GRAND GULF NUCLEAR STATION

1984 ANNUAL ENVIRONMENTAL OPERATING REPORT

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PREFACE

This report presents the information and data obtained from the implementation of Grand Gulf Nuclear Station's (GGNS) Environmental Protection Program, Appendix B to the GGNS Low-Power Operating License (NPF-29) for the period January 1, 1984, through December 31, 1984. Historical information has also been included where applicable for comparison purposes.

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SECTION 1.0

INTRODUCTION

INTRODUCTION

The environmental impact of Grand Gulf Nuclear Station (GGNS) construction and operational activities between January 1 and December 31, 1984 was monitored by the Environmental Surveillance Program. The results of the Environmental Surveillance Program contained in the following sections indicate the environment was not adversely impacted in 1984 by the operation and construction of GGNS.

Factual information about GGNS and its operation is provided in the remainder of this section.

1.1 GGNS SITE CHARACTERISTICS

GGNS is a nuclear power station owned by Middle South Energy, Inc. and South Mississippi Electric Power Association (SMEPA) and operated by Mississippi Power & Light Company (MP&L). An area map showing the geographical location of GGNS is provided in Figure 1-1.

GGNS is located in Claiborne County, Mississippi, on the east bank of the Mississippi River, approximately 25 miles south of Vicksburg and 37 miles north-northeast of Natchez. Grand Gulf Military Park borders a portion of the north side of the property, and the small community of Grand Gulf is approximately 1-1/2 miles to the north. The town of Port Gibson is about 6 miles southeast of the site. Two lakes, Gin Lake and Hamilton Lake, are located in the western portion of the site. These lakes were once

the channel of the Mississippi River and average about 5 to 7 ft in depth.

Site and Its Environs

The site and its environs consist primarily of woodlands divided between two physiographic regions. The western half of the site is in the alluvial plain of the Mississippi River; the eastern half is in the Loess or Bluff Hills. The elevation of the site varies between 60 and 80 ft above Mean Sea Level (MSL) in the alluvial plain region, while the Loess Hills portion varies from 80 to more than 200 ft above MSL.

The property line shown in Figure 1-2 encompasses the 2376 acres originally purchased by MP&L. However, due to erosion activity of the Mississippi River along the western boundary of the site, this acreage figure continually decreased until the river bank from the barge slip to the north boundary of the site was stabilized through the U. S. Army Corps of Engineers shoreline modification program. The present acreage figure for the site due to erosion is 2300 acres.

The site boundary is the same as the property line except in the southwest and west-southwest sectors as shown in Figure 1-2. A 2-acre residential property within the southwest sector is privately owned.

There are no industrial, commercial, institutional or residential structures within the site boundary.

There are no railroads or waterways that traverse the site. An unpaved county road runs through the site in the south-southeast, south, south-southwest, and southwest sectors. This road provides access to Hamilton and Gin Lakes and the Mississippi River from the Port Gibson-Grand Gulf Road.

Access

The site area is accessible by two major highways: U. S. Highway 61 and State Highway 18, which connect Port Gibson (6 miles southeast of the site) with Natchez, Jackson and Vicksburg.

1.2 HISTORY OF OPERATION AND PRESENT STATUS

Grand Gulf Nuclear Station consists of two boiling water reactors (BWRs) rated at 1250 MWe each. Unit 1 received a Low-Power Operating License on June 16, 1982. Fuel loading began on July 1, 1982 and was completed on August 6, 1982. Initial criticality was achieved on August 18, 1982.

Low-power testing began on September 25, 1983 and was discontinued on November 8, 1983 with 995.3 hours of operation at less than 5 percent power recorded for Unit 1. Low-power testing resumed on April 22, 1984 and was completed shortly thereafter. The Full-Power Operating License was granted on August 31, 1984, and commercial operation is anticipated for the summer of 1985.

The following list summarizes significant dates associated with the operation of Unit 1:

• Low-Power Operating License	June 16, 1982
• Initial Criticality	August 18, 1982
• Began Low-Power Testing	September 25, 1983
• Discontinued Low-Power Testing	November 8, 1983
• Resumed Low-Power Testing	April 22, 1984
• Full-Power Operating License	August 31, 1984
• Startup After Full-Power License	September 5, 1984
• First Synchronization	October 20, 1984.

Unit 2 is in a construction phase and was 33.8% complete as of December 31, 1984. The minimal Unit 2 construction activities occurring in 1984 were for the purpose of protecting the original investment.

Preoperational Study

A preconstruction environmental impact study was initiated in 1972. This study was modified and expanded into an Environmental Surveillance Program in 1974 to determine the impact of the construction and operation of GGNS on the environment.

The preoperational Environmental Surveillance Program continued until June 16, 1982 when GGNS received a Low-Power Operating License. No adverse environmental impact was observed during the preoperational study.

1982 Annual Environmental Operating Report (AEOR)

The operational phase of the Environmental Surveillance Program began when GGNS Unit 1 received a Low-Power Operating License on June 16, 1982. During 1982 Unit 1 did not begin power ascension; consequently, 1982

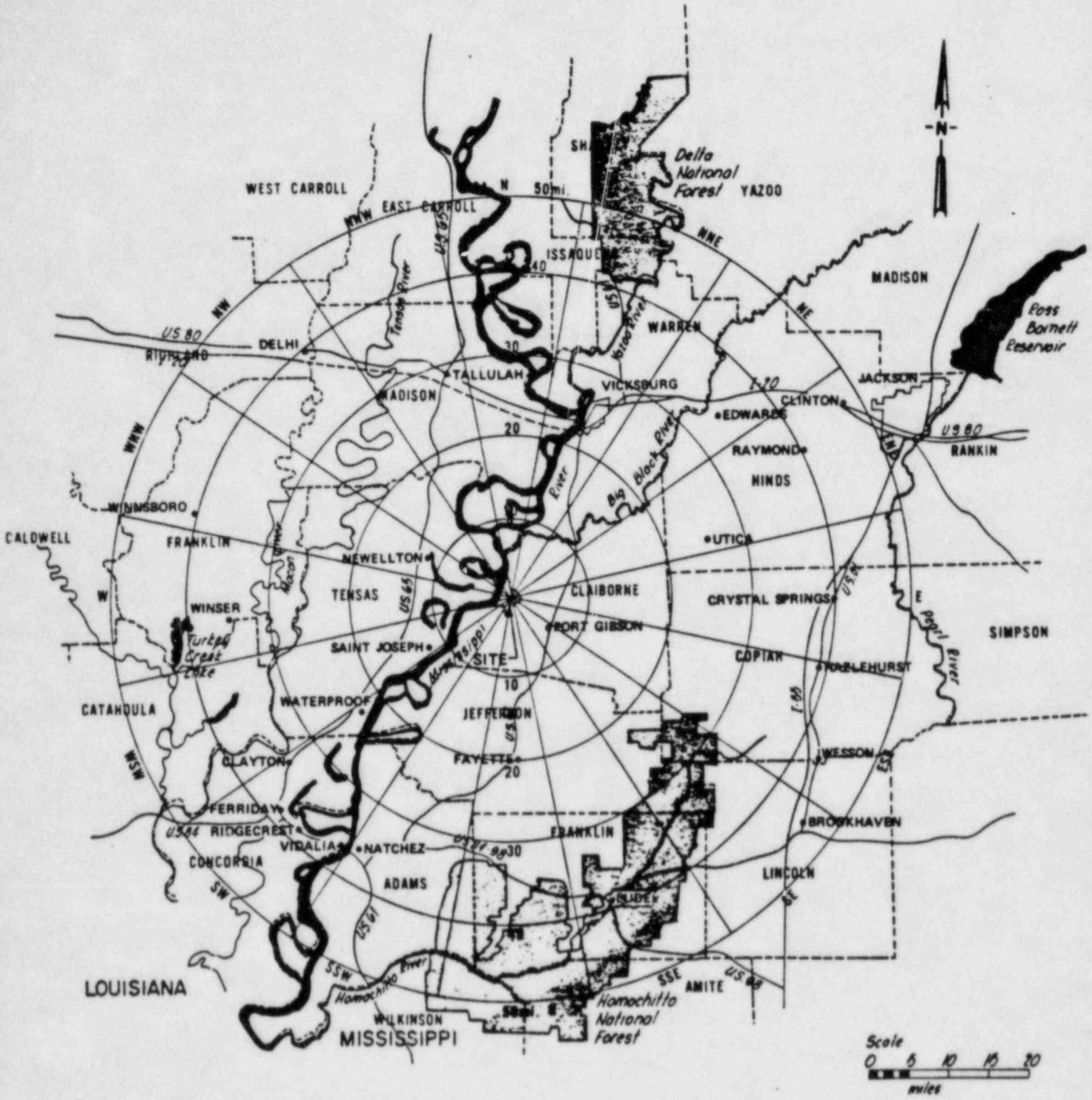
operational activities were an extension of preoperational activities. No environmental consequences of GGNS operation were noted between June 16 and December 31, 1982.

1983 AEOR

Low-power testing of GGNS Unit 1 began in September 1983. No noticeable changes in the environment were detected by the Environmental Surveillance Program as a result of low-power testing. Results of the Environmental Surveillance Program during 1983 remained similar to those of previous years. An assessment of GGNS operation by Environmental Surveillance Program personnel at the end of 1983 confirmed there was no adverse impact to the environment.

1984 AEOR

The following sections present the Environmental Surveillance Program results for the period January 1 to December 31, 1984. Where applicable, the write-up provides comparisons with results from previous years. An assessment of the following information by Environmental Surveillance Program personnel indicates there was no adverse environmental impact due to the 1984 operation of GGNS.



SOURCE: Official highway map - Louisiana (1970)
Official highway map - Mississippi (1971)

MISSISSIPPI POWER & LIGHT COMPANY
GRAND GULF NUCLEAR STATION
UNITS 1 & 2

FIGURE 1-1

GENERAL AREA MAP

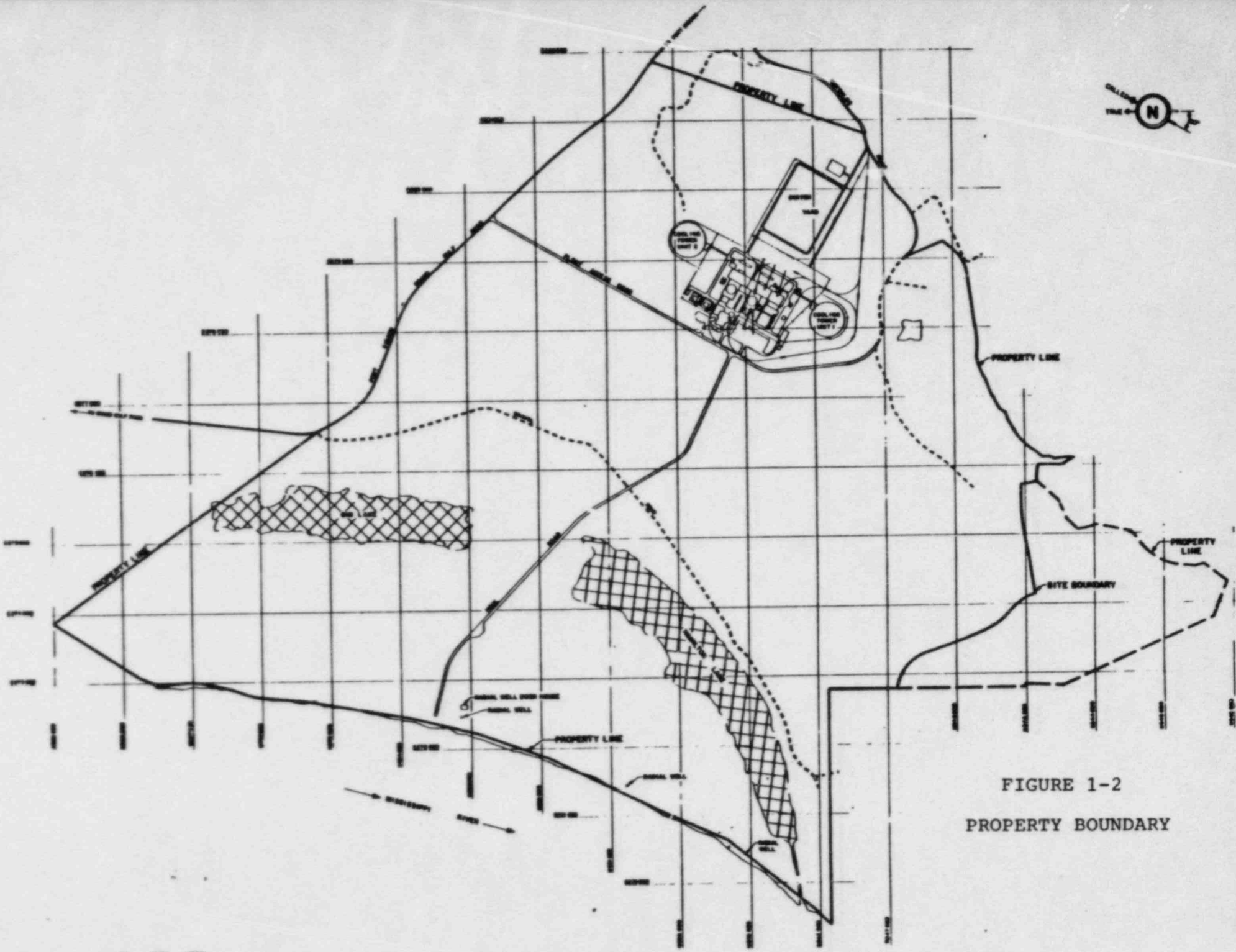


FIGURE 1-2

PROPERTY BOUNDARY

SECTION 2.0

ENVIRONMENTAL SURVEILLANCE ACTIVITIES

2.1 SMOKE CONTROL

Open burning of waste materials at GGNS is not permitted. Wastes are burned in a pit utilizing an air curtain destructor incinerator which blows air over the fire to insure complete combustion of ignitable material. This process reduces particulate emissions to the environment. Daily inspections of the burn pit are made by Environmental Surveillance Program personnel to insure compliance with the State of Mississippi's air pollution regulations.

2.2 EROSION CONTROL

Erosion control at GGNS is a major priority because of the proximity of GGNS to the Mississippi River, the hilly terrain, the average annual rainfall of approximately 50 inches and the loess soils which are extremely susceptible to erosion. The methods utilized to control erosion are:

- Immediate revegetation of disturbed areas
- Utilization of concrete chutes and flumes which channel runoff into two sediment basins, A and B (Figure 2-1).

Sedimentation occurs in the basins which helps to minimize the ecological effect on Hamilton Lake and the Mississippi River.

2.3 TRANSMISSION LINE SURVEYS

The four transmission lines associated with GGNS (Figure 2-2) are:

- Port Gibson Substation Route
- Baxter Wilson Steam Electric Station Route

- Ray Braswell EHV Substation Route
- Franklin EHV Substation Route.

The 115 kV transmission line from Port Gibson, Mississippi, supplies construction power and emergency power to GGNS. The 500 kV Baxter Wilson and Franklin transmission lines terminate in Warren and Franklin counties respectively. The Ray Braswell line, a planned 500 kV transmission line, will connect GGNS to an existing 500 kV transmission line in Warren County.

A semiannual aerial survey of these lines is conducted to observe vegetation growth and monitor erosion. When problem areas are identified, ground patrols make a closer observation. Recommendations are then made to the Mississippi Power & Light Company (MP&L) Engineering Department for corrective action. Problem areas are closely monitored during follow-up aerial surveys to determine the effectiveness of the corrective actions.

Techniques designed to minimize erosion are used to reclear and control vegetation on these transmission lines. Highway, surface water and railroad crossings are hand cut, usually leaving buffer strips adjacent to the crossing. The use of heavy equipment in clearing right-of-ways is limited to piling brush and pushing brush piles. Potential erosion areas are seeded and mulched. Synthetic erosion prevention material is utilized when necessary.

The long growing season in this area provides excellent early root formation which also helps prevent damaging erosion.

2.4 CHEMICAL AND SOLID WASTE MANAGEMENT

Liquid wastes, such as chemicals, fuels, lubricants, bitumens and flushing solutions, are deposited or discharged into tanks and/or containers for salvage or subsequent removal to appropriate off-site locations. Adequate care is taken to avoid the handling or storing of liquids in close proximity of major drainage areas to avoid potentially damaging spills to site streams.

Construction scrap and debris are collected in designated on-site areas for salvage, incineration or burial. Unusable combustible materials are burned on site in a burn pit equipped with an air curtain destructor.

Emission levels and operation of the burn pit incinerator are in accordance with Mississippi Air Quality Regulations. Emissions and odors are kept at an acceptable minimum, and control devices are maintained in good working order. Noncombustible solid wastes are buried in designated landfill areas.

2.5 LAND MANAGEMENT AND WILDLIFE

Approximately 2300 acres owned by MP&L makes up the GGNS site; 94 acres are fenced in the immediate plant area, with an additional 37 acres set aside for permanent structures. The remaining acreage, which is excellent

habitat for Mississippi wildlife, is productively utilized keeping wildlife enhancement in mind.

Agricultural leases with local farmers have been established at GGNS. Some lands have been leased to area farmers for grazing purposes and hay production. The farmers use every available resource to have a productive operation while meeting the GGNS objective of wildlife enhancement.

Fringe areas and open fields are mowed a minimum of two times during each growing season to keep open areas from being overtaken by scrub vegetation. After the growing season, a series of small food plots are planted in these open fields to help sustain wildlife populations through the winter and early spring. A small fruit orchard and two gardens are also maintained on site by Environmental Surveillance Program personnel.

Two lakes located on the site, Gin and Hamilton, are used for sport and commercial fishing. Utilization of the lakes and surrounding local lands by water dependent species (waterfowl) is seasonal, with most activity occurring during fall and winter migrations.

Hunting on the site is limited to bow hunting for deer. Other hunting activities are prohibited on the GGNS site.

2.6 GROUNDWATER MONITORING

A groundwater monitoring program has been established at GGNS to:

- Provide data on the seasonal fluctuation of the regional groundwater table
- Define the cone of depression caused by GGNS pumping operations
- Monitor the level of the perched groundwater table in the Unit 1 and 2 Power Block areas.

Location of Monitoring Wells

Twenty-seven wells are used to monitor the regional and perched groundwater underlying GGNS:

- Twelve wells monitor the regional groundwater levels in the site area
- Fifteen wells monitor the perched groundwater levels in the Power Block areas.

Locations of monitoring wells are shown in Figures 2-3 and 2-4 and listed in Tables 2-1 and 2-2.

Regional Groundwater

Wells used to monitor the regional groundwater levels (Figure 2-3 and Table 2-1) are normally measured at least twice a month. Fluctuations in regional groundwater levels have indicated that maximum groundwater levels normally occur in June through August, with minimum levels normally occurring in November through January. These seasonal fluctuations correspond to those of the Mississippi River. No indications of groundwater depletion have occurred since the inception of the program.

Perched Groundwater

GGNS Units 1 and 2 have a monitoring and dewatering system (Figure 2-4 and Table 2-2) located around the Power Block and the Standby Service Water Basins to monitor and dewater the underlying perched aquifer. Seven wells (MW-1 through MW-7) monitor the water levels in the perched aquifer and eight wells are in place to dewater the aquifer if water levels approach or exceed 109 ft Mean Sea Level (MSL). Water levels in perched aquifer wells are observed and recorded once a month.

2.7 NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT

National Pollutant Discharge Elimination System (NPDES) Permit No. MS0029521 was amended and reissued to GGNS on June 1, 1982. The permit was issued in accordance with the provisions of the Mississippi Air and Water Pollutant Control Law (Section 49-17-1, Mississippi Code of 1972) and the regulations and standards adopted and promulgated thereunder, and authority granted to the Mississippi Pollution Control Permit Board pursuant to Section 402(b) of the Federal Water Pollution Control Act. The permit as issued in June 1982 consisted of 15 outfalls, but was revised in May 1984 to add Outfall 016 and combine Outfalls 007, 008 and 009.

The Permit allows GGNS to discharge wastewater in accordance with NPDES regulations into Hamilton Lake and the Mississippi River. NPDES reporting requirements are

established by the State of Mississippi. Monthly Discharge Monitoring Reports (DMR) for each outfall are prepared on a quarterly basis and sent to the Mississippi Department of Natural Resources and the U. S. Nuclear Regulatory Commission via NPDES Quarterly Reports.

2.8 THERMAL MONITORING PROGRAM

Grand Gulf Nuclear Station's NPDES Permit requires that GGNS effluents and the Mississippi River mixing area be monitored to determine what effects, if any, will result from GGNS' heated discharge into the river. The NPDES Permit states:

> The receiving water shall not exceed a maximum water temperature change of 2.8°C (5.0°F) relative to the upriver temperature, outside a mixing zone not exceeding a maximum width of 60 feet from the river edge and a maximum length of 6000 feet downstream from the point of discharge, as measured at a depth of 5 feet. The maximum water temperature shall not exceed 32°C (90°F) outside the same mixing zone, except when ambient temperatures approach or exceed this value.

Monitoring is conducted semiannually (once in winter and once in summer) when at least one unit is operating at a minimum of 25% power.

To initiate the thermal monitoring program and obtain baseline data, the river bank was surveyed to establish and permanently mark 72 reference points 100 ft apart. Sixty-six of the reference points are located downstream of GGNS' discharge into the river, and the remaining six are located upstream of the discharge.

Calibrated digital thermometers are used to obtain temperatures at a depth of 5 ft and at the surface. At each reference point, measurements are taken 100 ft from the river bank, then at 10 ft intervals until reaching the bank. This provides 20 temperature data points for each reference point.

2.9 COOLING TOWER DRIFT PROGRAM

The Environmental Protection Plan requires that a study be conducted to determine the environmental effects of salt deposition from cooling tower drift. MP&L elected to conduct a quantitative and qualitative cooling tower drift study which would identify the salts deposited on vegetation in the surrounding environment and determine the quantity of each salt.

Salt Deposition Station Locations

Seven sampling sites are utilized to measure cooling tower drift deposition. Two of the sampling sites have two duplicate sampling devices. Six of the seven sampling sites are located in areas where maximum salt deposition is predicted. These areas were extrapolated from the Bechtel Salt Deposition Model developed for the MP&L Final Environmental Report. The seventh sampling site is a control site located south of Raymond, Mississippi. Locations of salt deposition sites are identified in Figures 2-5 and 2-6 and listed in Table 2-3.

Fallout samples are collected on a quarterly basis using buckets with a known volume of deionized water. The buckets are located four to six feet above the ground, fitted with bird rings and covered with fine mesh screens to exclude leaves and insects.

Sample Analysis and Collection

Samples are collected quarterly and analyzed for ten constituents:

- Calcium
- Sodium
- Phosphate
- Chloride
- Sulfate
- Magnesium
- Iron
- Nitrate
- Fluoride
- Total dissolved solids.

These parameters were selected because past analyses have shown them to be prevalent in the Plant Service Water System. Salt constituents are also determined for the demineralized water used in the initial setup of the collection buckets. Rainfall data is recorded for each sampling site.

Screens are washed with deionized water, and the wash water volume is measured and deposited in the collector on a quarterly basis. The volume of water in the collector is then measured, and a composite sample of the collector's contents is placed in a clean cubitainer, sealed and labeled. The date of removal, total volume in the collector, total rainfall and location of the site are recorded on the appropriate data sheets.

Salt Deposition Rate Calculation

Salt deposition rates (SDR) are calculated on a constituent-by-constituent basis from:

- The total volume of water contained in the sampling bucket
- The concentration of a constituent in this water
- The volume of demineralized water placed in the sampler initially
- The concentration of the constituent in the demineralized water
- The sampling area of the bucket.

Therefore, for a particular constituent,

$$SDR = \frac{(V_{TCT}) - (V_{DCD})}{A}$$

where: SDR = Salt Deposition Rate (mg/m^2)

V_T = final sample volume

V_D = seeded volume of demineralized water

C_T = final sample constituent concentration

C_D = demineralized water constituent concentration

A = collector area (m^2).

2.10 METEOROLOGICAL SYSTEM

The GGNS meteorological tower, with base elevation of 160 ft above MSL, is approximately 5000 ft northwest of the GGNS Unit 1 reactor building, which has a finished grade 132 ft above MSL. The location of the meteorological tower is shown in Figure 2-7.

The area around the meteorological tower is flat and grass covered. The nearest bluffs are 362 ft to the west of

the tower with trees 35 ft high along the bluffs. Approximately 400 ft to the east are trees 50 to 60 ft high along with a hill about 30 ft higher than the base of the tower. To the south, the nearest trees 50 to 60 ft high are 690 ft from the tower. A county road passes the meteorological tower 400 ft to the north. The tallest structure, the GGNS Unit 1 natural draft cooling tower, is 522 ft high and is situated approximately 6000 ft south-southeast of the meteorological tower.

Due to its location in a relatively open area and its proximity to GGNS, the tower site is expected to accurately represent the same meteorological characteristics as the region into which airborne material will be released from GGNS.

The following parameters are monitored at the 133 and 33 ft levels of the tower:

- Wind Direction
- Wind Speed
- Temperature
- Change in Temperature (Δ T)
- Dew Point
- Surface Precipitation.

The data for the Meteorological Program is included in the Semiannual Effluent Release Reports submitted to the U. S. Nuclear Regulatory Commission.

2.11 ENVIRONMENTAL EVALUATIONS

The Environmental Protection Plan (EPP) for GGNS permits changes in GGNS design or operation and the performance of tests or experiments that affect the environment, provided they do not involve a change in the EPP or an unreviewed environmental question. This means

that changes, tests or experiments which do not affect the environment are not subject to the requirements of the EPP. Also, the requirements of the EPP do not relieve GGNS of the requirements in 10 CFR 50.59, "Changes, Tests and Experiments," which address the question of safety associated with proposed changes, tests and experiments.

Nuclear Production personnel review changes in plant design or operation and the performance of tests and experiments for the possible effects they might have on the environment. When the review determines that the change test or experiment may affect the environment, an environmental evaluation is prepared and recorded before additional construction or operational activities associated with the change, test or experiment are begun. However, the EPP excludes changes, tests or experiments from the evaluation:

- If all measurable environmental effects are confined to on-site areas previously disturbed during site preparation and plant construction, or
- If they are required to achieve compliance with other federal, state, or local requirements.

Review of changes, tests and experiments at GGNS is conducted by one of three groups:

- Nuclear Engineering and Construction
- Nuclear Operations
- Nuclear Support.

All three groups perform an applicability determination of proposed changes, tests or experiments to ascertain if the

activity might affect the environment. Only those which have the potential to affect the environment are required to receive environmental evaluations.

The originator of a proposed change, test or experiment must complete an environmental evaluation or document that one is not required. Completed environmental evaluations are forwarded to the Radiological & Environmental Services (R&ES) Section of Nuclear Support for a concurrence review. After providing concurrence review, R&ES reports the results of environmental evaluations to the NRC in the GGNS Annual Environmental Operating Report.

