standards were submitted to the licensee for analysis. The results are listed in Attachment 3. The licensee's analytical results were acceptable. However, the following item needing clarification was noted. The licensee indicated that this item would be reviewed and clarification would be made if appropriate (50-410/87-22-04):

The licensee's FSAR commitments for boron analysis specified a range of 50 to 2,000 parts per million (ppm) \pm 50 ppm. The GE standard methods call for a range of 0 to 1,000 ppm in order to show boron injection had reached a total reactor coolant concentration of 660 ppm or more. The licensee stated that a request to alter the FSAR range to 0 to 1,000 ppm with an accuracy of \pm 50 ppm would be made. Licensee's laboratory practice would remain unchanged. This clarification was considered acceptable.

Response

The Table II.D.3-2 "Post-Accident Sampling Analytical Methods" will be revised in the next FSAR amendment to show a range of 50 - 1,000 ppm for boron analysis by the carminic acid method.



5.9 Additional Findings

The licensee indicated that the following additional items would be reviewed for clarification or improvement (50-410/87-22-05):

- (1) During the PASS drill on June 24, 1987, the PASS sampling team removed supplied air respirators from the PASS sampling area to use other face masks for airline respirators. In a potentially contaminated area (such as the sampling room), high unnecessary airborne exposures to sampling team members could result from the need to change masks. A respiratory protection apparatus allowing both self-contained and airline use would eliminate this concern.
- (2) The PASS Sample Room is also the Radwaste Sampling Room. The introduction of radwaste liquid samples to the lines supplying the radwaste sampling panel following an accident could result in unacceptably high dose rates in the area of the PASS panel. The licensee indicated Post-Accident controls for the use of the Radwaste Sampling Panel will be provided to minimize this concern.
- (3) Under Technical Specification 6.8.4.c, the licensee is required to provide a maintenance program for the PASS. Approximately quarterly, the licensee tests technician proficiency in using the PASS. Problems with the PASS may be uncovered during those tests. If problems are noted, a work request is generated to correct the problem. However, a program for routine inspection and surveillance testing of the PASS was not provided. The test program conducted by the licensee is considered a repair program in practice. This program would not generally provide complete assurance that the PASS could perform its intended function since routine testing and surveillance as recommended by GE are not performed.

Response

- (1) We have evaluated several types of respiratory apparatus, and new equipment will be provided by 12/15/87.
- (2) The appropriate procedures will be modified to include a requirement to obtain supervisory permission prior to entering the radwaste sample room for obtaining PASS samples. This will be a procedural prerequisite identified to assure that other sample lines in the Radwaste Sample Room have not been changed. A cautionary statement will be included in the appropriate procedure to caution against taking radwaste samples if technicians are intending to take PASS samples.
- (3) The recommended GE routine testing and maintenance requirements will be incorporated into the appropriate procedure.

All of the above items will be completed by 12/15/87.

6.4 Findings

Within the scope of the review, the following items were reviewed and verified to conform with NUREG-0737:



- range
- calibration
- sample points

The establishment and implementation of Technical Specification required surveillance procedure was also verified. A procedurally described maintenance program was in place (see Section 10.3.1).

Within the scope of this review the following item for clarification or improvement was identified: (50-410/87-22-06)

The licensee has made backup provisions to collect a grab noble gas sample using a marinelli and sample pump. However:

- (1) A large volume marinelli is used. A small volume (approximately 25 cc) marinelli is needed for higher concentrations or noble gases to ensure samples can be analyzed and personnel exposure is minimized when handling.
- (2) The marinelli is purged to the general area of the sample station. This may cause a personnel exposure problem.

Response

- (1) A small volume marinelli will be available for taking samples. Its use will be incorporated into the appropriate procedure.
- (2) A modification has been completed for the backup sample pump to take suction from the isokinetic probe line and exhaust into the sample return line to the stack. The appropriate procedure and posted instructions will be changed to show the new piping arrangement.

The above items will be completed by 2/1/88.

7.4 Findings

Within the scope of this review, the following matters were identified which the licensee indicated would be reviewed for clarification or improvement (50-410/87-22-07):

- (1) Guidance is not contained in procedures to aide in selection of the optimum nuclide library for use in analysis of particulate and charcoal cartridges at the 100 cm shelf-height of the gamma spectroscopy system.
- (2) A temporary sample arrangement is used to provide backup capability for collecting a particulate and iodine effluent sample from the main stack and reactor building vent. The following deficiencies associated with the backup samples were identified:
 - (a) The sampler collects a sample from the normal effluent sampler return line. It is not apparent that the samples collected are representative.



