NIAGARA MOHAWK

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

March 23, 1990
NMP1L 0485

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

Gentlemen:

Attached is Niagara Mohawk Power Corporation's response to the Notice of Violation contained in Inspection Report No. 50-220/89-80 dated February 23, 1990. If you have any questions concerning this matter, please call.

Very truly yours,

NIAGARA MOHAWK POWER CORPORATION

L. Burkhardt, III
Executive Vice President
Nuclear Operations

NAS/jac
0668i

Attachment

xc: Regional Administrator, Region I
Mr. W. A. Cook, Resident Inspector
Records Management

9003300168 24pp.

NINE MILE POINT UNIT 1
DOCKET NO. 50-220
DPR-63

RESPONSE TO NOTICE OF VIOLATION CONTAINED IN
INSPECTION REPORT NO. 50-220/89-80

VIOLATION

10CFR50.59(a)(1) permits the holder of a license to make changes in the facility as described in the safety analysis report, without prior Commission approval, unless the proposed change involves a change in the technical specifications or an unreviewed safety question.

10CFR50.59(b)(1) requires, in part, that records of these changes be maintained, and these records shall include a written safety evaluation which provides the basis for the determination that the change does not involve an unreviewed safety question.

Section III.C.2.1 of the Nine Mile Point I Final Safety Analysis Report (FSAR) states that the north section of the Radwaste Processing Building (which includes the 225' elevation sub-basement area) is for storing of solid radioactive waste in metal drums until it is suitable for off site shipment. The FSAR also states that the designed control for spilled liquid is to allow the liquid to seek a lower level and thus be accommodated by the sumps, which contain the fluid and pump it directly to storage tanks.

Contrary to the above, changes were made to the facility as described in the FSAR in that (1) in July 1981, the 225' elevation sub-basement area of the Radwaste Processing Building was used as a temporary liquid radioactive waste storage area, in addition to the storage of the solid radioactive waste contained in metal drums, and (2) in October 1981, a determination was made by the licensee to use the 225' elevation sub-basement as a long term liquid radioactive waste storage area; however, prior to causing these changes, the licensee did not develop a written safety evaluation to provide a basis for a determination that these changes did not involve unreviewed safety questions. An analysis was needed to consider, for example, the limits for flooding the sub-basement area to: (a) prevent a challenge to the water-tight integrity of the sub-basement and the possibility of unanalyzed releases of radioactivity to the environment; (b) assure that the water level would not topple the solid radioactive waste drums, substantially increasing the radioactivity present in the water and thus possibly increasing the occupational radiation exposure which would result during a cleanup of the contamination which could result if the drums were to topple.

ADMISSION OR DENIAL OF THE ALLEGED VIOLATION

Niagara Mohawk Power Corporation does not contest the cited violation.

THE REASONS FOR THE VIOLATION

As explained below, the primary reason for failure to perform the 10CFR50.59 safety evaluation in 1981 was a past focus on design changes rather than operating conditions as triggers for the need for 10CFR50.59 safety evaluations. The reasons why the cited violation occurred must be examined in the context of the time of its occurrence in 1981, previous experience with similar events and the operational problems existing at the time.

In 1981, there was substantially less industry guidance relating to the implementation of 10CFR50.59 than exists today. Thus, those responsible for implementing the regulation had to rely on their understanding of how that regulation had been historically implemented. At the time, the focus of 10CFR50.59 related to design changes rather than how operational conditions might affect the facility as described in the Final Safety Analysis Report. Thus, at the time, it was not Niagara Mohawk's practice to prepare 10CFR50.59 safety evaluations prior to making operational decisions relating to the use of process systems such as the radwaste system.

Since the commencement of Operation of Unit 1 and prior to the incident in question, during certain off normal operational events resulting from startup and equipment problems involving the radwaste system, water had been allowed to overflow onto the floor at the 225' level of the Radwaste Building. These prior incidents had been cleaned up without substantial difficulty, without any detected leakage outside the facility and without impacting the radioactive waste drums stored at the 225' level. Thus, such incidents were considered to be consistent with the design of the facility and not a safety issue. These practices were also considered to be consistent with Niagara Mohawk's goal of minimizing radioactive discharges to Lake Ontario even though such releases would have been within all NRC discharge limits.

At the time of the incident in question, the 225' level of the Radwaste Building was not actively being used for radioactive waste processing. Contractor services, not requiring Radwaste Building processing equipment, were utilized because of more stringent burial site limitations on free standing water in radioactive waste containers and because of radioactive waste processing equipment problems. After the incident it became apparent that improvements to the Radwaste facility were warranted. Accordingly, planning efforts for the Radwaste Tank and Piping modification were initiated.

The NRC Region I Augmented Inspection Team (AIT) Report No. 50-220/89-80 and the 10CFR50.59 safety evaluation attached to this response contain detailed discussions of the events associated with and following the incident. In the interest of brevity, and as discussed at the October 30, 1989 Enforcement Conference, Niagara Mohawk does not dispute the facts as stated in the AIT Report. However, several additional considerations should be noted. At the time of the spill, Niagara Mohawk operators were trying to recover from problems associated with the radwaste system involving multiple failures and performance problems. We considered a number of options and decided on the selected course in order to attempt to implement the NRC's as-low-as-reasonably-achievable criterion and Niagara Mohawk's philosophy of zero discharge to Lake Ontario. We believed at the time that our actions were consistent with past practices and the design of the facility. It is now recognized that long term (several years) storage of liquid waste was beyond the anticipated operational use of the area and a safety evaluation would have been appropriate.

THE CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

At the time of the August 22-28, 1989 Radwaste Augmented Inspection Team inspection, Niagara Mohawk provided the NRC with an evaluation of the impacts of storing liquid on the 225' elevation and concluded, as did the NRC, that the storage of liquid did not adversely affect the health and safety of the public or workers. This conclusion was based on, among other things, the Company's environmental monitoring program, the perimeter drainage system monitoring program, the radiological protection monitoring program and the building design features. Niagara Mohawk's conclusions were also confirmed by the sampling taken and analyses conducted during the AIT inspection. These matters are described in the NRC's inspection report and were further amplified during the Enforcement Conference. In summary, the condition existing on the 225' elevation is stable, being monitored and reviewed on a continuing basis by Niagara Mohawk management.

Niagara Mohawk's evaluation formed the basis of the 10CFR50.59 safety evaluation prepared on October 26, 1989. This document also evaluated the storage of liquid until decontamination of the 225' elevation is complete and determined that such storage can be safely continued. As requested in the letter transmitting the Notice of Violation, a copy of this 10CFR50.59 safety evaluation is enclosed. Thus, with regard to the preparation of the 10CFR50.59 safety evaluation, full compliance has been achieved.

Even prior to the AIT inspection, the Company had begun preparation for the cleanup of the area utilizing a specially designed robot. The cleanup of the sub-basement area has been closely monitored and controlled by Company management. The cleanup's high priority and increased visibility are evident by the project's incorporation into the Nuclear Improvement Program. General guidance for the conduct of activities associated with the cleanup efforts is provided in the "Unit 1 Radwaste 225' Cleanup ALARA Plan", which emphasizes maintaining accumulated radiation exposure as-low-as-reasonably-achievable.

Major milestones in the cleanup of the sub-basement area have included the recent decontamination of the walls and floors of the operating aisle and the completion of the Tethered Remote Operating Device (TROD) construction and testing. Training on TROD has also been completed for operators and supervisors participating in the cleanup effort. The robotic device was received at Nine Mile Point Unit 1 on March 9, 1990. Also, the Number 11 Waste Building Sump which will be used to remove water and sludge from the area has been modified and successfully tested.

THE CORRECTIVE STEPS THAT HAVE BEEN TAKEN TO AVOID FURTHER VIOLATIONS

The process associated with preparation of 10CFR50.59 safety evaluations has been significantly strengthened by Niagara Mohawk since the 1981 time frame when the flooding of the 225' level occurred. Management has assured that those making decisions possibly affecting the safety of the facility have increased sensitivity as to the need to prepare 10CFR50.59 safety evaluations.

For example, a 10CFR50.59 training program, which reiterated the criteria for performing 10CFR50.59 safety evaluations and the techniques used to prepare reports documenting safety evaluations, was provided to a broad spectrum of individuals within the Nuclear Division in 1989. The training program emphasized the basic concepts on which our safety evaluations are to be based and that operational conditions are to be taken into account in evaluating changes to the facility as described in the Final Safety Analysis Report. This training program was also formulated to train other groups newly responsible for safety evaluation development.

As discussed at the Enforcement Conference, Niagara Mohawk has made extensive changes in its radwaste system and its operation. Modifications to the radioactive waste treatment facility have prevented spills from occurring and give greater flexibility for water management which is evident from the near zero discharge status of Unit 1 during the past several years. Also, in August 1981, Radwaste Operators and the position of Supervisor Radwaste Operations were specifically designated to oversee the radwaste system operation, thus increasing the knowledge and expertise of those responsible for the system's operation.

THE DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

With regard to the preparation of the 10CFR50.59 safety evaluation, full compliance has been achieved. The completion of the cleanup is scheduled for August 1990. However, management has clearly made known that its priorities associated with this action are safety and minimization of radiation exposure to workers rather then schedule considerations.

(06681)

SAFETY EVALUATION COVER SHEET

FILE COPY

PLANT: NMP1

SYSTEM: Radwaste

TITLE: Storage of Radwastes on Elevation 225' of Waste Disposal Building

MODIFICATION NUMBER: N/A

MAJOR ORDER NUMBER: N/A

SAFETY EVALUATION NUMBER: 89-016

REVISION NUMBER: 1

PREPARED BY: R. J. Cazzolli — Project/Responsible Engineer — Date: 10/26/89

REVIEWED BY: T M Hart for NAS — Lead Engineer — Date: 10/26/89

M. A. Moran — Lead Engineer - Safety Analysis — Date: 10/26/89

APPROVED BY: D K Greene — Acting Manager, ~~Engineering~~ Nuclear Technology — Date: 10/27/89

Is SORC Review required? Yes ____ No X

If SORC review is not required, the Station Superintendent or Technical Superintendent or General Superintendent may supply the final approval of the change and its evaluation.

APPROVED BY: ____________ Date ______

Title: ____________

SORC REVIEW Date: 12-19-89

Accepted as Submitted see next page Accepted as Revised ____

Disapproved ____

SRAB REVIEW Date: ______

Concurs ____ Does Not Concur ____

SAFETY EVALUATION COVER SHEET

PLANT: NMP1

SYSTEM: Radwaste

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MODIFICATION NUMBER: N/A

MAJOR ORDER NUMBER: N/A

SAFETY EVALUATION NUMBER: 89-016

REVISION NUMBER: 1

PREPARED BY: R. J. Cozzolli — Project/Responsible Engineer — 10/26/89 — Date

REVIEWED BY: Tim Knot for NAS — Lead Engineer — 10/26/89 — Date

M. A. Mosier — Lead Engineer - Safety Analysis — 10/26/89 — Date

APPROVED BY: D. K. Greene — Acting Manager, ~~Engineering~~ Nuclear Technology — 10/27/89 — Date

Is SORC Review required? Yes ____ No X

If SORC review is not required, the Station Superintendent or Technical Superintendent or General Superintendent may supply the final approval of the change and its evaluation.

APPROVED BY: _____ Date _____

Title: _____

SORC REVIEW Date: 10/10/89 89-117

Accepted as Submitted L. Ottman Accepted as Revised _____

Disapproved _____

SRAB REVIEW Date: _____

Concurs _____ Does Not Concur _____

1341b

NEL-032-2
Rev 0 6/89

1. TITLE: Storage of Radwastes on Elevation 225' of Waste Disposal Building

2. BACKGROUND AND SCOPE:

This safety evaluation addresses the use of the drum storage area on the 225' elevation of the Waste Disposal Building for storage of liquid/spilled radwastes. The evaluation encorporates future storage, including storage until such time as elev. 225' decontamination is completed. Rev 1

Background - During a Plant start-up in July, 1981 following an extended refuel and maintenance outage, problems were observed in the Reactor Water Clean-up System heat exchanger. Investigation of this problem resulted in a perturbation in the Reactor Building Closed Loop Cooling, (RBCLC) System requiring the removal of the waste concentrator from service (the waste concentrator is cooled by the RBCLC System). The removal of the concentrator from service limited the ability to process high conductivity water and this in turn resulted in a substantial water inventory in the Waste Building. Concurrently, difficulties occurred in the processing of low conductivity water further compounding the water inventory problems. A piping failure in the Waste Building allowed high conductivity water to infiltrate the Low Conductivity System. The use of the Low Conductivity System required frequent filter change outs and demineralizer regeneration, which further contributed to the water inventory. This necessitated the use of the lower elevation of the Waste Building for water and filter sludge inventory storage until the waste processing systems could be repaired and returned to normal service. Rev 1 Rev 1

Clean-up efforts were undertaken promptly following the event and were continued until dose rates encountered made further efforts impracticable.