TABLE 2-1

REGIONAL GROUNDWATER WELL LOCATIONS

IN FIGURE 2-3

LEGEND	WELL NUMBER	SECTOR	LOCATION DESCRIPTION
1	P5, OW5	B	NE Laydown Area - Unit 2
2	OW209A, P209	D(E)	Bluff behind Unit 2 Cooling Tower
3	OW202	E	Bluff north of Switchyard
4	OW10	A	West end Met Tower field
5	OW4, OW4A, P4	R	County Road - Adjacent to Stream A
6	OW29A	Q	West Laydown Area - Unit 2
7	OW69A	P	Field - Northside Haul Road
8	OW7	N	Unit 1 Cooling Tower Across the south Plant Access Road and east of Basin B

TABLE 2-2

PERCHED GROUNDWATER WELL LOCATIONS

IN FIGURE 2-4

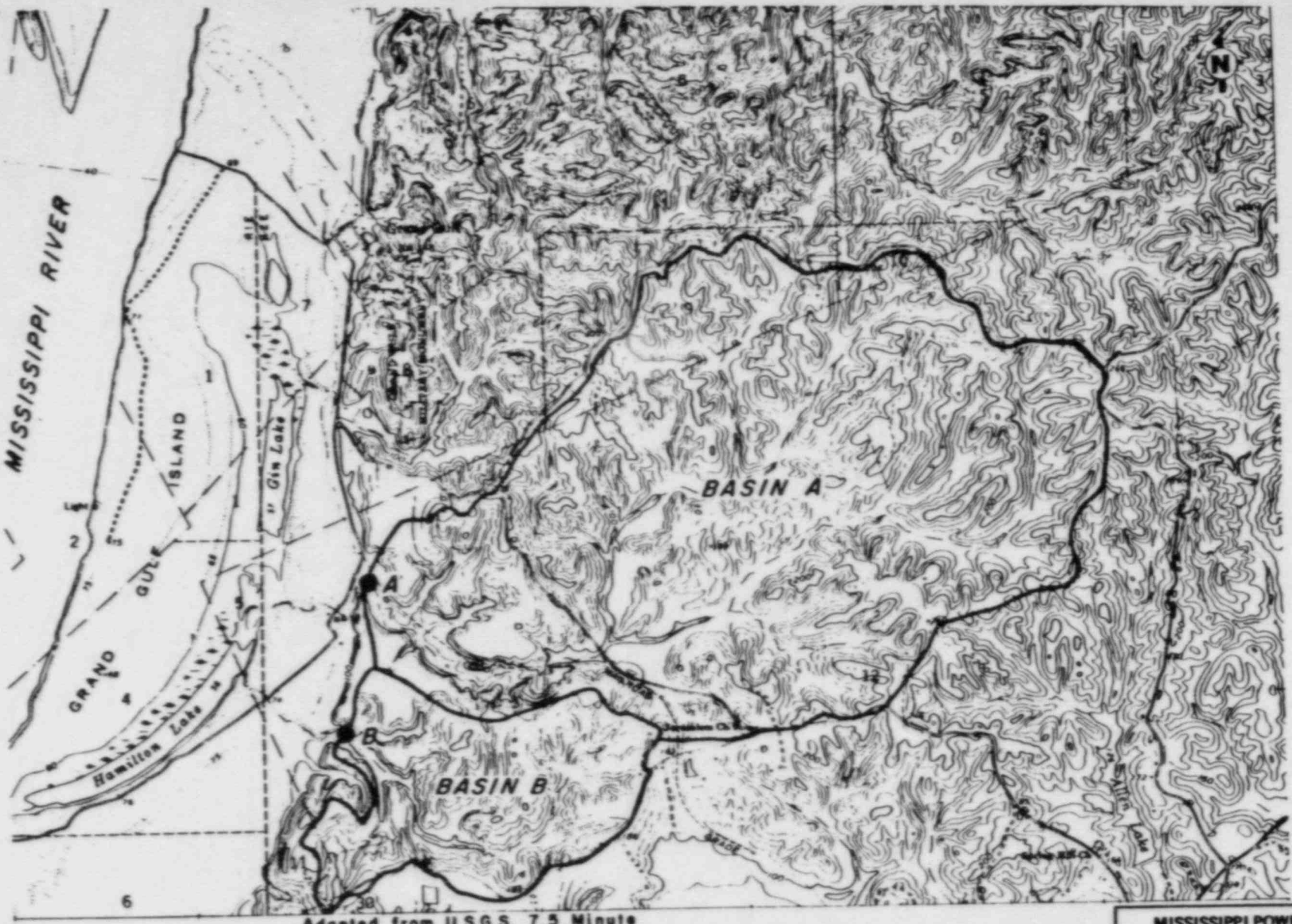
WELL NO.	UNIT NO.	LOCATION DESCRIPTION
MW1	2	North end Unit 2 Turbine Bldg.
MW2	2	Northwest corner Unit 2 Auxiliary Bldg.
MW3	1	Northeast of SS' B (between fences)
MW4	1	Southwest side SSW A
MW5	2	Northeast MP&L Maintenance Shop
MW6	1	North of Condensate Storage Tank
MW7	2	East of Unit 2 Turbine Bldg.
DW1	2	East of Unit 2 Turbine Bldg.
DW2	2	Corner Auxiliary Bldg. - Turbine Bldg. Unit 2
DW3	2	Northwest corner Unit 2 Auxiliary Bldg. by electric panels
DW4	2	Southwest corner of Unit 2 Auxiliary Bldg.
DW5	1	Between SSW A and SSW B
DW6	1	In front of Diesel Generator Bldg. (under man-hole)
DW7	1	Corner Unit I Turbine Bldg. - Auxiliary Bldg.
DW8	1	Behind Radwaste Bldg. - Unit 1

TABLE 2-3

SALT DEPOSITION STATION LOCATIONS

IN FIGURE 2-5 AND 2-6

LEGEND	ID NO.	SECTOR	DESCRIPTION
1	SDS 1	P	Heavy Haul Road - adjacent to Basin B
2	SDS 2, 2A, 2B	A	Fenced storage area by Met. Tower
3	SDS 3	C	Catwalk on truck bypass road
4	SDS 4	E	Maggie Jackson residence - Waterloo Road
5	SDS 5, 5A, 5B	J	Old MP&L Training Center - Waterloo Road
6	SDS 6	L	Glodjo Residence - Waterloo Road
7	SDS 7	D	Smith Residence - Raymond, MS (control)



Adapted from U.S.G.S. 7.5 Minute
Topographic Sheet 1963 Series

MISSISSIPPI POWER & LIGHT COMPANY
GRAND GULF NUCLEAR STATION
UNITS 1 & 2

FIGURE 2-1

LOCAL DRAINAGE BASINS

SOURCE: Official highway map - Louisiana (1970)
Official highway map - Mississippi (1971)

MISSISSIPPI POWER & LIGHT COMPANY
GRAND GULF NUCLEAR STATION
UNITS 1 & 2

FIGURE 2-2

TRANSMISSION LINE ROUTES

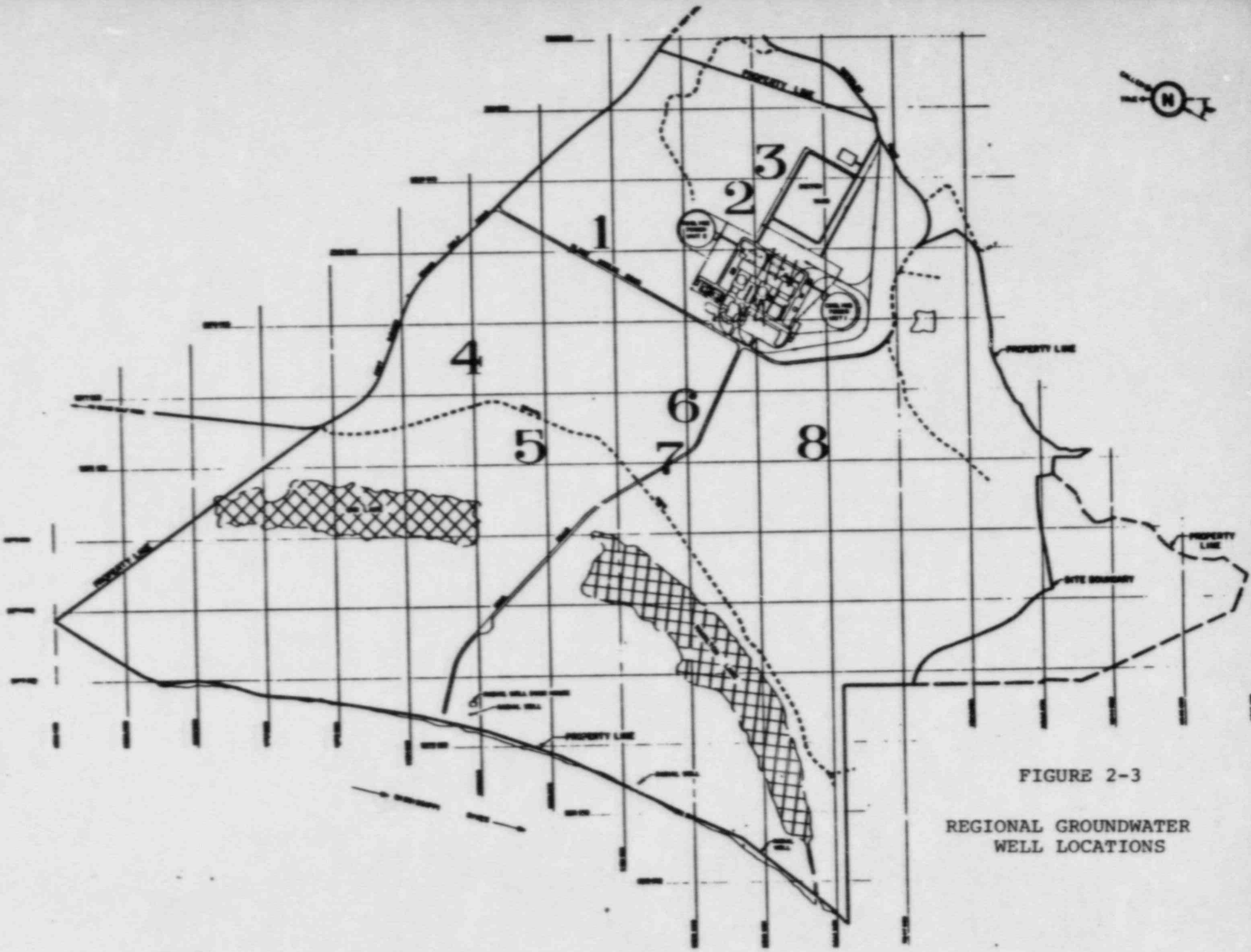
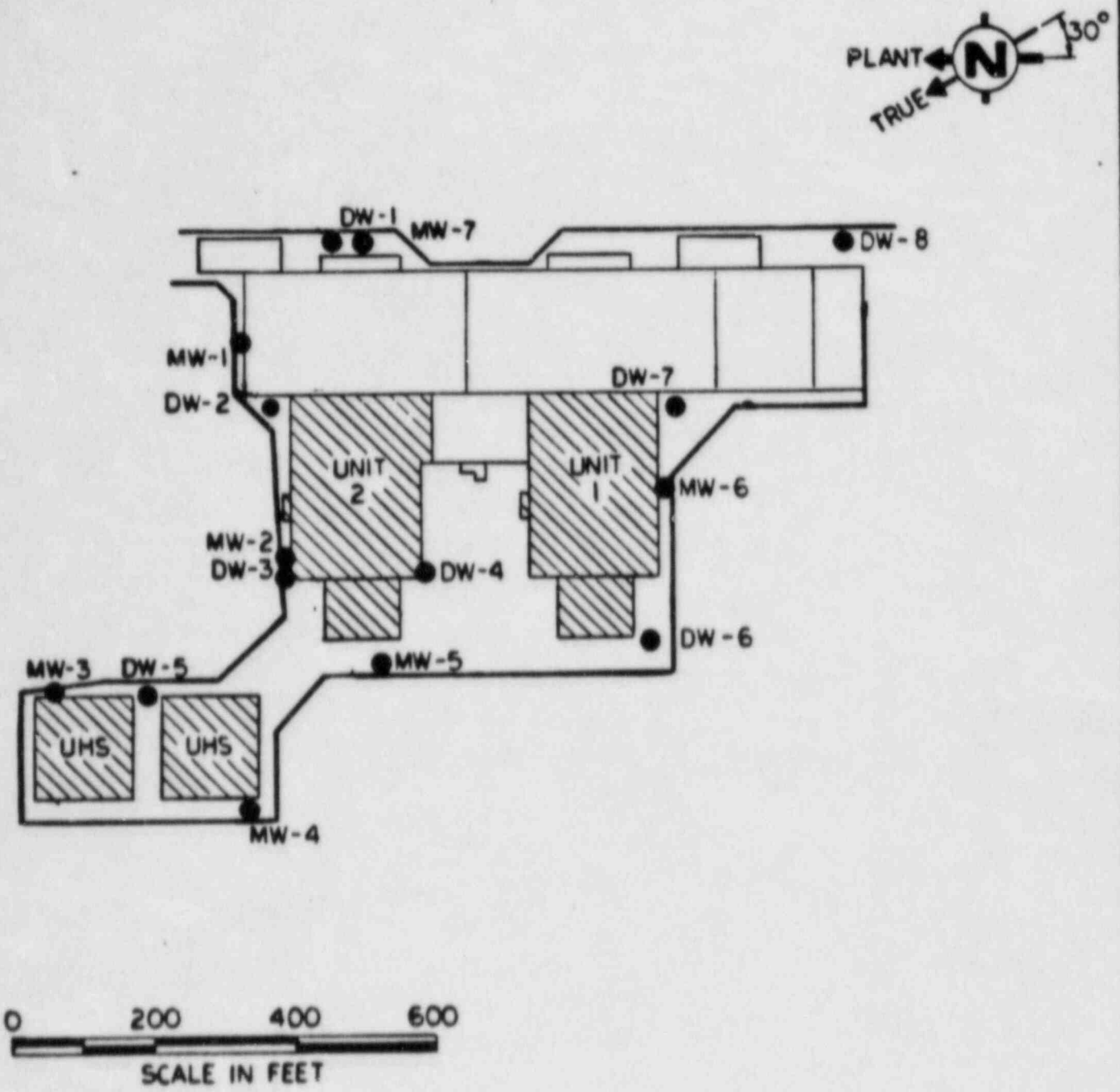


FIGURE 2-3

REGIONAL GROUNDWATER
WELL LOCATIONS



MISSISSIPPI POWER & LIGHT COMPANY
GRAND GULF NUCLEAR STATION
UNITS 1 & 2

FIGURE 2-4

LOCATION OF CONSTRUCTION DEWATERING AND OBSERVATION WELLS (PERCHED)

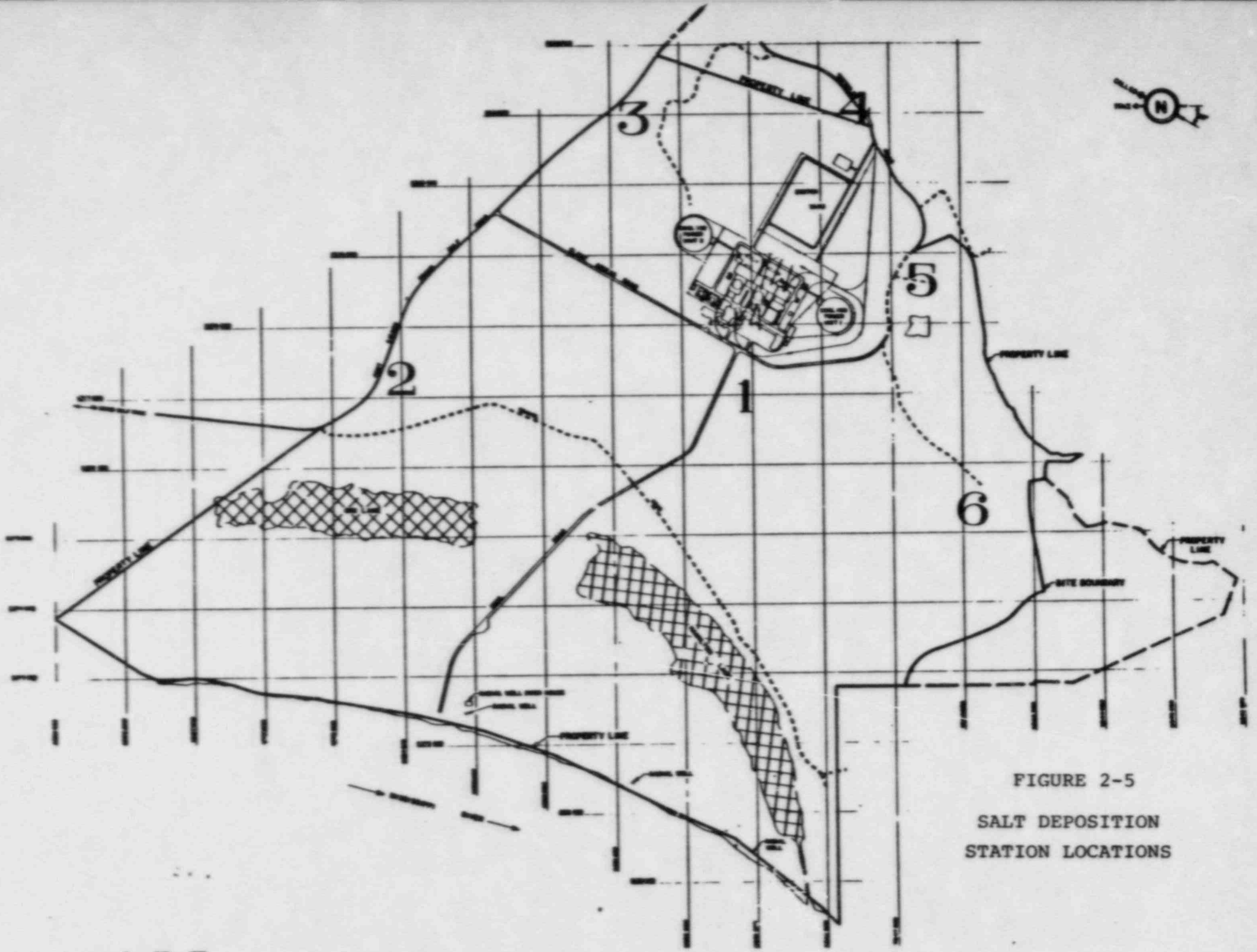
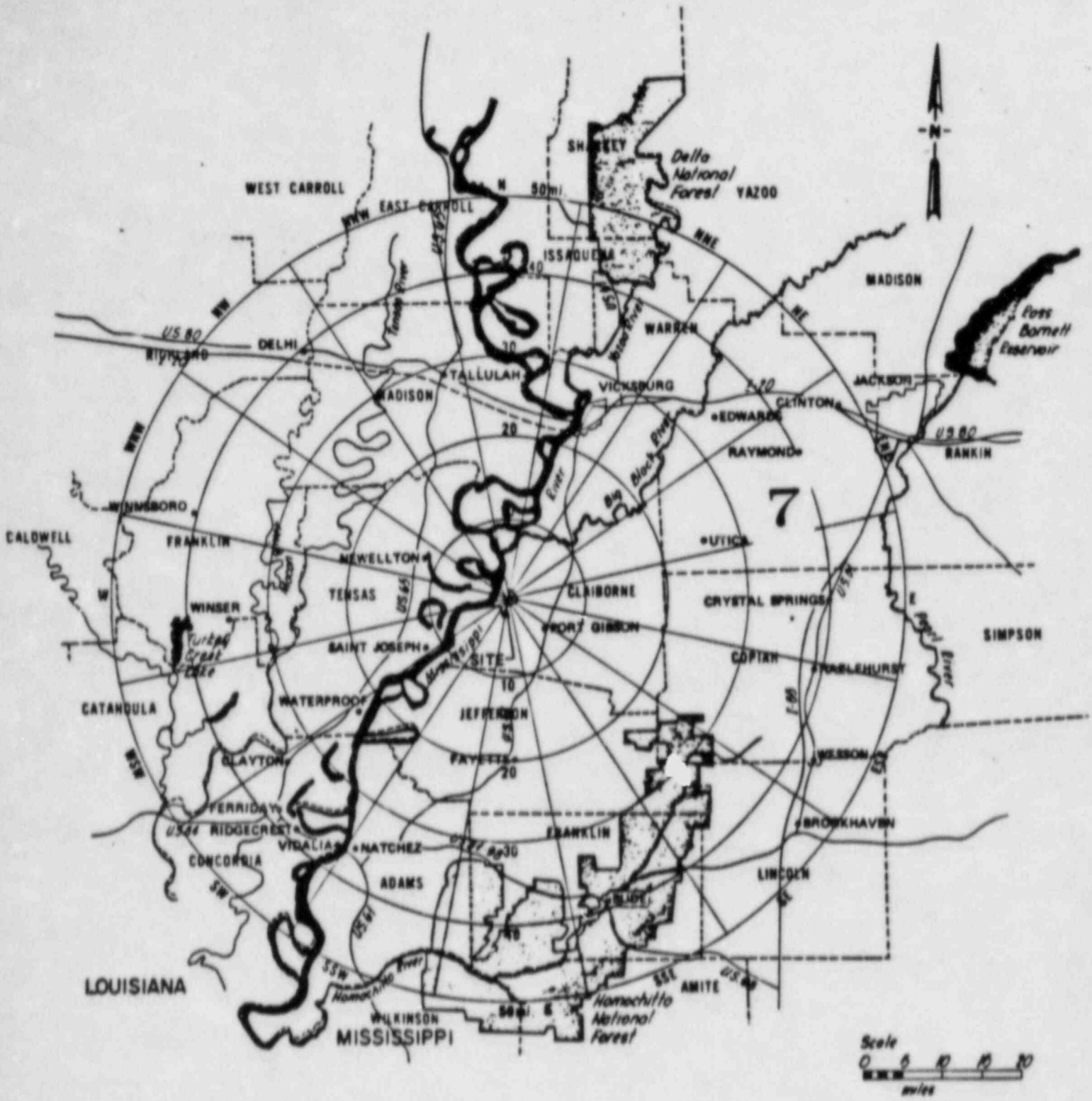


FIGURE 2-5

SALT DEPOSITION
STATION LOCATIONS



SOURCE: Official highway map - Louisiana (1970)
Official highway map - Mississippi (1971)

MISSISSIPPI POWER & LIGHT COMPANY GRAND GULF NUCLEAR STATION UNITS 1 & 2
FIGURE 2-6 SALT DEPOSITION CONTROL LOCATION

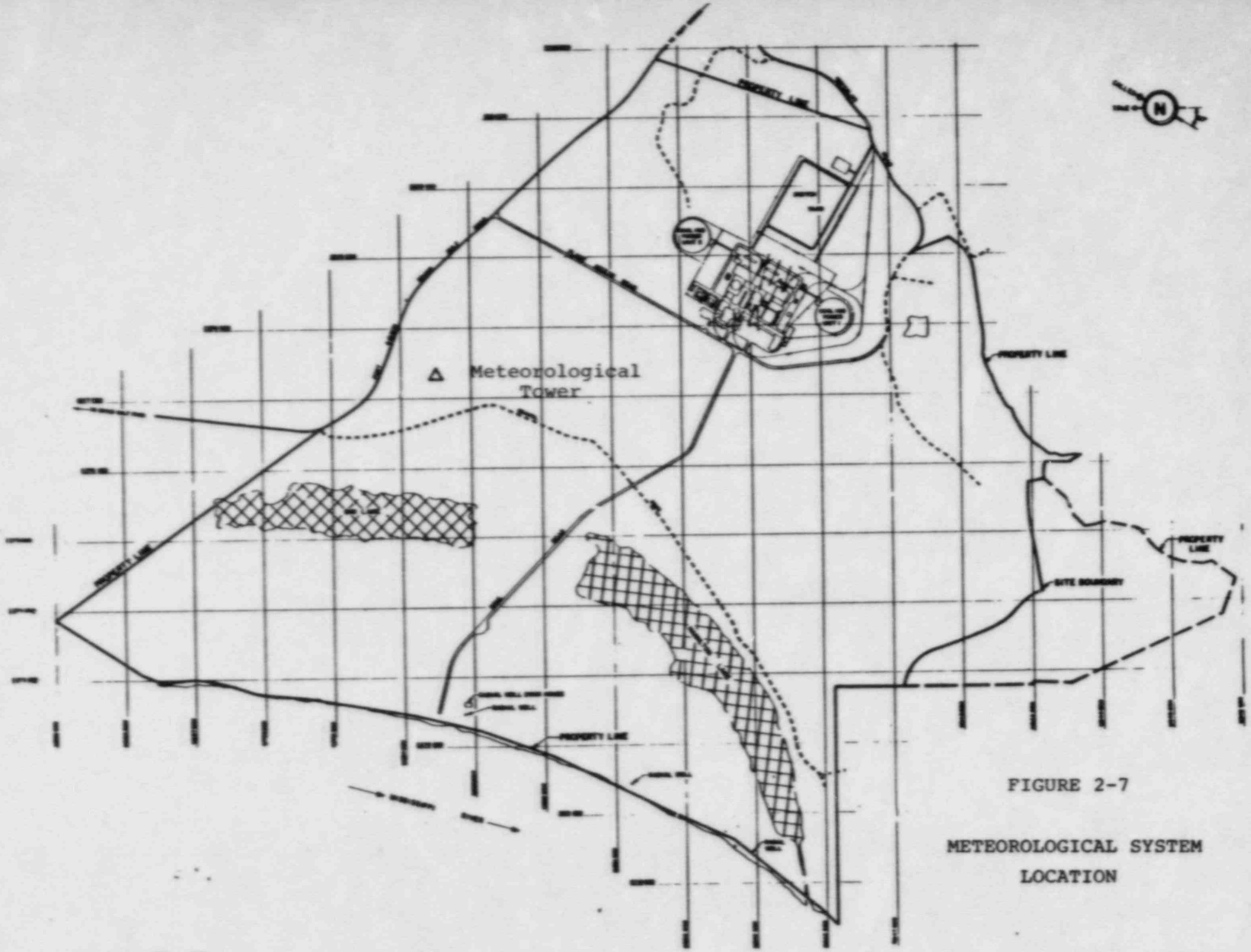


FIGURE 2-7

METEOROLOGICAL SYSTEM LOCATION

SECTION 3.0

OBSERVATIONS AND DISCUSSION

3.1 SMOKE CONTROL

Environmental Surveillance Program personnel, who had been certified by the Mississippi Department of Natural Resources to evaluate visible emissions, conducted daily inspections of the burn pit in 1984. During the year, five opacity violations were noted. Timely corrections were made on each occasion.

No other smoke control problems were identified during 1984. Based on 1984 monitoring, the operation and construction of GGNS have contributed insignificant smoke emissions to the environment surrounding GGNS.

3.2 EROSION CONTROL

During 1984, 67.29 inches of rainfall were recorded at GGNS. Runoff samples were taken during periods of heavy rainfall at the influent and effluent of each basin to determine the sediment load and efficiency of each basin. The results, reported in Table 3-1, generally indicate an overall reduction in sediment loading coming into Basins A and B.

Stabilization and revegetation of the majority of disturbed areas on site are contributing to a reduction in sediment loading. The only disturbed areas remaining which have not been properly stabilized are the laydown and Unit 2 construction areas. Major construction areas associated with Unit 1 have been properly stabilized.

As a result of GGNS Construction Permit Numbers CPPR-118 and 119, Amendments 7 dated December 23, 1981, monitoring and capacity requirements for the sedimentation basins were transferred to the GGNS NPDES Permit. Environmental Surveillance Program personnel elected to continue runoff sample collection on a voluntary basis for an additional period of time to gather supplemental data on basin sediment removal. Sufficient data has now been collected, and runoff sample collection was discontinued on January 31, 1985. Future monitoring of sedimentation basins will be conducted according to the parameters established by the GGNS NPDES Permit.

3.3 TRANSMISSION LINE SURVEYS (1984)

The semiannual aerial surveys of the GGNS transmission lines identified no major problem areas during 1984. No herbicides were used to control vegetation on these lines in 1983 or 1984.

Minor erosion was identified on the Franklin and Baxter Wilson Transmission Lines during 1984 surveys. No remedial action was necessary, however, and these two lines, overall, have well established vegetation. The Baxter Wilson Transmission Line was recleared during 1984. A detailed summary of the semiannual surveys is provided as Appendix I.

Stabilization of soil and vegetation in transmission line right-of-ways has progressed well, and sufficient ground cover is now available to preclude future serious erosion problems. Past and present semiannual transmission line surveys have established the following:

- Construction practices were effective in minimizing environmental impact
- Erosion and vehicular damage caused by hunting and logging encroachment over the years has been minimal and caused no lasting problems
- Past remedial action required to control erosion has been effective.

3.4 CHEMICAL AND SOLID WASTE MANAGEMENT

Solid Waste

Solid waste generated at GGNS during 1984 did not present any unanticipated problems or adversely affect the environment. Office waste, rubble and debris were incinerated or buried on site without incident. Solid waste activities at GGNS during 1984 were in compliance with Mississippi Department of Natural Resource, Bureau of Pollution Control, "Nonhazardous Waste Management Regulations" issued September 1984.

Chemical and Liquid Waste

GGNS did not incur any serious problems or incidents with chemical and liquid waste control in 1984. Chemicals of a nonhazardous nature (resins, cement slurry, Fuller's earth, charcoal and filters) were successfully disposed of

on site. Chemicals which were suitable for reuse were recycled through local contractors and nonprofit organizations. Nonhazardous liquid wastes (borated water, chiller water, cooling water) were disposed of in the GGNS Resin Pond or discharged through National Pollutant Discharge Elimination System outfalls and reported as appropriate.