- (b) The sampler exhausts its effluent to the general area of the sample station creating a possible personnel exposure concern during sampling.
- (c) No provisions to limit the amount of activity collected on the cartridges is in place.
- (d) Technicians, although trained in procedure requirements, do not perform walk-throughs of backup sampling.
- (e) Procedures do not describe use of the backup pump to collect a particulate and iodine sample in the event GEMS is not operable.

Response

- (1) The appropriate procedure will be reviewed and revised to provide the guidance requested.
- (2)
 - (a) The backup sample pump connection has been modified to sample from the isokinetic probe line.
 - (b) The backup sample pump exhaust connection has been modified to return the effluent to the stack sample return line.
 - (c) The appropriate procedure will be revised to limit the activity collected on the cartridges as determined by the analysis described in the response to Item 4.8.
 - (d) Technicians will be trained using the revised procedures that include backup sampling.
 - (e) The use of the backup sample pump with the sample piping connection modifications that have been made will be included in the appropriate procedure.

The above items will be completed by 2/1/88.

8.4 Findings

Within the scope of this review, the following items were identified which the licensee indicated would be reviewed for possible clarification or improvement (50-410/87-22-08):

- (1) The in-situ calibration of detectors A and B were in error due to a shield analysis error. The error, however, was minor and limited to 4%.
- (2) Detector C and D are out of service due to cable problems. However, the channels A and B satisfy the Technical Specification requirement for two operable channels.



Response

- (1) The calibration calculations are in the process of being revised to correct the shield analysis error and will be scheduled for completion by 12/15/87.
- (2) Detector C will be in service by 10/15/87. Cable is being repaired for detector D and will be installed at the first outage after delivery.

9.4 Findings

Within the scope of the review, the following items for improvement or clarification were identified (50-410/87-22-09):

- (1) The flow rate measuring devices on the PINGs has not been calibrated for about 4 years. It was not apparent that the flow rate measuring device was in calibration. The licensee indicated that the calibration of the device will be reviewed and proper calibration frequency will be established.
- (2) The background effects due to noble gases collected on cartridges and limiting dose rates for acceptable operation of the PINGs has not been fully evaluated. Procedures do not provide minimum dose rates the system is considered acceptable to operate in and provide valid data.
- (3) Practical factors training is not provided for inplant sampling teams.
- (4) Procedure EPP-6 specifies incorrect location of battery carts for air samples.
- (5) Guidance as to where to store inplant air samples after analysis is not provided in appropriate procedures.

Response

- (1) The PINGs flow rate measuring devices have now been sent off-site for calibration. The required calibration frequency will be added to the appropriate procedure.
- (2) The procedures will be modified to include iodine and noble gas background, and to provide minimum acceptable dose rates.
- (3) Practical factors training is in progress as part of our continuing Emergency Plan Training Program for rad protection-technicians performing the inplant air sampling activities using portable power supplies.
- (4) Procedure EPP-6 will be revised to correct the battery cart location.



- (5) The appropriate procedure will be revised to require the briefing instructor to instruct the sample team on where to store inplant air sampling.

All of the above will be completed by 12/15/87.

10.1.2 Electric Power Supplies to the PASS

Within the scope of this review, the following items for improvement or clarification were identified (50-410/87-22-10):

- (1) Provide some guidance for identification of loss of power and restoration of power to the PASS isolation valves to ensure the capability to collect and analyze a sample within 3 hours.
- (2) Provide guidance for restoration of power to the storeroom elevator to ensure its availability for sample transport.
- (3) Provide an appropriate periodic maintenance of heat tracing for the containment sample line.

Response

- (1) and (2) An instruction sheet will be prepared on how to restore power to the PASS isolation valves and store room elevator in the event power is lost. The appropriate procedure will include guidance to use these instructions if power must be restored.
- (3) The requirements of the GE PASS manual for periodic maintenance of the containment sample line heat tracing will be included in the appropriate procedure.

The above items will be completed by 12/15/87.

10.3 Gaseous Effluent Monitoring System (GEMS)

Within the scope of this review, the following item for improvement or clarification was identified (50-410/87-22-11):

Include the Maintenance Program data sheets for GEMS into the formally established maintenance program.

Response

The GEMS maintenance program data sheets and schedule will be included in the appropriate procedure. This item will be completed by 2/1/88.

