GPU Nuclear

GPU Nuclear
P.O. Box 480
Middletown, Pennsylvania 17057
717-944-7621
Writer's Direct Dial Number:

January 20, 1982
4400-82-L-0009

TMI Program Office
Attn: Dr. B. J. Snyder, Program Director
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Sir:

Three Mile Island Nuclear Station, Unit 2 (TMI-2)
Operating License No. DPR-73
Docket No. 50-320
Recovery System Description and Technical Evaluation Report Update

Your letter of July 20, 1981 requested that we provide periodic updates of Technical Evaluation Reports (TER's) and System Descriptions for major post-accident recovery systems. Enclosed are updated System Descriptions for the Standby Reactor Coolant Pressure Control (SPC) System and the Fuel Pool Waste Storage System (Tank Farm) and the Technical Evaluation Report for the Interim Solid Waste Staging Facility.

As discussed with Dr. R. R. Bellamy, of your staff, System Descriptions for the Mini Decay Heat Removal (MDHR) System, the Auxiliary Building Emergency Liquid Clean-up System (EPICOR-II), the Submerged Demineralizer System (SDS), and the Interim Solid Waste Staging Modules are undergoing internal review and approval and will be provided to you as they become available, with all of the System Descriptions listed above provided by March 1, 1982. Additionally, the Technical Evaluation Report for the SDS is being updated to include Reactor Coolant System Processing and will be provided to you by April 1, 1982.

Additionally, the requirement of updating these System Descriptions and Technical Evaluation Reports every six(6) months as stated in your letter of July 20, 1981 is inconsistent with the one(1) year frequency for FSAR updates required by 10CFR50.71. Therefore, we request that the frequency for the System Descriptions and Technical Evaluation Report updates be reduced to once per year. If you have any further questions, please contact Mr. J. E. Larson, of my staff.

Sincerely,

J. J. Barton
Acting Director, TMI-2

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JJB:JJB:ch

Attachment

cc: L. H. Barrett, Deputy Program Director

A001
S1 Add: B.J. Snyder

TECHNICAL EVALUATION REPORT

FOR

INTERIM SOLID WASTE STAGING FACILITY

FOR

GPU SERVICE CORPORATION

THREE MILE ISLAND - UNIT 2

Bechtel Northern Corporation
Bechtel Job 13587
Revision 3
May 1981

DMP
8106230369

SHEET	LATEST REV.	SHEET	LATEST REV.	SHEET	LATEST REV.	SHEET	LATEST REV.	SHEET	LATEST REV.	SHEET	LATEST REV.	SHEET	LATEST REV.
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REVISION STATUS SHEET

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DOCUMENT TITLE: Technical Evaluation Report for Interim Solid Waste Staging Facility

JOB/GROUP 13587

DISCIPLINE Nuclear

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REV. 3

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1.0 INTRODUCTION

1.1 General

The cleanup effort at Three Mile Island Unit 2 is expected to result in the generation of a significant quantity of low level (Note 1) solid or solidified radioactive waste. In addition, low level solid or solidified radioactive waste is also being generated in Unit 1. Due to limitations on low level radioactive waste disposal sites and limited onsite staging capacity, an additional facility for the collection and temporary staging of low level solid or solidified radioactive waste is needed.

The facility proposed to fulfill the need identified above is the Interim Solid Waste Staging Facility (ISWSF).

This Technical Evaluation Report (TER) demonstrates that the ISWSF has been designed and will be operated in such a manner as to provide assurance that:

a. The health and safety of the public will be protected.

b. Occupational exposures will be as low as reasonably achievable (ALARA).

c. There will be no adverse impact on the environment.

1.2 Organization of Report

This report is organized in the format of a combined safety analysis and environmental report. Following this introduction, a description of the design and operational considerations is presented. This is followed by a discussion of the safety and environmental issues associated with the facility. A comparison of the ISWSF design with the Programmatic Environmental Impact Statement is presented next. The report concludes with the safety evaluation required by 10 CFR 50, paragraph 50.59, "Changes, Tests, and Experiments."

1.3 Conclusion

The information provided in this report results in the following conclusions:

a. The ISWSF fulfills the need for a facility in which to temporarily stage low level solid or solidified radioactive waste.

Note 1. As used herein the term "low level" refers to the dose rate on contact with the waste packages as defined in Table 2-1. The term gives no indication as to the isotopic or elemental content of the package.

b. The operation of the facility is not an unreviewed safety question as defined in 10 CFR Part 50, paragraph 50.59.