As a result, a condition exists on the 225' elevation of the Waste Disposal Building in which approximately 150 fifty-five gallon steel drums are located, some of which are in an unsecured condition. There are spilled and/or uncovered drums of radioactive waste consisting primarily of filter sludges and spent resins. However, the location of this material is such that there is a significant amount of concrete to shield the areas of normal personnel access. Rev 1

There have been cleanup efforts directed at the more accessible portions of the 225' elevation, e.g. the control aisle including removal of two drums containing radwaste material from the west end of the elevation. Other areas, especially the drum storage area, will require the use of remotely operated equipment to reduce personnel radiation exposure. Therefore certain actions have been taken to secure this area, one of which is maintenance of 6 to 14 inches of water over the entire 225' elevation floor in order to prevent drying of the spilled material and the subsequent possibility of airborne contamination in the building. However, due to the physical location and height of some of the uncovered solid material and drums, some of the solid wastes are not covered by water. Additional water level is not maintained due to concerns for migration of the drums and possible loss of more drum contents. Air analyses of the area performed during the past eight years demonstrate that the water blanketing control measures are adequate and that those portions that are not covered do not contribute to an airborne contamination problem. Rev 1 Rev 1

Waste Disposal Building Design - The Unit 1 FSAR describes the design of the Waste Disposal Building in Sections III and XII. Pertinent details of the waste disposal building design are summarized in the following paragraphs.

The waste disposal building is designed as a Class I structure. (Class I structures are those structures whose failure could cause significant release of radioactivity or which are vital to safe shutdown and isolation of the reactor, and are designed so that the possibility of failure would approach zero when subjected to maximum probable earthquake motion). (FSAR Section III, C, 1.3)

The exterior walls and base slab of the waste disposal building are designed to resist hydrostatic pressure and uplift in case of exterior flooding, to elevation 249'. The substructure floors are designed for dead loads plus unlimited live loads. The designed control for spilled liquids is to allow the fluid to seek a lower elevation and thus be accommodated by the sumps, which collect the fluid and pump it directly to the floor drain collector tanks. | Rev. 1

The concrete thicknesses for walls and floors of the waste disposal building were established to provide radiation shielding from adjacent radwaste areas. The reinforced concrete substructure completely isolates the basement and serves as shielding for adjoining basement areas.

The building is designed to localize release of contaminated waste, thus restricting the size of cleanup and decontamination effort. The substructure is massive reinforced concrete which is not subject to fracturing. The waste disposal building is designed to retain radioactive wastes if they leak from systems so that they can be recovered and reprocessed. The effectiveness of the waste disposal building design is ultimately demonstrated by monitoring the storm sewer downstream of the perimeter drainage system, and the environmental monitoring program. | Rev.

In addition to the above FSAR described features, review of the building drawings indicates the presence of waterstops in the building's concrete construction joints. This feature is typical of NMPI buildings. In addition the concrete walls are substantial in thickness, i.e. 2 1/2 - 3 feet thick. Also, the original specification called for epoxy coatings on floors and walls in the waste disposal building. The floor on elevation 225' is covered with 1 to 2 inches of special high strength floor topping. The building can therefore store spilled liquids due to this substantial wall thickness, impermeable floor topping and the presence of waterstops in the construction joints. | Rev. 1 | Rev. 1

The ventilation system in the waste disposal building is designed such that air is supplied to the areas with the lowest potential for airborne contamination and the inlets to the ventilation exhaust ducts are located in the areas with the highest potential for airborne contamination. Thus, elevation 225' air movement is directed out through the exhaust ducts reducing the potential for airborne contamination in nearby and upper elevations. The exhaust ducts from elevation 225' of the waste disposal building are routed to the main plant stack passing through roughing filters, high efficiency particulate airborne filters, and the main stack particulate, iodine sampling and noble gas monitoring systems. | Rev. 1 | Rev. 1 | Rev. 1

Protective Actions and Monitoring - The perimeter drainage system at NMP1 collects groundwater and other drainage from around the Unit 1 buildings, and pipes these waters to a sump located on the west side of the unit. The sump is located at elevation 185'6". | Rev 1

Monthly grab samples were taken from the storm sewer, into which the perimeter drainage system is pumped on a noncontinuous basis, and were analyzed for gross gamma contamination from 1979 until mid 1981. The analysis portion of this monitoring program was upgraded in mid-1981 to include isotopic analyses and monitoring frequency was increased to weekly grab sampling. In November 1982 analysis sensitivity was upgraded by performing isotopic analyses on dedicated environmental equipment in a lower background area. Results of this monitoring to the present date have indicated that no release of activity from the waste disposal building has occurred. The perimeter drainage monitoring technique has been included as part of NMPC's response to IE Bulletin 80-10, and conforms to the criteria set forth in that bulletin. The semi-annual effluent reports that are submitted to the NRC demonstrate that neither stack gaseous nor batch liquid radwaste effluents from NMP1 exceed applicable criteria or regulations for release of radioactivity in effluents. | Rev 1

Personnel access to the drum storage area on waste disposal building elevation 225' is controlled in accordance with plant procedures for high radiation areas, contamination areas, and when required, airborne radiation areas. Weekly surveys of the open area of elevation 229' leading to the drum storage area are performed. High smearable contamination levels are used to trigger the performance of increased air sampling in the 229' area. Special surveys of the 229' elevation are performed prior to work being done in the area, and air sampling is performed in conjunction with the work activities. To minimize airborne contamination, a water depth of 6" to 14" is maintained on elevation 225'. The continuous airborne radiation monitor on waste disposal building elevation 261' can also provide indication of increases in airborne radioactivity caused by any changes or deterioration of conditions on elevation 225'. | Rev 1

3. ANALYSIS:

The waste disposal building design as described in Section 2.0 addresses the concern for the storage of radwastes in liquid or other forms on elevation 225'.

Overexposure of plant personnel due to direct shine from barrels in the drum storage area that may float directly in front of the gate leading to the 229' elevation is considered to be a remote possibility due to the administrative and radiation protection controls for access to the 229' elevation. (e.g. the requirement to use portable radiation monitoring equipment whenever entry is made to the 229' elevation). Additionally, the migration of barrels is considered to be of very low probability due to presence of dams located in the east and west ends of the operator aisle. The measures taken to minimize airborne contamination in the drum storage area (maintenance of 6-14" of water in the area) also demonstrate a positive ALARA approach in dealing with the contaminated area.

The sampling and radiation monitoring discussed in Section 2.0 demonstrate that the health and safety of the public has not been affected by the containment of wastes in the 225' elevation of the waste disposal building.

As verification that the results of the storm sewer sampling and analysis do in fact assure that there is no leakage from the 225' elevation of the waste disposal building, a sample of the perimeter drainage system sump was taken and analyzed. No evidence of contamination, and therefore leakage, was found. | Rev 1

The measures discussed above provide positive assurance that use of the drum storage area on elevation 225' of the waste disposal building as a waste storage area have not compromised the safety of the plant staff, the public, or the environment.

The measures discussed above also demonstrate that the conditions in the waste disposal building are stable and under the positive control of the operating staff. This has allowed NMPC to take an ALARA approach to the cleanup and decontamination of the area by taking advantage of radioactive decay, time to develop appropriate technology, and to finalize a plan of action so that the decontamination and cleanup effort can be performed in a safe and ALARA manner.

4. CONCLUSION:

The impacts of using the 225' elevation of the Waste Disposal Building for storage of liquid/spilled radwastes have been assessed.

Allowing the 225' elevation to be used for the storage of liquid/spilled radwastes will not adversely effect the public health and safety. This conclusion is based on the following factors: A) the buildings features described in Section 2 (e.g. essentially no permeability through walls and floor due to thickness, floor topping and waterstops) and B) the lack of any indication of leakage out of the building as indicated by the grab samples taken from the storm sewer system started in 1979.

No equipment is being added, deleted or modified in conjunction with this evaluation. Thus there are no concerns with equipment clearances, Category II over I, jet impingement, equipment qualification, fire protection, Appendix R analysis, control room habitability, or fuel analysis. There are no human factors, concerns or ISI/IST concerns. ALARA concepts are being incorporated into the maintenance of the 225' elevation. There are no environmental impact concerns.

5. ATTACHMENTS:

1. Safety analysis review verification
2. Certification of Compliance for NRC Standards (10CFR50.59)(NEL-032)
3. Waste Disposal Building 225' Elevation Floor Plan
4. Safety analysis checklists

6. REFERENCES:

1. NMPC drawings: C-18547-C and C-18548-C (index 3-N2.1-M27).
   C-15279-C and C-15286-C (index 3-N2.1-S2.3)
2. Detailed Specification N-229.
3. Internal Correspondence from R. Cazzolli to Waste Disposal Building 225' SER File, dated September 6, 1989, Subject: Notes Meeting on NMP1 Perimeter Drainage.

SAFETY ANALYSIS REVIEW VERIFICATION

SAFETY EVALUATION NUMBER 89-016 REVISION X 1 **

		APPROVALS	DATE
1.	ALARA review completed per NT-100.A	pjc for GC 8/24/89	8-25-89
2.	EQ review completed per NEL-800 or NEL-052	pjc for GC 8/24/89	8-25-89
3.	Fire Protection analysis completed per NEL-046 N/A	pjc for GC 8/24/89	8-25-89
4.	10CFR50 Appendix R compliance review completed per NEL-046	N/A SMC	8/25/89
5.	Fuel Analysis Review completed	PJC required PER	8/25/89
6.	Changes to SAR required ____ YES X NO (If yes, list sections and LDCN numbers)	RJC pjc 8/24/89	8/25/89
7.	Changes to Control Room Habitability study conclusions required (If yes, explain) ____ YES X NO	RJC pjc 8/24/89	8/25/89
8.	ISI/IST Review Completed	N/A pjc 8/24/89	8-25-89
9.	Equipment Clearance Review Completed (Unit 2 only)	*NR	
10.	Category II over I Review Completed (Unit 2 only)	*NR	
11.	Jet Impingement Review Completed (Unit 2 only)	*NR	
12.	Human Factors Review Completed	[illegible]	8/25
13.	Seismic Qualification Review Completed per NEL-053 (Unit 2 Only)	*NR	

Concurrence: R. J. Cuzzolli pjc 8/24/89 — Project/Responsible Engineer — 8/25/89 Date

*NR - Not required for Unit 1

1341b

NEL-032-4
Rev. 0 6/89

** Changes incorporated into revision 1 do not affect any of the original review verifications pjc 8/24

CERTIFICATION OF COMPLIANCE TO NRC STANDARDS (10CFR50.59) (NEL-032)

TITLE: Storage of Radwastes on Waste Bldg. Elevation 225' MOD/REF DOC NO.: _____

SAFETY EVALUATION NUMBER: 89-016 REVISION: 1

A. Could the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report increased?

No. This conclusion is based on the following factors: A) the buildings features described in Section 2 (e.g. essentially no permeability through walls and floor due to thickness, floor topping and waterstops) and B) the lack of any indication of leakage out of the building as indicated by the grab samples taken from the perimeter drainage system starting in 1979 and future enhancements to sampling as described in Section 2.

B. Could the change create the possibility for an accident or malfunction of a different type than any evaluated in the safety analysis report?

No. This conclusion is based on the following factors: A) the buildings features described in Section 2 (e.g. essentially no permeability through walls and floor due to thickness, floor topping and waterstops) and B) the lack of any indication of leakage out of the building as indicated by the grab samples taken from the perimeter drainage system starting in 1979 and future enhancements to sampling as described in Section 2.

C. Is the margin of safety reduced, as defined in the basis for any Technical Specification?

No. This conclusion is based on the following factors: A) the buildings features described in Section 2 (e.g. essentially no permeability through walls and floor due to thickness, floor topping and waterstops) and B) the lack of any indication of leakage out of the building as indicated by the grab samples taken from the perimeter drainage system starting in 1979 and future enhancements to sampling as described in Section 2. The monitoring provides an added margin of safety, which offsets any potential reduction due to this long-term storage..

Based on A, B, and C above, this change does not constitute an unreviewed safety question.

D. Does the change affect Nuclear Safety?

No. This modification deals only with non-safety related equipment and does not impact any other safety-related equipment.