Three items concerning chemical waste control in 1984 are identified below:

- The Mississippi Department of Natural Resources, Bureau of Pollution Control, on October 4, 1984 authorized the on-site burial of Sonolastic Two-Component Sealants. Before disposal the two components were mixed and cured to a solid rubber. The first disposal of Sonolastic Two-Component Sealants took place on November 29, 1984 in the GGNS Burial Pit and involved approximately 6½ drums of solidified material.
- Three drums of calcium hydroxide were buried in the GGNS Burial Pit on February 17, 1984.
- Three drums of ultrasonic cleaning solution were disposed of in the GGNS Resin Pond on May 18, 1984.

Hazardous Waste

The Mississippi Department of Natural Resources (MDNR) inspected the Hazardous Waste Storage Area and related activities on September 28, 1984. The purpose of the inspection was to confirm regulatory compliance before issuance of a Hazardous Waste Management Permit.

The only noncompliances identified by the MDNR were related to the sulfuric acid cargo tanker spill on May 15, 1984. These items had been previously identified and were

resolved at a Show Cause Hearing conducted by the MDNR on July 6, 1984. An account of the incident is provided in Section 4.2, Nonreportable Incidents.

On October 9, 1984 the MDNR approved the issuance of a Hazardous Waste Management Permit to Grand Gulf Nuclear Station. The permit authorizes the on-site containerized storage of hazardous waste. Hazardous waste treatment and disposal on site are not authorized by the GGNS permit. A copy of the final Part-B Permit Application was transmitted to the NRC by AECM-84/0472.

Two shipments of hazardous waste occurred during 1984. The first was the sulfuric acid shipment described above and in Section 4.2. The second shipment occurred on December 7, 1984 and consisted of 17 drums of spent Rydlyme (HCl) cleaning solution and 3 drums of PVC cement. These shipments were disposed of at permitted repositories in Livingston, Louisiana, and Emelle, Alabama, respectively.

Polychlorinated Biphenyls (PCBs)

Dielectric fluid units contaminated with PCBs have been properly marked and identified. No known releases or exposures related to PCBs occurred in 1984.

3.5 LAND MANAGEMENT AND WILDLIFE

One endangered species, the American alligator (Alligator mississippiensis), was observed on or near

GGNS property during 1984. Alligators are known to inhabit both Hamilton and Gin Lakes and their tributaries.

During the 1984 bow hunting season (October 1984 through February 1985) 18 deer were killed. There were 109.9 hunting hours per deer killed for a hunter success ratio of 3.3% for the season. Based on this data and field observations by Environmental Surveillance Program personnel, the operation of GGNS has had no apparent ecological effect on the wildlife population.

3.6 GROUNDWATER

Regional Groundwater

Regional groundwater monitoring data is presented in Table 3-2. Water levels occurred at expected elevations. Fluctuations in well water elevations were attributed to flooding of the Mississippi River. The 1984 data was consistent with preoperational and previous operational data.

Perched Aquifer

Perched groundwater data is presented in Table 3-3. A hydrograph for each perched aquifer well is provided in Appendix II.

The GGNS Architect/Engineer completed a study of high water levels identified in the 1983 AEOR. The study was submitted to the NRC via AECM-85/0088.

As previously mentioned, no water levels exceeding 109.0 ft MSL occurred during the 1984 reporting period. The course of action outlined in AECM-85/0088 is expected

to control this problem and maintain the integrity of safety-related structures at GGNS.

3.7 NPDES

A revision to the GGNS NPDES Permit Number MS0029521 was received from the Mississippi Department of Natural Resources on May 2, 1984. This revision combined Outfalls 007, 008 and 009 for monitoring purposes. The revision also added Outfall 016 for a water softening unit serving the Energy Services Center. Other changes were predominately administrative in nature. A copy of the revised NPDES Permit was transmitted to the NRC via AECM-84/0287, dated May 14, 1984.

The 1984 monitoring results for all permitted outfalls were reported in the NPDES Quarterly Reports. The Mississippi Department of Natural Resources and the U. S. Nuclear Regulatory Commission received copies of these reports.

Several items noted during 1984 and included in the quarterly reports are summarized below:

- Data for Outfalls 010 and 015 was not included in the 1st Quarter 1984 NPDES Report for the period January 1-25, 1984. The monitoring for this period was performed; however, the paperwork was inadvertently destroyed by the Sewage Treatment Plant Operator. The calculations for January were based on the period January 26-31, 1984.

- A report of the January 25, 1984 transformer oil spill into Outfall 013 was submitted to Mississippi Department of Natural Resources (MDNR) via APO-84/0207. A transformer valve malfunction caused

approximately 1140 gallons of oil to be discharged in the Unit 2 west laydown area. A small amount of oil reached Basin A but was contained and cleaned up. Basin A effluent samples were within the NPDES Permit guideline of 25 mg/l for oil and grease. There is no oil and grease limit for Basin A. No adverse environmental effects occurred and valve failure should not be a recurring problem. Cleanup was completed on January 30, 1984.

- A valve misalignment on January 30, 1984, resulted in an unmonitored discharge of 10,000 gallons of water from Outfall 005 into Outfall 014. The samples collected to determine chlorine levels revealed <0.02 ppm chlorine. No NPDES parameters were violated and action was taken by Operations personnel to prevent a recurrence.

- A Nalco 39L spill which occurred on February 21, 1984 involved one gallon of material spilled in the MP&L Warehouse when the container was ruptured by a forklift. The remaining 4 gallons of Nalco 39L, a nitrite-based chemical used in the closed cooling water systems, were disposed of in the Low-Volume Waste Basin and ultimately discharged through Outfall 006. Nitrite levels in Outfall 006 were determined to be 0.08 ppm. There is no nitrite limit established in the NPDES Permit. Observations indicated that the release did not adversely impact the environment nor were any NPDES parameters violated. Warehouse personnel were cautioned about using extreme care when operating the forklift near chemicals.

- During the first quarter reporting period five routine maintenance-required releases of diesel cooling water were discharged via Outfall 007 into Outfall 014. The effluent samples collected revealed nitrite levels after release of <0.5 ppm. No NPDES parameters were violated and no adverse environmental effects were observed. The Mississippi Department of Natural Resources previously authorized this type of release.

- On April 10, 1984 an injection feed line leaked causing approximately 40 gallons of Betz 3451 water treatment chemical to spill onto the MP&L parking lot at Grand Gulf Nuclear Station (GGNS). The leak occurred on the Plant Service Water side of the system around the threads of a valve which was not properly fitted. The feed line was repaired, pressure tested and examined for leaks as well as other signs of improper fitting or deterioration. The spilled Betz 3451 chemical was flushed into a nearby storm drain leading to Outfalls 007 and 014. These outfalls were

observed for foaming, abnormal odors and discoloration, with none observed. Analytical results from routine sampling of these outfalls were within parameters established by the Grand Gulf Nuclear Station NPDES Permit. There was no evidence of adverse environment effects from this spill.

- As a result of routine maintenance activities three releases of diesel generator cooling water occurred during the second quarter via Outfall 007 into Outfall 014. Effluent samples from Outfall 014 were analyzed for nitrite and found to be < 0.5 ppm, which is within the suggested guidelines. No adverse environmental effects occurred as a result of these discharges.

- In June 1984 permission was obtained from the Mississippi Department of Natural Resources (MDNR) to drain both Standby Service Water Basins via their permitted outfalls and one nonpermitted outfall. This dual discharge was necessary to facilitate repairs to the system. Chlorine levels during the discharge were nondetectable and no adverse environmental effects occurred.

- On July 18, 1984 ten gallons of Betz 3451, a chemical dispersant, leaked onto the MP&L parking lot. The leak was caused by galvanic corrosion of a portion of the Chemical Addition System to Plant Service piping. The chemical was flushed to the storm drainage system. Sample collections at Outfall 007 and the influent end of Outfall 014 revealed pHs of 8.37 and 8.44, respectively. No significant environmental impact was observed. Work was begun in September to isolate the sample point to prevent further corrosion occurrences.

- During the 3rd Quarter reporting period three routine maintenance-required releases of diesel cooling water were discharged via Outfall 007 into Outfall 014. Effluent samples from 014 collected from two of the three discharges revealed no detectable levels of nitrite. No NPDES parameters were violated and no adverse environmental effects occurred.

- Between November 30 and December 2, 1984, approximately 75,000 gallons of water overflowed from the Cooling Tower Basin (Outfall 002) to Outfall 014 via the storm drainage system. The overflow occurred because maintenance activities necessitated draining condenser water to the Cooling Tower Basin. The additional volume caused the Cooling Tower Basin to overflow into a nearby storm drain. Discharges of

this type should not occur frequently, but they are required by plant design to occur in this manner. Chemical analysis of the effluent indicated the following results:

pH	8.6
Chlorine, Total Residual	<0.1 mg/l
Chlorine, Free Available	<0.1 mg/l

Except for the discharge route, the release was within the requirements of the NPDES Permit. No NPDES chemical parameters were violated and no environmental impact occurred.

- On December 5, 1984 a film was discovered on the water surface at the influent end of Basin B (Outfall 014). This material had been contained by an in-place boom and was quickly removed with absorbent booms and pads. Based on visual observations, the film originated from Outfall 007 which enters at the influent end of Basin B. A sample collected from Outfall 007 revealed oil and grease levels of 1100 mg/l which quickly lessened to <15 mg/l as monitoring continued.

  Transformers, fuel storage locations and routine oil use locations were visually inspected, and no abnormalities were noted. Inquiries made to maintenance, operations, water treatment and contractors were also unproductive in determining the source of the problem. Condenser tube repairs were being made at this time, but this could not be positively identified as the cause of the release.

  This appeared to be an isolated incident, since no incident of this type occurred prior to or since December 5, 1984. The released material was apparently organic in nature, but it was not characteristic of a typical oil-base product. The released material was removed and no significant environmental impact occurred.

- On December 26, 1984 approximately 10,000 gallons of water from the Circulating Water System (CWS) Pump Pit were discharged through Outfall 014 via the storm drainage system. The permitted Outfall (002) for the CWS could not be used because gravity flow from the Pump Pit to the Cooling Tower Basin was not possible because of physical differences in elevations.

  Chemical analysis of the effluent indicated the

following results:

Total Suspended Solids	13.3 mg/l
pH	8.59
Chlorine, Total Residual	< 0.1 mg/l
Chlorine, Free Available	< 0.1 mg/l
Iron	6.1 mg/l

Discharges of this type are necessary for maintenance activities. No NPDES chemical parameters were violated and the environment was not affected.

3.8 THERMAL MONITORING

Environmental Surveillance Program personnel performed monitoring to determine baseline summer thermal conditions on June 28 through 29, 1984. All 72 points were monitored during summer monitoring activities.

The results were organized and plotted so that temperature changes could be noted at specific distances from the river bank. Additional information such as river flow, ambient temperatures and effluent temperatures were also recorded.

The baseline data indicates, as in previous years, that the turbulence of the river mixes the water such that only a small variation in temperature occurs between the surface and a depth of five feet. Since GGNS had not released a substantial heated discharge on a continuous basis at the time of monitoring, no differences in water temperatures between the mixing area and the areas beyond the mixing zone were noted.

No winter monitoring was performed because of inconsistencies in the condition of the Mississippi River. Sufficient data was obtained in the previous winter monitoring to establish winter baseline data.

3.9 COOLING TOWER DRIFT

During 1984, cumulative salt deposition samples were collected for four quarterly periods. Replicate samples were taken at two locations (stations 2 and 5) as described in Section 2.9.

Table 3-5 gives the calculated salt deposition rates (SDR) for all seven monitoring sites in the GGNS Cooling Tower Drift Program. These SDRs form the bases for the statistical analysis which follows. Rainfall data collected at each sampling site is provided as Table 3-6.

Statistical Development

Presently, the data base is not very extensive (on a year to year basis) and doubt can be cast on the validity of some of the data. The latter is especially true for phosphate SDRs for the fourth sampling period, as can be seen by examining the phosphate rates in Table 3-5.

Nevertheless, data analysis is possible to obtain quantitative estimates of the precision of the data and the relative importance of the various factors which can potentially influence salt deposition rates. The former can be quantified by estimating confidence limits for the various data; the latter by statistically analyzing the data by Analysis of Variance (ANOVA). The present

statistical analysis uses a two-factor ANOVA which involves calculating F-factors and conducting significance tests for the major potential influences (period, location and the interaction of the two).

Statistical Model

The basic statistical model selected for the analysis is as follows:

$$D_{ijk} = \mu + P_i + L_j + PL_{ij} + e_{k(ij)}$$

Where Dijk = basic SDR (Salt Deposition Rate) data

μ = mean SDR

P_i = contribution due to sampling period

L_j = contribution due to sampling location

PL_{ij} = contribution due to sampling period and location interactions

$e_{k(ij)}$ = error due to sampling, analytical, techniques and other, unaccounted for, factors.

Interactions and "experimental" error can be separated in a multiple-factors experiment only if multiple observations are taken at various combinations of sampling periods and sampler locations. Determining confidence limits for the basic SDR data depends on the estimate of "experimental" error for the model; this estimate, in turn, depends on the availability of replicate samples. Since the latter were obtained only for salt deposition station (SDS) locations 2 and 5, this statistical analysis

will consider only these two locations. Also, the "wet" (2, 2A, 5 and 5A) and "dry" (2B and 5B) sampler results will be pooled in the model as providing comparable estimates. For simplicity's sake a complete balanced block design will be considered; that is, three replicate SDRs for each combination of periods (four) and locations (two) for a total of 24 SDR data points for each constituent. The actual data block is incomplete since some SDR data are either not available or are obviously biased. Pseudo-data points have been estimated based on available data for the same sampler to complete the data block by minimization of the error sum-of-squares for the model. This is generally a good approximation for a data block with only a small number of missing data points. Table 3-7, giving the SDR data, includes these pseudo-data points.

Analysis of Variance (ANOVA)

A computer program for the two-factor analysis of variance (ANOVA) of the data according to the described model has been developed. Basically, the program calculates the sum-of-squares for each of the factors of interest (period, location, period-location interaction, and error). The F-factors for period, location and period-location interaction relative to basic error are determined as well as an estimate of the confidence limits for the average SDR for any given period and location. For the purposes of this analysis, 95% confidence limits and 95% significance critical F-factors have been considered.

Using standard student -t and F distribution tables, other levels of significance are readily determinable, if required. Table 3-8 summarizes the results of this analysis.

As noted earlier, it is necessary to use replicate SDRs to separate "experimental error" (error between the replicates) from interaction influences. The use of composition in ANOVA instead of SDRs may aid in this process as well as provide additional information regarding potential sources of the salt. Composition for an individual parameter (e.g. for sodium, for location 2, period 1, and replicate 1) is determined by dividing the value of the salt deposition rate for the parameter by the sum of the corresponding values for all other constituents other than total dissolved solids. A two-factor ANOVA with 3 replicates is then conducted for 2 locations (2 and 5) and 4 periods. Table 3-9 provides a summary of the ANOVA based on composition.

Results of the ANOVA (Table 3-8) for sampler locations 2 and 5 (with replicate samples) show interaction of sampling period and location on some of the SDRs. As noted earlier, multiple observations are required to separate interaction and "experimental" error. Even when multiple observations are not available, ANOVA analysis can still be performed to evaluate the main effect of an individual factor. Therefore, the two-factor ANOVA (without replicates) can be performed for the other

sampling locations (other than 2 and 5) to evaluate the effect of location and period. Table 3-10 shows salt deposition data (five locations, four periods) for the ANOVA analyses without interaction. A computer program (similar to the previous program for ANOVA) calculates the F-factors for the simplified ANOVA. Table 3-11 summarizes the results.

To analyze impacts of environmental factors such as rainfall, wind speed, prevailing wind direction and resultant wind direction, regression analyses may be performed as follows:

(1) Cumulative rainfall for the period versus the salt deposition rate for that period (for all salt deposition rates for sampler locations 2 and 5)

(2) Average wind speed for the period versus the salt deposition rate for that period (as above)

(3) Resultant wind direction for the period versus the salt deposition rates for that period (as above)

(4) Resultant wind direction for the period versus the salt deposition rate for that period (as above).

For each of the four sampling periods, data for rainfall and the frequency distributions for wind speed and direction have been obtained by reduction of GGNS weather data. Table 3-12 summarizes these four environmental factors. Data points for a regression analysis on a SDR parameter consist of data pairs as follows - an environmental factor for a period and corresponding SDR value of the parameter for the period. The SDR data from sampler locations 2 and 5 were used for the regression

analyses. Table 3-13 gives the correlation coefficients (for each SDR parameter with each environmental factor) as obtained from the regression analyses.

Conclusions

(1) The data for phosphates for all but one location (SDS 3) for the fourth quarter is suspect because the deposition rates are zero.

(2) The results of ANOVA (Table 3-8) based on salt deposition rates indicate the following:

- Sampling period has significant influence on all SDR parameters except TDS
- Sampling location has significant influence on sodium, calcium, magnesium, phosphates and sulfates
- Interaction of sampling period and location has significant influence on sodium, calcium, magnesium and iron
- Sodium (+/- 18%), calcium (+/- 15%), and chlorides (+/- 26%) data are relatively precise, while phosphates (+/- 89%) and TDS (+/- 109%) are relatively imprecise
- Due to many zero values for fluorides, meaningful analysis based on ANOVA is not possible.

(3) If sources of the deposited salt were the same and variations in SDR were only due to sampler location, period, and their mutual interaction, then the composition of SDR samples for different periods and locations would be similar to each other and ANOVA based on composition would be expected to show no dependence on the three factors. For sodium and calcium there are significant reductions in F-factors for period, location, and interaction, indicating less dependence on the two main factors. However, no clear trend has been established. Therefore, there are other sources in addition to the cooling tower contributing to the SDR. The different sources of salt, in addition to those from the cooling tower, affect samplers at different locations differently for each period (see Table 3-9).

(4) ANOVA results (Table 3-11), assuming no interaction between period and location and without replicate samples, show similar trends for the influence of sampling location on SDR but show no clear trends for sampling period.

(5) Results of linear regression analyses (Table 3-13) indicate the following:

- Unlike results for 1983 data, the 1984 SDR tends to increase with increase rainfall during a sampling period. An opposite effect was expected, since rainfall tends to wash down the salts from the atmosphere.

- Correlation coefficients for sodium and calcium show significant linear correlation with average wind speed. Both parameters also show significant correlation coefficients for prevailing and resultant wind directions during the sampling periods. Sodium and calcium SDRs are relatively lower for the third period when the prevailing wind direction is from the southwest. However, SDRs for these constituents are relatively higher for the rest of the year when prevailing winds are generally from the southeast. This phenomenon indicates the presence of sodium and calcium source(s) southeast of these samplers.

Future Considerations

(1) The phosphates data from the fourth sample collection period should be discarded if used for any future data analyses.

(2) Based on SDR data from the past three years, MP&L could evaluate the possibility of reducing the number of sampling locations.

(3) Based on the comparison of results between wet and dry samplers, MP&L could evaluate making all samplers dry collectors.

3.10 METEOROLOGICAL DATA

Meteorological data for the 1984 reporting period was included in the Semiannual Effluent Release Reports submitted via AECM-84/0438 and AECM-85/0054 to the U. S. Nuclear Regulatory Commission on August 31, 1984 and

February 28, 1985 respectively. Data contained in these reports is summarized in the following tables:

- Joint Frequency Distribution, 50 Meter Level (Table 3-14)
- Joint Frequency Distribution, 10 Meter Level (Table 3-15)
- Percent Bad Data Report (Table 3-16).

3.11 ENVIRONMENTAL EVALUATIONS

During 1984, no unreviewed environmental questions were found, and no changes were made to the EPP. With the exception of Environmental Evaluation SE-019/83, most 1984 Environmental Evaluations were made in connection with the 1984 internal review of GGNS Technical Specifications and FSAR.

In many cases the originator chose to do an environmental evaluation when an applicability determination would have been sufficient. Discussions between the originators and R&ES regarding this policy should provide for better management of 1985 environmental evaluations.

A completed copy of each 1984 environmental evaluation recorded by R&ES is included in Appendix III. An analysis, interpretation and evaluation of the environmental impact of each change, test or experiment is made in each environmental evaluation. Table 3-17 summarizes each evaluated item.

TABLE 3-1

1984 RUNOFF DATA

DATE	Rainfall (Inches)	Basin A EFF TSS (mg/l)	Basin A Inf TSS (mg/l)	Basin B Eff TSS (mg/l)	Basin B Inf TSS (mg/l)
01-08-84	1.40"	115.0	209.0	128.0	185.0
01-18-84	0.45"	9.0	42.0	37.0	16.0
01-24-84	1.03"	25.0	127.0	144.0	18.0
02-13-84	1.85"	301.0	68.0	89.0	15.0
02-16-84	1.75"	388.0	193.0	123.0	3.0
02-27-84	1.48"	128.0	130.0	82.0	87.0
03-05-84	5.15"	484.0	9282.0	232.0	145.0
04-03-84	1.29"	89.0	28.0	94.0	141.0
04-09-84	2.17"	294.0	102.0	454.0	12.0
05-01-84	0.29"	123.0	170.0	105.0	54.0
05-08-84	1.50"	81.0	901.0	43.0	22.0
06-07-84	2.30"	32.0	346.0	41.0	65.0
07-13-84	0.95"	38.0	167.0	42.0	3.0
08-08-84	3.20"	730.0	203.0	98.0	2.0
08-13-84	2.27"	277.0	636.0	24.0	3.0
08-14-84	0.72"	272.0	334.0	27.0	11.0
08-23-84	0.38"	*	*	26.0	12.0
10-08-84	1.21"	*	*	92.0	203.0
10-10-84	2.38"	220.0	416.4	168.0	82.0
10-15-84	1.74"	304.0	280.0	78.0	4.0
10-17-84	1.39"	117.0	82.0	96.0	4.0
10-19-84	0.38"	224.0	160.0	40.0	94.0
10-22-84	7.89"	508.0	702.0	96.0	21.0
10-23-84	0.50"	322.0	302.0	47.0	9.0
11-02-84	2.16"	49.0	95.0	153.0	10.0
11-15-84	2.72"	305.0	333.0	72.0	14.0
11-19-84	0.78"	*	*	57.0	4.0
11-27-84	2.85"	423.0	288.0	370.0	34.0
12-05-84	0.05"	36.0	36.0	38.0	6.0

* No runoff observed in Basin A on these dates

TABLE 3-2

1984 REGIONAL GROUNDWATER MONITORING DATA

Well No.	Year	Formation[1]	Min[2]	(Month)	Max[2]	(Month)	Average[3]
OW4	1984	A	69.0	MAY	74.7	JUNE	70.7
OW4A	1984	A	64.1	JAN	77.8	MAY	68.3
OW29A	1984	T	60.4	JAN	67.6	JUNE	64.4
OW209A	1984	T	88.7	JAN	89.8	JUNE	89.4
P5	1984	C	71.3	JAN	75.7	AUG	73.2
OW7	1984	T	67.4	JAN	72.6	JUNE	70.7
P4	1984	C	60.1	FEB	65.6	JUNE	62.3
OW69A	1984	A	61.8	JAN	68.0	JUNE	64.8
OW202	1984	T	DRY	OCT	79.2	JUNE	76.5
OW5	1984	T	69.9	JAN	73.8	FEB	72.2
OW10	1984	C	87.4	FEB	142.7	MAR	112.3
P209	1984	C	DRY	JAN-DEC	DRY	-	DRY

[1] A = Alluvium; C = Catahoula; T = Terrace Deposits

[2] Water Level Elevation (Feet Above MSL)

[3] Average Elevation for Non-Dry Readings (Feet Above MSL)

TABLE 3-3

YEAR 1984 — PERCHED GROUNDWATER MONITORING DATA[1]

		MONITORING WELL-WATER LEVEL							DEWATERING WELL-WATER LEVEL							
Month	Date	MW1	MW2	MW3	MW4	MW5	MW6	MW7	DW1	DW2	DW3	DW4	DW5	DW6	DW7	DW8
JANUARY	01-13-84	DRY	100.2	DRY	103.2	101.5	103.8	100.0	99.9	100.7	99.6	99.6	100.8	103.7	104.7	108.4
FEBRUARY	02-16-84	DRY	99.6	100.6	103.6	101.6	102.5	97.4	97.4	101.0	99.8	99.7	101.0	103.1	95.0	105.7
MARCH	03-08-84	DRY	98.6	100.9	104.8	101.5	102.6	97.3	99.4	100.9	98.8	98.0	101.3	103.1	94.9	105.7
APRIL	04-20-84	DRY	98.3	100.8	103.1	101.2	102.7	98.3	98.4	100.5	98.4	98.1	101.0	103.0	93.7	105.5
MAY	05-18-84	98.8	98.6	100.5	102.8	101.1	103.2	92.3	92.2	100.0	98.6	98.4	100.8	103.4	93.6	105.7
JUNE	06-28-84	*	98.8	100.4	102.4	102.5	104.5	91.9	87.1	100.1	98.9	96.3	100.8	104.7	100.1	106.7
JULY	07-26-84	98.9	99.6	100.4	102.5	101.6	104.5	97.1	92.1	100.4	99.8	99.7	101.3	104.7	93.6	106.1
AUGUST	08-23-84	99.1	99.7	100.5	102.9	101.8	105.0	92.1	92.0	100.6	99.8	99.9	101.0	106.1	93.6	106.9
SEPTEMBER	09-27-84	98.6	99.7	100.5	102.5	101.7	104.6	92.1	90.0	100.0	99.8	99.8	100.9	104.0	92.9	105.6
OCTOBER	10-12-84	98.9	99.4	100.4	102.4	101.8	104.1	91.9	91.9	100.5	99.5	99.5	100.7	104.5	95.0	105.6
NOVEMBER	11-29-84	99.2	95.6	101.1	104.0	102.6	105.5	91.3	91.5	100.7	98.4	98.7	101.7	105.7	94.9	107.5
DECEMBER	12-11-84	99.1	96.7	101.0	103.7	102.5	105.3	90.0	88.4	100.7	96.4	99.2	101.6	105.3	95.0	107.8

[1] Water Level

* Missing Data

TABLE 3-4

1984 PRECIPITATION MEASUREMENT

GRAND GULF NUCLEAR STATION

MONTH	OBSERVED AT SITE[1] 1984 INCHES
JANUARY	2.88
FEBRUARY	6.17
MARCH	5.86
APRIL	4.60
MAY	4.75
JUNE	4.75
JULY	3.23
AUGUST	8.30
SEPTEMBER	0.74
OCTOBER	15.86
NOVEMBER	8.68
DECEMBER	1.47
TOTAL	67.29

[1] Rainfall measured by the GGNS Meteorological System

TABLE 3-5

SALT DEPOSITION DATA

C&E RESULTS — SODIUM (mg/m sq.)

PERIOD ENDING	3-30-84	6-29-84	9-28-84	12-28-84
sds1	183.17	224.29	138.73	268.41
sds2	165.56	*	76.50	246.83
sds2a	173.02	147.62	81.17	270.32
sds2b	171.90	175.87	105.46	208.10
sds3	220.63	622.38	282.38	320.16
sds4	158.75	246.51	67.34	231.40
sds5	129.68	217.94	81.02	292.22
sds5a	123.02	229.05	52.37	317.62
sds5b	196.98	217.46	129.25	297.62
sds6	185.71	260.79	45.57	235.71
sds7	*	453.49	202.06	236.98

CALCIUM (mg/m sq.)

PERIOD ENDING	3-30-84	6-29-84	9-28-84	12-28-84
sds1	468.25	298.57	406.80	412.00
sds2	256.03	*	82.50	224.60
sds2a	218.25	258.57	81.14	253.97
sds2b	203.97	193.81	105.71	244.60
sds3	265.87	*	147.26	357.46
sds4	236.19	254.13	103.26	249.84
sds5	230.79	265.08	94.03	273.17
sds5a	213.97	246.67	96.67	351.75
sds5b	226.19	260.95	100.38	370.32
sds6	224.60	265.08	174.38	315.24
sds7	373.97	332.86	67.90	216.51

CHLORIDES (mg/m sq.)