2.0 FACILITY DESCRIPTION

2.1 Purpose of the Facility

The ISWSF is to be used for the staging of low level solid or solidified radioactive waste packages from both Units 1 and 2 prior to shipment offsite for disposal. The packages will be staged in the facility for up to 2 years.

2.2 Summary Description

2.2.1 Location

As shown on Figure 2-1, the ISWSF is located east of the Unit 2 turbine building and between the offsite transmission lines for Unit 2. It is surrounded by an outer fence which aids in restricting access to the area immediately surrounding the facility. Access to the area enclosed by the outer fence will be controlled by established plant procedures. The only activities occurring within this area will be those associated with the ISWSF.

2.2.2 Design Basis

The ISWSF has no safety design basis.

The facility is designed to provide a controlled but ready access for material handling operations to ensure that operator exposures are as low as is reasonably achievable (ALARA). The facility is sized to accommodate the wastes generated in 6 months from Units 1 and 2. The monthly waste generation rates used in the design are given in Table 2-1.

In addition, the ISWSF is designed to maintain the dose rate at the outer fence surrounding the facility at 0.6 mrem/hr, in accordance with 10 CFR Part 20, paragraphs 20.105(b)(2) and 20.202(a)(1). The facility is also designed to meet the requirements of 40 CFR Part 190 at the site boundary and beyond.

2.2.3 Building Description

The ISWSF, shown in Figure 2-2, is a non-seismic Category I, concrete floor slab, covered by a prefabricated metal roof. Shielding partitions of grout-filled concrete masonry units are used to satisfy the dose rate criteria specified in Section 2.2.2. A roof is provided to minimize the volume of rainwater entering the facility which could potentially become contaminated and thus require monitoring and processing. The roof also allows unloading and loading of trucks during adverse weather conditions.

An 8-inch-high curb is provided around the perimeter of the floor slab to contain any rainwater that may enter the building. Ramps are provided to allow passage of a forklift over the curb. The floor slab is sloped so that any water entering the facility will be directed toward one of the six sumps provided. With the use of portable pumps, water collected in these sumps will be disposed of in accordance

with established plant operation procedures. The sumps are provided with manually actuated heaters to facilitate disposal of collected water during the winter. | 3

The floor slab, sumps, and curb are epoxy coated for ease of decontamination should the need arise. The exposed structural steel columns in the storage areas are also epoxy coated to a height of 8 inches for compatibility with the curb. The remaining portions of the steel columns and the roof framing have a protective finish. The shielding partition surfaces facing the storage areas are epoxy coated to a height of 8 inches and painted with a sealer above 8 inches. The outside surfaces of the partitions are painted with a sealer.

In addition to the outer fence surrounding the area around the ISWSF, there is an 8-foot-high inner fence provided around the unwalled sections of the facility (see Figure 2-2).

With the exception of small quantities of electrical cable associated with electrical power and the in-plant paging system, all materials used in the construction of the facility are noncombustible.

2.2.4 General Arrangement

The ISWSF consists of six basic areas: (1) loading/unloading, (2) survey, (3) open staging, (4) Unit 1 shielded staging, (5) Unit 2 shielded staging, and (6) personnel monitoring/analysis. A discussion of these areas follows. The general arrangement of the facility is shown in Figure 2-2.

2.2.4.1 Loading/Unloading Area

The loading/unloading area consists of a truck bay, a ramp into the facility, and an area for the loading and unloading of a standard flatbed trailer or enclosed van by a standard forklift.

2.2.4.2 Survey Area

A survey area is provided to allow for radiation surveys of the waste packages prior to placing them on a truck for shipment off site. This area is separated from the truck bay and the open staging area by shield partitions.

2.2.4.3 Open Staging Area

The open staging area is separated from the survey area by a shield partition. For administrative purposes, it is divided into a section for Unit 1 wastes and a section for Unit 2 wastes. The Unit 1 and Unit 2 areas are flexible and shown in Figure 2-2 for illustration. These areas may vary throughout the life of the facility. These sections are separated by a portable barrier consisting of stanchions connected by a chain. Access routes, or aisles, with gates at the entrance, allow for the movement of the containers by a forklift to the appropriate area.

It should be noted that the segregation of wastes by unit is not required by federal regulations. Rather, it is solely for utility administrative purposes.