E. Are changes required in the Technical Specifications incorporated in the license (Yes/(No))? If yes, describe.

No changes required.

If Item E above is no and if an USQ does not exist, and if D is no, then SORC review and approval is not required.

Is SORC review and approval required? YES/(NO)

CERTIFICATION OF COMPLIANCE TO NRC STANDARDS (NEL-032) (Con't.)

F. Will the proposed change, test or experiment result in a significant increase in any adverse environmental impact previously evaluated in the FES-OL, environmental impact appraisals, or in any decisions of the Atomic Safety and Licensing Board? No. Storage of liquid/spilled radwastes on Waste Disposal Building elevation 225' does not result in a significant increase in adverse environmental impacts, as discussed in SER.

G. Will the proposed change, test or experiment result in a significant change in effluents or power level? No. None is anticipated because of the leak tightness of the building and the continued sampling of perimeter drains and gaseous effluents will ensure there is no significant change in effluents. Power level is not impacted by this modification.

H. Will the proposed change, test or experiment concern a matter not previously reviewed and evaluated in the documents specified in question "F" above, which may have a significant adverse environmental impact? No. As discussed in Item G above effluent releases will not significantly increase.

I. Will the proposed change result in an activity not confined to on-site areas previously disturbed during site preparation and plant construction? No. This evaluation does not involve any activities which would necessitate disturbing areas on-or off-site.

J. Will the proposed change constitute a decrease in the effectiveness of the NMP2 Environmental Protection Plan? No. This change will not decrease the effectiveness of the NMP2 Environmental Protection Plan, nor will it have an adverse or environmental impact on the site. This conclusion is based on the building features as described in Section 2 and by the lack of indication of leakage as evidence by the perimeter drawings system monitoring.

Based on F, G, H, I and J above, this change does not constitute an unreviewed environmental question

K. Are changes required in the Environmental Protection Plan (Appendix B to NMP #2 Operating License)? (Yes/(No)) If yes, describe

UNIT: 1

MOD CONTROL NO. PN2 Y___ M___ SER - Storage of Uncontained Radwastes on Elevation 225' of Waste Disposal Building

CONTROL ROOM HABITABILITY CHECKLIST

This Checklist documents the results of a review performed on te design of this Modificaion consistent with NUREG-0700 Sect. 6.1.5 to ensure that the design includes appropriate steps to mitigate or reduce the probability of an accident.

		Yes	No
A.	REVIEW		
1	In the event of a DBA LOCA, or any other accident described in Chapter 15 of the FSAR, would this Modification result in an INCREASE in:		
	a. the Design Primary Containment Leak Rate?	___	✓
	b. the Secondary Containment In-Leakage Rate?	___	✓
	c. the atmospheric Dispersion Factor (X/Q) due to a change in the Radiation Release Point?	___	✓
	d. the Bypass Leakage Rates?	___	✓
	e. the ESF Equipment Leakage Rates?	___	✓
	f. the Secondary Containment Drawdown Time?	___	✓
2.	Does this Modification result in a DECREASE in:		
	a. the RBEVS/SGTS Halogen and HEPA Filter efficiencies?	___	✓
	b. the Control Room Halogen and HEPA Filter efficiencies?	___	✓
	c. the Primary Containment Free Air Volume?	___	✓
	d. the personnel capacity of the Control Room?	___	✓
	e. the capacity of the RBEVS/SGTS Fans?	___	✓
3.	Does this Modification result in a change in Control Room Emergency Ventilation:		
	a. Pressure Boundary?	___	✓
	b. Intake Rate?	___	✓
	c. Recirculation Rate?	___	✓

MOD CONTROL NO PN2 Y M

SER

CONTROL ROOM HABITABILITY CHECKLIST

	YES	NO
A. REVIEW (Cont.)		
4. Could this Modification result, in the event of a DBA LOCA, in:		
a. an increase in the number of Bypass Leakage	___	✓
b. a change in the physical or process characteristics of the Bypass Leakage Paths?	___	✓
5. Could this modification result in a toxic gas hazzard that would limit Control Room habitability?	___	✓

B. CONCLUSIONS INPUT

Based on the above review, the following remarks must be acknowledged prior to forming the conclusions to this Modification Final Safety Evaluation.

None

R. J. Coggeshall — 8/25/89

REVIEWER'S SIGNATURE — DATE

ALARA FINAL DESIGN CHECKLIST

MODIFICATION: SAFETY EVALUATION: STORAGE OF UNCONTAMINATED RADWASTES ON ELEVATION 225' OF THE WASTE DISPOSAL BUILDING.

	YES	NO	N/A
1. Will the modification produce post-accident radiation fields which would unduly limit personnel access to areas necessary for mitigation of or recovery from an accident or unduly degrade the proper operation of safety equipment in violdation of NUREG 0588, NUREG 0737 or I&E Bulletin 79-01B?		NO	
2. Are potential sources of radiation created by the modification minimized and located as far as possible from existing controls and/or equipment requiring frequent access during normal operations?	YES		
3. Are modification controls and/or equipment requiring frequent access during normal operations located as far as possible from potential sources of radiation/ contamination?			N/A
4. Is appropraite shielding utilized where practical and beneficial to reduce personnel radiation exposure?	YES		
5. Is the modificiation designed such that time spent by personnel in a radiation area to operate/service equipment installed as part of modification is kept to a minimum?			N/A
6. Have gauges, vents, drains and flushing lines been designed to minimize crud traps and provide for adequate venting, draining and flushing?			N/A
7. Is adequate system and component isolation provided?	YES		
8. Are necessary services (air, water, electrical, etc.) provided?	YES		
9. Are radiation and airborne contamination alarms and monitoring devices adequate?	YES		
10. Have adequate contamination control features been incorporated?	YES		
11. Have appropriate modification specific ALARA questions been considered?	YES		
12. Has the ALARA cost/benefit of the modification been appropriately addressed?			N/A

ALARA BENEFIT AND IMPACT REPORT

MOD NO. SAFETY EVALUATION: STORAGE OF UNCONTAMINATED RADWASTES ON ELEVATION 225' OF THE WASTE DISPOSAL BUILDING.

A. **PROJECT DESCRIPTION** ANALYSE THE IMPACT ON ALARA TO SITE PERSONNEL AND THE PUBLIC BASED UPON THE STORAGE OF RADIOACTIVE WASTE ON FLOOR ELEVATION 225' OF THE UNIT-1 RADWASTE BUILDING.

B. **WORKER-EXPOSURES** ACCESS TO THE FLOODED RADWASTE ELEVATION 225' IS CONTROLLED AS A HIGH RADIATION AREA (2, LOCKED GATES) WITH THE GATE LOCKED IN THE RESTRICTED AREA (APPROXIMATELY 2 mR/HR EXPOSURE RATE). AS A RESULT OF ADMINISTRATIVE AND PHYSICAL CONTROLS THERE IS NOT ENVISIONED IMPACT OF WORKER OR PUBLIC EXPOSURE.

C. **RADIOACTIVE EFFLUENTS** LIQUID CONTAMINANTS ARE CONTAINED WITHIN THE FLOOR ELEVATION 225' RADIOACTIVE WASTE DISPOSAL BUILDING. THE STRUCTURE OF THE BUILDING WAS DESIGNED AND CONTINUES TO RETAIN THE RADIOACTIVE WASTE. PERIMETER SAMPLING AROUND THE OUTSIDE OF THE STRUCTURE VERIFIES THAT THERE IS CONTINMENT INTEGRITY.

D. **CONTAMINATION LEVELS** AIR BORNE CONTAMINANTS ARE AND HAVE BEEN MONITORED BY THE RADWASTE BUILDING CONTINUOUS AIRBORNE AND MAIN STACK EFFLUENT MONITORING SYSTEMS. EFFLUENTS ARE MONITORED WITH TECH SPEC LIMITS AND THEREBY KEPT TO AN ACCEPTABLE LEVEL. THERE IS MINIMAL IMPACT ON OUR PUBLIC.

MONITORING AT ACCESS TO FLOOR ELEVATION 225' OF THE RADIOACTIVE WASTE BUILDING IS ROUTINELY DONE. HAS NOT BEEN CITED AS IMPACTED WORKER / PUBLIC SAFETY.

E. **PLANT OPERATIONS AND SAFETY** AS THIS STRUCTURE HAS NOT BEEN USED FOR THE CONTAINMENT OF RADIOACTIVE WASTE AND CONTAINMENT INTEGRITY / RADIATION EXPOSURE CONTROLS ARE IN PLACE - THERE IS NO PLANT OPERATIONS OR SAFETY CONCERNS HERE.

F. **DESIGN ALTERNATIVES** CLEAN UP OF THE FACILITY. WHEN THE CLEAN UP OF THE FACILITY IS UNDERTAKEN, CORPORATE HEALTH PHYSICS AND SITE ALARA WILL MONITOR THE EFFORTS.

G. **COST/BENEFIT ANALYSES** NONE REQUIRED AS NO WORK IS OR NEEDS TO BE DONE TO MAINTAIN ITS PRESENT CONDITION.

H. **POST-ACCIDENT SOURCES** NOT APPLICABLE, THE BUILDING IS A CLASS I STRUCTURE.

I. **ALARA REVIEW EXEMPTIONS** THE RESULT OF MY REVIEW SHOWS THAT FURTHER ALARA REVIEW MAY BE EXEMPTED AS PER NT-100 A. WHEN THE CLEAN UP OF THE FACILITY IS UNDERTAKEN, CORPORATE-HEALTH PHYSICS AND SITE ALARA WILL MONITOR THE EFFORTS.

Gary W. Burgess 8/25/89
Corporate Health Physicist/Date

T M Kent 8/25/89
Reviewed: Project Engineer/Date

0081A

CONCEPTUAL EQUIPMENT QUALIFICATION REVIEW

DATE 8/25/89

MODIFICATION NO. N/A PROJECT ENGINEER Nick Spagnoletti

REFERENCE DRAWING(S) N/A

MODIFICATION TITLE Storage of radwastes on elevation 225' of waste disposal building.

SYSTEM NAME Radwaste P&ID

A) DESCRIPTION/SCOPE This safety evaluation addresses the use of the drum storage area on the 225' elevation of the waste disposal building for storage of radwaste.

B) WILL THIS MODIFICATION:	YES	NO	UNKN
1) Involve equipment currently identified on the Equipment Qualification List?		X	
2) Provide a function associated with safe shutdown of the plant?		X	
3) Involve safety-related electrical equipment?		X	
4) Involve non-safety-related electrical equipment whose failure under postulated environmental conditions could prevent the satisfactory accomplishment of safety functions by safety-related electrical equipment?		X	
5) Involve post-accident monitoring equipment needed to assess the plant conditions during and following an accident?		X	
6) Have components located in the following?			
a) Reactor Building		X	
b) Turbine Building		X	
c) Drywell		X	
d) Control Room		X	
e) Other Radwaste			
7) Increase ambient temperature for the general area in which it will be located?		X	

CONCEPTUAL EQUIPMENT QUALIFICATION REVIEW

MODIFICATION NO. _____

	YES	NO	UNKN
8) Add structural components/barriers that could affect the thermal conditions in the area?	___	X	___
9) Add moisture source(s) by way of routed pipe, an added tank(s), etc.?	X	___	___
10) Add radiation source(s) or radiation shielding?	___	X	___

_____
Project Engineer Date

C) CONCEPTUAL EQUIPMENT QUALIFICATION REVIEW

Initial review of this modification indicates that Equipment Qualification requirements:

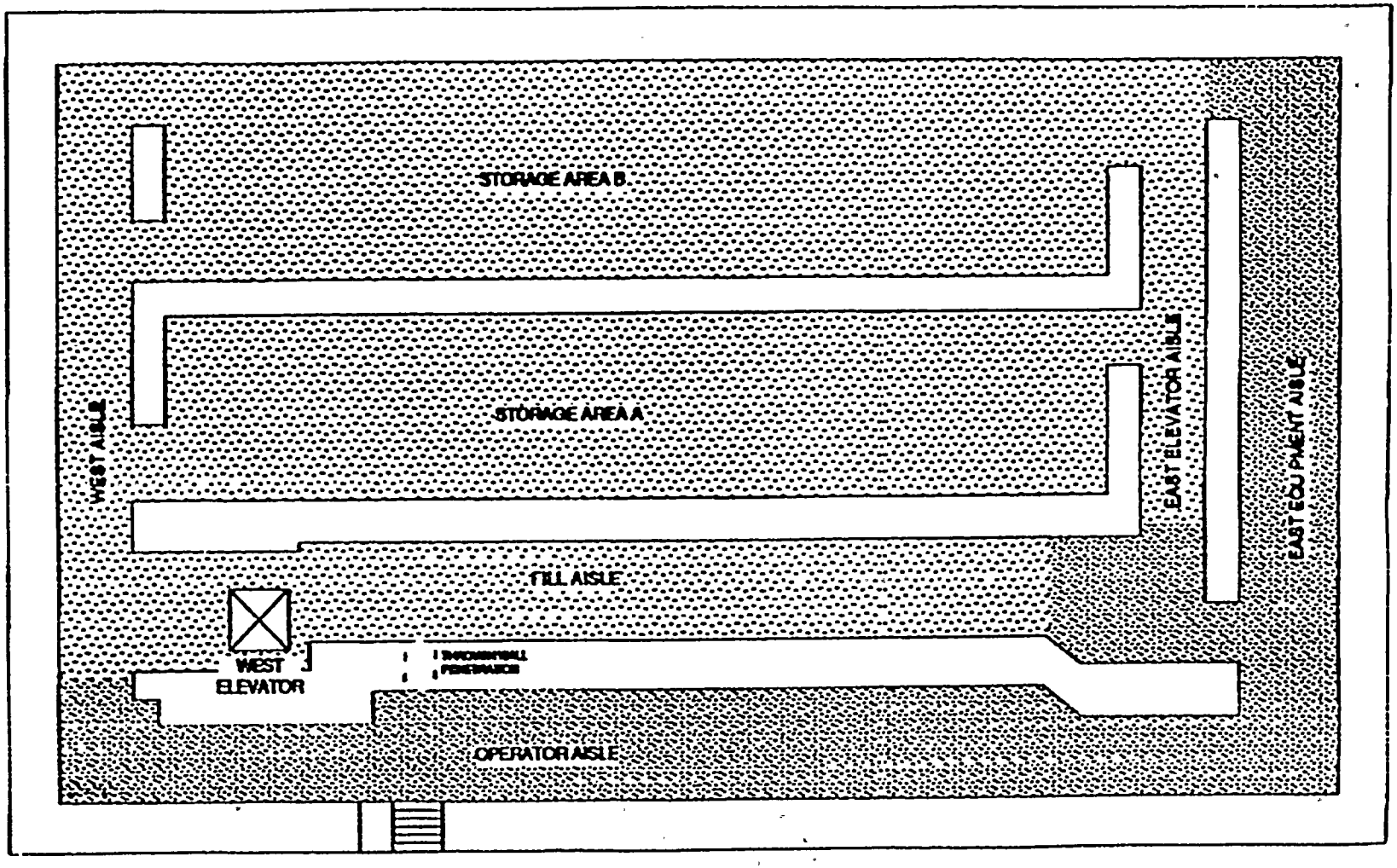
1) Do not apply ___X___
2) Do apply
   a) HELB/LOCA Analysis complete _____
   b) HELB/LOCA Analysis requirement _____
3) Apply pending further definition of scope _____

EQ Input & Status Form Required Yes ___ No X

N/A
_____ _____
Licensing Engineer Date


26 Oct 89
_____ _____
Equipment Qualification Engineer Date

ELEVATION 225' FLOOR PLAN



PROPOSED AREAS FOR RECONTAMINATION USING ROBOTIC EQUIPMENT

PROPOSED AREAS FOR DECONTAMINATION USING MANUAL METHODS

INTERNAL CORRESPONDENCE
FORM 112-2 R 02-80 55-01-013

NIAGARA MOHAWK

TO Mr. S. W. Wilczek, Jr.

Mr. J. L. Willis
Chairman, Site Operations
Review Committee

DISTRICT Salina Meadows

DATE 11/13/89 FILE CODE

SUBJECT SAFETY EVALUATION TITLE AND DOCUMENT # 89-016 Rev. #1

Title: Storage of RadWastes on Elevation 225' of waste Disposal Building.

UNIT 1 ✓

UNIT 2 ___

THIS SAFETY EVALUATION DOES NOT REQUIRE SORC REVIEW. AFTER APPROVAL BY THE STATION SUPERINTENDENT OR TECHNICAL SUPERINTENDENT OR GENERAL SUPERINTENDENT, PLEASE RETURN SIGNED COVER PAGE TO:

Carol Sgarlata
Nuclear Licensing
Salina Meadows
2nd Floor

Carol Sgarlata FOR: SWH
Manager, Nuclear Technology

SWH/CS:mjd
4922G

Attachment

xc: Records Management

FIGURE 1

51-2

NIAGARA MOHAWK — MODIFICATION REVIEW (SITE OPERATIONS REVIEW COMM

MODIFICATION TITLE: Storage of Radwastes on El. 225 of Waste

UNIT: ☒ 1 ☐ 2 ☐ SITE

DOCUMENT

DOCUMENT TITLE: Storage of Radwaste on El. 225' of Waste Disposal Bldg.

DOCUMENT NUMBER: 89-016, R1

DOCUMENT TYPE ☐ CONCEPTUAL ENGINEERING PACKAGE ☒ FINAL SAFETY EVALUATION ☐ TECHNICAL SPECIFICATIONS

OTHER

ORIGINATOR: NAME	DEPARTMENT	DATE
R. Cazzoli	Health Physics	10/20/89
PROJECT ENGINEER NAME	DEPARTMENT	DATE

LOGGED BY SITE PLANNING: DATE

MODIFICATION CONTROL NO: N | Y | M | LE

REVIEW

NAME	ACCEPTED AS PRESENTED INITIALS	ACCEPTED AS PRESENTED DATE	ACCEPTED AS REVISED INITIALS	ACCEPTED AS REVISED DATE
1. SITE CONTACT				
2.				
3.				
4.				
5.				

SORC REVIEW

FIRST PRESENTED TO SORC BY R. Cazzoli DEPARTMENT Eng. HP. DATE 12/19/89

ACCEPTED BY SORC: ☒ AS SUBMITTED ☐ AS REVISED MEETING # 89-187

CHECK ONE, IF APPLICABLE:

☐ THIS MODIFICATION DOES NOT INVOLVE AN UNREVIEWED SAFETY QUESTION & DOES NOT INVOLVE A CHANGE TO TECHNICAL SPECIFICATIC

☐ THIS MODIFICATION INVOLVES AN UNREVIEWED SAFETY QUESTION OR A CHANGE TO TECHNICAL SPECIFICATIONS. PRIOR NRC APPRO SHALL BE OBTAINED.

CHECK ONE, IF APPLICABLE:

☐ THE DOCUMENTS SUBMITTED FOR REVIEW NEED MORE DETAILED ENGINEERING OR REVISION. RETURN TO SORC FOR FURTHER REVIEV

☐ THE MODIFICATION MAY PROCEED & BE INSTALLED AFTER SORC REVIEW OF THE FINAL SAFETY EVALUATION.

SORC CHAIRMAN L. Dettmar for SORC DATE 12/19/89

FOR MOD COORD USE: ☐ SORC REVIEW N/A INT.

LOGGED COMPLETE BY SITE PLANNING DATE

SRAB REVIEW

☐ ACCEPTED BY SRAB: ☐ ACCEPTED AS SUBMITTED ☐ AS REVISED MEETING DATE

SRAB CHAIRMAN DATE

FOR MOD COORD USE: ☐ SRAB REVIEW N/A INT.

LOGGED CLOSED BY SITE PLANNING DATE

313-238 SYMBOL NO. 55-32-196

TECHNICAL REVIEW COVER SHEET (TEMPORARY AD 3 & 3, FORM 2, REV 6B)

89-189-1

DOCUMENT

Unit 1/Unit 2

Document Title: 89-010, Rev. 1 Storage of Radwastes on El 225' of Waste Disposal Bldg

Author: R Cazzolli Department: _____ Date: 10/26/89

REVIEW

Department	Name (print)	Initials	Date
Compliance	D.J. STRAKA		11/30/89
Operations	J.A. KRONENBITTER	JAK	11/30/89
Maintenance			
I&C			
Rad Protection	E.W. LEACH	EWL	11/30/89
Chemistry	E W LEACH	EWL	11/30/89
Site Engineering	JOHN H SNYDER	JHS	11/30/89
Nuclear Licensing			
Reactor Analysis			
Site Technical	P. Mazzafero	PAM	11/30/89

Comments to be resolved: (Yes) No _____

This item to be Brought to SORC / C. HERBER TO BE PRESENT TO ADDRESS

SORC REVIEW

SORC review/approval required: (Yes) No _____

Forwarded to NRCG to schedule for SORC: Date: 12/19/89

DOCUMENT APPROVAL

Document Approved

_____ _____

General Superintendent, Nuclear Generation; Station Superintendent; OR Technical Superintendent Nuclear — Date

ATTACHMENT 4: TECHNICAL REVIEW PROCEDURE CHANGE CHECK LIST

The purpose of the Procedure Change Check List is to determine the potential effects that the proposed change may have so that implementation of the approved change will be accomplished in an expeditious manner.

Answer the following questions. A YES answer requires the following:

- o Complete an NCTS Commitment Identification Form (refer to NRCP-11, Attachment 1) and submit to Director Nuclear Regulatory Compliance, or designee for input into NCTS.
- o Director Nuclear Regulatory Compliance, or designee will ensure the commitment is dispositioned.

1.	Is additional training required	Yes ___ No ___
1.1	Has TMR been submitted	Yes ___ No ___
2.	Are procedure changes required for:	
2.1	Configuration Controlled Procedures	Yes ___ No ___
2.2	Administrative Procedures	Yes ___ No ___
2.3	Emergency Plan and Procedures	Yes ___ No ___
2.4	Security Plan and Procedures	Yes ___ No ___
2.5	Operating Procedures	Yes ___ No ___
2.6	Emergency Operating Procedures	Yes ___ No ___
2.7	Special Operating Procedures	Yes ___ No ___
2.8	Surveillance Procedures _____ Department	Yes ___ No ___
2.9	Test and Inspection (Preventive Maintenance) _____ Department	Yes ___ No ___
2.10	Maintenance Procedures (Corrective Maintenance) _____ Department	Yes ___ No ___
2.11	Radiation Protection Procedures	Yes ___ No ___
2.12	Chemistry and Radiochemistry Procedures	Yes ___ No ___
2.13	Reactor Analyst Procedures	Yes ___ No ___

2.14	Fuel Handling Procedures	Yes ___ No ___
2.15	Pre-Operational and Startup Procedures	Yes ___ No ___
2.16	Supervisory Procedures	Yes ___ No ___
2.17	Operating Orders ~~and Special Orders~~	Yes ___ No ___
2.18	Standing Orders	Yes ___ No ___
2.19	Special Orders	Yes ___ No ___
2.20	Fire Protection	Yes ___ No ___
2.21	Environmental Procedures	Yes ___ No ___
2.22	Waste Handling Procedures	Yes ___ No ___
2.23	Modification Procedures	Yes ___ No ___
2.24	ISI Procedures	Yes ___ No ___
2.25	Training Procedures	Yes ___ No ___
2.26	Site Construction Services Nuclear Procedures	Yes ___ No ___
2.27	Planning Instructions	Yes ___ No ___
3.0	Is additional material required (Special tools, spare parts, etc.)	Yes ___ No ___
3.1	Will material procurement time affect anticipated implementation date	Yes ___ No ___
4.0	Will proposed change affect present Technical Specifications interpretations	Yes ___ No ___
5.0	Will proposed change require plant modification before change can be implemented	Yes ___ No ___
6.0	Follow on actions required between NMPC site, Licensing and NRC, NRR	Yes ___ No ___
7.0	Proposed change should be sent to BWROG Technical Specifications for generic improvement	Yes ___ No ___

November 30, 1989

89-189-1 Storage of Radwastes on Elevation 225' of Waste Disposal Building #89-016, Revision 1

This safety evaluation addresses the use of the drum storage area on the 225' elevation of the Waste Disposal Building for storage of liquid/spilled radwastes. The evaluation incorporates future storage, including storage until such time as elevation 225' decontamination is completed. This safety evaluation allows us to use the room as it is presently are until it is cleaned up. The committee accepted this item as presented with an Open Item for that Mr. C. Gerber be present at SORC when this safety evaluation is presented to the Site Operations Review Committee.

or

ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ESSION NBR:9003300168 DOC.DATE: 90/03/23 NOTARIZED: NO DOCKET #
FACIL:50-220 Nine Mile Point Nuclear Station, Unit 1, Niagara Powe 05000220
AUTH.NAME AUTHOR AFFILIATION
BURKHARDT,L. Niagara Mohawk Power Corp.
RECIP.NAME RECIPIENT AFFILIATION
Document Control Branch (Document Control Desk)

SUBJECT: Responds to NRC 900223 ltr re violations noted in Insp Rept 50-220/89-80.