PERIOD ENDING	3-30-84	6-29-84	9-28-84	12-28-84
sds1	313.97	609.52	286.79	594.13
sds2	267.46	239.05	276.02	510.95
sds2a	266.83	668.41	252.53	546.19
sds2b	215.24	413.02	247.46	429.52
sds3	304.92	542.22	182.26	549.05
sds4	215.40	296.19	265.19	491.40
sds5	247.14	437.46	259.75	596.51
sds5a	266.83	437.46	291.90	603.97
sds5b	253.02	417.14	251.76	636.75
sds6	289.05	508.89	243.57	585.24
sds7	390.95	598.25	294.44	523.49

* Biased

TABLE 3-5 (cont'd)

SALT DEPOSITION DATA

FLOURIDES (mg/m sq.)

PERIOD ENDING	3-30-84	6-29-84	9-28-84	12-28-84
sds1	0.00	0.00	1.23	0.00
sds2	0.00	0.00	0.00	0.00
sds2a	0.00	0.00	0.00	0.00
sds2b	0.00	0.00	0.00	0.00
sds3	0.00	0.00	0.00	0.00
sds4	0.00	0.00	0.00	0.00
sds5	0.00	0.00	0.00	0.00
sds5a	0.00	0.00	0.00	0.00
sds5b	0.00	0.00	0.00	0.00
sds6	0.00	0.00	1.10	0.00
sds7	0.00	0.00	1.14	0.00

MAGNESIUM (mg/m sq.)

PERIOD ENDING	3-30-84	6-29-84	9-28-84	12-28-84
sds1	88.73	137.30	115.75	136.83
sds2	46.35	29.52	28.50	40.79
sds2a	37.78	76.83	26.08	46.67
sds2b	34.60	61.59	32.57	36.35
sds3	66.35	*	37.94	96.19
sds4	45.87	87.30	27.66	44.89
sds5	38.41	72.54	27.04	88.73
sds5a	36.03	39.37	19.11	107.62
sds5b	33.97	100.95	25.37	134.92
sds6	50.48	36.51	34.33	102.22
sds7	43.17	86.98	32.44	41.11

IRON (mg/m sq.)

PERIOD ENDING	3-30-84	6-29-84	9-28-84	12-28-84
sds1	94.76	60.95	177.59	103.17
sds2	90.95	94.13	98.78	94.44
sds2a	61.11	80.95	60.03	47.46
sds2b	56.03	88.25	109.08	104.29
sds3	102.38	164.46	153.57	85.08
sds4	71.59	72.06	66.14	96.32
sds5	39.05	73.33	50.25	225.08
sds5a	53.49	73.81	36.11	91.75
sds5b	24.60	112.38	45.60	208.02
sds6	38.89	27.78	114.29	175.56
sds7	20.63	18.25	149.68	68.25

* Biased

TABLE 3-5 (cont'd)

SALT DEPOSITION DATA

PHOSPHATES (mg/m sq.)

PERIOD ENDING	3-30-84	6-29-84	9-28-84	12-28-84
sds1	29.68	7.78	17.14	0.00
sds2	73.33	12.22	27.09	0.00
sds2a	38.10	31.75	33.44	0.00
sds2b	19.05	20.95	20.60	0.00
sds3	107.94	*	93.29	300.48
sds4	18.48	10.00	54.69	0.00
sds5	13.81	7.94	11.72	0.00
sds5a	16.83	6.67	13.83	0.00
sds5b	0.00	13.17	9.98	0.00
sds6	0.00	14.29	22.44	0.00
sds7	89.39	31.43	28.67	0.00

NITRATES (mg/m sq.)

PERIOD ENDING	3-30-84	6-29-84	9-28-84	12-28-84
sds1	72.86	33.33	18.48	160.00
sds2	86.67	52.38	56.40	111.59
sds2a	85.71	100.00	27.35	164.44
sds2b	79.37	9.52	54.29	178.10
sds3	79.37	68.73	21.79	1133.97
sds4	70.79	55.56	20.67	175.17
sds5	85.56	90.48	43.01	204.29
sds5a	78.25	69.52	13.59	97.14
sds5b	82.86	37.62	23.21	219.76
sds6	79.37	147.62	4.93	108.57
sds7	66.40	21.59	4.57	188.73

SULFATES (mg/m sq.)

PERIOD ENDING	3-30-84	6-29-84	9-28-84	12-28-84
sds1	989.52	627.62	346.57	1827.78
sds2	1142.54	184.29	304.53	1496.83
sds2a	1085.40	647.14	237.43	2125.24
sds2b	796.51	404.44	380.00	1078.25
sds3	948.89	2102.38	312.37	1048.73
sds4	1020.32	293.17	250.90	1423.21
sds5	779.37	466.67	285.93	999.68
sds5a	805.71	236.83	*	981.43
sds5b	950.48	542.70	283.33	511.98
sds6	1412.38	694.29	221.49	861.75
sds7	887.46	431.75	176.83	473.33

* Biased

TABLE 3-5 (cont'd)

SALT DEPOSITION DATA

TDS (mg/m sq.)

PERIOD ENDING	3-30-84	6-29-84	9-28-84	12-28-84
sds1	3642.86	5200.00	2217.14	2748.57
sds2	433.33	1326.98	1801.67	*
sds2a	1111.11	6050.00	1799.60	2984.13
sds2b	9746.03	5314.29	1538.10	*
sds3	5238.10	*	3558.33	6229.52
sds4	4033.97	3455.56	1963.33	2054.79
sds5	7705.71	3309.52	1578.89	*
sds5a	6984.13	1247.62	146.60	2333.33
sds5b	1657.14	3465.87	798.73	3357.14
sds6	4190.48	2703.17	1040.48	1090.48
sds7	1404.68	*	1428.57	*

* Biased

TABLE 3-6

COOLING TOWER DRIFT

RAINFALL DATA

SDS #1	03-30-84	16.05
SDS #2	03-30-84	15.75
SDS #3	03-30-84	15.50
SDS #4	03-30-84	15.60
SDS #5	03-30-84	15.25
SDS #6	03-30-84	15.38
SDS #7	03-30-84	*
SDS #1	06-29-84	13.40
SDS #2	06-29-84	13.65
SDS #3	06-29-84	12.80
SDS #4	06-29-84	12.60
SDS #5	06-29-84	12.30
SDS #6	06-29-84	13.33
SDS #7	06-29-84	*
SDS #1	09-28-84	9.45
SDS #2	09-28-84	13.23
SDS #3	09-28-84	11.15
SDS #4	09-28-84	10.00
SDS #5	09-28-84	8.60
SDS #6	09-28-84	7.50
SDS #7	09-28-84	*
SDS #1	12-28-84	27.24
SDS #2	12-28-84	29.94
SDS #3	12-28-84	21.75
SDS #4	12-28-84	26.29
SDS #5	12-28-84	24.54
SDS #6	12-28-84	26.09
SDS #7	12-28-84	*

* No rainfall data available from SDS #7

TABLE 3-7

SALT DEPOSITION DATA - REPLICATE SAMPLES

Period Ending	Sodium mg/m^2/Period		Calcium mg/m^2/Period		Chlorides mg/m^2/Period		Fluorides mg/m^2/Period	
	Sampler #2	Sampler #5	Sampler #2	Sampler #5	Sampler #2	Sampler #5	Sampler #2	Sampler #5
3/30/84	165.56	129.68	256.03	230.79	267.46	247.14	0.00	0.00
	173.02	123.02	218.25	213.97	266.83	266.83	0.00	0.00
	171.90	196.98	203.97	226.19	215.24	253.02	0.00	0.00
6/29/84	161.75	217.94	226.19	265.08	239.05	437.46	0.00	0.00
	147.62	229.05	258.57	246.67	668.41	437.46	0.00	0.00
	175.87	217.46	193.81	260.95	413.02	417.14	0.00	0.00
9/28/84	76.50	81.02	82.50	94.03	276.02	259.75	0.00	0.00
	81.17	52.37	81.14	96.67	252.53	291.90	0.00	0.00
	105.46	129.25	105.71	100.38	247.46	251.76	0.00	0.00
12/28/84	246.63	292.22	224.60	273.17	510.95	596.51	0.00	0.00
	270.32	317.62	253.97	351.75	546.19	603.97	0.00	0.00
	208.10	297.62	244.60	370.32	429.52	636.75	0.00	0.00

TABLE 3-7 (cont'd)

SALT DEPOSITION DATA - REPLICATE SAMPLES

Period Ending	Magnesium mg/m^2/Period		Iron mg/m^2/Period		Phosphates mg/m^2/Period		Nitrates mg/m^2/Period	
	Sampler #2	Sampler #5	Sampler #2	Sampler #5	Sampler #2	Sampler #5	Sampler #2	Sampler #5
3/30/84	46.35	38.41	90.95	39.05	73.33	13.81	86.67	85.56
	37.78	36.03	61.11	53.49	38.10	16.83	85.71	78.25
	34.60	33.97	56.03	24.60	19.05	0.00	79.37	82.86
6/29/84	29.52	72.54	94.13	73.33	12.22	7.94	52.38	90.48
	76.83	39.37	80.95	73.81	31.75	6.67	100.00	69.52
	61.59	100.95	88.25	112.38	20.95	13.17	9.52	37.62
9/28/84	28.50	27.04	98.78	50.25	27.09	11.72	56.40	43.01
	26.08	19.11	60.03	36.11	33.44	13.83	27.35	13.59
	32.57	25.37	109.08	45.60	20.60	9.98	54.29	23.21
12/28/84	40.79	88.73	94.44	225.08	0.00	0.00	111.59	204.29
	46.67	107.62	47.46	91.75	0.00	0.00	164.44	97.14
	36.35	134.92	104.29	208.02	0.00	0.00	178.10	219.76

TABLE 3- 7 (cont'd)

SALT DEPOSITION DATA - REPLICATE SAMPLES

Period Ending	Sulfates mg/m^2/Period		TDS mg/m^2/Period	
	Sampler #2	Sampler #5	Sampler #2	Sampler #5
3/30/84	1142.54	779.37	433.33	7705.71
	1085.40	805.71	1111.11	6984.13
	796.51	950.48	9746.03	1657.14
6/29/84	184.29	466.67	1326.98	3309.52
	647.14	236.83	6050.00	1247.62
	404.44	542.70	5314.29	3465.87
9/28/84	304.53	285.93	1801.67	1578.89
	237.43	284.63	1799.60	146.60
	380.00	283.33	1538.10	798.73
12/28/84	1496.83	999.68	2984.13	2845.24
	2125.24	981.43	2984.13	2333.33
	1078.25	511.98	2984.13	3357.14

TABLE 3-8

SUMMARY OF ANOVA

(Based on Salt Deposition Rates)

Parameter	Average Depgsition mg/m^2/Period	95% Confidence Interval mg/m^2/Period	F-Factors For Period Calc (2)	For Period Crit (3)	For Location Calc (2)	For Location Crit (3)	For Interaction (Calc (2)	For Interaction Crit (3)
1. Sodium	177.88	+/- 31.24	54.39	3.29	5.85	4.54	3.99	3.29
2. Calcium	211.64	+/- 31.85	61.65	3.29	9.01	4.54	3.91	3.29
3. Chlorides	376.35	+/- 99.15	19.23	3.24	0.86	4.49	0.77	3.24
4. Fluorides	0.00	+/- 0.00	(4)	3.24	(4)	4.49	(4)	3.24
5. Magnesium	50.91	+/- 20.16	11.42	3.24	7.88	4.49	6.68	3.24
6. Iron	84.13	+/- 38.75	6.35	3.24	0.10	4.49	5.76	3.24
7. Phosphates	15.45	+/- 13.72	6.15	3.24	11.09	4.49	2.27	3.24
8. Nitrates	85.46	+/- 40.98	16.09	3.24	0.06	4.49	0.44	3.24
9. Sulfates	708.81	+/- 311.61	17.0	3.29	4.93	4.54	2.79	3.29
10. TDS	3062.64	+/- 3341.31	1.6	3.41	0.04	4.67	0.41	3.41

NOTES

1. For all samples (4 periods, 2 locations, 3 replicates)
2. Calculated F-Factor (Relative to mean square for error)
3. 95% critical F-Factor
4. Not calculated. All salt deposition rates were 0.0

TABLE 3-9

SUMMARY OF ANOVA

(Based on Composition)
F-Factors

Parameter	For Period			For Location			For Interaction		
	F1	F2	F-Crit	F1	F2	F-Crit	F1	F2	F-Crit
1. Sodium	54.39	2.88	3.29	5.85	2.18	4.54	3.99	0.48	3.29
2. Calcium	61.65	7.79	3.29	9.01	4.15	4.54	3.91	0.81	3.29
3. Chlorides	19.23	30.33	3.24	0.86	4.82	4.49	0.77	1.45	3.24
4. Fluorides	(4)	(4)	3.24	(4)	(4)	4.49	(4)	(4)	3.24
5. Magnesium	11.42	6.74	3.24	7.88	7.68	4.49	6.68	5.42	3.24
6. Iron	6.35	6.61	3.24	0.10	0.96	4.49	5.76	5.50	3.24
7. Phosphates	6.15	13.23	3.24	11.09	15.69	4.49	2.27	2.19	3.24
8. Nitrates	16.09	2.02	3.24	0.06	0.08	4.49	0.44	0.79	3.24
9. Sulfates	17.0	21.52	3.29	4.93	5.68	4.54	2.79	4.97	3.29

Notes

1. F1 is the F-factor for ANOVA based on salt deposition rates
2. F2 is the F-factor for ANOVA based on composition
3. F-Crit is 95% critical F-factor
4. Not calculated. All salt deposition rates were 0.0

TABLE 3-10

SALT DEPOSITION DATA

(Single Sample)

Sodium Deposition Rate (mg/m^2/Period)

Period Ending	SDS #1	SDS #3	SDS #4	SDS #6	SDS #7
3/30/84	183.17	220.63	158.25	185.71	239.16
6/29/84	224.29	622.38	246.51	260.79	453.49
9/28/84	138.73	282.38	67.34	45.57	202.06
12/28/84	268.41	320.16	231.40	235.71	236.98

Calcium Deposition Rate (mg/m^2/Period)

3/30/84	468.25	265.87	236.19	224.60	373.97
6/29/84	298.57	273.78	254.13	265.08	332.86
9/28/84	406.80	147.26	103.26	174.38	67.90
12/28/84	412.00	357.46	249.84	315.24	216.51

Chlorides Deposition Rate (mg/m^2/Period)

3/30/84	313.97	304.92	215.40	289.05	390.95
6/29/84	609.52	542.22	296.19	508.89	598.25
9/28/84	286.79	182.26	265.19	243.57	294.44
12/28/84	594.13	549.05	491.40	585.24	523.49

Fluorides Deposition Rate (mg/m^2/Period)

3/30/84	0.00	0.00	0.00	0.00	0.00
6/29/84	0.00	0.00	0.00	0.00	0.00
9/28/84	1.23	0.00	0.00	1.10	1.14
12/28/84	0.00	0.00	0.00	0.00	0.00

TABLE 3-10 (cont'd)

SALT DEPOSITION DATA

(Single Sample)

Magnesium Deposition Rate (mg/m^2/Period)

Period Ending	SDS #1	SDS #3	SDS #4	SDS #6	SDS #7
3/30/84	88.73	66.35	45.87	50.48	43.17
6/29/84	137.30	90.23	87.30	36.51	86.98
9/28/84	115.75	37.94	27.66	34.33	32.44
12/28/84	136.83	96.19	44.89	102.22	41.11

Iron Deposition Rate (mg/m^2/Period)

3/30/84	94.76	102.38	71.59	38.89	20.63
6/29/84	60.95	164.46	72.06	27.78	18.25
9/28/84	177.59	153.57	66.14	114.29	149.68
12/28/84	103.17	85.08	96.32	175.56	68.25

Phosphates Deposition Rate (mg/m^2/Period)

3/30/84	29.68	107.94	18.48	0.00	89.39
6/29/84	7.78	162.16	10.00	14.29	31.43
9/28/84	17.14	93.29	54.69	22.44	28.67
12/28/84	0.00	300.48	0.00	0.00	0.00

Nitrates Deposition Rate (mg/m^2/Period)

3/30/84	72.86	79.37	70.79	79.37	66.40
6/29/84	33.33	68.73	55.56	147.62	21.59
9/28/84	18.48	21.79	20.67	4.93	4.57
12/28/84	160.00	1133.97	175.17	106.57	188.73

TABLE 3-10 (cont'd)

SALT DEPOSITION DATA

(Single Sample)

Sulfates Deposition Rate (mg/m^2/Period)

Period Ending	SDS #1	SDS #3	SDS #4	SDS #6	SDS #7
3/30/84	989.52	948.89	1020.32	1412.38	887.46
6/29/84	627.62	2102.38	293.17	694.29	431.75
9/28/84	346.57	312.37	250.90	221.49	176.83
12/28/84	1827.78	1048.73	1423.21	861.75	473.33

TDS Deposition Rate (mg/m^2/Period)

3/30/84	3642.86	5238.10	4033.97	4190.48	1404.68
6/29/84	5200.00	6240.9	3455.56	2703.17	2724.5
9/28/84	2217.14	3558.33	1963.33	1040.48	1428.57
12/28/84	2748.57	6229.52	2054.79	1090.48	1642.9

TABLE 3-11

SUMMARY OF ANOVA

(No Interaction Between Period and Location)

Parameter	Average Deposition Rate mg/m²/Period	95% Confidence Interval mg/m²/Period	F-Factors For Period Calc (2)	For Period Crit (3)	For Location Calc (2)	For Location Crit (3)
1. Sodium	241.16	+/- 84.59	7.19	3.59	4.29	3.36
2. Calcium	272.20	+/- 81.99	3.55	3.59	3.72	3.36
3. Chlorides	404.25	+/- 68.18	27.68	3.49	3.11	3.26
4. Fluorides	0.17	+/- 0.35	5.97	3.49	1.0	3.26
5. Magnesium	70.11	+/- 23.83	3.74	3.59	7.21	3.36
6. Iron	93.07	+/- 47.50	2.67	3.49	1.31	3.26
7. Phosphates	49.39	+/- 57.41	0.10	3.59	6.41	3.36
8. Nitrates	126.63	+/- 238.90	2.45	3.49	1.04	3.26
9. Sulfates	817.54	+/- 503.47	3.59	3.49	0.98	3.26
10. TDS	3140.52	+/- 1092.42	4.51	3.86	8.02	3.63

NOTES

1. For all samples (5 locations, 4 periods)
2. Calculated F-factors (relative to mean square for erros)
3. 95% critical F-factors

TABLE 3-12

SALT DEPOSITION ENVIRONMENTAL FACTORS

Period Ending	Rainfall, in/Period SDS #2	SDS #5	Average Wind Speed m/sec	Prevailing Wind Dir. (1) Degrees	Resultant Wind Dir. (1) Degrees
3/30/84	15.75	15.25	2.69	112.5	318.97
6/29/84	13.65	12.30	2.84	135	340.4
9/28/84	13.23	8.60	2.05	225	83.18
12/28/84	29.94	24.54	3.08	135	299.02

NOTES

1. Degrees from North = 0 in clockwise direction

TABLE 3-13

SALT DEPOSITION SUMMARY OF REGRESSION ANALYSES

Parameter	CORRELATION COEFFICIENTS BASED ON Rainfall	Average Wind Speed	Prevailing Wind Direction	Resultant Wind Direction
1. Sodium	0.73	0.88	- 0.52	- 0.80
2. Calcium	0.59	0.91	- 0.81	- 0.89
3. Chlorides	0.60	0.68	- 0.30	- 0.51
4. Fluorides	(1)	(1)	(1)	(1)
5. Magnesium	0.36	0.60	- 0.37	- 0.49
6. Iron	0.43	0.41	- 0.11	- 0.29
7. Phosphates	- 0.40	- 0.34	0.04	0.22
8. Nitrates	0.81	0.68	- 0.46	- 0.67
9. Sulfates	0.71	0.56	- 0.50	- 0.64
10. TDS	0.17	0.35	- 0.48	- 0.43

NOTES

1. All values of salt deposition rates were 0.0

TABLE 3-14

1984 JOINT FREQUENCY DISTRIBUTION

(50 Meter Level)

TOTAL FREQUENCY DISTRUBUTION
PERIOD OF RECORD: 1/ 1/84, 000 --12/31/84, 2400

WIND SPEED (M/S) AT 50-M LEVEL

		0-2	3-5	6-8	9-11	12-14	15-17	18 AND UP	TOTAL	AVG SPEED
	N	2.7	3.9	.2	.0	.0	.0	.0	6.9	.2
	NNE	2.6	2.5	.0	.0	.0	.0	.0	5.1	.1
	NE	2.8	2.1	.0	.0	.0	.0	.0	5.0	.1
	ENE	2.1	1.7	.0	.0	.0	.0	.0	3.8	.1
D	E	1.8	2.8	.1	.0	.0	.0	.0	4.8	.2
I	ESE	2.6	6.8	.4	.0	.0	.0	.0	9.8	.4
R	SE	3.5	7.0	.9	.0	.0	.0	.0	11.4	.4
W	SSE	3.1	5.0	.9	.0	.0	.0	.0	9.0	.3
I	S	3.4	3.3	.5	.0	.0	.0	.0	7.2	.2
N	SSW	3.8	2.0	.2	.0	.0	.0	.0	5.9	.2
D	SW	3.9	2.1	.1	.0	.0	.0	.0	6.1	.2
	WSW	3.1	1.1	.2	.0	.0	.0	.0	4.4	.1
	W	3.2	1.3	.2	.1	.0	.0	.0	4.8	.1
	WNW	2.3	1.9	.4	.0	.0	.0	.0	4.6	.1
	NW	2.4	1.6	.1	.0	.0	.0	.0	4.2	.1
	NNW	2.7	3.0	.4	.0	.0	.0	.0	6.2	.2
	CALM	2.7							.6	
	TOTAL	46.5	48.2	5.0	.3	.0	.0	.0	100.0	.2

374. HOURS OF BAD OR MISSING DATA OR 4.3 PERCENT FOR 8760 HOURS

TABLE 3-15

1984 JOINT FREQUENCY DISTRIBUTION

(10 Meter Level)

TOTAL FREQUENCY DISTRIBUTION
PERIOD OF RECORD: 1/ 1/84, 000 --12/31/84, 2400

WIND SPEED (M/S) AT 10-M LEVEL

DIRECTION	0-2	3-5	6-8	9-11	12-14	15-17	18 AND UP	TOTAL	AVG SPEED
N	6.5	1.0	.0	.0	.0	.0	.0	7.5	.1
NNE	4.7	.1	.0	.0	.0	.0	.0	4.8	.1
NE	4.7	.0	.0	.0	.0	.0	.0	4.8	.1
ENE	5.8	.0	.0	.0	.0	.0	.0	5.8	.1
E	5.7	.0	.0	.0	.0	.0	.0	5.8	.1
ESE	3.8	.1	.0	.0	.0	.0	.0	3.9	.0
SE	4.3	.2	.0	.0	.0	.0	.0	4.5	.1
SSE	6.5	2.2	.0	.0	.0	.0	.0	8.8	.2
S	5.9	2.0	.0	.0	.0	.0	.0	7.9	.2
SSW	4.2	.5	.0	.0	.0	.0	.0	4.8	.1
SW	4.9	.6	.0	.0	.0	.0	.0	5.4	.1
WSW	3.5	.2	.0	.0	.0	.0	.0	3.6	.0
W	3.2	.2	.0	.0	.0	.0	.0	3.4	.0
WNW	3.4	.4	.0	.0	.0	.0	.0	3.8	.1
NW	3.6	.3	.0	.0	.0	.0	.0	3.9	.1
NNW	4.7	1.3	.0	.0	.0	.0	.0	6.0	.1
CALM	4.7							15.2	
TOTAL	90.7	9.2	.0	.0	.0	.0	.0	100.0	.1

294. HOURS OF BAD OR MISSING DATA OR 3.4 PERCENT FOR 8760 HOURS

TABLE 3-16

1984 PERCENT BAD DATA REPORT

PERCENT BAD DATA REPORT
REPORT COVERS 8760HOURS

	HOURS	PERCENT
50M DIRECTION	104.	1.19
50M WIND SPEED	83.	.95
10M DIRECTION	36.	.41
10M WIND SPEED	71.	.81
TEMPERATURE	90.	1.03
DEW POINT	1693.	19.33
DELTA T	259.	2.96
PRECIPITATION	7445.	84.99

TABLE 3-17

1984 ENVIRONMENTAL EVALUATION SUMMARY

Identifying Number	Subject
FSAR CN 3000	FSAR Page 18.1-5 was revised to recognize allowances in NUREG 0737 for qualified SRO applicants to go directly to SRO without one year as RO.
FSAR CN 3013	Changes were necessary to correct typographical errors and to make FSAR Sections 4.1, 3 and 4 adequately reflect core design and licensing bases.
FSAR CN 3017	This package changed FSAR Table 2.3-170 and Page 2.3-31a to reflect a change in sensors used on the main meteorological tower.
FSAR CN 3034	Exceptions to AWS D1.1-1972 for the installation of structural and miscellaneous steel were made on FSAR Pages 3.8-6 and 3.8-43.
FSAR CN 3040	Fire detection zone designators in the diesel generator building provided on FSAR Figure 9A-22 were revised to correspond with Drawing E-0964.
FSAR CN 3041	Reactor Core Isolation Cooling. Response to NRC question 031.60 now references GGNS Technical Specifications such that the trip settings in Table 7.4-1 are no longer required.
FSAR CN 3045	This change revised FSAR Figure 3.8-60 to indicate the suppression pool low water level was 111' 4 1/3" rather than 111' 5".
FSAR CN 3046	This change updated FSAR Section 6.2.3.2 to accurately reflect methods used to maintain secondary containment.
FSAR CN 3047	Approximate locations of fire hose stations listed on FSAR Figure 9.5-4 were revised to be consistent with present locations.
FSAR CN 3048	This change to FSAR Section 6.2.1.1.5.4 provided consistency with GGNS Technical Specifications which specify a drywell leak rate test interval of 18 months.

TABLE 3-17 (cont'd)

Identifying Number	Subject
FSAR CN 3050	This change was made to correct a typing error in FSAR Table 7.2-1 regarding the range of the APRM high flux trips.
FSAR CN 3052	This change in FSAR Subsection 6.2.3.2 revised the description of the SGTS to indicate that it can drawdown the secondary containment when assuming leakage through the building and nonqualified lines two inches or smaller or through the building and one four-inch line.
FSAR CN 3055	This change revised the description on FSAR Page 8.3-8 to establish consistency with Technical Specifications requirements for periodic testing of low voltage circuit breakers.
FSAR CN 3056	The SRM downscale trip setpoint was lowered from 3 cps to 0.7 cps in FSAR Table 7.6-3.
FSAR CN 3058	This change of FSAR Table 3.11-1 increased the allowable containment normal differential pressure range.
FSAR CN 3059	FSAR Table 5.2-11 was changed so it would be consistent with GGNS Technical Specifications and show that the RCPB was designed for 80 thermal cycles.
FSAR CN 3060	This changed FSAR Tables 1.3-4, 6.2-1 and 6.5-6 to reflect the revised free air volumes of containment and drywell. The containment and drywell volumes were revised to 1,400,000 ft^3 and 270,000 ft^3 respectively.
FSAR CN 3063	FSAR Table 6.2-44 was revised to show containment penetration lines sizes.
FSAR CN 3064	This change revised FSAR Table 6.2-44 to indicate that containment isolation valves E12F344, E12F342 and E12F061 are "locked closed" rather than "closed" during normal operation, shutdown and post-accident conditions.
FSAR CN 3065	This change revised the minimum shutdown margin requirement provided on FSAR page 4.6-33 so it would be consistent with GGNS Technical Specifications.