2.2.4.4 Shielded Staging Areas

Shielded staging areas are provided in order to meet the dose rate limits specified in the design basis, Section 2.2.2. Separate shielded areas are provided in order to maintain separation between wastes from each unit. Access to these areas is by means of the aisles identified in Section 2.2.4.3. Access will be controlled by administrative procedures.

2.2.4.5 Personnel Monitoring/Analysis Area

The personnel monitoring/analysis area is a small cubicle at the end of the loading/unloading area. This area contains equipment for personnel monitoring and for the analysis of swipe samples of the waste packages.

2.3 Major Systems

The only systems provided for the operation of the ISWSF are electrical power for lighting, receptacles, sump heaters, and the in-plant paging system. None of these systems serve any safety-related function. 3

No radiation monitors are provided in the facility. This is because the facility is a radiological controlled area and access is controlled at the outer fence.

2.4 Material Handling Operations

2.4.1 Description of Packages

The packages to be staged in the ISWSF are of several types. These are described below.

Four 55-gallon drums of compacted trash and/or solidified radiac waste will be placed on 4-foot by 4-foot pallets. Depending on the weight of each drum, they may be banded together.

A single 50-cubic-foot liner of solidified evaporator bottoms will be placed on a 4-foot by 4-foot pallet. The dimensions of the liner are 4 feet in diameter and 4 feet high.

There will also be metal LSA boxes containing compacted trash satisfying the requirements of 10 CFR Part 71. The dimensions of the LSA boxes are 4 feet x 4 feet x 7 feet. These boxes will arrive at the facility with a spacer between each box to allow a forklift to readily lift the box.

All waste packages received in the ISWSF will be completely prepared for shipment. All counting, swiping, decontamination, and weighing will be done prior to the transfer of the packages to the ISWSF. Provisions have been included in the design of the ISWSF to allow additional counting and swiping in the ISWSF.

2.4.2 Unloading and Stacking of the Packages

The packages of waste will arrive at the ISWSF on either a standard flatbed trailer or in an enclosed van. Upon arriving at the facility, the vehicle containing the waste will be parked in the truck bay located in the loading/unloading area. At this point a 3,000-pound to 5,000-pound capacity forklift will unload the packages and transport them to the proper area of the facility.

Upon arriving at the proper location within the facility, the packages will be stacked. The pallets and boxes will be stacked no more than three high, which is consistent with current GPUSC practice. In general, the pallets will be stacked in a staggered manner. The LSA boxes will be stacked one on another with spacers.

The required lift height of approximately 10 feet is well within the 16-foot lifting height of the forklift. The capability of the pallets to carry the load has been checked for the design basis arrangement and has been found acceptable. The pallets are of four stringer design, with solid planking top and bottom.

2.4.3 Removal of Packages

When a package is removed for shipment, the reverse of the procedure described in the previous section will be followed.

TABLE 2-1

DESIGN STORAGE REQUIREMENTS

Unit	Quantity (per month)	Container/ Trash Type	Radiation Level
1	37	55 gal drum/compacted trash	up to 50 mrem/hr
1	19	55 gal drum/compacted trash	50 to 100 mrem/hr
1	15	55 gal drum/compacted trash	100 to 200 mrem/hr
1	4	55 gal drum/compacted trash	200 - 400 mrem/hr
1	1	4'x4'x7' box/compacted trash	up to 200 mrem/hr
1	10	50 ft^3 liners/solidified evaporator bottoms	200 - 500 mrem/hr
2	9	55 gal drum/solidified radiac waste	up to 100 mrem/hr
2	16	55 gal drum/compacted trash	0 to 1 mrem/hr
2	6	55 gal drum/compacted trash	1 to 2 mrem/hr
2	11	55 gal drum/compacted trash	2 to 5 mrem/hr
2	9	55 gal drum/compacted trash	5 - 20 mrem/hr
2	5	55 gal drum/compacted trash	20 - 100 mrem/hr
2	2	55 gal drum/compacted trash	100 - 500 mrem/hr
2	1	55 gal drum/compacted trash	500 - 1000 mrem/hr
2	1	55 gal drum/compacted trash	1000 - 2000 mrem/hr
2	2	4'x4'x7' LSA boxes	0 - 1 mrem/hr
2	2	4'x4'x7' LSA boxes	1 - 2 mrem/hr
2	3	4'x4'x7' LSA boxes	2 - 10 mrem/hr
2	3	4'x4'x7' LSA boxes	10 - 20 mrem/hr
2	3	4'x4'x7' LSA boxes	20 - 100 mrem/hr
2	1	4'x4'x7' LSA boxes	100 - 200 mrem/hr

3.0 TECHNICAL EVALUATION

This section summarizes the licensing issues which were considered in the design of the ISWSF. These issues deal with the expected performance of the facility during normal operation and various design basis events.