DISTRIBUTION CODE: IE01D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 27
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	NRR/PMAS/ILRB12	1	1	NUDOCS-ABSTRACT	1	1
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	RES MORISSEAU,D	1	1	RGN1 FILE 01	1	1
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	NSIC	1	1			

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NIAGARA MOHAWK

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

March 23, 1990
NMP1L 0485

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

Gentlemen:

Attached is Niagara Mohawk Power Corporation's response to the Notice of Violation contained in Inspection Report No. 50-220/89-80 dated February 23, 1990. If you have any questions concerning this matter, please call.

Very truly yours,

NIAGARA MOHAWK POWER CORPORATION

L. Burkhardt, III
Executive Vice President
Nuclear Operations

NAS/jac
0668i

Attachment

xc: Regional Administrator, Region I
Mr. W. A. Cook, Resident Inspector
Records Management

IE01
1/1

NINE MILE POINT UNIT 1
DOCKET NO. 50-220
DPR-63

RESPONSE TO NOTICE OF VIOLATION CONTAINED IN
INSPECTION REPORT NO. 50-220/89-80

VIOLATION

10CFR50.59(a)(1) permits the holder of a license to make changes in the facility as described in the safety analysis report, without prior Commission approval, unless the proposed change involves a change in the technical specifications or an unreviewed safety question.

10CFR50.59(b)(1) requires, in part, that records of these changes be maintained, and these records shall include a written safety evaluation which provides the basis for the determination that the change does not involve an unreviewed safety question.

Section III.C.2.1 of the Nine Mile Point I Final Safety Analysis Report (FSAR) states that the north section of the Radwaste Processing Building (which includes the 225' elevation sub-basement area) is for storing of solid radioactive waste in metal drums until it is suitable for off site shipment. The FSAR also states that the designed control for spilled liquid is to allow the liquid to seek a lower level and thus be accommodated by the sumps, which contain the fluid and pump it directly to storage tanks.

Contrary to the above, changes were made to the facility as described in the FSAR in that (1) in July 1981, the 225' elevation sub-basement area of the Radwaste Processing Building was used as a temporary liquid radioactive waste storage area, in addition to the storage of the solid radioactive waste contained in metal drums, and (2) in October 1981, a determination was made by the licensee to use the 225' elevation sub-basement as a long term liquid radioactive waste storage area; however, prior to causing these changes, the licensee did not develop a written safety evaluation to provide a basis for a determination that these changes did not involve unreviewed safety questions. An analysis was needed to consider, for example, the limits for flooding the sub-basement area to: (a) prevent a challenge to the water-tight integrity of the sub-basement and the possibility of unanalyzed releases of radioactivity to the environment; (b) assure that the water level would not topple the solid radioactive waste drums, substantially increasing the radioactivity present in the water and thus possibly increasing the occupational radiation exposure which would result during a cleanup of the contamination which could result if the drums were to topple.

ADMISSION OR DENIAL OF THE ALLEGED VIOLATION

Niagara Mohawk Power Corporation does not contest the cited violation.

THE REASONS FOR THE VIOLATION

As explained below, the primary reason for failure to perform the 10CFR50.59 safety evaluation in 1981 was a past focus on design changes rather than operating conditions as triggers for the need for 10CFR50.59 safety evaluations. The reasons why the cited violation occurred must be examined in the context of the time of its occurrence in 1981, previous experience with similar events and the operational problems existing at the time.

In 1981, there was substantially less industry guidance relating to the implementation of 10CFR50.59 than exists today. Thus, those responsible for implementing the regulation had to rely on their understanding of how that regulation had been historically implemented. At the time, the focus of 10CFR50.59 related to design changes rather than how operational conditions might affect the facility as described in the Final Safety Analysis Report. Thus, at the time, it was not Niagara Mohawk's practice to prepare 10CFR50.59 safety evaluations prior to making operational decisions relating to the use of process systems such as the radwaste system.

Since the commencement of Operation of Unit 1 and prior to the incident in question, during certain off normal operational events resulting from startup and equipment problems involving the radwaste system, water had been allowed to overflow onto the floor at the 225' level of the Radwaste Building. These prior incidents had been cleaned up without substantial difficulty, without any detected leakage outside the facility and without impacting the radioactive waste drums stored at the 225' level. Thus, such incidents were considered to be consistent with the design of the facility and not a safety issue. These practices were also considered to be consistent with Niagara Mohawk's goal of minimizing radioactive discharges to Lake Ontario even though such releases would have been within all NRC discharge limits.

At the time of the incident in question, the 225' level of the Radwaste Building was not actively being used for radioactive waste processing. Contractor services, not requiring Radwaste Building processing equipment, were utilized because of more stringent burial site limitations on free standing water in radioactive waste containers and because of radioactive waste processing equipment problems. After the incident it became apparent that improvements to the Radwaste facility were warranted. Accordingly, planning efforts for the Radwaste Tank and Piping modification were initiated.

The NRC Region I Augmented Inspection Team (AIT) Report No. 50-220/89-80 and the 10CFR50.59 safety evaluation attached to this response contain detailed discussions of the events associated with and following the incident. In the interest of brevity, and as discussed at the October 30, 1989 Enforcement Conference, Niagara Mohawk does not dispute the facts as stated in the AIT Report. However, several additional considerations should be noted. At the time of the spill, Niagara Mohawk operators were trying to recover from problems associated with the radwaste system involving multiple failures and performance problems. We considered a number of options and decided on the selected course in order to attempt to implement the NRC's as-low-as-reasonably-achievable criterion and Niagara Mohawk's philosophy of zero discharge to Lake Ontario. We believed at the time that our actions were consistent with past practices and the design of the facility. It is now recognized that long term (several years) storage of liquid waste was beyond the anticipated operational use of the area and a safety evaluation would have been appropriate.

THE CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

At the time of the August 22-28, 1989 Radwaste Augmented Inspection Team inspection, Niagara Mohawk provided the NRC with an evaluation of the impacts of storing liquid on the 225' elevation and concluded, as did the NRC, that the storage of liquid did not adversely affect the health and safety of the public or workers. This conclusion was based on, among other things, the Company's environmental monitoring program, the perimeter drainage system monitoring program, the radiological protection monitoring program and the building design features. Niagara Mohawk's conclusions were also confirmed by the sampling taken and analyses conducted during the AIT inspection. These matters are described in the NRC's inspection report and were further amplified during the Enforcement Conference. In summary, the condition existing on the 225' elevation is stable, being monitored and reviewed on a continuing basis by Niagara Mohawk management.

Niagara Mohawk's evaluation formed the basis of the 10CFR50.59 safety evaluation prepared on October 26, 1989. This document also evaluated the storage of liquid until decontamination of the 225' elevation is complete and determined that such storage can be safely continued. As requested in the letter transmitting the Notice of Violation, a copy of this 10CFR50.59 safety evaluation is enclosed. Thus, with regard to the preparation of the 10CFR50.59 safety evaluation, full compliance has been achieved.

Even prior to the AIT inspection, the Company had begun preparation for the cleanup of the area utilizing a specially designed robot. The cleanup of the sub-basement area has been closely monitored and controlled by Company management. The cleanup's high priority and increased visibility are evident by the project's incorporation into the Nuclear Improvement Program. General guidance for the conduct of activities associated with the cleanup efforts is provided in the "Unit 1 Radwaste 225' Cleanup ALARA Plan", which emphasizes maintaining accumulated radiation exposure as-low-as-reasonably-achievable.

Major milestones in the cleanup of the sub-basement area have included the recent decontamination of the walls and floors of the operating aisle and the completion of the Tethered Remote Operating Device (TROD) construction and testing. Training on TROD has also been completed for operators and supervisors participating in the cleanup effort. The robotic device was received at Nine Mile Point Unit 1 on March 9, 1990. Also, the Number 11 Waste Building Sump which will be used to remove water and sludge from the area has been modified and successfully tested.

THE CORRECTIVE STEPS THAT HAVE BEEN TAKEN TO AVOID FURTHER VIOLATIONS

The process associated with preparation of 10CFR50.59 safety evaluations has been significantly strengthened by Niagara Mohawk since the 1981 time frame when the flooding of the 225' level occurred. Management has assured that those making decisions possibly affecting the safety of the facility have increased sensitivity as to the need to prepare 10CFR50.59 safety evaluations.

For example, a 10CFR50.59 training program, which reiterated the criteria for performing 10CFR50.59 safety evaluations and the techniques used to prepare reports documenting safety evaluations, was provided to a broad spectrum of individuals within the Nuclear Division in 1989. The training program emphasized the basic concepts on which our safety evaluations are to be based and that operational conditions are to be taken into account in evaluating changes to the facility as described in the Final Safety Analysis Report. This training program was also formulated to train other groups newly responsible for safety evaluation development.

As discussed at the Enforcement Conference, Niagara Mohawk has made extensive changes in its radwaste system and its operation. Modifications to the radioactive waste treatment facility have prevented spills from occurring and give greater flexibility for water management which is evident from the near zero discharge status of Unit 1 during the past several years. Also, in August 1981, Radwaste Operators and the position of Supervisor Radwaste Operations were specifically designated to oversee the radwaste system operation, thus increasing the knowledge and expertise of those responsible for the system's operation.

THE DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

With regard to the preparation of the 10CFR50.59 safety evaluation, full compliance has been achieved. The completion of the cleanup is scheduled for August 1990. However, management has clearly made known that its priorities associated with this action are safety and minimization of radiation exposure to workers rather then schedule considerations.

(0668i)

SAFETY EVALUATION COVER SHEET

FILE COPY

PLANT: NMP1

SYSTEM: Radwaste

TITLE: Storage of Radwastes on Elevation 225' of Waste Disposal Building

MODIFICATION NUMBER: N/A

MAJOR ORDER NUMBER: N/A

SAFETY EVALUATION NUMBER: 89-016

REVISION NUMBER: 1

PREPARED BY: R. J. Cozzolli — Project/Responsible Engineer — 10/26/89 — Date

REVIEWED BY: Tim Knoll for NAS — Lead Engineer — 10/26/89 — Date

M. A. Mosier — Lead Engineer - Safety Analysis — 10/26/89 — Date

APPROVED BY: D K Greene — Acting Manager, ~~Engineering~~ Nuclear Technology — 10/27/89 — Date

Is SORC Review required? Yes ____ No X

If SORC review is not required, the Station Superintendent or Technical Superintendent or General Superintendent may supply the final approval of the change and its evaluation.

APPROVED BY: _____ Date: _____

Title: _____

SORC REVIEW Date: 12-19-89

Accepted as Submitted see next page Accepted as Revised _____

Disapproved _____

SRAB REVIEW Date: _____

Concurs _____ Does Not Concur _____

SAFETY EVALUATION COVER SHEET

PLANT: NMP1

SYSTEM: Radwaste

TITLE: Storage of Radwastes on Elevation 225' of Waste Disposal Building

MODIFICATION NUMBER: N/A

MAJOR ORDER NUMBER: N/A

SAFETY EVALUATION NUMBER: 89-016

REVISION NUMBER: 1

PREPARED BY: R. J. Cizdli — Project/Responsible Engineer — 10/26/89 — Date

REVIEWED BY: Tim Knott for NAS — Lead Engineer — 10/26/89 — Date

M. A. Mas — Lead Engineer - Safety Analysis — 10/26/89 — Date

APPROVED BY: D K Sheene — Acting Manager, ~~Engineering~~ Nuclear Technology — 10/27/89 — Date

Is SORC Review required? Yes ____ No X

If SORC review is not required, the Station Superintendent or Technical Superintendent or General Superintendent may supply the final approval of the change and its evaluation.