TABLE 3-17 (cont'd)

Identifying Number	Subject
FSAR CN 3066	FSAR Section 7.1.2.6.22 was revised to include three additional methods of wiring for thermal overload protection of motor operated valves.
FSAR CN 3067 3068 3069 3073 3074 3077	Corrections were made to FSAR Table 6.2-44, Containment Isolation Valve Information, to improve accuracy and assure the Table reflected the as-built plant.
FSAR CN 3070	A revision of FSAR Figure 9.3-26 was made to reflect updated design information for the volume of sodium pentaborate required in the SLCS.
FSAR CN 3075	Misplaced Bundle Accident (MBA) analysis contained on FSAR Pages 15.4-15, 16 was revised to include latest General Electric Chapter 15 analysis.
FSAR CN 3080	Mainstream line high flow differential pressure transmitter and allowable setpoint were changed on FSAR Table 7.3-10.
FSAR CN 3081	This change updated FSAR Section 13.1 to reflect the current MP&L organizational structure.
FSAR CN 3083	This change revised FSAR Table 7.3-10 to ensure mainstream line high flow sensor channels were consistent with FSAR, GGNS Technical Specifications and the plant trip logic design.
FSAR CN 3084	This change corrected the description of the radiation monitor channel check and channel functional test requirements on FSAR, Page 11.5-13 to make them consistent with GGNS Technical Specification 3/4.3.7.1.
FSAR CN 3085	This was additional changes to FSAR Subsection 6.2.6.5.1 describing the preoperational and periodic drywell leakage tests.
FSAR CN 3088	FSAR Section 5.3.3.6, Item b., coolant temperature differential between the dome and bottom head was changed from 145°F to 100°F.
FSAR CN 3089	This FSAR change addressed the nominal APRM setpoints in FSAR Table 7.6-6 and made them consistent with General Electric specifications and GGNS Technical Specifications.
FSAR CN 3091	This change revised the Small Break Accident (SBA) analysis on FSAR Page 6.3-27 to justify having one ADS valve out of service for an extended period of time.

TABLE 3-17 (cont'd)

Identifying Number	Subject
FSAR CN 3094	This change to FSAR Subsection 7.3.1.1.8.2 revised tne description of the events that take place following SGTS initiation.
FSAR CN 3096	This change in FSAR Subsection 4.6.3.1.1.5.d deleted the requirements for verifying the accumulator level during operation.
FSAR CN 3099	Weight of one fuel assembly was revised from 600 to 699 pounds in FSAR Table 1.3-1.
FSAR CN 3100	This change provided clarification for Mark III containment air temperature limit on FSAR Page 6.2-28, and Tables 6.2-4 and 3.11-1.
FSAR CN 3101	A clarification of the Safety-Related Display Instrumentation was provided in the FSAR to address the fact that the Suppression Pool Temperature Monitoring System may be temporarily interrupted in the event of a Loss of Offsite Power.
FSAR CN 3103	This change corrected a typographical error in the startup test conditions defined in FSAR Figure 14.2-4.
FSAR CN 3104	This change deletes the "loss of preferred power source" from FSAR Section 8.3.1.1.4.2.10 as a condition which is blocked from tripping the diesel generator during a LOCA.
FSAR CN 3107	This change revised FSAR Section 14 to correct inconsistencies discovered in the startup test procedures and program requirements.
FSAR CN 3108	Deletion of reference to a 90-second delay in initiating Containment Spray B was made on FSAR Page 7.3-56.
FSAR CN 3120	This change added FSAR Subsection 8.3.1.1.5.7 describing the Class IE uninterruptible power system supplying power to essential instruments and other 120 V loads.
FSAR CN 3129	This change revised FSAR Section 18.1.30.5 and allows a comprehensive 5-year report of ECCS outages instead of an annual report.
FSAR CN 3130	This change revised FSAR Section 3.8.4.2 so it adequately addresses the requirements for allowable weld undercut as it applies to material less than 3/16 inch thick.

TABLE 3-17 (cont'd)

Identifying Number	Subject
FSAR CN 3131	This change revised FSAR Section 9.5.4 and response to NRC question 040.44 to take exception to Section 4.3 of ANSI-N195-1976 and show that the diesel fuel oil storage tanks and transfer pumps are in a "protected area" rather than a "vital area".
FSAR CN 3138	The NSSS cassette, printer and CRT power feeds were switched from 60 amp to a more appropriately sized 30 amp disconnect and so noted on FSAR Figure 8.3-7.
FSAR CN 3199	This change updated FSAR Figure 9.5-5 and Table 1.10-1 to reflect addition of a sensing line and an electrical manual pilot control valve.
SE-019/83	Revision of FSAR Section 18.1.4 describing SRO on-shift training requirements.

SECTION 4.0

INCIDENTS

4.1 REPORTABLE INCIDENTS

There were no reportable incidents observed during the reporting period.

4.2 NONREPORTABLE INCIDENTS

Several minor events which occurred during the reporting period are outlined below:

EHC Fluid Spill

An Electro-Hydraulic Control (EHC) fluid spill which occurred in the Turbine Building on March 26, 1984 was the result of operator error. The front standard main stop valve left bank control rack was not tightened properly and startup of the system blew the seals leaking the EHC fluid. All of the EHC fluid was contained in the building. The EHC/water mixture was transferred from sumps into 55-gallon drums. Since the EHC is heavier than water, the water was decanted into the resin pond. The EHC was then disposed of in the Bechtel Oil Pit.

Sulfuric Acid Spill

Mississippi Power & Light (MP&L) contracted to have 1000 gallons of a 95% sulfuric acid pickling mixture pumped out of two acid tanks and to transport and dispose of the acid. The contractor subcontracted the transportation and disposal. Using a two-compartment pumper tank, the acid was pumped out of the storage tanks and into a tanker truck. Next they flushed the storage tanks with approximately 4000 gallons of water. The water was then pumped into the tanker truck. Upon leaving the site the tanker truck contained a mixture of approximately 1000 gallons of acid and 4000 gallons of water. The tanker truck proceeded to the Grand Gulf Inn in Port Gibson where the driver spent the night.

Early on the morning of May 15, the Claiborne County Sheriff's Department, while on a routine patrol, discovered the tanker truck leaking. Claiborne County Civil Defense Director, Mr. A. C. Garner, was notified and together they located the driver of the truck around 0430 on May 15, 1984. The shipment manifest was reviewed and MP&L security was notified of the spill. MP&L Environmental personnel were notified of the spill shortly after 0630 by the Shift

Superintendent. MP&L management proceeded to supply equipment and personnel to be used on an as needed basis.

Mr. Bob Rogers, Mississippi Bureau of Pollution Control, arrived at the scene and assumed control as the on-scene coordinator. Sample schedules and sample locations were established by Mr. Rogers. MP&L Environmental personnel assisted on an as needed basis.

One liquid sample was taken from the tanker and eleven liquid samples were taken from various water sources. Parameters which were checked included the following:

- Sulfates
- pH
- Sulfides.

The sample from the tanker was later analyzed and determined to be 36.7% sulfuric acid.

Cleanup operations were led by Bob Rogers (MBPC) and the transportation/disposal subcontractor. A representative of EPA, Region IV from Atlanta and a representative from the U. S. Department of Transportation (Federal Highway Administration) were also at the scene. The acid was neutralized using lime and the acid/lime mixture was loaded into covered dump trucks and hauled to the CECOS Livington, Louisiana, disposal facility as a waste material. Approximately 25 soil samples were taken for pH analysis. Excavated material was replaced, seeded, and mulched. No permanent environmental damage occurred.

Chlorine Gas Leak

A chlorine gas leak occurred at the Bechtel warehouse on the evening of June 27, 1984. A Bechtel employee smelled a strong odor and notified Bechtel Safety around 1900. When Safety arrived to investigate, a visible cloud of chlorine gas was evident near a cylinder stored on the receiving dock. The area was roped off and the gas allowed to dissipate.

The vendor was notified on the morning of June 28, 1984. The vendor was of the opinion that a small pinhole leak developed, causing the escape of the gaseous chlorine. An inspection of other chlorine gas cylinders stored on site was conducted by Bechtel Safety personnel and no similar problems were identified. No environmental damage was evident and no serious personnel injuries occurred.

APPENDIX I

SEMIANNUAL TRANSMISSION LINE SURVEYS

MEMO TO: Mr. T. A. Dallas

FROM: Mr. J. P. McGaughy

SUBJECT: Survey of Transmission Lines Associated with Grand Gulf Nuclear Station (GGNS)

FILE: 0290/15320

PMI-84/6728

The Semiannual Aerial Surveys of the Baxter-Wilson, Franklin, and 115Kv Port Gibson to GGNS Transmission lines were conducted on January 20, 1984 and May 4, 1984. The results of these surveys are shown in Attachments I and II, respectively.

If you have any questions concerning the results of these surveys, please contact Mr. G. O. Smith at Extension 672.

JPM
for JPM
6/20/84

JPM:ay

Attachment

cc: Mr. J. B. Richard (w/o)
Mr. T. E. Reaves (w/o)
Mr. L. F. Dale (w/o)
Mr. J. E. Cross (w/o)
Mr. T. H. Cloninger (w/o)
Dr. L. R. McKay (w/a)
Mr. R. F. Rogers (w/o)
Mr. G. O. Smith (w/a)
Mr. J. D. Barlow (w/a)
Mr. Bob Bankston (w/a)
Ms. R. R. Jackson (w/a)
Ms. G. R. Whitney (w/a)
File (Plant) (w/a)
File (Project) (w/a) [3]

SEMIANNUAL AERIAL SURVEY

The first of the planned semiannual aerial survey was conducted on the morning of January 20, 1984 by John Bankston, Buddy Marsalis and Gail Whitney.

The purpose of the aerial survey was to identify areas which require remedial action from excess erosion.

- Semiannual survey of 500 Kv Baxter-Wilson Transmission Line from Grand Gulf Nuclear Station to Baxter-Wilson Steam Electric Station:
  - Erosion evident at Tower 16. Erosion is minor but new. No remedial action is needed in this area at this time.
- Semiannual survey of 500 Kv Franklin Transmission Line from Grand Gulf Nuclear Station to Franklin Station:
  - Minor erosion evident at Towers 30, 35, 115, 126. This area should be observed closely
  - Deer hunter roads could cause some minor erosion at Tower 129 and 130. No remedial action is needed in this area at this time.
- Semiannual survey of 115 Kv GGNS Transmission Line from Port Gibson to Grand Gulf Nuclear Station:
  - No erosion was observed on this line.
- Semiannual survey of 500 Kv Ray Braswell Transmission Line from Grand Gulf Nuclear Station to Ray Braswell Tie-in:
  - South Park Elementary School-erosion continues to be minor.
  - Fisher Ferry Road - little erosion was observed.

  These areas should be monitored closely during the next survey.

Another aerial survey is recommended for all lines during the month of May.

SEMIANNUAL AERIAL SURVEY

On May 4, 1984, the semiannual aerial survey was conducted by Messrs. John Bankston, Buddy Marsalis and Gregory Smith. The purpose of the aerial survey was to identify areas which require remedial action from excess erosion. The results of this survey are outlined below:

- Survey of 500 Kv Ray Braswell Transmission Line from Grand Gulf Nuclear Station to Ray Braswell Tie-in:
  - No observation were made on this line because of fog.
- Survey of 500 Kv Baxter-Wilson Transmission Line from Grand Gulf Nuclear Station to Baxter-Wilson Steam Electric Station:
  - Minor erosion evident at towers 15, 16 and 24. No remedial action is needed in this area at this time.
  - Minor erosion at Tower 26. This area should be monitored closely during the next survey.
- Survey of 500 Kv Franklin Transmission Line from Grand Gulf Nuclear Station to Franklin Station:
  - Logging taking place at Towers 79-81.
  - Willow trees have been cut at Towers 159 and 160.
  - Minor erosion evident at Tower 126. No remedial action is needed in this area at this time.
  - Tower 193 box culvert has been washed out. Reconstruction needed at this site.
- Survey of 115 Kv GGNS Transmission Line from Port Gibson to Grand Gulf Nuclear Station:
  - No erosion was observed on this line.

MEMO TO: Mr. T. A. Dallas

FROM: Mr. C. L. Tyrone

SUBJECT: Aerial Survey of Transmission Lines Associated with Grand Gulf Nuclear Station (GGNS)

FILE: 0290/15320

PMI-85/0389

The Semiannual Aerial Surveys of the 500 KV Grand Gulf Nuclear Station (GGNS) to Baxter-Wilson, 500 KV GGNS to Franklin Substation, and the 115 KV GGNS to Port Gibson Transmission Lines were conducted on December 7, 1984. The results of these surveys are shown as Attachments I, II, and III respectively.

If you have any questions concerning the results of these surveys, please contact Mr. G. O. Smith at Extension 2672.

CLT

1/24/85

GWG/GOS:ay

Attachment

cc: Mr. J. B. Richard (w/o)
Mr. T. E. Reaves (w/o)
Mr. L. F. Dale (w/o)
Mr. J. E. Cross (w/o)
Mr. T. H. Cloninger (w/o)
Dr. L. R. McKay (w/o)
Mr. R. F. Rogers (w/o)
Mr. J. D. Barlow (w/a)
Mr. Bob Bankston (w/a)
Ms. R. R. Jackson (w/a)
Ms. G. R. Whitney (w/a)
File (NS) (w/a)
File (Central) (w/a) [4]

Semiannual Aerial Survey

The semiannual aerial survey of the Grand Gulf Nuclear Station (GGNS) to Baxter-Wilson 500 KV Transmission Line was conducted on December 7, 1984 by Jim Newman, Larry James, John Bankston and Warren Guider.

The purpose of the aerial survey was to identify erosion areas along the transmission line corridor which may require remedial action.

1. GGNS to Anderson Tully

   Natural re-vegetation has eliminated erosion in this area. Tower sites in this area are stable. No problem areas were observed.

2. Anderson-Tully to Warner Tully Road

   Natural re-vegetation is excellent in this area. No problem areas were observed.

3. Warner Tully Road to Big Black

   Minor erosion was evident at Tower #31. There was erosion on the north slope near the tower footing. A closer look at the erosion by foot patrol should be made before spring greenout to determine if remedial action is necessary. Fast growing tree species in the Big Black River bottoms appeared to be under control.

4. Big Black River to Yokena

   Minor erosion was evident at Tower #52. There appeared to be considerable erosion on the south slope near the tower footing. A visual examination of the area should be made by a foot patrol to determine the extent of the erosion. Re-clearing crews were diligently working this area when the survey was made. No other problem areas were observed.

5. Yokena to Baxter-Wilson Steam Electric Station (BWSES)

   Re-clearing was complete in this area. No problems were encountered.

The Baxter-Wilson Transmission Line is in excellent shape. Another survey is recommended for the spring of 1985.

Semiannual Aerial Survey

The Semiannual Aerial Survey of the Grand Gulf Nuclear Station to Franklin Substation 500 KV Transmission Line was conducted on December 7, 1984 by Jim Newman, Larry James, John Bankston and Warren Guider.

The purpose of the survey was to identify erosion areas along the transmission line corridor which may require remedial action.

1. GGNS to Windsor Road

   Natural re-vegetation is excellent in this area. No problems were observed. Re-clearing of fast growing species should be considered.

2. Windsor Road to U. S. Highway 61

   Minor erosion was evident at Tower #35. However, no remedial action is needed at this time.

3. U. S. Highway 61 to U. S. High 28

   Minor erosion was evident near Tower #126 and between Towers #129-130. A recent logging operating could be attributed as causing the erosion. The angle at Towers #192-193 has been previously reported. No remedial action is required at this time.

4. U. S. Highway 28 to Franklin Substation (including Homochitto Forest)

   Minor erosion was observed at Tower #203. No remedial action is needed at this time.

The Franklin Line is in excellent shape and another survey is recommended for the spring of 1985.

Semiannual Aerial Survey

The Semiannual Aerial Survey of the 115 KV Transmission Line from Grand Gulf Nuclear Station to the Port Gibson Substation was conducted on December 7, 1984, by Jim Newman, Larry James, John Bankston and Warren Guider.

The results of th survey are as follows:

1. Port Gibson to Highway 61 Crossing

   Natural re-vegetation is excellent in this area. No problem areas were observed.

2. Highway 61 to Angle at Structure #13

   Natural vegetation is excellent in this area. No problems were observed.

3. Structure #13 to Bayou Pierre

   No erosion was observed in this area. Willow trees in the three cypress brakes are not causing a problem at this time. No problems were observed.

4. Bayou Pierre to ICG Railroad Main Line

   There were no problems with this agricultural land.

5. Joint Railroad - Transmission Line R.O.W.

   The slide area north of the railroad appeared to be moving once again. However, since the mainline ICG line has been abandoned, there is no reason to repair this area at this time. There was no additional erosion at the old civil war culvert.

No erosion was observed on this line. Another survey is recommended for the Spring of 1985.

APPENDIX II

HYDROGRAPHS FOR PERCHED GROUNDWATER WELLS

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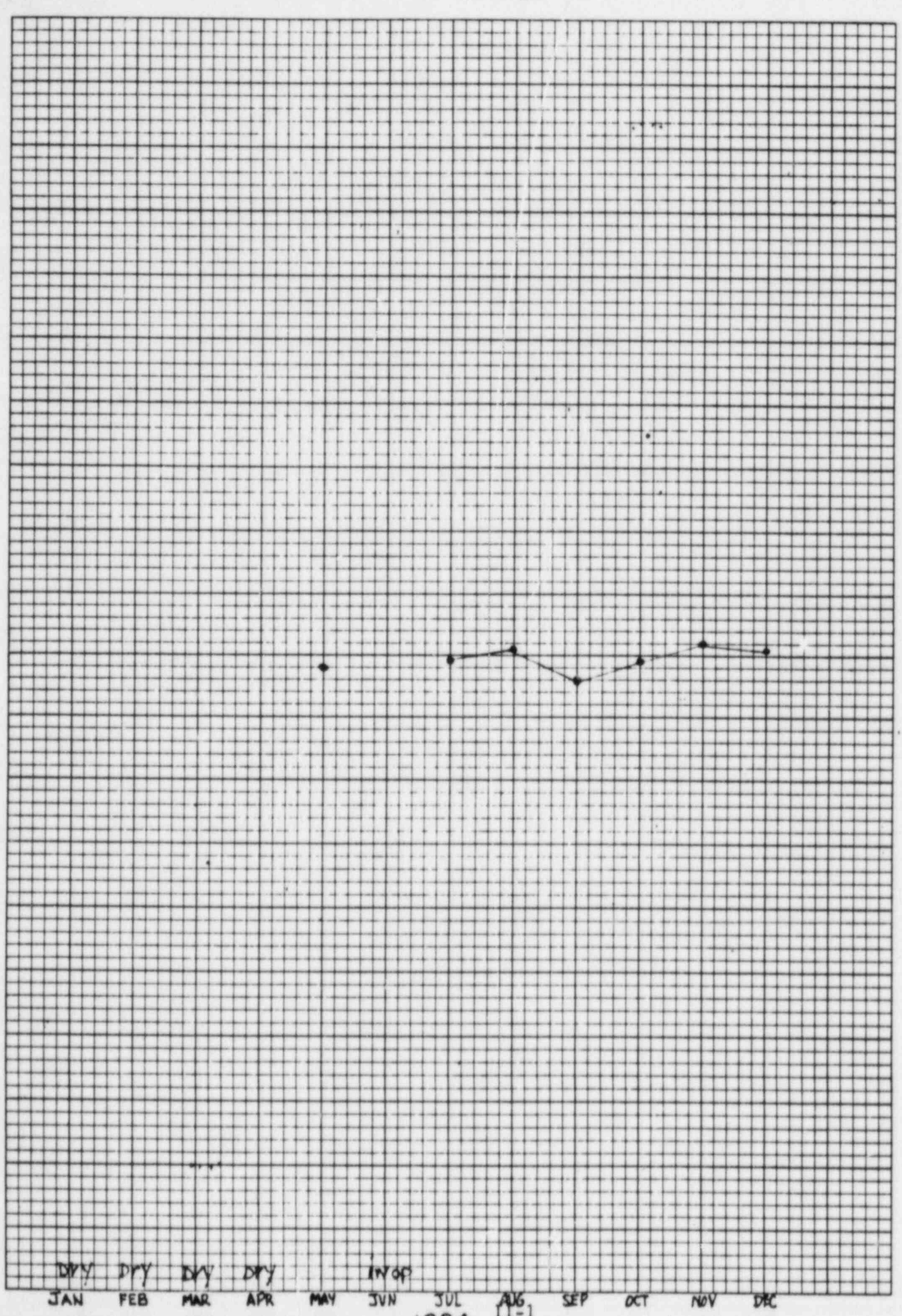

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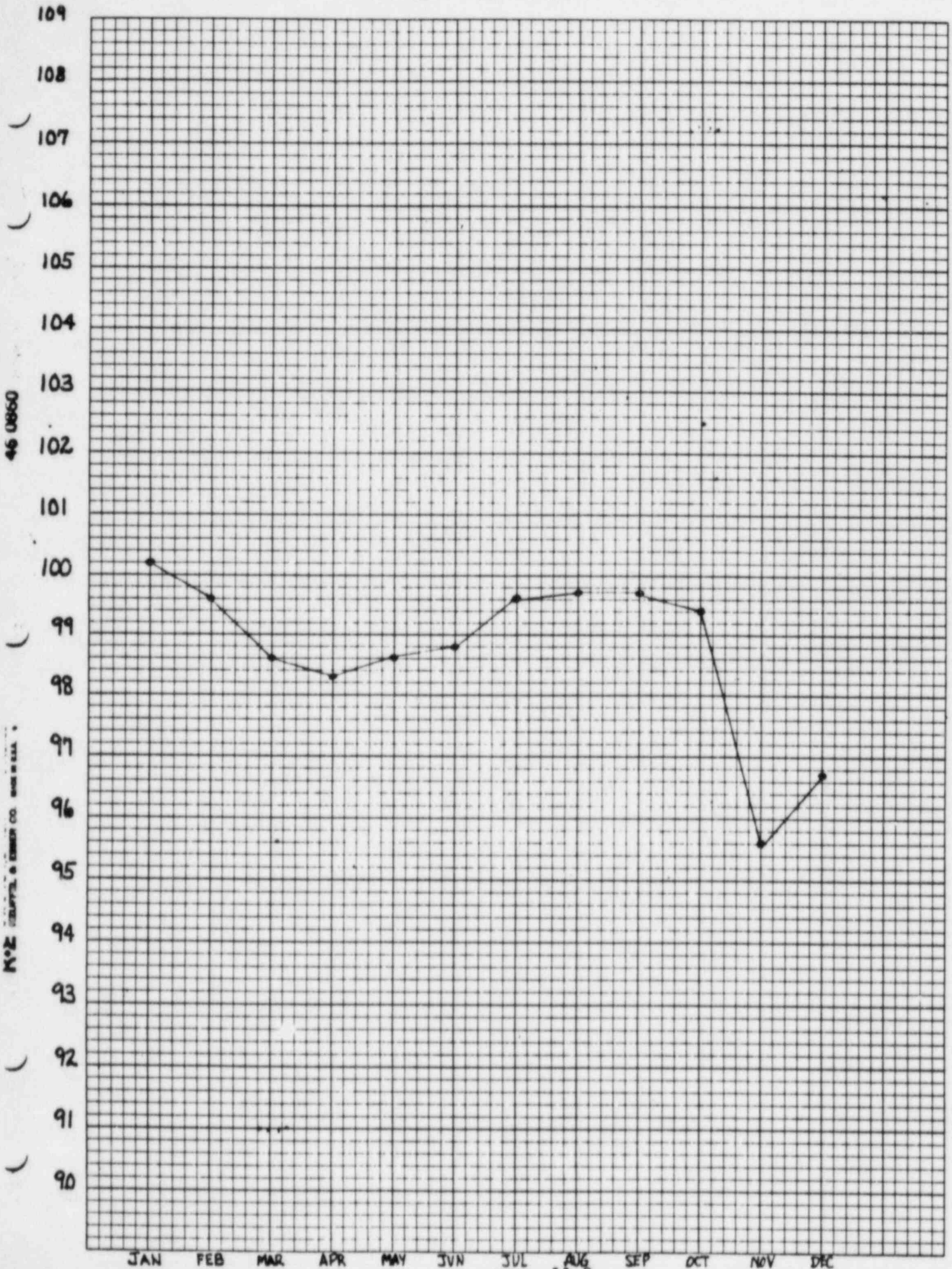

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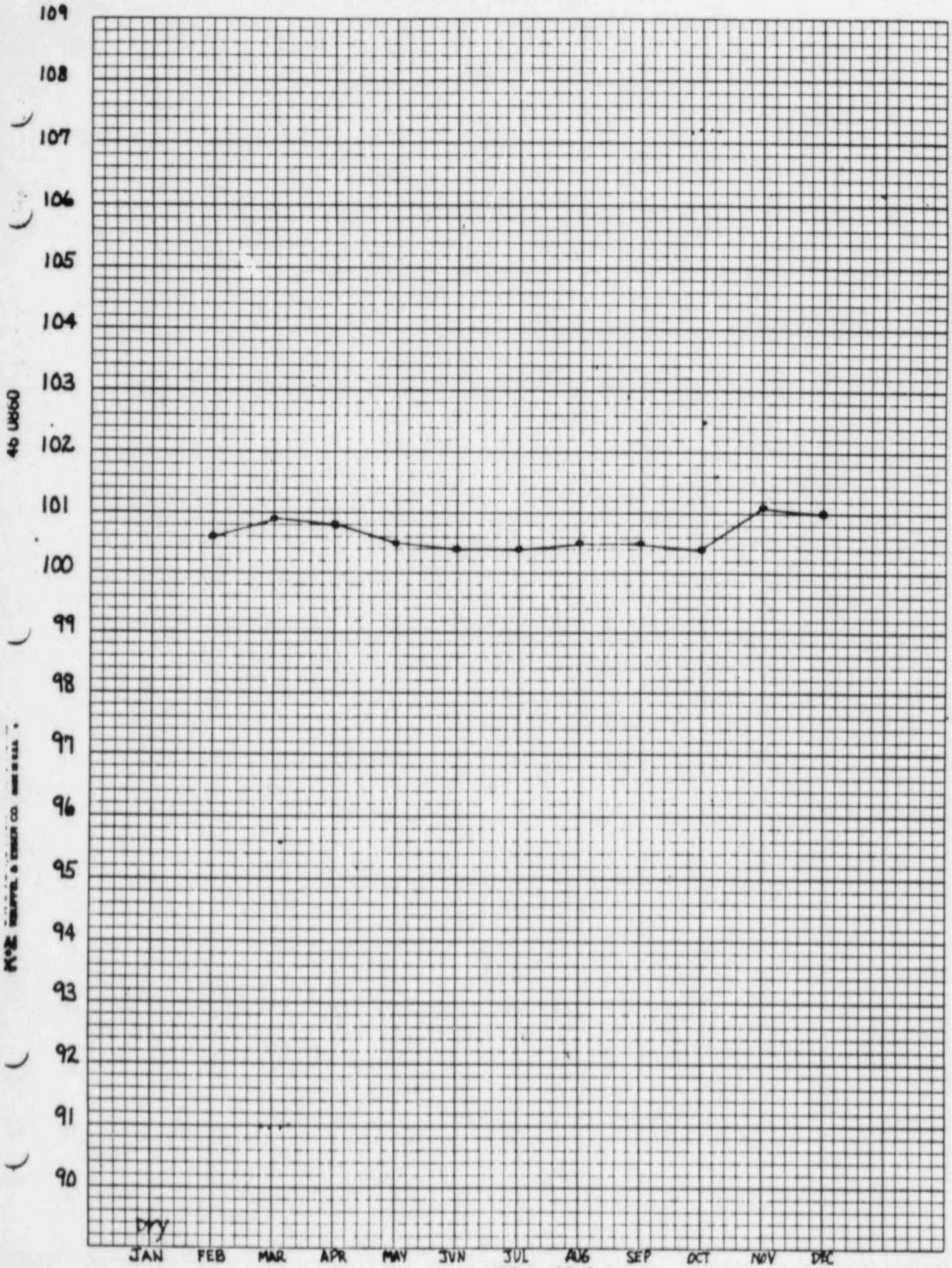