3.1 Licensing Issues

The licensing issues associated with the operation of the ISWSF are:

a. Demonstrating compliance with 40 CFR Part 190 with respect to offsite doses.

b. Demonstrating compliance with 10 CFR Part 20 with respect to onsite dose limits.

c. Demonstrating that the design basis events for the facility have been properly considered. The design basis events for this facility are high winds, OBE, fire, and flooding.

d. Demonstrating compliance with the principles of ALARA.

Each of these issues is addressed in the following sections.

3.2 Dose Assessment

The ISWSF is designed so that during normal operation (1) the requirements of 40 CFR Part 190 are met at the site boundary and beyond, and (2) the dose rate at the outer fence is limited to 0.6 mrem/hr or less. In addition, the consequences of design basis events have been evaluated to assure that public use of areas beyond the exclusion areas is not interrupted or restricted.

This section presents the analyses that demonstrate the above objectives are met.

3.2.1 Off Site

3.2.1.1 Normal Operation

The total annual offsite dose from the site to any individual is limited to 25 mrem by 40 CFR Part 190. The nearest site boundary for the ISWSF is the normal high water mark on the east bank of the island.

As applied to the site boundary, the 40 CFR Part 190 limits equate to a 0.3 mrem/hr dose rate based on a 67 hr/yr occupancy (Note 2) with an 80 percent contribution factor (80 percent of the total 25 mrem). As explained in Section 3.2.2 the dose rate at the fence inside the site boundary, and approximately 240 feet from the ISWSF, is below 0.6 mrem/hr. The dose rate at the site boundary at the normal high water line of the river will be much less than the 0.3 mrem/hr allowable, due to the shielding effect of the flood protection dike.

In addition to satisfying 40 CFR Part 190 at the site boundary an analysis was performed to determine the dose resulting from the ISWSF at the nearest residence. The dose at the nearest residence, located approximately 1550 feet ENE of the facility, was determined to be 13 mrem/yr.

A general purpose gamma ray scattering code was used to determine the annual dose from direct and scattered radiation at the nearest residence. The code used was the G-33 version of "G^3: A General Purpose Gamma-Ray Scattering Program," described in Los Alamos Scientific Laboratory publication LA 5176, dated June 1973.

The calculation of the dose rate at the nearest residence included the following considerations:

a. The ISWSF was assumed to contain the waste generated in six months at the monthly generation rates given in Table 2-1.

b. The predominant radionuclide encountered in the Unit 2 containment, Cesium-137, was assumed to be the source of radiation in all waste packages.

c. The factor of 0.7 specified in Regulatory Guide 1.109, Revision 1, was used to account for shielding and occupancy characteristics at the nearest residence.

3.2.1.2 Design Basis Events

Design basis events considered were high winds, an operating basis earthquake, a fire, and flooding.

3.2.1.2.1 High Winds

From the TMI-2 FSAR the design wind velocity, based on the 100-year recurrence interval, is 80 miles per hour at 30 feet above grade. A review of the waste packages in the ISWSF resulted in the determination that the only waste packages that may move when subjected to the design basis wind were the drums of compacted trash located in the open staging areas. It was determined that a single 55-gallon drum weighing less than 250 pounds might move under design wind conditions.

Note 2. Regulatory Guide 1.109, Rev. 1, Table E-5 Page 40--Recommended values for the maximum exposed individual in lieu of site-specific data.

Most drums are expected to weigh more than 250 pounds. As noted in the "Recovery Quarterly Progress Report for the Period Ending September 30, 1980," the average weight of 55-gallon drums containing compacted trash is 315 pounds. It was determined that drums weighing less than 250 pounds can be strapped together in groups of four, so that their total weight is greater than 600 pounds, thus preventing their movement under high wind conditions.

Administrative procedures will be written to assure that drums will be heavy enough to prevent their movement by design wind forces.