APPROVED BY: _____ _____ Date

Title: _____

SORC REVIEW Date: 10/19/89 89-187

Accepted as Submitted L Ottman Accepted as Revised _____

Disapproved _____

SRAB REVIEW Date: _____

Concurs _____ Does Not Concur _____

1. TITLE: Storage of Radwastes on Elevation 225' of Waste Disposal Building

2. BACKGROUND AND SCOPE:

This safety evaluation addresses the use of the drum storage area on the 225' elevation of the Waste Disposal Building for storage of liquid/spilled radwastes. The evaluation encorporates future storage, including storage until such time as elev. 225' decontamination is completed. Rev 1

Background - During a Plant start-up in July, 1981 following an extended refuel and maintenance outage, problems were observed in the Reactor Water Clean-up System heat exchanger. Investigation of this problem resulted in a perturbation in the Reactor Building Closed Loop Cooling, (RBCLC) System requiring the removal of the waste concentrator from service (the waste concentrator is cooled by the RBCLC System). The removal of the concentrator from service limited the ability to process high conductivity water and this in turn resulted in a substantial water inventory in the Waste Building. Concurrently, difficulties occurred in the processing of low conductivity water further compounding the water inventory problems. A piping failure in the Waste Building allowed high conductivity water to infiltrate the Low Conductivity System. The use of the Low Conductivity System required frequent filter change outs and demineralizer regeneration, which further contributed to the water inventory. This necessitated the use of the lower elevation of the Waste Building for water and filter sludge inventory storage until the waste processing systems could be repaired and returned to normal service. Rev. 1 Rev. 1

Clean-up efforts were undertaken promptly following the event and were continued until dose rates encountered made further efforts impracticable.

As a result, a condition exists on the 225' elevation of the Waste Disposal Building in which approximately 150 fifty-five gallon steel drums are located, some of which are in an unsecured condition. There are spilled and/or uncovered drums of radioactive waste consisting primarily of filter sludges and spent resins. However, the location of this material is such that there is a significant amount of concrete to shield the areas of normal personnel access. Rev. 1

There have been cleanup efforts directed at the more accessible portions of the 225' elevation, e.g. the control aisle including removal of two drums containing radwaste material from the west end of the elevation. Other areas, especially the drum storage area, will require the use of remotely operated equipment to reduce personnel radiation exposure. Therefore certain actions have been taken to secure this area, one of which is maintenance of 6 to 14 inches of water over the entire 225' elevation floor in order to prevent drying of the spilled material and the subsequent possibility of airborne contamination in the building. However, due to the physical location and height of some of the uncovered solid material and drums, some of the solid wastes are not covered by water. Additional water level is not maintained due to concerns for migration of the drums and possible loss of more drum contents. Air analyses of the area performed during the past eight years demonstrate that the water blanketing control measures are adequate and that those portions that are not covered do not contribute to an airborne contamination problem. Rev. 1 Rev 1

Waste Disposal Building Design - The Unit 1 FSAR describes the design of the Waste Disposal Building in Sections III and XII. Pertinent details of the waste disposal building design are summarized in the following paragraphs.

The waste disposal building is designed as a Class I structure. (Class I structures are those structures whose failure could cause significant release of radioactivity or which are vital to safe shutdown and isolation of the reactor, and are designed so that the possibility of failure would approach zero when subjected to maximum probable earthquake motion). (FSAR Section III, C, 1.3)

The exterior walls and base slab of the waste disposal building are designed to resist hydrostatic pressure and uplift in case of exterior flooding, to elevation 249'. The substructure floors are designed for dead loads plus unlimited live loads. The designed control for spilled liquids is to allow the fluid to seek a lower elevation and thus be accommodated by the sumps, which collect the fluid and pump it directly to the floor drain collector tanks. | Rev. 1

The concrete thicknesses for walls and floors of the waste disposal building were established to provide radiation shielding from adjacent radwaste areas. The reinforced concrete substructure completely isolates the basement and serves as shielding for adjoining basement areas.

The building is designed to localize release of contaminated waste, thus restricting the size of cleanup and decontamination effort. The substructure is massive reinforced concrete which is not subject to fracturing. The waste disposal building is designed to retain radioactive wastes if they leak from systems so that they can be recovered and reprocessed. The effectiveness of the waste disposal building design is ultimately demonstrated by monitoring the storm sewer downstream of the perimeter drainage system, and the environmental monitoring program. | Rev. 1

In addition to the above FSAR described features, review of the building drawings indicates the presence of waterstops in the building's concrete construction joints. This feature is typical of NMP1 buildings. In addition the concrete walls are substantial in thickness, i.e. 2 1/2 - 3 feet thick. Also, the original specification called for epoxy coatings on floors and walls in the waste disposal building. The floor on elevation 225' is covered with 1 to 2 inches of special high strength floor topping. The building can therefore store spilled liquids due to this substantial wall thickness, impermeable floor topping and the presence of waterstops in the construction joints. | Rev. 1 | Rev. 1

The ventilation system in the waste disposal building is designed such that air is supplied to the areas with the lowest potential for airborne contamination and the inlets to the ventilation exhaust ducts are located in the areas with the highest potential for airborne contamination. Thus, elevation 225' air movement is directed out through the exhaust ducts reducing the potential for airborne contamination in nearby and upper elevations. The exhaust ducts from elevation 225' of the waste disposal building are routed to the main plant stack passing through roughing filters, high efficiency particulate airborne filters, and the main stack particulate, iodine sampling and noble gas monitoring systems. | Rev. 1 | Rev. 1 | Rev. 1

Protective Actions and Monitoring - The perimeter drainage system at NMP1 collects groundwater and other drainage from around the Unit 1 buildings, and pipes these waters to a sump located on the west side of the unit. The sump is located at elevation 185'6". Rev 1

Monthly grab samples were taken from the storm sewer, into which the perimeter drainage system is pumped on a noncontinuous basis, and were analyzed for gross gamma contamination from 1979 until mid 1981. The analysis portion of this monitoring program was upgraded in mid-1981 to include isotopic analyses and monitoring frequency was increased to weekly grab sampling. In November 1982 analysis sensitivity was upgraded by performing isotopic analyses on dedicated environmental equipment in a lower background area. Results of this monitoring to the present date have indicated that no release of activity from the waste disposal building has occurred. The perimeter drainage monitoring technique has been included as part of NMPC's response to IE Bulletin 80-10, and conforms to the criteria set forth in that bulletin. The semi-annual effluent reports that are submitted to the NRC demonstrate that neither stack gaseous nor batch liquid radwaste effluents from NMP1 exceed applicable criteria or regulations for release of radioactivity in effluents. Rev. 1

Personnel access to the drum storage area on waste disposal building elevation 225' is controlled in accordance with plant procedures for high radiation areas, contamination areas, and when required, airborne radiation areas. Weekly surveys of the open area of elevation 229' leading to the drum storage area are performed. High smearable contamination levels are used to trigger the performance of increased air sampling in the 229' area. Special surveys of the 229' elevation are performed prior to work being done in the area, and air sampling is performed in conjunction with the work activities. To minimize airborne contamination, a water depth of 6" to 14" is maintained on elevation 225'. The continuous airborne radiation monitor on waste disposal building elevation 261' can also provide indication of increases in airborne radioactivity caused by any changes or deterioration of conditions on elevation 225'. Rev. 1

3. ANALYSIS:

The waste disposal building design as described in Section 2.0 addresses the concern for the storage of radwastes in liquid or other forms on elevation 225'.

Overexposure of plant personnel due to direct shine from barrels in the drum storage area that may float directly in front of the gate leading to the 229' elevation is considered to be a remote possibility due to the administrative and radiation protection controls for access to the 229' elevation. (e.g. the requirement to use portable radiation monitoring equipment whenever entry is made to the 229' elevation). Additionally, the migration of barrels is considered to be of very low probability due to presence of dams located in the east and west ends of the operator aisle. The measures taken to minimize airborne contamination in the drum storage area (maintenance of 6-14" of water in the area) also demonstrate a positive ALARA approach in dealing with the contaminated area.

The sampling and radiation monitoring discussed in Section 2.0 demonstrate that the health and safety of the public has not been affected by the containment of wastes in the 225' elevation of the waste disposal building.

As verification that the results of the storm sewer sampling and analysis do in fact assure that there is no leakage from the 225' elevation of the waste disposal building, a sample of the perimeter drainage system sump was taken and analyzed. No evidence of contamination, and therefore leakage, was found. Rev 1

The measures discussed above provide positive assurance that use of the drum storage area on elevation 225' of the waste disposal building as a waste storage area have not compromised the safety of the plant staff, the public, or the environment.

The measures discussed above also demonstrate that the conditions in the waste disposal building are stable and under the positive control of the operating staff. This has allowed NMPC to take an ALARA approach to the cleanup and decontamination of the area by taking advantage of radioactive decay, time to develop appropriate technology, and to finalize a plan of action so that the decontamination and cleanup effort can be performed in a safe and ALARA manner.

4. CONCLUSION:

The impacts of using the 225' elevation of the Waste Disposal Building for storage of liquid/spilled radwastes have been assessed.

Allowing the 225' elevation to be used for the storage of liquid/spilled radwastes will not adversely effect the public health and safety. This conclusion is based on the following factors: A) the buildings features described in Section 2 (e.g. essentially no permeability through walls and floor due to thickness, floor topping and waterstops) and B) the lack of any indication of leakage out of the building as indicated by the grab samples taken from the storm sewer system started in 1979.

No equipment is being added, deleted or modified in conjunction with this evaluation. Thus there are no concerns with equipment clearances, Category II over I, jet impingement, equipment qualification, fire protection, Appendix R analysis, control room habitability, or fuel analysis. There are no human factors, concerns or ISI/IST concerns. ALARA concepts are being incorporated into the maintenance of the 225' elevation. There are no environmental impact concerns.

5. ATTACHMENTS:

1. Safety analysis review verification
2. Certification of Compliance for NRC Standards (10CFR50.59)(NEL-032)
3. Waste Disposal Building 225' Elevation Floor Plan
4. Safety analysis checklists

6. REFERENCES:

1. NMPC drawings: C-18547-C and C-18548-C (index 3-N2.1-M27).
   C-15279-C and C-15286-C (index 3-N2.1-S2.3)
2. Detailed Specification N-229.
3. Internal Correspondence from R. Cazzolli to Waste Disposal Building 225' SER File, dated September 6, 1989, Subject: Notes Meeting on NMP1 Perimeter Drainage.

SAFETY ANALYSIS REVIEW VERIFICATION

SAFETY EVALUATION NUMBER 89-016 REVISION ~~0~~ 1 **

		APPROVALS	DATE
1.	ALARA review completed per NT-100.A	[signature]	8-25-89
2.	EQ review completed per NEL-800 or NEL-052	[signature]	8-25-89
3.	Fire Protection analysis completed per NEL-046 N/A	[signature]	8-25-89
4.	10CFR50 Appendix R compliance review completed per NEL-046	N/A [signature]	8/25/89
5.	Fuel Analysis Review completed	Not required [signature]	8/25/89
6.	Changes to SAR required ____ YES __X__ NO (If yes, list sections and LDCN numbers)	RJC	8/25/89
7.	Changes to Control Room Habitability study conclusions required (If yes, explain) ____ YES __X__ NO	RJC	8/25/89
8.	ISI/IST Review Completed	N/A [signature]	8-25-89
9.	Equipment Clearance Review Completed (Unit 2 only)	*NR	
10.	Category II over I Review Completed (Unit 2 only)	*NR	
11.	Jet Impingement Review Completed (Unit 2 only)	*NR	
12.	Human Factors Review Completed	[signature]	8/25/89
13.	Seismic Qualification Review Completed per NEL-053 (Unit 2 Only)	*NR	

Concurrence: R. J. Cazzoli — 8/25/89
Project/Responsible Engineer — Date

*NR - Not required for Unit 1

1341b

NEL-032-4
Rev. 0 6/89

** Changes incorporated into revision 1 do not affect any of the original review verifications
RJC 10/26/89

CERTIFICATION OF COMPLIANCE TO NRC STANDARDS (10CFR50.59) (NEL-032)

TITLE: Storage of Radwastes on Waste Bldg. Elevation 225' MOD/REF DOC NO.: _____

SAFETY EVALUATION NUMBER: 89-016 REVISION: 1

A. Could the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report increased?

No. This conclusion is based on the following factors: A) the buildings features described in Section 2 (e.g. essentially no permeability through walls and floor due to thickness, floor topping and waterstops) and B) the lack of any indication of leakage out of the building as indicated by the grab samples taken from the perimeter drainage system starting in 1979 and future enhancements to sampling as described in Section 2.

B. Could the change create the possibility for an accident or malfunction of a different type than any evaluated in the safety analysis report?

No. This conclusion is based on the following factors: A) the buildings features described in Section 2 (e.g. essentially no permeability through walls and floor due to thickness, floor topping and waterstops) and B) the lack of any indication of leakage out of the building as indicated by the grab samples taken from the perimeter drainage system starting in 1979 and future enhancements to sampling as described in Section 2.

C. Is the margin of safety reduced, as defined in the basis for any Technical Specification?

No. This conclusion is based on the following factors: A) the buildings features described in Section 2 (e.g. essentially no permeability through walls and floor due to thickness, floor topping and waterstops) and B) the lack of any indication of leakage out of the building as indicated by the grab samples taken from the perimeter drainage system starting in 1979 and future enhancements to sampling as described in Section 2. The monitoring provides an added margin of safety, which offsets any potential reduction due to this long-term storage.