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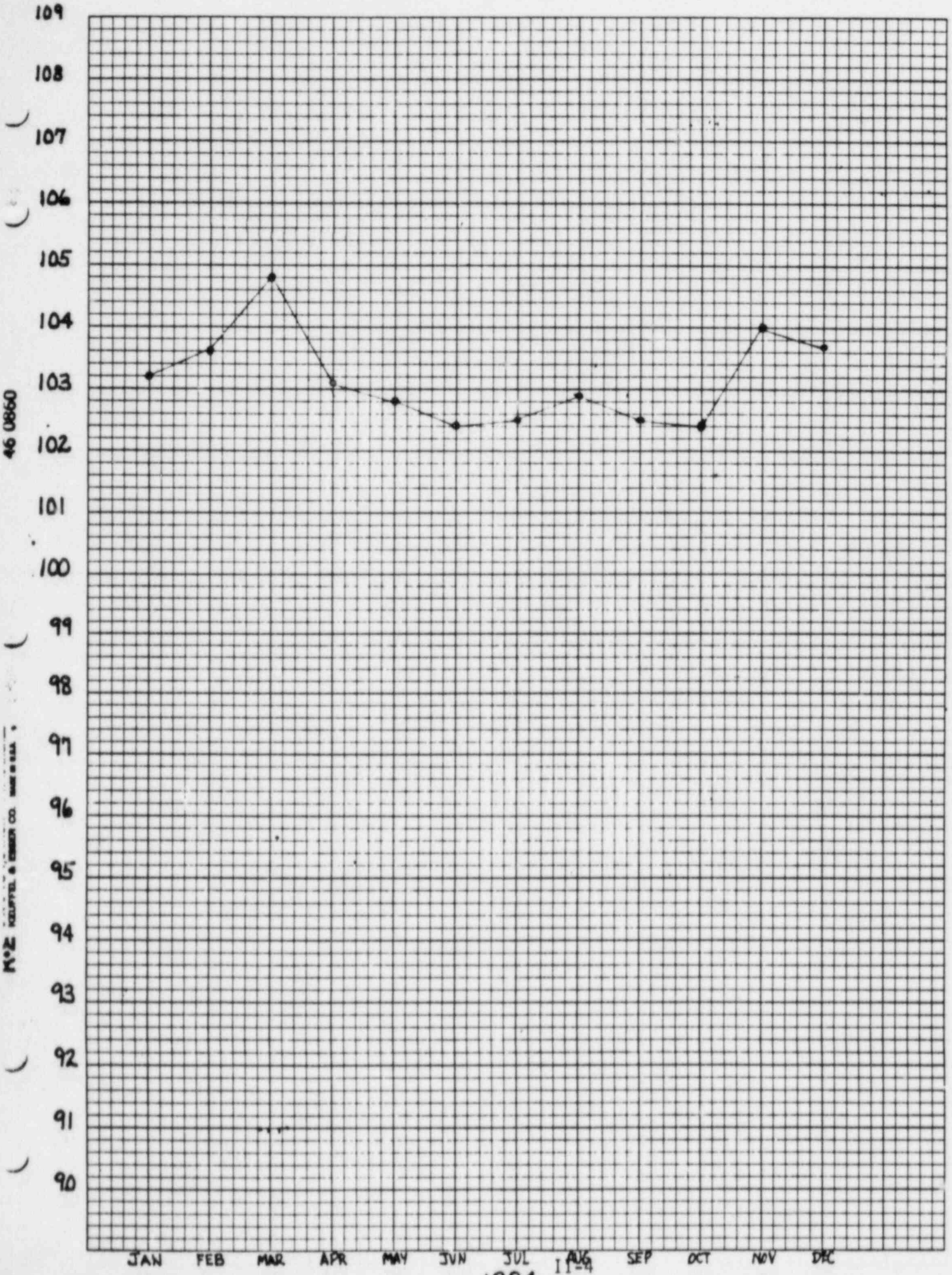
WELL No. MW4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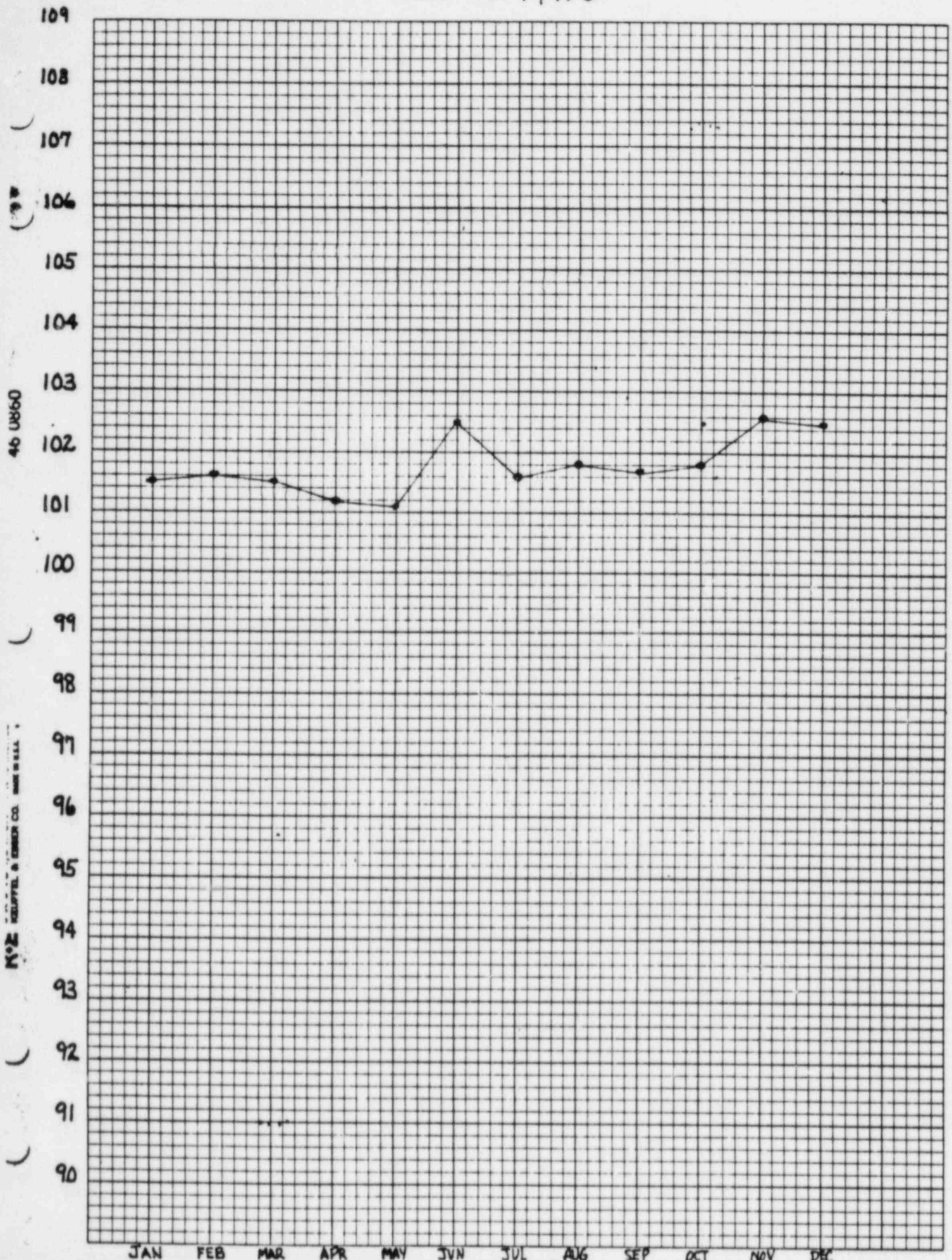
WELL No. MW5



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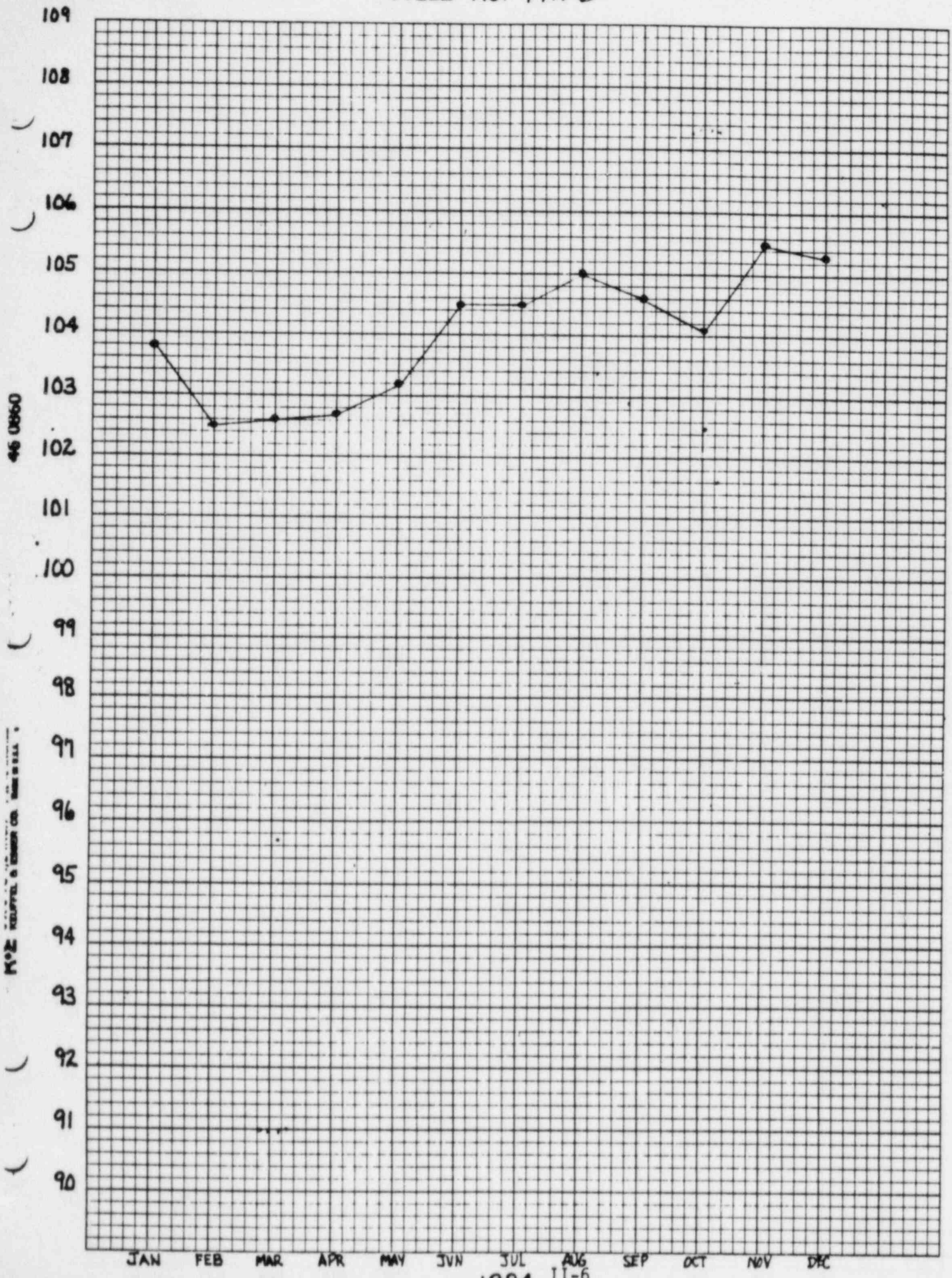

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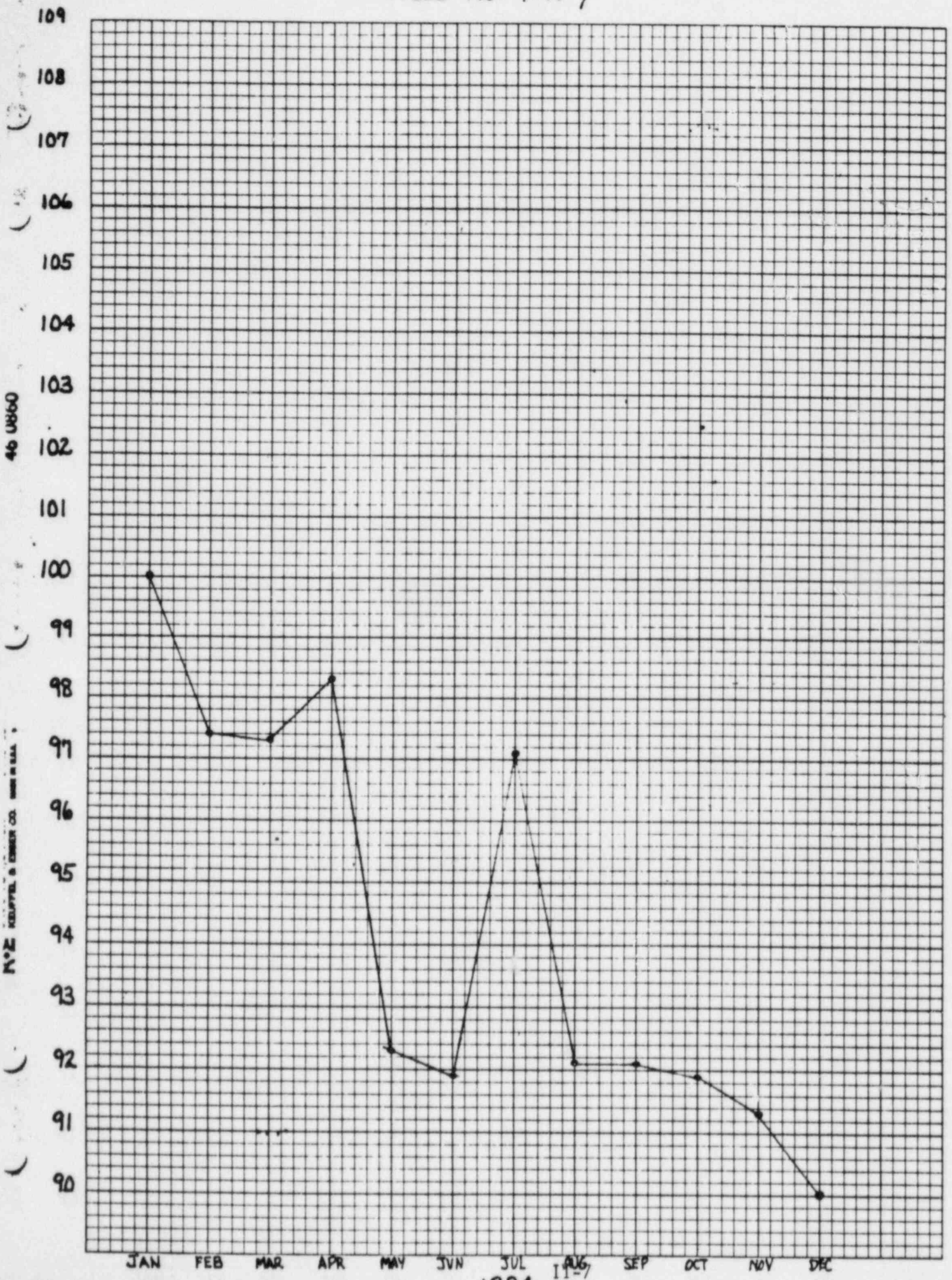
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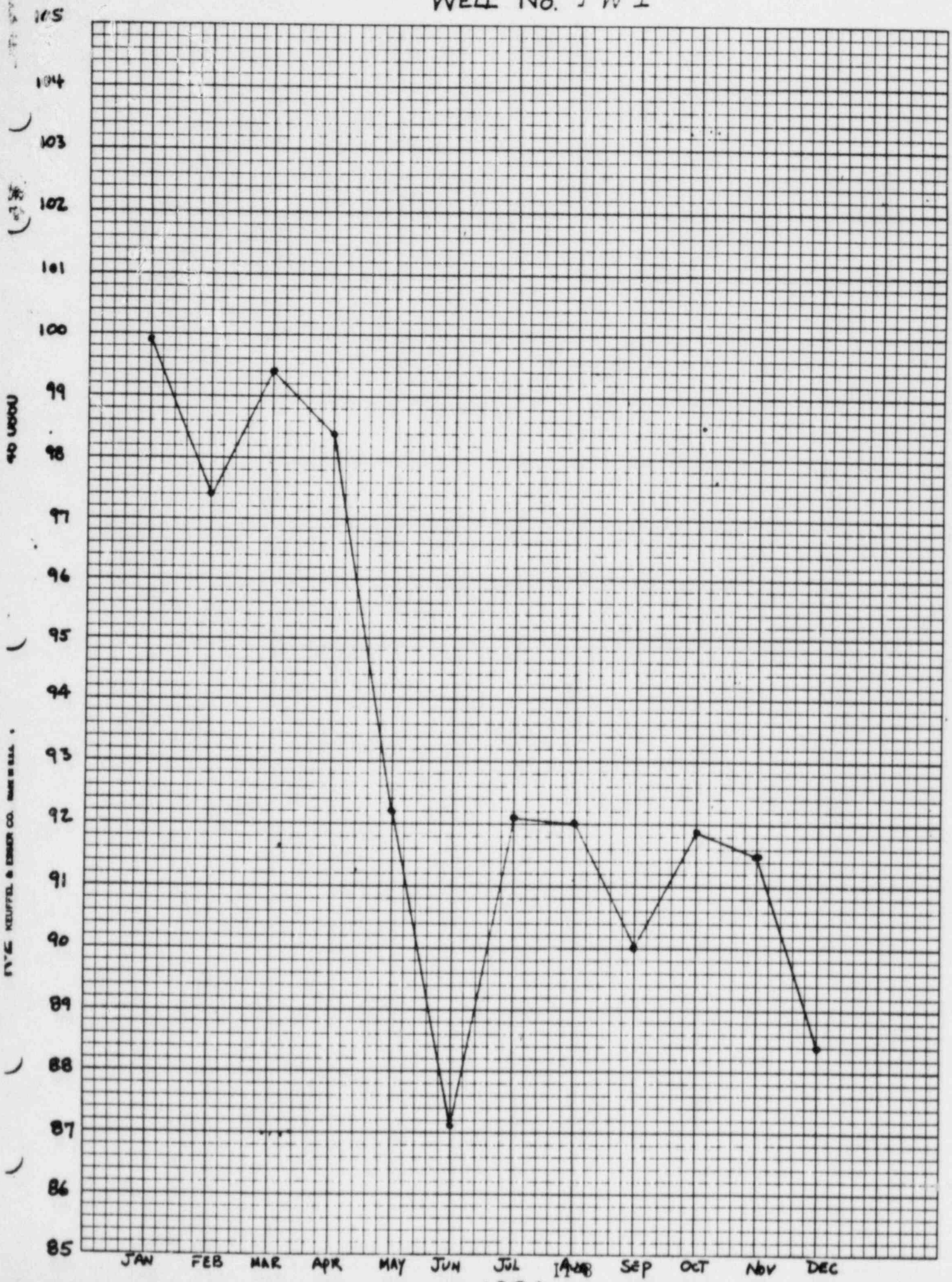
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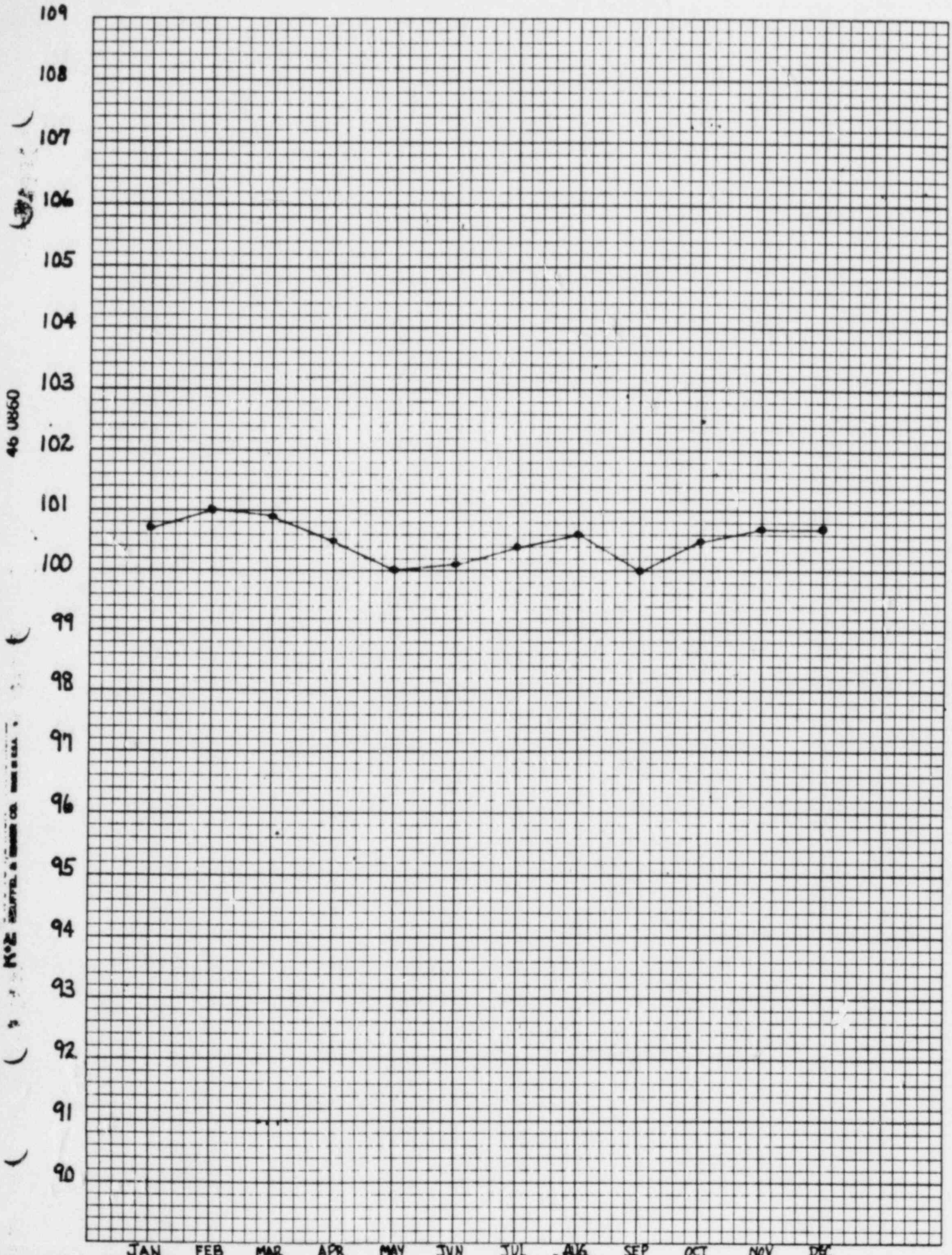

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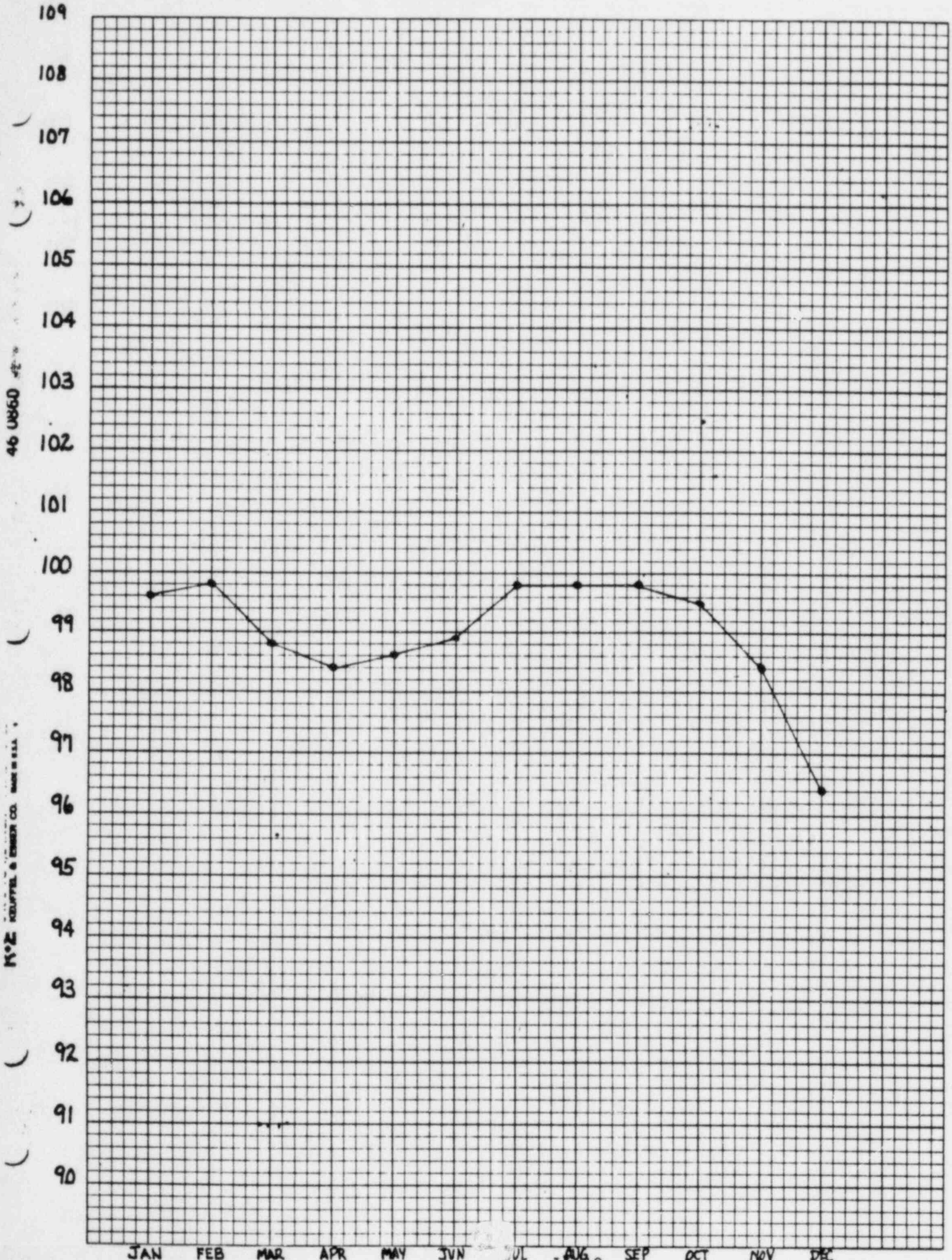

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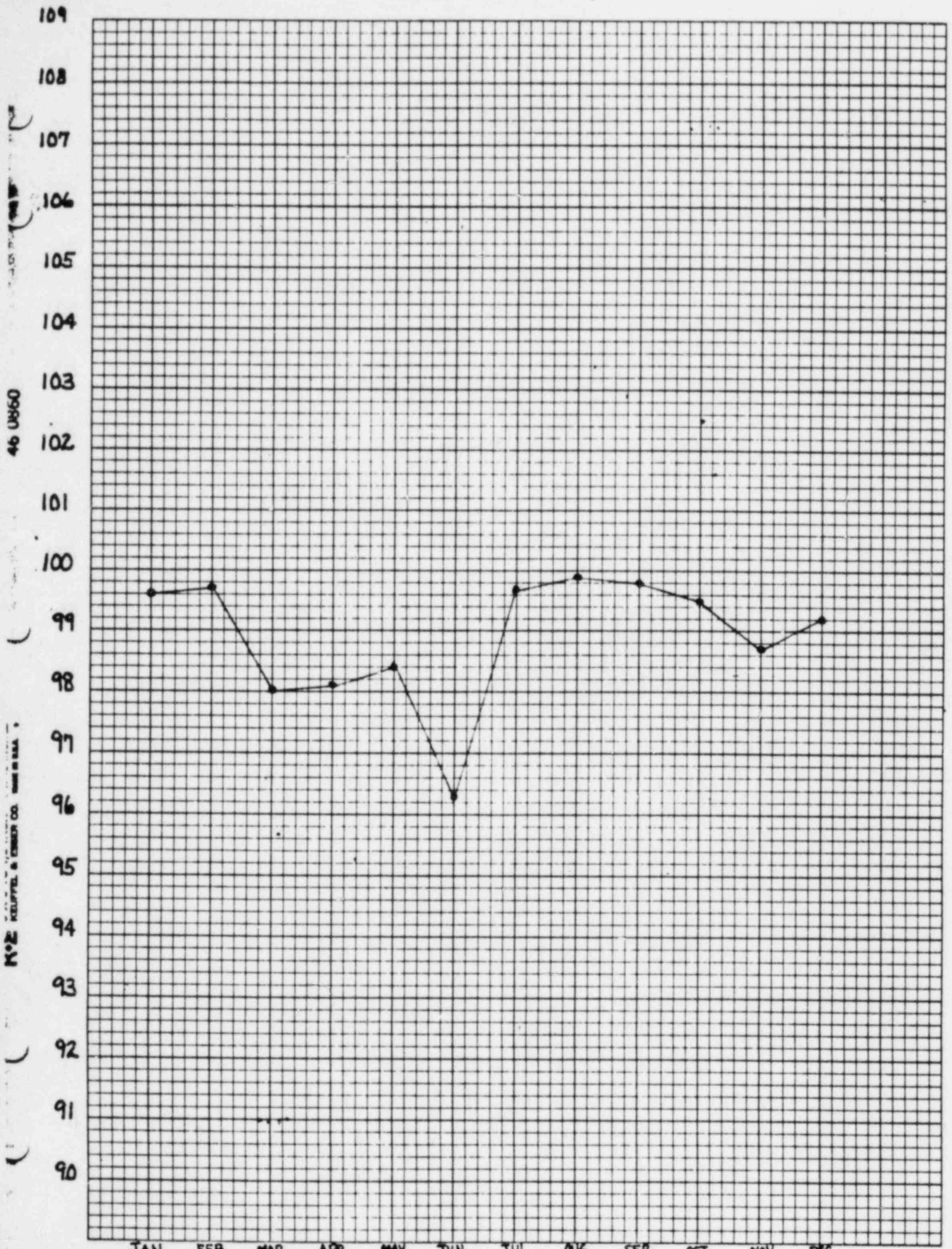