Although the movement of drums in the unshielded portions of the ISWSF will be precluded as noted above, an analysis of the radiological consequences of high wind conditions was made. The resulting maximum dose to the public from the postulated airborne release was less than 0.01 mrem for the inhalation pathway. The following considerations were made in this analysis: 2

- All drums containing compacted trash in the unshielded portions of the ISWSF were assumed to be damaged by the high wind forces. 2

- The predominant radionuclide encountered in the Unit 2 containment, Cesium 137, was assumed to be the source of radiation in all waste packages. Approximately 12 curies of Cesium 137 are estimated to be contained in the drums of compacted trash in the unshielded portion of the ISWSF. Since Strontium 90 is also present in the containment, the drums were assumed to contain an additional 1.2 curies of strontium. 2

- A release fraction of 10^{-4} of the contents of the damaged drums was assumed based on extrapolation of data presented in "Environmental Survey of Transportation of Radioactive Materials to and from Nuclear Power Plants," December 1972.

- The release was assumed to occur over a one-hour period.

- An atmospheric dilution factor of 2.4×10^{-5} sec/m^3 was used, based on an 80 mile per hour wind and a distance of 1150 feet from the ISWSF to the nearest boundary of the exclusion area. Stability Class D conditions were assumed with no credit taken for building wake effect. 2

3.2.1.2.2 Operating Basis Earthquake (OBE)

In the event of an OBE, the ISWSF may collapse; however, the radioactive waste packages would remain in the general area of the facility. The resulting maximum dose to the public from a postulated 2

airborne release would be less than 0.03 mrem for the inhalation pathway. The following considerations were made in this analysis:

- All drums containing compacted trash and all LSA boxes in the facility were considered as a potential source of an airborne release.
- The estimated content of these drums and boxes was 81 and 8.1 curies of Cesium 137 and Strontium 90, respectively.
- A release fraction of 10^{-6} of the contents of the drums and boxes was assumed, based on the data presented in "Environmental Survey of Transportation of Radioactive Materials to and from Nuclear Power Plants," December 1972.
- The atmospheric dilution factor of 8.1×10^{-4} sec/m^3 was used, based on a Stability Class F, 1 m/sec wind speed, and 1150 feet to the nearest boundary of the exclusion area. No credit was taken for the building wake effect.

3.2.1.2.3 Fire

A fire in the ISWSF will not result in the release of radioactive material. This is based on having all the radioactive material in sealed metal containers or fixed in place such that radionuclides cannot become airborne. In addition, the amount of combustible material, the wooden pallets and small amounts of electrical cable, exposed to an ignition source is insufficient to burn through a container. Also, based on available information regarding the contents of the waste packages, spontaneous combustion within a container will not occur.

3.2.1.2.4 Flooding

The Three Mile Island site is protected against a design flood of 1,100,000 cfs flow in the Susquehanna River. This protection is furnished by the site dike, which has a minimum elevation of 304 feet along the southern end of the island. In the event of a design flood, which is equivalent to a river level of approximately 300.5 feet, the drainage culvert gate at the southeast dike will close, isolating the site storm drain system from the river. Consequently, the TMI site design flood will have no adverse impact on the ISWSF.

In the event of a probable maximum flood (PMF), the river flow rate will slowly increase to the calculated maximum of 1,625,000 cfs. As the river level increases it will overtop the south dike. The water level on the island will then rise to a maximum PMF flood height of 308.5 feet. As noted in Figure 2.4-7 of the TMI-2 FSAR, an advance warning of at least 36 hours will precede the arrival of PMF. 3

The ISWSF is not protected against the PMF; therefore, the ISWSF will be inundated in the very unlikely event a PMF occurs. The following discussion addresses the possible offsite releases of radioactive materials that could result from submergence of radioactive waste drums and boxes.

Since the waste packages are sealed and ready for offsite shipment, they will resist water intrusion. Should the waste packages leak, releases would be minimal due to the absence of a driving force for release except for diffusion of radionuclides in water. Therefore, in light of the extremely low probability of occurrence of the PMF (recurrence interval greater than 100 years) and the expected minimal leakage into the waste packages, the design of the ISWSF regarding flooding is considered to be adequate.

3.2.2 On Site

The dose rates at the outer fence surrounding the ISWSF were calculated to ensure that the values are less than the 0.6 mrem/hr in accordance with 10 CFR Part 20. This was done by calculating the gamma dose rates from a planar source to a point at a given distance from the source.