Based on A, B, and C above, this change does not constitute an unreviewed safety question.

D. Does the change affect Nuclear Safety?

No. This modification deals only with non-safety related equipment and does not impact any other safety-related equipment.

E. Are changes required in the Technical Specifications incorporated in the license (Yes/(No))? If yes, describe.

No changes required.

If Item E above is no and if an USQ does not exist, and if D is no, then SORC review and approval is not required.

Is SORC review and approval required? YES/(NO)

CERTIFICATION OF COMPLIANCE TO NRC STANDARDS (NEL-032) (Con't.)

F. Will the proposed change, test or experiment result in a significant increase in any adverse environmental impact previously evaluated in the FES-OL, environmental impact appraisals, or in any decisions of the Atomic Safety and Licensing Board? No. Storage of liquid/spilled radwastes on Waste Disposal Building elevation 225' does not result in a significant increase in adverse environmental impacts, as discussed in SER.

G. Will the proposed change, test or experiment result in a significant change in effluents or power level? No. None is anticipated because of the leak tightness of the building and the continued sampling of perimeter drains and gaseous effluents will ensure there is no significant change in effluents. Power level is not impacted by this modification.

H. Will the proposed change, test or experiment concern a matter not previously reviewed and evaluated in the documents specified in question "F" above, which may have a significant adverse environmental impact? No. As discussed in Item G above effluent releases will not significantly increase.

I. Will the proposed change result in an activity not confined to on-site areas previously disturbed during site preparation and plant construction? No. This evaluation does not involve any activities which would necessitate disturbing areas on-or off-site.

J. Will the proposed change constitute a decrease in the effectiveness of the NMP2 Environmental Protection Plan? No. This change will not decrease the effectiveness of the NMP2 Environmental Protection Plan, nor will it have an adverse or environmental impact on the site. This conclusion is based on the building features as described in Section 2 and by the lack of indication of leakage as evidence by the perimeter drawings system monitoring.

Based on F, G, H, I and J above, this change does not constitute an unreviewed environmental question

K. Are changes required in the Environmental Protection Plan (Appendix B to NMP #2 Operating License)? (Yes/(No)) If yes, describe

Page 1 of 2

UNIT: 1

MOD CONTROL NO: PN2 Y___ M___ SER - Storage of Uncontained Radwastes on Elevation 225' of Waste Disposal Building

CONTROL ROOM HABITABILITY CHECKLIST

This Checklist documents the results of a review performed on te design of this Modificaion consistent with NUREG-0700 Sect. 6.1.5 to ensure that the design includes appropriate steps to mitigate or reduce the probability of an accident.

	Yes	No
A. REVIEW		
1 In the event of a DBA LOCA, or any other accident described in Chapter 15 of the FSAR, would this Modification result in an INCREASE in:		
a. the Design Primary Containment Leak Rate?	___	✓
b. the Secondary Containment In-Leakage Rate?	___	✓
c. the atmospheric Dispersion Factor (X/Q) due to a change in the Radiation Release Point?	___	✓
d. the Bypass Leakage Rates?	___	✓
e. the ESF Equipment Leakage Rates?	___	✓
f. the Secondary Containment Drawdown Time?	___	✓
2. Does this Modification result in a DECREASE in:		
a. the RBEVS/SGTS Halogen and HEPA Filter efficiencies?	___	✓
b. the Control Room Halogen and HEPA Filter efficiencies?	___	✓
c. the Primary Containment Free Air Volume?	___	✓
d. the personnel capacity of the Control Room?	___	✓
e. the capacity of the RBEVS/SGTS Fans?	___	✓
3. Does this Modification result in a change in Control Room Emergency Ventilation:		
a. Pressure Boundary?	___	✓
b. Intake Rate?	___	✓
c. Recirculation Rate?	___	✓

Page 2 of 2

MOD CONTROL NO PN2 Y M

SER

CONTROL ROOM HABITABILITY CHECKLIST

	YES	NO
A. REVIEW (Cont.)		
4. Could this Modification result, in the event of a DBA LOCA, in:		
a. an increase in the number of Bypass Leakage	___	✓
b. a change in the physical or process characteristics of the Bypass Leakage Paths?	___	✓
5. Could this modification result in a toxic gas hazzard that would limit Control Room habitability?	___	✓

B. CONCLUSIONS INPUT

Based on the above review, the following remarks must be acknowledged prior to forming the conclusions to this Modification Final Safety Evaluation.

None

R. J. Coggeth
REVIEWER'S SIGNATURE

8/25/89
DATE

ALARA FINAL DESIGN CHECKLIST

MODIFICATION: SAFETY EVALUATION: STORAGE OF UNCONTAMINATED RADWASTES ON ELEVATION 225' OF THE WASTE DISPOSAL BUILDING.

	YES	NO	N/A
1. Will the modification produce post-accident radiation fields which would unduly limit personnel access to areas necessary for mitigation of or recovery from an accident or unduly degrade the proper operation of safety equipment in violdation of NUREG 0588, NUREG 0737 or I&E Bulletin 79-01B?		NO	
2. Are potential sources of radiation created by the modification minimized and located as far as possible from existing controls and/or equipment requiring frequent access during normal operations?	YES		
3. Are modification controls and/or equipment requiring frequent access during normal operations located as far as possible from potential sources of radiation/ contamination?			N/A
4. Is appropraite shielding utilized where practical and beneficial to reduce personnel radiation exposure?	YES		
5. Is the modificiation designed such that time spent by personnel in a radiation area to operate/service equipment installed as part of modification is kept to a minimum?			N/A
6. Have gauges, vents, drains and flushing lines been designed to minimize crud traps and provide for adequate venting, draining and flushing?			N/A
7. Is adequate system and component isolation provided?	YES		
8. Are necessary services (air, water, electrical, etc.) provided?	YES		
9. Are radiation and airborne contamination alarms and monitoring devices adequate?	YES		
10. Have adequate contamination control features been incorporated?	YES		
11. Have appropriate modification specific ALARA questions been considered?	YES		
12. Has the ALARA cost/benefit of the modification been appropriately addressed?			N/A

ALARA BENEFIT AND IMPACT REPORT

MOD NO. SAFETY EVALUATION: STORAGE OF UNCONTAMINATED RADWASTES ON ELEVATION 225' OF THE WASTE DISPOSAL BUILDING.

A. PROJECT DESCRIPTION ANALYSE THE IMPACT ON ALARA TO SITE PERSONNEL AND THE PUBLIC BASED UPON THE STORAGE OF RADIOACTIVE WASTE ON FLOOR ELEVATION 225' OF THE UNIT-1 RAD WASTE BUILDING.

B. WORKER-EXPOSURES ACCESS TO THE FLOODED RADWASTE ELEVATION 225' IS CONTROLLED AS A HIGH RADIATION AREA (eg, LOCKED GATE) WITH THE GATE LOCATED IN THE RESTRICTED AREA (APPROXIMATELY 2mR/HR EXPOSURE RATE). AS A RESULT OF ADMINISTRATIVE AND PHYSICAL CONTROLS, THERE IS NOT ENVIRONMENTAL IMPACT OF WORKER OR PUBLIC EXPOSURE.

C. RADIOACTIVE EFFLUENTS LIQUID CONTAMINANTS ARE CONTAINED WITHIN THE FLOOR ELEVATION 225' RADIOACTIVE WASTE DISPOSAL BUILDING. THE STRUCTURE OF THE BUILDING WAS DESIGNED TO AND CONTINUES TO RETAIN THE RADIOACTIVE WASTE. ENVIRONMENTAL SAMPLING AROUND THE OUTSIDE OF THE STRUCTURE VERIFIES THAT THERE IS CONTINUED INTEGRITY.

D. CONTAMINATION LEVELS AIR BORNE CONTAMINANTS ARE AND HAVE BEEN MONITORED BY BOTH THE RADWASTE BUILDING CONTINUOUS AIR MONITOR AND THE MAIN STACK EFFLUENT MONITORING SYSTEMS. EFFLUENTS ARE MONITORED WITH RESPECT TO TECH SPEC LIMITS AND THEREBY KEPT TO AN ACCEPTABLE LEVEL. THERE IS MINIMAL IMPACT ON WORKER AND PUBLIC.

MONITORING AT ACCESS TO FLOOR ELEVATION 225' OF THE RADIOACTIVE WASTE BUILDING IS ROUTINELY DONE. HAS NOT BEEN CITED AS IMPACTING WORKER / PUBLIC SAFETY.

E. PLANT OPERATIONS AND SAFETY AS THIS STRUCTURE HAS NOT BEEN USED FOR THE CONTAINMENT OF RADIOACTIVE WASTE AND CONTAINMENT INTEGRITY / RADIATION EXPOSURE CONTROLS ARE IN PLACE — THERE IS NO PLANT OPERATIONS OR SAFETY CONCERNS HERE.

F. DESIGN ALTERNATIVES CLEAN UP OF THE FACILITY. WHEN THE CLEAN UP OF THE FACILITY IS UNDERTAKEN, CORPORATE HEALTH PHYSICS AND SITE ALARA WILL MONITOR THE EFFORTS.

G. COST/BENEFIT ANALYSES NONE REQUIRED AS NO WORK IS OR NEEDS TO BE DONE TO MAINTAIN ITS PRESENT CONDITION.

H. POST-ACCIDENT SOURCES NOT APPLICABLE, THE BUILDING IS A CLASS I STRUCTURE.

I. ALARA REVIEW EXEMPTIONS THE RESULT OF MY REVIEW SHOW THAT FURTHER ALARA REVIEW MAY BE EXEMPTED AS PER NT-100 A. WHEN THE CLEAN UP OF THE FACILITY IS UNDERTAKEN, CORPORATE HEALTH PHYSICS AND SITE ALARA WILL MONITOR THE EFFORTS.

Gary W. Burgess 8/25/89
Corporate Health Physicist/Date

T M Kent 8/25/89
Reviewed: Project Engineer/Date

CONCEPTUAL EQUIPMENT QUALIFICATION REVIEW

DATE 8/25/89

MODIFICATION NO. N/A PROJECT ENGINEER Nick Spagnoletti

REFERENCE DRAWING(S) N/A

MODIFICATION TITLE Storage of radwastes on elevation 225' of waste disposal building.

SYSTEM NAME Radwaste P&ID _____

A) DESCRIPTION/SCOPE This safety evaluation addresses the use of the drum storage area on the 225' elevation of the waste disposal building for storage of radwaste.

B) WILL THIS MODIFICATION:	YES	NO	UNKN
1) Involve equipment currently identified on the Equipment Qualification List?	___	X	___
2) Provide a function associated with safe shutdown of the plant?	___	X	___
3) Involve safety-related electrical equipment?	___	X	___
4) Involve non-safety-related electrical equipment whose failure under postulated environmental conditions could prevent the satisfactory accomplishment of safety functions by safety-related electrical equipment?	___	X	___
5) Involve post-accident monitoring equipment needed to assess the plant conditions during and following an accident?	___	X	___
6) Have components located in the following?			
a) Reactor Building	___	X	___
b) Turbine Building	___	X	___
c) Drywell	___	X	___
d) Control Room	___	X	___
e) Other Radwaste			___
7) Increase ambient temperature for the general area in which it will be located?	___	X	___

CONCEPTUAL EQUIPMENT QUALIFICATION REVIEW

MODIFICATION NO._____

	YES	NO	UNKN
8) Add structural components/barriers that could affect the thermal conditions in the area?	___	X	___
9) Add moisture source(s) by way of routed pipe, an added tank(s), etc.?	X	___	___
10) Add radiation source(s) or radiation shielding?	___	X	___

_____
Project Engineer Date

C) CONCEPTUAL EQUIPMENT QUALIFICATION REVIEW

Initial review of this modification indicates that Equipment Qualification requirements:

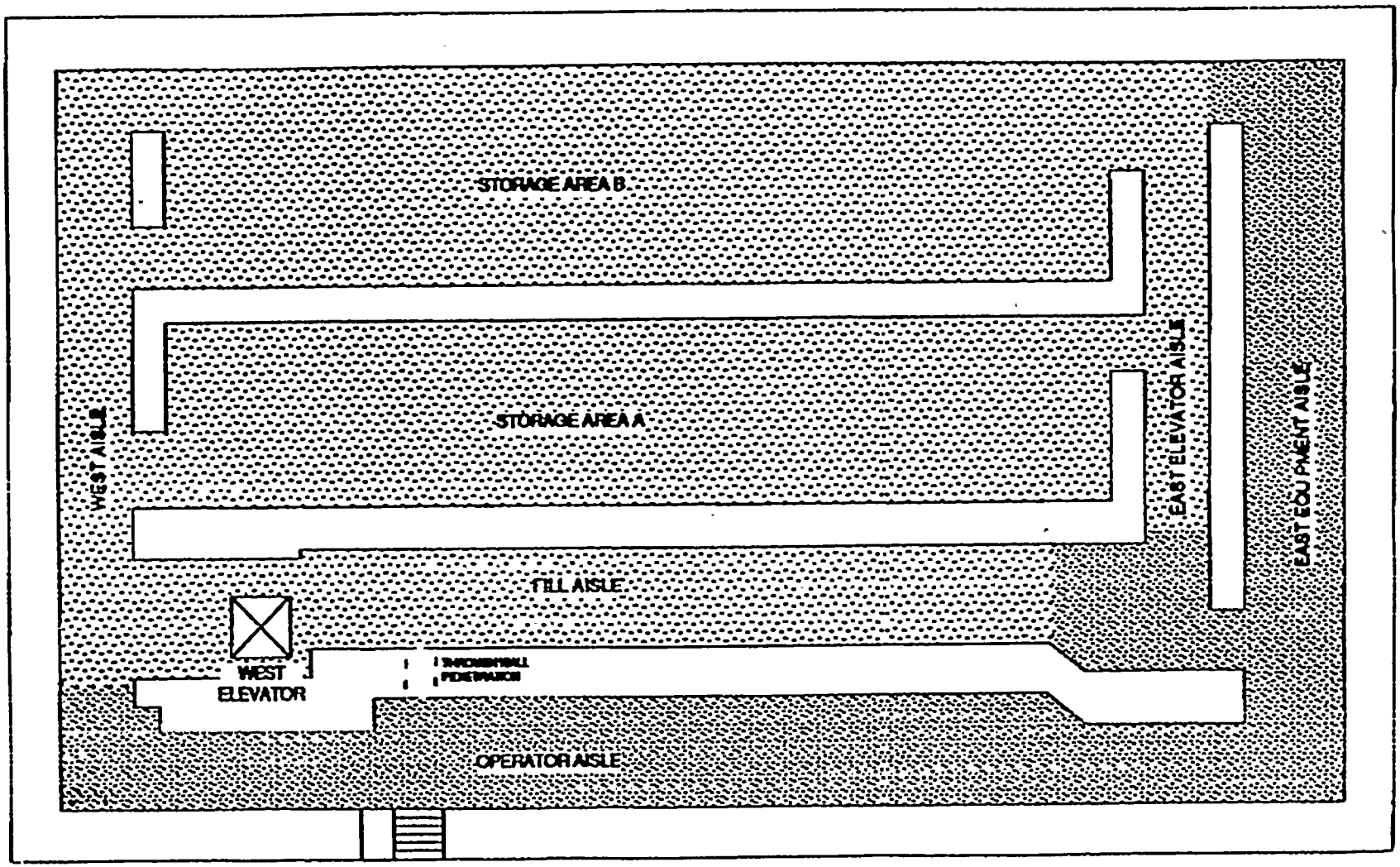
1) Do not apply ___X___
2) Do apply
   a) HELB/LOCA Analysis complete _____
   b) HELB/LOCA Analysis requirement _____
3) Apply pending further definition of scope _____

EQ Input & Status Form Required Yes ___ No X

N/A
_____ _____
Licensing Engineer Date

26 Oct 89
_____ _____
Equipment Qualification Engineer Date

ELEVATION 225' FLOOR PLAN



PROPOSED AREAS FOR IE CONTAMINATION USING ROBOTIC EQUIPMENT

PROPOSED AREAS FOR DECONTAMINATION USING MANUAL METHODS

INTERNAL CORRESPONDENCE
FORM 112-2 R 02-80 55-01-013

NIAGARA MOHAWK

Mr. S. W. Wilczek, Jr.

Mr. J. L. Willis
Chairman, Site Operations
Review Committee

DISTRICT Salina Meadows

DATE 11/18/89 FILE CODE

SUBJECT SAFETY EVALUATION TITLE AND DOCUMENT # 89-016 Rev. #1

Title: Storage of RadWastes on Elevation 225' of Waste Disposal Building.

UNIT 1 ✓

UNIT 2 ___

THIS SAFETY EVALUATION DOES NOT REQUIRE SORC REVIEW. AFTER APPROVAL BY THE STATION SUPERINTENDENT OR TECHNICAL SUPERINTENDENT OR GENERAL SUPERINTENDENT, PLEASE RETURN SIGNED COVER PAGE TO:

Carol Sgarlata
Nuclear Licensing
Salina Meadows
2nd Floor

Carol Sgarlata FOR: SWW
Manager, Nuclear Technology

SWW/CS:mjd
4922G

Attachment

xc: Records Management

FIGURE 1

51-2

NIAGARA MOHAWK | MODIFICATION REVIEW (SITE OPERATIONS REVIEW COMM

MODIFICATION TITLE: Storage of Radwastes on El. 225 of Waste | UNIT: ☒ 1 ☐ 2 ☐ SITE

DOCUMENT

DOCUMENT TITLE: Storage of Radwaste on El. 225' of Waste Disposal Bldg. | DOCUMENT NUMBER: 89-016, R1

DOCUMENT TYPE ☐ CONCEPTUAL ENGINEERING PACKAGE ☒ FINAL SAFETY EVALUATION ☐ TECHNICAL SPECIFICATIONS

OTHER

ORIGINATOR: NAME	DEPARTMENT	DATE
R. Cazzoli	Health Physics	10/26/89
PROJECT ENGINEER NAME	DEPARTMENT	DATE

LOGGED BY SITE PLANNING: DATE: | MODIFICATION CONTROL NO.: N Y M LE

REVIEW

NAME	ACCEPTED AS PRESENTED INITIALS	ACCEPTED AS PRESENTED DATE	ACCEPTED AS REVISED INITIALS	ACCEPTED AS REVISED DATE
1. SITE CONTACT				
2.				
3.				
4.				
5.				

SORC REVIEW

FIRST PRESENTED TO SORC BY R. Cazzoli | DEPARTMENT Env. H. P. | DATE 12/19/89

ACCEPTED BY SORC: ☒ AS SUBMITTED ☐ AS REVISED MEETING # 89-127

CHECK ONE, IF APPLICABLE:

☐ THIS MODIFICATION DOES NOT INVOLVE AN UNREVIEWED SAFETY QUESTION & DOES NOT INVOLVE A CHANGE TO TECHNICAL SPECIFICATIOI

☐ THIS MODIFICATION INVOLVES AN UNREVIEWED SAFETY QUESTION OR A CHANGE TO TECHNICAL SPECIFICATIONS. PRIOR NRC APPROV SHALL BE OBTAINED.

CHECK ONE, IF APPLICABLE:

☐ THE DOCUMENTS SUBMITTED FOR REVIEW NEED MORE DETAILED ENGINEERING OR REVISION. RETURN TO SORC FOR FURTHER REVIEW

☐ THE MODIFICATION MAY PROCEED & BE INSTALLED AFTER SORC REVIEW OF THE FINAL SAFETY EVALUATION.

SORC CHAIRMAN K. Dietrich for SORC DATE 12/19/89 | FOR MOD COORD USE: ☐ SORC REVIEW N/A INT.

LOGGED COMPLETE BY SITE PLANNING | DATE

SRAB REVIEW

☐ ACCEPTED BY SRAB: ☐ ACCEPTED AS SUBMITTED ☐ AS REVISED MEETING DATE

SRAB CHAIRMAN DATE | FOR MOD COORD. USE: ☐ SRAB REVIEW N/A INT.

LOGGED CLOSED BY SITE PLANNING | DATE

313-238

SYMBOL NO. 55-32-196 N

TECHNICAL REVIEW COVER SHEET (TEMPORARY AP-3.4.3, FORM 2, REV 00) 89-189-1

DOCUMENT

Unit 1/Unit 2

89-016, Rev. 1

Document Title: Storage of Radwastes on El 275' of Waste Disposal Bldg

Author: B Cazzolli Department: ______ Date: 10/26/89

REVIEW

Department	Name (print)	Initials	Date
Compliance	D.J. Straka	[illegible]	11/30/89
Operations	J.A. Kronenbitter	JAK	11/30/89
Maintenance			
I&C			
Rad Protection	E.W. Leach	EWL	11/30/89
Chemistry	E.W. Leach	EWL	11/30/89
Site Engineering	John H Snyder	JHS	11/30/89
Nuclear Licensing			
Reactor Analysis			
Site Technical	P. Mazzaferro	PAM	11/30/89

Comments to be resolved: Yes ✓ No______

This item to be brought to SORC / C. Gerber to be present to address

SORC REVIEW

SORC review/approval required: Yes X No______

Forwarded to NRCG to schedule for SORC: Date: 12/19/89

DOCUMENT APPROVAL

Document Approved

______________________________ ______________

General Superintendent, Nuclear Generation; Date
Station Superintendent; OR
Technical Superintendent Nuclear

89-189-1

ATTACHMENT 4: TECHNICAL REVIEW PROCEDURE CHANGE CHECK LIST

The purpose of the Procedure Change Check List is to determine the potential effects that the proposed change may have so that implementation of the approved change will be accomplished in an expeditious manner.

Answer the following questions. A YES answer requires the following:

- Complete an NCTS Commitment Identification Form (refer to NRCP-11, Attachment 1) and submit to Director Nuclear Regulatory Compliance, or designee for input into NCTS.
- Director Nuclear Regulatory Compliance, or designee will ensure the commitment is dispositioned.

1.	Is additional training required	Yes ___ No X
1.1	Has TMR been submitted	Yes ___ No X
2.	Are procedure changes required for:	
2.1	Configuration Controlled Procedures	Yes ___ No X
2.2	Administrative Procedures	Yes ___ No X
2.3	Emergency Plan and Procedures	Yes ___ No X
2.4	Security Plan and Procedures	Yes ___ No X
2.5	Operating Procedures	Yes ___ No X
2.6	Emergency Operating Procedures	Yes ___ No X
2.7	Special Operating Procedures	Yes ___ No X
2.8	Surveillance Procedures _____ Department	Yes ___ No X
2.9	Test and Inspection (Preventive Maintenance) _____ Department	Yes ___ No X
2.10	Maintenance Procedures (Corrective Maintenance) _____ Department	Yes ___ No X
2.11	Radiation Protection Procedures	Yes ___ No X
2.12	Chemistry and Radiochemistry Procedures	Yes ___ No X
2.13	Reactor Analyst Procedures	Yes ___ No X

2.14 Fuel Handling Procedures	Yes ___	No
2.15 Pre-Operational and Startup Procedures	Yes ___	No
2.16 Supervisory Procedures	Yes ___	No
2.17 Operating Orders ~~and Special Orders~~	Yes ___	No
2.18 Standing Orders	Yes ___	No
2.19 Special Orders	Yes ___	No
2.20 Fire Protection	Yes ___	No
2.21 Environmental Procedures	Yes ___	No
2.22 Waste Handling Procedures	Yes ___	No
2.23 Modification Procedures	Yes ___	No
2.24 ISI Procedures	Yes ___	No
2.25 Training Procedures	Yes ___	No
2.26 Site Construction Services Nuclear Procedures	Yes ___	No
2.27 Planning Instructions	Yes ___	No
3.0 Is additional material required (Special tools, spare parts, etc.)	Yes ___	No
3.1 Will material procurement time affect anticipated implementation date	Yes ___	No
4.0 Will proposed change affect present Technical Specifications interpretations	Yes ___	No
5.0 Will proposed change require plant modification before change can be implemented	Yes ___	No
6.0 Follow on actions required between NMPC site, Licensing and NRC, NRR	Yes ___	No
7.0 Proposed change should be sent to BWROG Technical Specifications for generic improvement	Yes ___	No

November 30, 1989

89-189-1 **Storage of Radwastes on Elevation 225' of Waste Disposal Building #89-016, Revision 1**

This safety evaluation addresses the use of the drum storage area on the 225' elevation of the Waste Disposal Building for storage of liquid/spilled radwastes. The evaluation incorporates future storage, including storage until such time as elevation 225' decontamination is completed. This safety evaluation allows us to use the room as it is presently are until it is cleaned up. The committee accepted this item as presented with an Open Item for that Mr. C. Gerber be present at SORC when this safety evaluation is presented to the Site Operations Review Committee.

or