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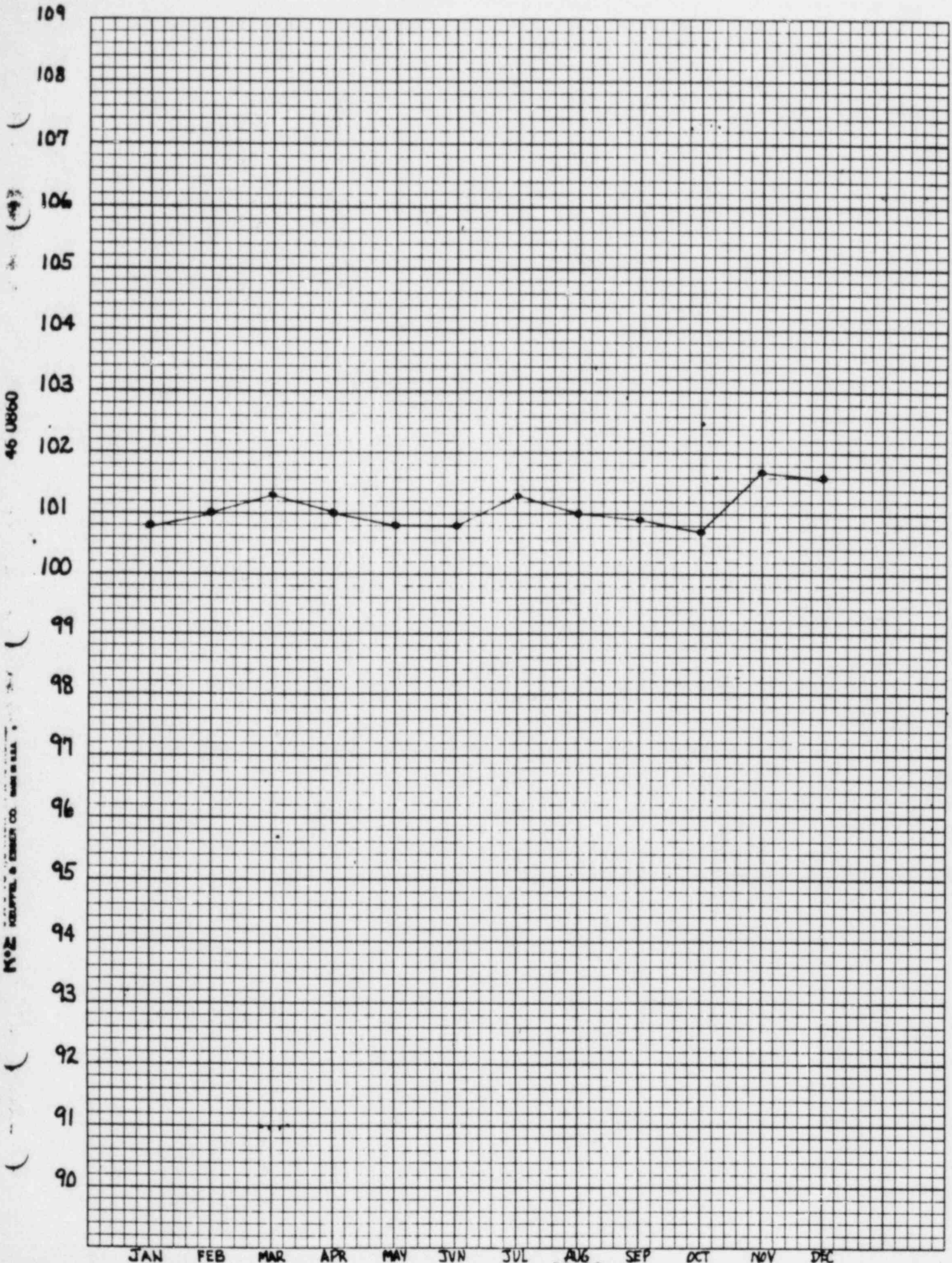

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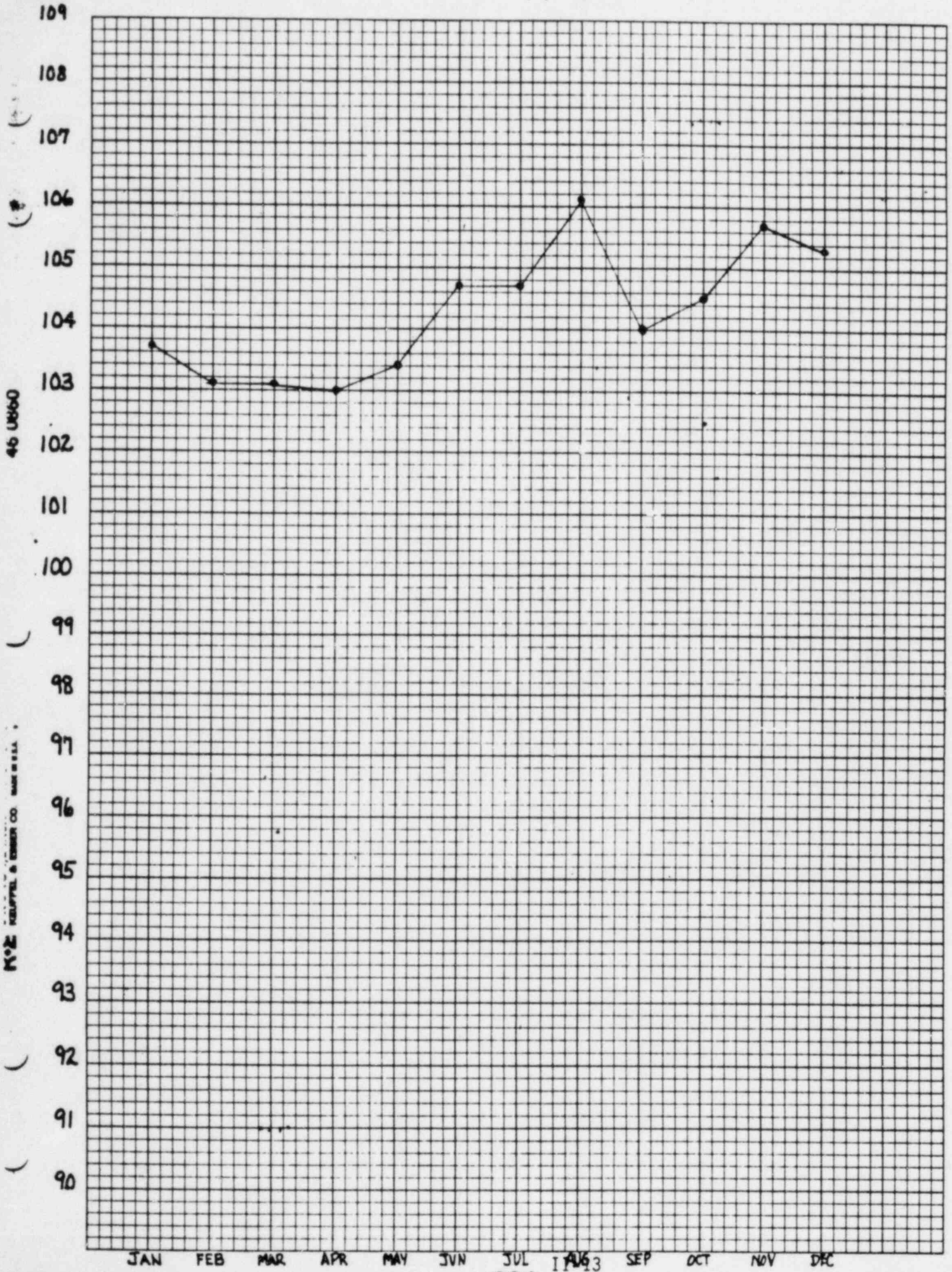
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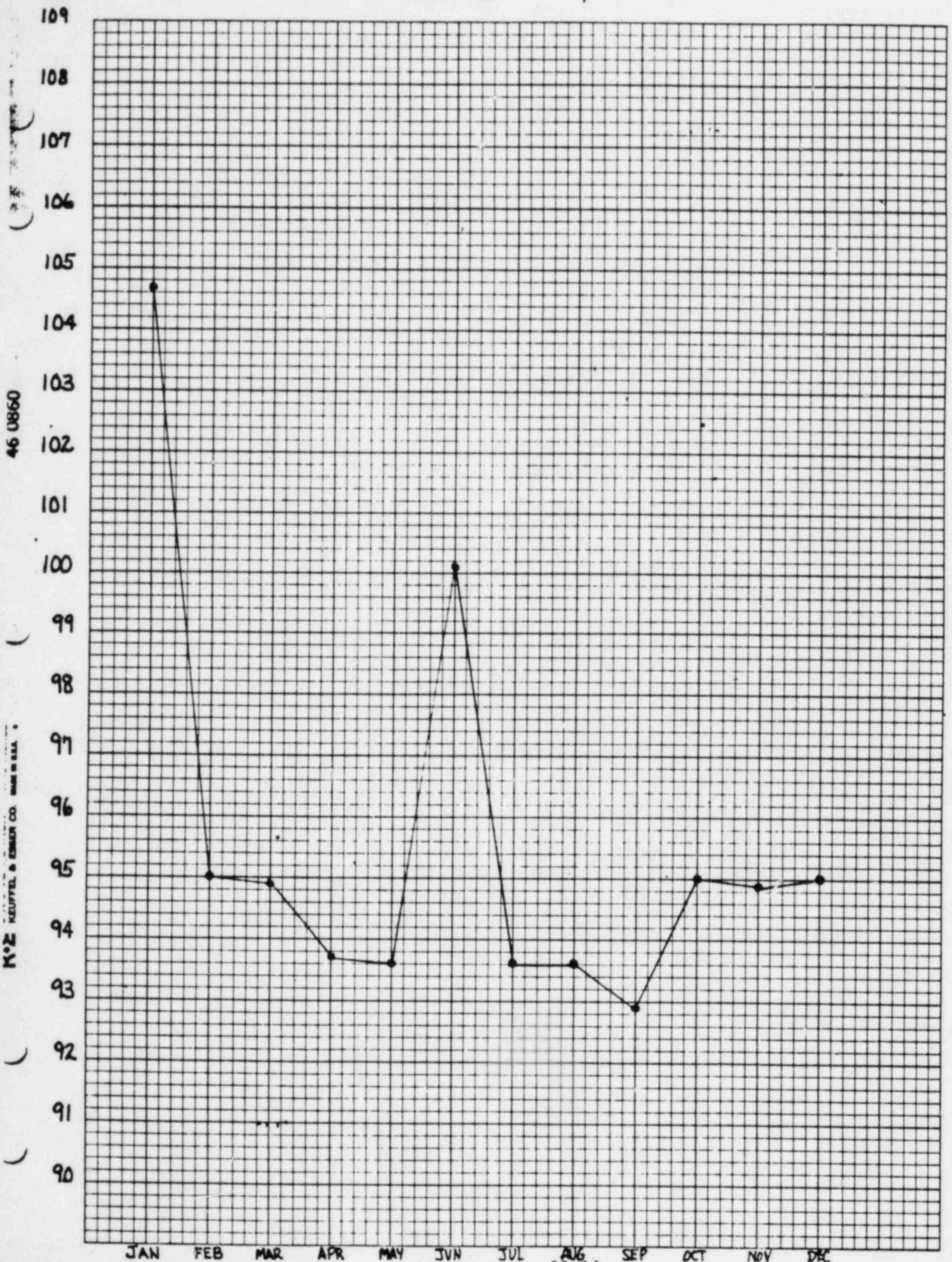
WELL NO. DW7



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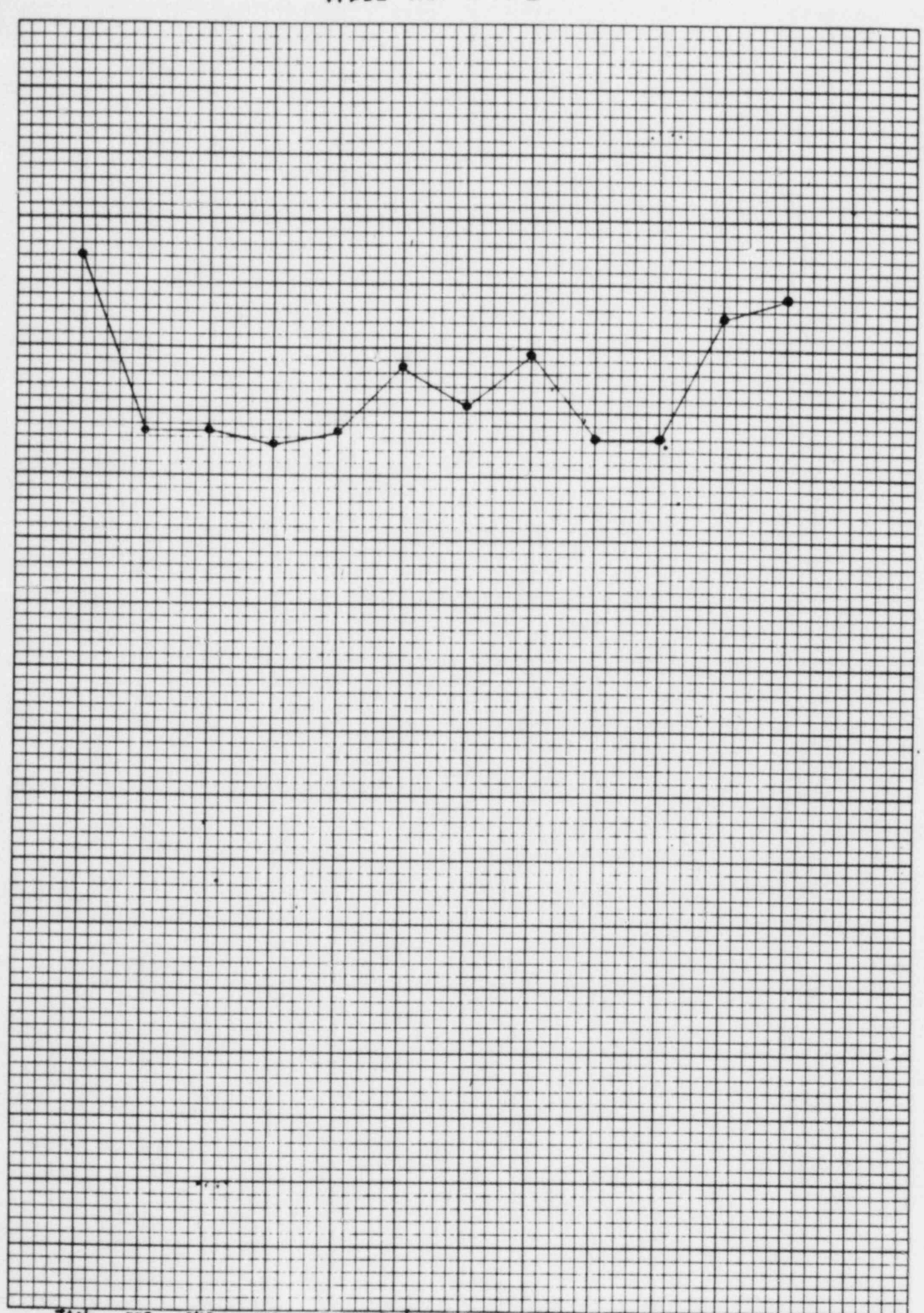
WELL No. DW8



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APPENDIX III

ENVIRONMENTAL EVALUATIONS

/#TITLE/ SAFETY AND ENVIRONMENTAL EVALUATION FORM

PART I /#DOCNO/ EVALUATION NO. SE-038-83

/#DOCREF/ DOC. EVALUATED FSAR 18.1.4

/#DOCREF/ REFERENCES BG NRA - NUREG-0737 I.A.2.3

/#SYSNO/ SYSTEM EFFECTED

DESCRIPTION FSAR change (attached) is being revised to recognize allowances in NUREG 0737 for qualified SRO applicants to go directly to SRO without one year as RO.

PCS-83-22

CN 3000

	QA RECORD
	NT - B14.33
	NON-QA RECORD
	INITIALS -
	NO. OF PAGES
	DATE

PART II SAFETY EVALUATION IFE 2/17/84 SCN 3000 2-17-84

YES NO IMPLEMENTATION OR PERFORMANCE OF THE ACTIVITY DESCRIBED ABOVE:

__ X (a) Requires a change to the GGNS Technical Specifications.
BASIS NUREG 0737 I.A.2.1 indicates that Tech Spec change will not be required

__ X (b) Increases the probability of occurrence of an accident previously evaluated in the FSAR.
BASIS Does not affect probability of occurance of an accident

__ X (c) Increases the consequences of an accident previously evaluated in the FSAR.
BASIS Will not affect accidents evaluated in FSAR

__ X (d) Creates the possibility of an accident of a different type than any evaluated in the FSAR.
BASIS Will not affect accidents evaluated in FSAR

__ X (e) Increases the probability of occurrence of a malfunction of equipment important to safety previously evaluated in the FSAR.
BASIS Will not affect equipment evaluated in FSAR

__ X (f) Increases the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
BASIS Will not affect equipment evaluated in FSAR

__ X (g) Creates the possibility of a malfunction of a different type than any evaluated previously in the FSAR.
BASIS Will not affect malfunctions evaluated in FSAR

__ X (h) Reduces the margin of safety as defined in the basis for any technical specifications.
BASIS Will not affect margin of safety

E. . III

ENVIRONMENTAL EVALUATION

YES NO IMPLEMENTATION OR PERFORMANCE OF THE ACTIVITY DESCRIBED ABOVE: SCN 3000

__X__ (a) Is required to achieve compliance with Federal, State, or local environmental regulations.

BASIS Does not affect Federal, State or local regulations for environmental considerations

__X__ (b) Results in all measurable environmental effects being confined to onsite area previously disturbed during site preparation and plant construction.

BASIS N/A DTH

__X__ (c) Requires a change in the Environmental Protection Plan.

BASIS N/A DTH

__X__ (d) Concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisals, or in any decisions of the ASLB.

BASIS N/A DTH

__X__ (e) Concerns a significant change in effluents or power level (in accordance with 10CFR51.5 (b) (2)).

BASIS N/A DTH

__X__ (f) Concerns a matter not previously reviewed and evaluated in the documents specified in (d) above, which may have a significant adverse environmental impact.

BASIS N/A DTH

D. F. Hunt — 12/9/83
MCRIG/ ORIGINATOR — DATE

PSRC — 12/16/83
DATE

APPROVED — 12/16/83
DATE

SRC — DATE

FSAR UPDATE

PCS-83-27

CN 3000

IRA 2/2/84

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NFS1-11
SCN No. 3013

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

B. Is an evaluation of this change required?
[X] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: _____

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: _____
[X] No Changes other than typo's made to make FSAR consistent with underlying GE design analysis for nuclear fuel. See PM1-83/13621, 2/24/84

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: _____
[X] No Changes to make FSAR consistent with underlying GE design analysis & represent no changes to safety analysis.

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: _____
[X] No Changes to make FSAR consistent with underlying GE design analysis & represent no changes to safety analysis.

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: _____
[X] No Changes to make FSAR consistent with underlying GE design analysis & represent no changes to safety analysis.

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: _____
[X] No Changes to make FSAR consistent with underlying GE design analysis & represent no changes to safety analysis.

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: _____
[X] No Changes to make FSAR consistent with underlying GE design analysis & represent no changes to safety analysis.

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: _____
[X] No Changes to make FSAR consistent with underlying GE design analysis & represent no changes to safety analysis.

FSAR UPDATE
NFS1-11
CN# 3013
IFR 2/15/84

FSAR UPDATE

NFS 1-11
CAF 3013
IFR 8/15/84

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: _____

[X] No Changes to make FSAR consistent with GE design analysis.

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: _____

[X] No Changes to make FSAR consistent with GE design analysis.

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: _____

[X] No Changes to make FSAR consistent with GE design analysis.

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: _____

[X] No Changes to make FSAR Consistent with GE design analysis.

PART III - REVIEW/CONCURRENCE

A. Originating Organization

C. Shane 2/10/84
Originator/Date

C. Shane 2/14/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number _____

Approved - see PMI-84/2058, 2-20-84

Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

NA
Reviewer/Date

NA
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

Paul V. Hoffman 8/4/84
Responsible Licensing Engineer/Date

Paul V. Hoffman for JGC 8/4/84
Manager of Nuclear Licensing/Date

FSAR7sd2

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. PLS-83-10
SCN No. 3017

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?

*[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III. * SEE Memo. (8/22/83) from L.F. Daughtery to J.G. CESARE Attached to package, this is considered Equivalent

[ ] No - Answer Question B.

B. Is an evaluation of this change required?

[ ] Yes - Complete Part II.

[ ] No - Enter basis and complete Part III:_____

_____

_____

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.

[ ] Yes Basis:_____

[ ] No _____

_____

b. increase the consequences of an accident previously evaluated in the FSAR.

[ ] Yes Basis:_____

[ ] No _____

_____

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.

[ ] Yes Basis:_____

[ ] No _____

_____

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.

[ ] Yes Basis:_____

[ ] No _____

_____

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.

[ ] Yes Basis:_____

[ ] No _____

_____

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.

[ ] Yes Basis:_____

[ ] No _____

_____

g. reduce the margin of safety as defined in the basis for any technical specification.

[ ] Yes Basis:_____

[ ] No _____

_____

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: _____

[ ] No _____

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: _____

[ ] No _____

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: _____

[ ] No _____

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: _____

[ ] No _____

PART III - REVIEW/CONCURRENCE

A. Originating Organization

see L. Daughtery memo to G. Cesare dated 8-22-83

_____ Originator/Date

_____ Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number NA

Kenneth Hughey 3/14/84 Reviewer/Date

J. W. Smith 3/20/84 Manager of Nuclear Safety and Compliance/Date

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C. Radiological & Environmental Services

L O Smith 8/27/84 Reviewer/Date

J R McKay 8/27/84 Manager of Radiological & Environmental Services/Date

---

D. Nuclear Licensing

B Burton 8-22-84 Responsible Licensing Engineer/Date

_____ Manager of Nuclear Licensing/Date

MEMO TO: J.G. Cesare

FROM: L.F. Daughtery

SUBJECT: FSAR Change Request 83-10

This "Change Request" was returned to Plant Staff for lack of adequate Safety Analysis. The following is provided to satisfy this request.

1. This "Change Request" was submitted to provide an update to the FSAR after the installation of an approved Design Change (82/502). The 50.59 review conducted for this Design Change Package (DCP) did not reveal any unreviewed safety questions.

2. This "Change Request" does not require a prompt notification of the NRC nor does it require a change to the Technical Specifications.

L.F. Daughtery
08/22/83

LFD:rlh
attachments

3D54
3282

GRAND GULF NUCLEAR STATION

FSAR/ER CHANGE REQUEST/CHANGE NOTICE EVALUATION

ORIGINATOR	DOCUMENT EVALUATED
CIVIL UNIT 2 R. PERSINI	FSAR SECTION 3.9.4.2

I. SAFETY EVALUATION

Incorporation of the change into the FSAR will:

1. Increase the probability of occurrence of an accident previously evaluated in the FSAR.

☐ YES ☒ NO Basis: THE INCLUSION OF SPECIFIC WELD UNDERCUT REQUIREMENTS WILL NOT INCREASE THE PROBABILITY OF AN ACCIDENT. THESE REQUIREMENTS SHALL ENSURE THAT WELDS HAVE A MINIMUM ACCEPTABLE LEVEL OF QUALITY AS INTENDED BY STANDARD INDUSTRY WELDING PRACTICE.

2. Increase the consequences of an accident previously evaluated in the FSAR.

☐ YES ☒ NO Basis: SEE #1

3. Create the possibility of an accident of a different type than any already evaluated in the FSAR.

☐ YES ☒ NO Basis: SEE #1

4. Increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.

☐ YES ☒ NO Basis: SEE #1

5. Increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.

☐ YES ☒ NO Basis: SEE #1

6. Create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.

☐ YES ☒ NO Basis: SEE #1

7. Reduce the margin of safety as defined in the basis for any Technical Specification.

☐ YES ☒ NO Basis: CHANGES WILL PROVIDE ADDITIONAL ASSURANCE OF RCPB INTEGRITY.

II. ENVIRONMENTAL EVALUATION

Incorporation of the change into the FSAR:

1. Will require a change in the Environmental Protection Plan.

☐ YES ☒ NO Basis: NOT PART OF THE ENVIRONMENTAL PROTECTION PLAN

2. Concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC Staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

☐ YES ☒ NO Basis: See #1

3. Concerns a significant change in effluents or power level (in accordance with 10 CFR 51.5(b)(2)).

☐ YES ☒ NO Basis: See #1

4. Concerns a matter not previously reviewed and evaluated in the documents specified in II.2, above, which may have a significant adverse environmental impact.

☐ YES ☒ NO Basis: See #1

APPROVED BY MPAL:
James M Feit

APPROVED BY: (Group Supv.)	APPROVED BY: (Licensing Engineer)	APPROVED BY: (Environ. Licensing Engineer)	APPROVED BY: (Project Engineer)
x _____ Date / /	x TB Montgomery 4-11-84 Date	N/A 4-11-84 x TB Montgomery Date	x TJ Ray 5/K/84 Date

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

RECEIVED

JUL 17 1984

SCR No. NFE-RCR-17
SCN No. SC34

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

B. Is an evaluation of this change required?
[X] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: _____

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: _____
[X] No See attached Bechtel Rpt., MPB-83/2-112, 5-31-83, Section 2.0 Summary & Conclusions. (R&B 7-17-84)

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: _____
[X] No see a.

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: _____
[X] No see a.

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: _____
[X] No see a.

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: _____
[X] No see a.

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: _____
[X] No see a.

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: _____
[X] No see a.

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: _____

[X] No _____

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: _____

[X] No _____

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: _____

[X] No _____

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: _____

[X] No _____

PART III - REVIEW/CONCURRENCE

A. Originating Organization

Originator/Organization/Date

Section Manager/Supervisor/Date 7/14/84

MP&L - NPE Concurrence

NPE Responsible Engineer

(For Contractor Originated FCR's)

B. Nuclear Safety and Compliance

Safety Review Action Serial Number NA

Reviewer/Date 12/18/84

S H Hobbs 12/18/84

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

Reviewer/Date

Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

Responsible Licensing Engineer/Date

Manager of Nuclear Licensing/Date

REVIEW OF AWS D1.1-1972 AND BECHTEL ENGINEERING AND INSTALLATION REQUIREMENTS FOR STRUCTURAL AND MISCELLANEOUS STEEL

Report for
Grand Gulf Project

Prepared for M. D. Archdeacon

By M.F. Stuchfield
M.F. Stuchfield
Area Office Manager

Materials and Quality Services Department
Research and Engineering
BECHTEL GROUP, INC.
GAITHERSBURG, MD

Job No. 9645-061
Log No. 130152

May 1983

2.0 SUMMARY AND CONCLUSIONS

The comparative review has identified eight areas where the Bechtel implementation documents diverge from AWS D1.1-72 requirements. Each of these areas has been addressed and appropriate explanations have been provided. None of the areas of divergence cast any question or concern on the quality of the hardware, and all areas of divergence were invoked after prior discussion and knowledge that a divergent condition would occur. Unfortunately, only two of the divergent conditions were included in the licensing documents, ie FSAR, and while the others knowingly occurred, they were never considered significant enough to be addressed as an exception to FSAR commitments.