The major assumptions made in the performance of this analysis were:

a. The only contributing isotope was Cesium-137.

b. All waste packages were at the maximum contact dose rate given in Table 2-1.

c. The facility was assumed to contain the waste generated in six months, based on the generation rates given in Table 2-1.

The resulting dose at the outer fence surrounding the ISWSF is calculated to be less than 0.6 mrem/hr.

Although the dose rates at the fence have been determined to be less than 0.6 mrem/hr, this is based on the information presented in Table 2-1. In order to allow for deviations from this list, a radiation survey will be performed whenever the quantity or arrangement of packages in the ISWSF is significantly altered to ensure that the dose rate at any given point around the outer fence does not exceed 0.6 mrem/hr.

3.3 Occupational Exposures

Use of the ISWSF will result in occupational radiation exposure to personnel. The operational and maintenance activities to be performed in the facility have been evaluated to determine the length of time workers will be exposed to a radiation environment. This information has been combined with expected radiation fields in the ISWSF to

arrive at a projected annual exposure of from 17 to 22 man-rem for this facility. Of this exposure, approximately 80 percent is attributable to radioactive waste originating in Unit 1.

3.3.1 Design Features

Several design provisions have been included in the ISWSF to minimize occupational exposures. These provisions include segregation of waste with higher radiation levels from those with lower radiation levels, use of shielding, and other provisions as noted below.

The arrangement of the ISWSF allows containers to be stored in the low radiation (unshielded) sections of the facility without entering the higher radiation (shielded) sections. The shield wall between the truck loading/unloading area reduces the dose rate in this area from the material in storage.

A roof has been provided for the facility to minimize the intrusion of rain water which must be collected and sampled prior to disposal. The sumps have been designed so that the shielded areas need not be entered to pump the sumps.

Location of the forklift truck aisles on the outside of the facility rather than using a single central aisle results in a lower radiation field at the aisle.

3.3.2 Man-Rem Estimate

The duration of activities occurring in the ISWSF was estimated by considering the number of radioactive waste packages to be placed in the facility. Factors considered in the analysis of time spent in the radiation area included the following:

a. 55-gallon drums are handled by an unshielded forklift in groups of four drums on a single pallet. The drums are stored on the pallet.

b. LSA boxes and the 50 ft^3 containers are handled one at a time by the forklift.

c. The speed of the forklift was assumed to be three miles per hour except when maneuvering to pick up or store a load.

d. Approximately one-half the time the forklift is in operation it is not carrying a load. This accounts for the return trip to or from the loading/unloading area to the staging areas to pick up another load.

e. Two forklift breakdowns per year in the radiation areas were assumed.

f. Allowances for time spent in the radiation area by other than the forklift operator were made to account for the shipment vehicle driver, health physics technician, and a laborer to assist the forklift operator.

g. An allowance has been made for relocating containers within the facility.

The radiation fields in which the activities in the ISWSF occurred were estimated using the number of radioactive waste packages in the facility, and the dose rate of each package. Factors considered in the determination of the radiation fields included the following:

a. The LSA boxes were assumed to be planar sources, with the dose calculated on a perpendicular to the plane at the desired distance.

b. For cylindrical containers, the source was modeled as an infinite cylinder and only cylindrical spreading was assumed.

c. No credit was assumed for the shielding effect of the content of one container on an adjacent container except in the case of solidified waste in 50 ft^3 liners.

d. The ISWSF was assumed to contain a six-month inventory of containers at all times.

The area radiation levels calculated for the various areas in the ISWSF are given in Table 3-1.

The man-rem assessment combined the radiation fields described above with each of the handling, maintenance, and vehicle survey activities. The evolutions evaluated included transit of a loaded vehicle from Unit 1 or Unit 2 to the ISWSF, placing the containers in storage, removing the containers from storage to the shipment vehicle at a later point in time, and a health physics survey of the shipment vehicle.

Assuming that the man-rem exposures from the ISWSF activities control the number of workers required to conduct material handling operations, the following approximate number of personnel would be required for the operation of this facility during the year:

Function	Number of Workers	Dose per Worker
Health Physics Technicians	.1	.5 rem
Forklift Operators	4	4 rem (max.)
All other functions (laborers, truck drivers, maintenance personnel)	1 equivalent worker	5 rem total

TABLE 3-1

AREA RADIATION LEVELS WITH
SIX MONTHS DESIGN BASIS INVENTORY

Area	Radiation Level (mrem/hr)
Survey Area	0.5
Open Staging Area	
Unit 2 LSA boxes	60
Unit 2 drums	180
Unit 1 drums	180
Shielded Staging Area	
Unit 1	1600
Unit 2	1170

4.0 COMPARISON WITH PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT (PEIS)

Section 9.2.1.1 of the PEIS describes a facility for the temporary storage of certain low level radioactive wastes. The contents of the facility are given in Table 4-1. The radiation levels at the fence surrounding the facility will be less than 0.6 mrem/hr. This facility is judged in Section 9.5.1.2 of the PEIS to have negligible environmental exposures to the general population.

There are some minor differences between the ISWSF described in this report and the facility described in the PEIS. These differences are primarily in the number of containers to be stored in the ISWSF. Table 4-1 contains the design basis contents of the ISWSF. However, as shown in this report, the ISWSF will result in negligible environmental exposures to the general population.

TABLE 4-1

CONTENTS OF STAGING FACILITY

	PEIS Facility	ISWSF
55-Gallon Drums	800	810
LSA Boxes	150 (4 ft x 3 ft x 6 1/2 ft) wooden	90 (4 ft x 4 ft x 7 ft) metal
50-ft^3 Liners	60	60

5.0 SAFETY EVALUATION

10 CFR 50, paragraph 50.59, "Changes, Tests, and Experiments," permits the holder of an operating license to make changes to the facility provided the change does not involve a modification of the plant technical specifications and the change is determined not to be an unreviewed safety question. As summarized below, the operation of the ISWSF neither requires a modification to the plant technical specifications nor is it deemed to be an unreviewed safety question as defined in 10 CFR 50, paragraph 50.59.

5.1 Technical Specifications

There are no Recovery Technical Specifications regarding the storage of solid or solidified radioactive waste. The proposed change does not require any additional technical specifications in order to satisfy the licensing basis of the plant. Therefore, the operation of the ISWSF does not require changes to the existing technical specifications.

5.2 Unreviewed Safety Question

The operation of the ISWSF will not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report. This is based on the location of the facility being such that there is no interface with existing safety-related equipment or structures.

The possibility of an accident or malfunction of a different type than any evaluated previously in the safety analysis report will not be created by the operation of the ISWSF. This is due to the passive nature of the facility and the fact that all the radioactive waste is in either a solid/solidified or fixed form.

As stated in Section 5.1, the operation of the ISWSF will not result in a reduction in the margin of safety as defined in the basis for any technical specification.

Based on the above, the operation of the ISWSF is deemed not to be an unreviewed safety question as defined in 10 CFR 50, paragraph 50.59.

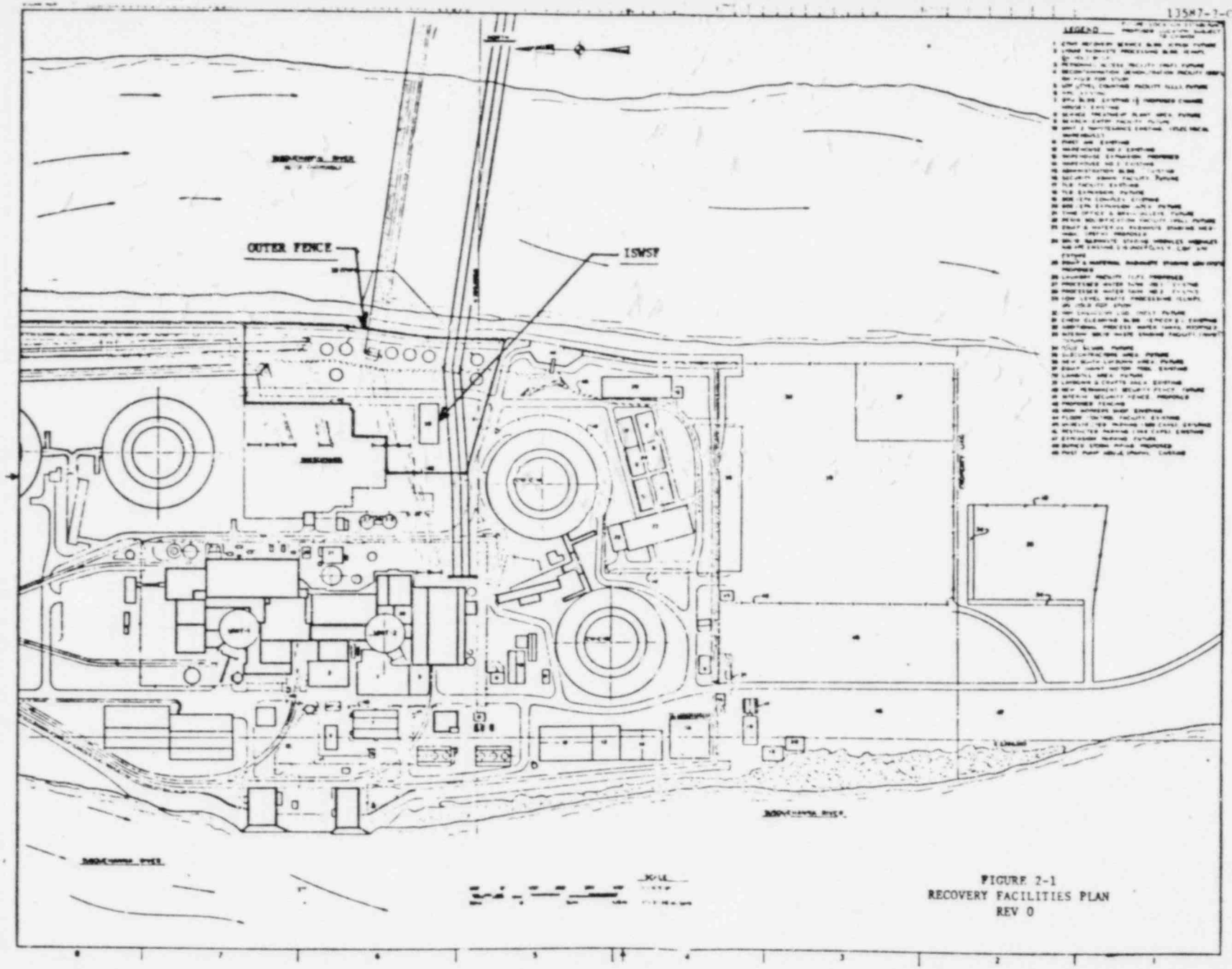
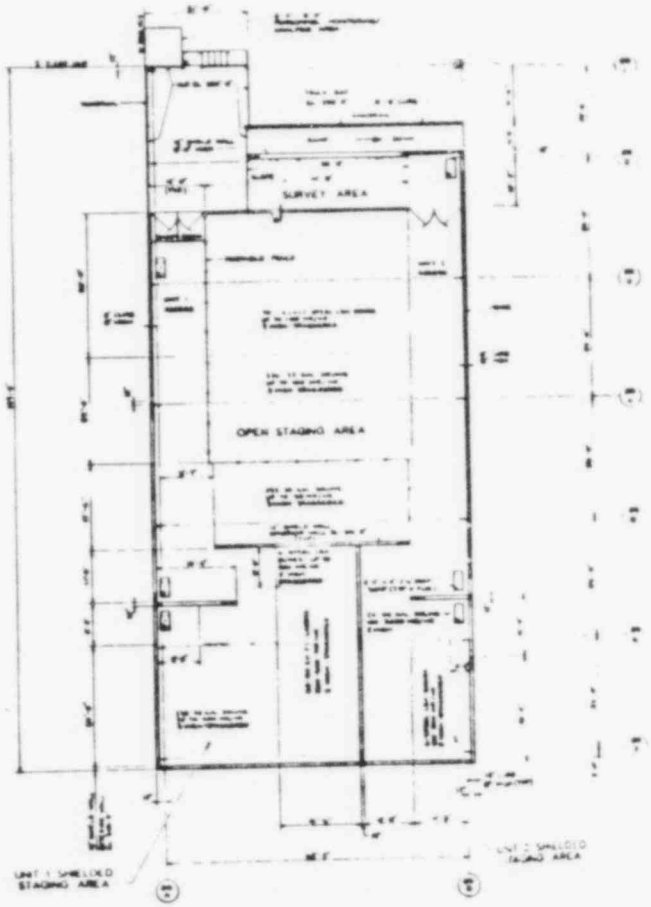
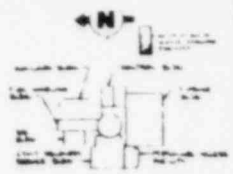


FIGURE 2-1
RECOVERY FACILITIES PLAN
REV 0



PLAN EL 302'-0" (NOM.)



KEY PLAN

FIGURE 2-2
ISWSF GENERAL ARRANGEMENT
REV 0