The following conclusions can be drawn from the comparative review:

1. The divergent conditions represent a software problem, and nothing in the review points to any concern on the quality of the hardware.
2. All the divergent conditions were pre-conceived, and were invoked to address situations where absolute compliance to AWS D1.1-72 requirements was neither practically feasible nor economically justifiable.

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-06
SCN No. 3040

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

FSAR UPDATE
CR 5/4/84 ES

B. Is an evaluation of this change required?
[X] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: N/A

==========

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: Fire detector boundaries and designations have
[X] No no effect on the probability of occurrence of an accident.

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: this is a change to a drawing to correct a software-
[X] No only error. Other design documents are correct and no change to the plant, as previously evaluated, has been made.

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: See II.A.b.
[X] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: This is a change to a drawing to correct a software-
[X] No only error. Other design documents are correct and no change to the plant, as previously evaluated, has been made.

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See II.A.d.
[X] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: See II.A.d.
[X] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: Change is consistent with the tech. specs.
[X] No

5/1/84

FSAR UPDATE

NS-84-06

CN 3040

CI 5/14/84 EJS

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: Fire detection zone boundaries are not addressed
[X] No in the EPP, nor are zone designations.

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: Fire detection zone boundaries or designations have
[X] No no effect on the environment.

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: Fire detection zones have no effect on effluents or
[X] No power level.

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: See B.1.b, above.
[X] No

5/14/84

PART III - REVIEW/CONCURRENCE

A. Originating Organization

E. J. Shetts 5/14/84 — Originator/Date

Paul V Holt 5/15/84 — Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number NA

Kenneth Wugfay 5/15/84 — Reviewer/Date

Gary W. Smith 5-15-84 — Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

J. Baker for G. G. Smith 5-15-84 — Reviewer/Date

L R McKay 5/15/84 — Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Shetts 5/15/84 — Responsible Licensing Engineer/Date

Paul V. Holt for TGC 5/15/84 — Manager of Nuclear Licensing/Date

FSAR7sd2

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. WS-84-07
SCN No. 3041

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

FSAR UPDATE
CR 5/14/84 JS

B. Is an evaluation of this change required?
[X] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: N/A

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: This FSAR change deletes RCIC setpoints from the FSAR because
[X] No the actual setpoints are specified in the Tech. Specs. FSAR evaluations were based on actual setpoints.

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: See II.A.a.
[X] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: See II.A.a.
[X] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See II.A.a.
[X] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See II.A.a.
[X] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: See II.A.a.
[X] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: The change is consistent with the Tech. Specs.
[X] No

5/14/84

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.
[ ] Yes Basis: RCIC setpoints are not addressed in the EPP.
[X] No Also, see II.A.a.

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.
[ ] Yes Basis: RCIC setpoints do not affect the environment.
[X] No Also, see II.A.a.

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).
[ ] Yes Basis: This is an administrative change to the FSAR only.
[X] No

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.
[ ] Yes Basis: See II.B.b.
[X] No

FSAR UPDATE
NS-8407
CN 3041
CT 5/14/84

5/14/84

PART III - REVIEW/CONCURRENCE

A. Originating Organization

E. J. Stetz 5/14/84
Originator/Date

Paul V. Hoffman 5/14/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number NA

Kenneth Hughey 5/15/84
Reviewer/Date

D. W. Smith 5-15-84
Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

NA
Reviewer/Date

NA
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Stetz 5/15/84
Responsible Licensing Engineer/Date

Paul V. Hoffman for JGC 5/15/84
Manager of Nuclear Licensing/Date

FSAR7sd2

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-11
SCN No. ~~CN 3043~~ 3045 EJS

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[✓] No - Answer Question B.

B. Is an evaluation of this change required?
[ ] Yes - Complete Part II.
[✓] No - Enter basis and complete Part III: The proposed change to Figure 3.8-60 corrects an inconsistency within the FSAR. It is, therefore, an administrative change.

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: _____
[ ] No NA

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: _____
[ ] No NA

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: _____
[ ] No NA

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d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: _____
[ ] No NA

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: _____
[ ] No NA

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: _____
[ ] No NA

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: _____
[ ] No NA

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: Change is administrative in nature + has

[X] No no effect on the EPP or the environment

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: See A Above

[X] No

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: See A Above

[X] No

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: See A Above

[X] No

PART III - REVIEW/CONCURRENCE

A. Originating Organization

Steven W. Kline 4/4/84
Originator/Date

4/4/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number

GOS 4/16/84 (See PNSI 84/5208 for Signature.)
Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

GOS 4/16/84
Reviewer/Date

S R McKay 4/16/84
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Sheffer 5/14/84
Responsible Licensing Engineer/Date

Paul V. Hoffman for JGC 5/14/84
Manager of Nuclear Licensing/Date

FSAR7sd2

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-12
SCN No. 3046

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[✓] No - Answer Question B.

FSAR UPDATE

B. Is an evaluation of this change required?
[✓] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III:

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CN 3046
IFR 4/6/84

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: The proposed change revises the FSAR to more
[✓] No accurately describe the methods used to isolate penetrations through the secondary containment. (continued)

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: The changes do not increase the consequences
[✓] No of an accident because they do not change the type of measures already in use in the plant to (continued)

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: Refer to item "b" above.
[✓] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: No equipment is being changed so there is no
[✓] No increase in the probability of a malfunction of equipment important to safety. See also a. and b.

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: Refer to item "d" above.
[✓] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: Refer to item "d" above.
[✓] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: The Bases for Technical Specification 3/4.6.6.1
[✓] No address the maintenance of active means of ensuring the integrity of the secondary containment (i.e., valves, (continued)

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: The proposed change does not change any system related to the control of effluents or power levels. Therefore, it does not affect the EPP.

[✓] No

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: Refer to item "a" above.

[✓] No

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: Refer to item "a" above.

[✓] No

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: Refer to item "a" above.

[✓] No

15-84-12 cc 3046 4/6/84

PART III - REVIEW/CONCURRENCE

A. Originating Organization

Steven W. Kline 4/5/84
Originator/Date

Paul V. Hilton 4/5/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number _____
(See PMI-84/5208 for signatures)

Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

JGW 4/16/84
Reviewer/Date

GOS 4/16/84

S R McKay 4/16/84
Manager of [illegible]ological & Environmental Se[illegible]te

D. Nuclear Licensing

L. J. Skelton 5/14/84
Responsible Licensing Engineer/Date

Paul V. Hilton for JGC 5/14/84
Manager of Nuclear Licensing/Date

FSAR7sd2

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. 85-84-13
SCN No. 3047

FSAR UPDATE
CI 5/13/84

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

B. Is an evaluation of this change required?
[X] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: N/A

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: See attached.
[X] No

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: See attached.
[X] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: See attached.
[X] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See attached.
[X] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See attached.
[X] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: See attached.
[X] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: Adding the word "Approximate" makes the figure consistent with Tech. Spec. 3/4.7.6.5, which gives more exact locations. Hose stations 14B & 14C are consistent with Tech. Spec. Mounting methods for extinguishers are not addressed in tech. Specs.
[X] No

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B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: The EPP does not address hose stations nor
[X] No extinguishers.

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: Hose Stations and fire extinguishers have no
[X] No effect on power level or the environment.

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: See b.
[X] No

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: See b.
[X] No

FSAR UPDATE

NS-84-13 CN 1047 CI 5/13/84 EJS

5/15/84

PART III - REVIEW/CONCURRENCE

A. Originating Organization

E. J. Shelton 5/13/84
Originator/Date

Paul Hall 5/14/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number NA

Kenneth Hughey 5/14/84
Reviewer/Date

J. W. Smith 5-15-84
Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

J. Baker for G. A. Smith 5-15-84
Reviewer/Date

S. R. McKay 5/15/84
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Shelton 5/15/84 5/14/84 EJS
Responsible Licensing Engineer/Date

Paul Hall for TGC 5/15/84
Manager of Nuclear Licensing/Date

FSAR7sd2

Basis for answers to questions II.A.a through II.A.f:

Adding the word "Approximate" to the headings of Figure 9.5-4 and deleting "Q-11.1" from hose stations 14B and 14C are editorial changes. The locations given in this figure are indeed approximate and were never intended to be exact locations. The fire hazards analysis of Appendix 9A does not give exact locations but notes whether any given room has hose stream coverage available. Other drawings (plan views), that show more specific locations, were used for this analysis, and hose stream coverage in the plant was shown to meet licensing commitments. Deleting "Q-11.1" from stations 14B and 14C is editorial since two locations were given for each of these stations. This was a drafting error; one hose station cannot be in two locations. The revised figure reflects the actual plant and hose stream coverage meets licensing commitments.

The addition of Note 6 to the figure is a clarification that reflects the method of mounting fire extinguishers inside containment. Seismic II/I design requirements are met.

FSAR UPDATE

NS-84-13 _____ _____

CN 3047 _____ _____

DI 5/13/84 EJS _____ _____

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. 85-84-14
SCN No. 3048

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[✓] No - Answer Question B.

85-84-14 CI B2B 4-7-84
CN 3048
IFR 4/5/84

B. Is an evaluation of this change required?
[✓] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III:

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: Modifying the schedule for leak testing will
[✓] No reduce the probability of occurrence of an accident, since the surveillance is more frequent

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: Since the leak test is a surveillance
[✓] No action, its frequency will have no impact on the consequences of an accident.

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: The FSAR change is to the frequency of a
[✓] No surveillance action and thus does not create the possibility of a different accident.

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: There is no change to plant equipment or
[✓] No configuration. The change in schedule for drywell leak testing will not increase the probability of malfunctions

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: The consequences of equipment malfunction are
[✓] No not increased for the same reason as given in (d) above.

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: The possibility of a different malfunction is not
[✓] No created since the FSAR change is only to the frequency of drywell leak testing.

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: The margin of safety associated with Technical
[✓] No Specification 3/4.6.2.2 is not reduced because the new 18 month schedule is more frequent, and thus more conservati than the old FSAR commitment to test per Appendix J of 10CFR50.

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes [✓] No Basis: The Environmental Protection Plan does not address leak testing of the drywell and therefore, will not require any changes.

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes [✓] No Basis: The frequency of leak testing the drywell will have no adverse impact on the environment.

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes [✓] No Basis: There is no change in effluents or power level associated with this FSAR change.

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes [✓] No Basis: Reducing the interval for drywell leak testing will not have an adverse environmental impact.

US-84-14 CW 3048 IF 8/1/84

PART III - REVIEW/CONCURRENCE

A. Originating Organization

B. G. Beasley 4-4-84 — Originator/Date

Paul V. Holton 4/4/84 — Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number ____________

4/16/84 [signature] (See PMI-84/5208 for signatures.)

Reviewer/Date — Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

[signature] 4/16/84 — Reviewer/Date

L R McKay 4/16/84 — Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Shelton 5/14/84 — Responsible Licensing Engineer/Date

Paul V. Holton for JGC 5/14/84 — Manager of Nuclear Licensing/Date

FSAR7sd2

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-16
SCN No. 3050

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

B. Is an evaluation of this change required?
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CN 3050
[X] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: IPM 4/5/84

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: See insert.
[X] No

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: See insert.
[X] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: See insert.
[X] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See insert.
[X] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See insert.
[X] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: See insert.
[X] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: See insert.
[X] No

FSAR UPDATE

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: See insert.

[X] No

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: See insert.

[X] No

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: See insert.

[X] No

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: See insert.

[X] No

FSAR UPDATE

PART III - REVIEW/CONCURRENCE

A. Originating Organization

Paul V Holton 4/4/84
Originator/Date

Paul V Holton 4/4/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number NA

GOS 4/16/84 ~~SOS/Dow 4/16/84~~ Kenneth Hughey 5/15/84
Reviewer/Date

J. W. Smith 5-15-84
Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

Dow 4/16/84
Reviewer/Date

LR McKay 4/16/84
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Skelton 5/15/84
Responsible Licensing Engineer/Date

Paul V. Holton for JGC 5/15/84
Manager of Nuclear Licensing/Date

FSAR7sd2

INSERT TO PART II A and B.

correction of the typographical error will have no safety or environmental impact because it does not result from any change in the plant or operations which have not already been considered in the design of the plant. This is evidenced by NRC's statement in their SER (NUREG-0831, 9/81) pg 7-4 where they acknowledged that the trip point associated with the change was fixed when they said, "... that operates with a fixed high speed trip point." The design of the plant and NRC's evaluation clearly recognized the fixed nature of the set point.

Concerning revising the Allowable Setpoint Ranges, as stated in the response to question 031.60 (referenced by question 031.54 related to section 7.2) the allowable setpoint range is based on instrument capabilities. The allowable ranges for the instruments in question are not dependent upon APRM meter accuracy or readability but are a function of internal circuitry only. Therefore, the entire range of the instruments is usable. Hence the allowable ranges have been revised to reflect this. Furthermore, as stated in the notes to the table, the responses to question 031.54 and 031.60, and as recognized by the SER's qualifier "current FSAR", the setpoint ranges, accuracies, etc in the FSAR are preliminary and the Tech Specs and basis should be used for the final values. These revised values reflect new numbers generated in accordance with the tech specs. Therefore, no changes have been made to the plant, its procedures, or tests, the ranges provided by this change are correct hence there could be no impact on accidents, equipment malfunctions, or the environment.

FSAR UPDATE

NS-84-16
GW 3050
ICH 4/5/84

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-18
SCN No. 3052

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[✓] No - Answer Question B.

B. Is an evaluation of this change required?
[✓] Yes - Complete Part II. NS-84-18 CR 5/15/84 ETS CN 3052
[ ] No - Enter basis and complete Part III: IER 4/5/84

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: The proposed change clarifies the assumptions used to analyze ~~affects~~ a system used
[✓] No to mitigate the consequences of an accident. The SGTS does not perform any function related to (continued)

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b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: Accident analyses have taken credit for filtering
[✓] No of a radioactive release by the SGTS from two minutes into the accident until its conclusion. These analyses (continued)

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: Refer to the Basis for item "a" above.
[✓] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: The proposed changes do not change any equipment
[✓] No important to safety. Therefore, the probability of an equipment malfunction is not increased.

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: Refer to the Basis for item "d" above.
[✓] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: Refer to the Basis for item "d" above.
[✓] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: The proposed change is consistent with the basis
[✓] No for Technical Specification 3/4.6.6.1. Therefore, the margin of safety is not reduced.

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: The proposed changes do not affect any measures used to protect the environment during normal operation. Therefore, there is no impact on the EPP or on effluent releases.

[✓] No

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: Refer to item "a" above.

[✓] No

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: Refer to item "a" above.

[✓] No

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: Refer to item "a" above.

[✓] No

PART III - REVIEW/CONCURRENCE

A. Originating Organization

Steven W. Kline 4/4/84
Originator/Date

Paul V. Hall 4/5/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number NA

Kenneth Hughey 5/15/84
Reviewer/Date

Gary W. Smith 5/15/84
Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

[illegible] 4/16/84
Reviewer/Date

J. R. McKay 4/16/84
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Shotton 5/15/84
Responsible Licensing Engineer/Date

Paul V. Hall for JGC 5/15/84
Manager of Nuclear Licensing/Date

FSAR7sd2

FSAR UPDATE
NS-84-18 CI 5/4/84 EJS
CN 3052
IFR 4/5/84

Part II - Evaluation

A. Safety

a. (continued): operation of the plant. Therefore, ~~changes~~ clarifications to the SGTS analysis assumptions could not result in an increased probability of an accident or create a different type of accident. 5/3/84

b. (continued): will not be affected by this change because the SGTS will perform as assumed previously. The assumption in the FSAR regarding the SGTS having the capacity to handle inleakage from the building plus all non-qualified lines two inches and under plus one four inch line was overly conservative, not supported by NRC requirements and is not consistent with the negative pressure test requirements of Technical Specification 3/4.6.6.1. Since the proposed changes are consistent with NRC requirements and the Technical Specifications and do not change the results of any accident analyses, they are considered acceptable.

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-21
SCN No. 3055

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[✓] No - Answer Question B.

FSAR UPDATE

B. Is an evaluation of this change required?
[✓] Yes - Complete Part II. NS-84-21 CN 3055
[ ] No - Enter basis and complete Part III: IFA 4/6/84

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: See Attached Sheet
[✓] No

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: Refer to the response for item (a) on
[✓] No the attached sheet.

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: Refer to the response for item (a) on
[✓] No the attached sheet.

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See Attached Sheet
[✓] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: Refer to the response for item (d) on
[✓] No the attached sheet.

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: Refer to the response for item (d) on
[✓] No the attached sheet.

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: The bases for Technical Specification 3/4.8.4.1
[✓] No only require that surveillances be performed, they give no guidelines for the test procedure. Thus, the margin of safety associated with the Technical Specifications is not reduced by this change to QAR 040.5.

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: No change is required since the Environmental
[✓] No Protection Plan does not address surveillance of circuit breakers.

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: The change in test procedures for low
[✓] No voltage circuit breakers will have no adverse environmental impact.

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: The proposed change does not concern
[✓] No a significant change in effluents or power level.

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: The change in test procedures for
[✓] No low voltage circuit breakers will have no adverse environmental impact.

AS-84-21 CR3055 1FC 7/9/84

PART III - REVIEW/CONCURRENCE

A. Originating Organization

B. G. Beasley 4-5-84 — Originator/Date

Paul V Holt 4/5/84 — Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number ______________

(See PM1-84/5208 for signatures)

Reviewer/Date — Manager of Nuclear Safety and Compliance/Date

---

C. Radiological & Environmental Services

SOS / [signature] 4/16/84 — Reviewer/Date

L R McKay 4/16/84 — Manager of Radiological & Environmental Services/Date

---

D. Nuclear Licensing

Eric J. Shaffer 5/14/84 — Responsible Licensing Engineer/Date

Paul V Holt for JGC 5/15/84 — Manager of Nuclear Licensing/Date

FSAR UPDATE 3055

NS-84-21 CI 4/12/84 RK AS

CN 3055 IFR 4/4/84

IFR 4/6/84

II.A.a The probability of occurrence or consequences of any accident are not increased by the proposed change to Q&R 040.5. The change only involves periodic testing of circuit breakers. The proposed change is an improvement in the test that demonstrates the ability of circuit breakers to interrupt short circuit currents ~~The demonstration is~~ AS required by Regulatory Guide 1.63, Revision 1. The improved surveillance test is based upon a breaker's instantaneous trip setpoint, and more accurately determines if that breaker meets Regulatory Guide 1.63 criteria. The proposed change to the Q&R only affects periodic testing of circuit breakers and in fact improves that testing. 4/12/84

II.A.d The proposed revision to Q&R 040.5 changes the description of periodic testing to a reference to the Technical Specifications. The Technical Specification surveillance procedure is based on the instantaneous trip setpoint of the breaker. This is an improvement in the circuit breaker test. The proposed change is only to the periodic testing of equipment. There is no change to the plant equipment or configuration. For the reasons just stated, the proposed change will not increase the probability or consequences of a malfunction of equipment, or create the possibility of a different malfunction.

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-22
SCN No. 3056

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?

~~[X] Yes~~ - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.

[X] No - Answer Question B.

B. Is an evaluation of this change required?

[X] Yes - Complete Part II.

[ ] No - Enter basis and complete Part III: N/A

5/14/84

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.

[ ] Yes Basis: See attached. ~~N/A~~

[X] No

b. increase the consequences of an accident previously evaluated in the FSAR.

[ ] Yes Basis: See attached. ~~N/A~~

[X] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.

[ ] Yes Basis: See attached. ~~N/A~~

[X] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.

[ ] Yes Basis: See attached. ~~N/A~~

[X] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.

[ ] Yes Basis: See attached. ~~N/A~~

[X] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.

[ ] Yes Basis: See attached. ~~N/A~~

[X] No

g. reduce the margin of safety as defined in the basis for any technical specification.

[ ] Yes Basis: ~~N/A~~

[X] No Change makes FSAR consistent with Tech. Spec.

5/14/84

FSAR7sd1

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: N/A

[x] No SRM setpoints are not addressed in the EPP.

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: N/A

[x] No Changing the SRM downscale trip has no effect on the environment.

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: N/A

[x] No Changing the SRM downscale trips has no effect on effluents or power level.

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: N/A

[x] No See II-B.b.

FSAR UPDATE NS/84-22 CS 5/14/84 EJS cu 3056 1R 5/14/84

5/14/84

PART III - REVIEW/CONCURRENCE

A. Originating Organization

E. J. Shetts 4/5/84 — Originator/Date

Paul V Hollen 4/5/84 — Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number N.A

Kenneth Murphy 5/15/84 — Reviewer/Date

(See PAI-84/5208 for signatures) Gary W. Smith 5/15/84 — Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

[signature] for G.O. Smith 5-15-84 — Reviewer/Date

L R McKay 5/15/84 — Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Shetts 5/14/84 — Responsible Licensing Engineer/Date

Paul W. Hollen for JGC 5/15/84 — Manager of Nuclear Licensing/Date

FSAR7sd2

PDR ADOCK
NS-84-22
CU3056
IFR 4/6/84

TRANSMITTAL OF PROPOSED CHANGES
TO GRAND GULF TECHNICAL SPECIFICATIONS

1. (GGNS - X44)

SUBJECT: Technical Specification 4.3.7.6.c and Table 3.3.6-2, pages 3/4 3-73 and 3/4 3-52, respectively.

DISCUSSION: The surveillance requirements of 4.3.7.6.c require that prior to withdrawal of control rods, the Source Range Monitor (SRM) count rate be verified to be at least 3 counts per second (cps) with the detector fully inserted. Table 3.3.6-2 requires a SRM downscale trip setpoint of 3 cps for the control rod block function to be considered operable. Based on the current SRM count rate, MP&L estimates that the antimony-beryllium source strength will be insufficient to maintain 3 cps by November 1, 1983, due to normal decay of the sources. The sources cannot be reliably regenerated until power levels reach 25% which is not scheduled to occur before December 1, 1983. Other means of meeting the 3 cps requirement include installing new sources or reactivating the current antimony pins in a test reactor; however, either method would result in significant delays in the startup test schedule. The delay is due mostly to the fact that the reactor vessel must be opened and part of the fuel removed in order to replace the sources. Therefore, MP&L proposes to lower the minimum SRM count rate to 0.5 cps. Also, in order to provide consistency between 4.3.7.6.c and Table 3.3.6-2, MP&L proposes to lower the downscale rod block setpoints to 0.5 cps for the allowable value and 0.7 cps for the trip setpoint.

JUSTIFICATION: Several factors justify a minimum allowable count rate of 0.5 cps for the SRMs including:

1. The SRMs are not required to perform any protective or mitigative safety function in the transients or accidents analyzed in Chapter 15 of the FSAR.

2. The SRMs are capable of monitoring count rates as low as 0.1 cps,

3. The negligible effect of a lower count rate on the Rod Drop Accident (RDA) analysis peak fuel enthalpy, and

4. Lower count rate with requirements of Regulatory Guide 1.68 Revision 2.

As described in FSAR Section 7.6.1.5, the SRMs provide neutron flux information during reactor startup and low level flux operations until the IRMs are well on scale (Range 3 of IRMs). The SRMs also provide an upscale rod block at 10^5 cps and a downscale rod block trip setpoint at 3 cps. These rod blocks prevent control rod withdrawal until the cause of

G79sp1

unusually high or low count rates is determined by the operator. However, the SRMs are not required to perform any protective or mitigative safety function in the transients or accidents analyzed in Chapter 15 of the FSAR.

The only important consideration in lowering the minimum count rate requirement and the downscale rod block is that sufficient monitoring capability be maintained to detect positive reactivity insertions from the initial subcritical condition in a smooth and continuous fashion. Since the SRMs are capable of measuring count rates as low as 0.1 cps, the proposed value of 0.5 cps is well on-scale and will provide adequate monitoring capability. The 0.7 cps trip setpoint for the downscale rod block was chosen as an appropriate value above the minimum allowable value of 0.5 cps.

With regard to reactivity addition transients, the limiting fault at low power conditions is the Rod Drop Accident (RDA) which is analyzed by General Electric (GE) in NEDO-10527 and its supplements and is described in Section 15.4 of the FSAR. It should be noted that only the 120% APRM scram and the Rod Pattern Control System, which limits the worth of any control rod which could be dropped by regulating the withdrawal sequence, are required to be operable in order to mitigate the consequences of the RDA. The SRMs have no safety function in the RDA analysis.

In April, 1974, GE performed a reanalysis of the RDA (based on NEDO-10527 and supplements) in support of a similar Technical Specification amendment for Cooper Nuclear Station. For the Cooper amendment, GE indicated that the original 3 cps minimum count rate requirement was based on the assumed initial power level (10^{-8}% of rated power) for the RDA. They then evaluated the sensitivity of the RDA rod worths and peak fuel enthalpy to lower power levels and associated lower count rates. The reanalysis indicated that no significant change in RDA results occurred with count rates as low as 0.3 cps. Cooper subsequently requested a minimum count rate of 0.3 cps (J. M. Pilant to V. A. Moore letter, dated April 4, 1974) and received approval for this Technical Specification amendment (Moore to Pilant letter, dated April 17, 1974). GE has confirmed that the reanalysis performed for Cooper is valid for Grand Gulf.

Also, the proposed changes are consistent with Regulatory Guide 1.68, Revision 2, "Initial Test Programs for Water-Cooled Nuclear Power Plants" which states:

> "A neutron count rate at least 1/2 count per second should register on the startup channels before the startup begins, and the signal-to-noise ratio should be known to be greater than two."

This requirement is reflected in the Level 1 Acceptance Criterion of GE Startup Test Procedure 6 for GGNS which requires an SRM signal-to-noise ratio of at least 2 to 1. Since the SRMs are calibrated to have a noise level below 0.1 cps, a minimum count rate of 0.5 cps is sufficient to meet Regulatory Guide 1.68 requirements. (This is equivalent to a signal-to-noise ratio of greater than 5 to 1).

Based on the justifications given above which show that the SRMs have no safety function, that the SRMs are capable of monitoring count rates as low as 0.1 cps, and that count rates as low as 0.3 cps will not invalidate RDA analysis results, MP&L believes that a minimum allowable count rate of 0.5 cps is acceptable.

SIGNIFICANT HAZARDS CONSIDERATION:

Given the justifications stated above, it has been determined that these changes to the Technical Specifications do not involve a significant reduction in safety margins. Also, no increase in the probability or consequences of an accident previously evaluated is involved nor is the possibility of a new or different kind of accident from any accident previously evaluated created. Thus the proposed changes to the Technical Specifications do not involve any significant hazards considerations.

FSAR UPDATE

NS-84-22

CN 3052

IFR 4/6/84

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-24
SCN No. 3058

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[✓] No - Answer Question B.

FSAR UPDATE

B. Is an evaluation of this change required? NS-84-24
[✓] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: CW 3058
IFN 4/6/84

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: The proposed change does not change conditions or
[✓] No equipment which could cause the initiation of an accident. Therefore since initiating events are not (continued)

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: Revising the upper limit of normal containment
[✓] No pressure from -0.10 in.wg (-0.004 psid) to 1.0 psid has been determined to not result in increased (continued)

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: Since this change is a revision to pressure limits,
[✓] No it does not change conditions or equipment which would cause an accident of a different type (continued)

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: The proposed change does not effect any equipment
[✓] No important to safety. Therefore, it will not increase the probability of a malfunction of this equipment.

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: Refer to item "d" above.
[✓] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: Refer to item "d" above.
[✓] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: The proposed change is consistent with the proposed change
[✓] No to the Bases to Technical Specification 3/4.6.1.7 as described in Technical Specification punchlist item TSPS 107.

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: The proposed changes do not affect any systems used
[✓] No to monitor or control the release of effluents. Therefore, the change does not affect the EPP.

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: Refer to item "a" above.
[✓] No

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: Refer to item "a" above.
[✓] No

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: Refer to item "a" above.
[✓] No

PART III - REVIEW/CONCURRENCE

A. Originating Organization

Steven W. Rhine 4/5/84
Originator/Date

Paul V. Hobbs 4/5/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number (See PM1-84/5208 for signatures)

GDS 4/16/84 4/16/84
Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

4/16/84
Reviewer/Date

J. R. McKay 4/17/84
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Stelter 5/14/84
Responsible Licensing Engineer/Date

Paul V. Hobbs 5/15/84
Manager of Nuclear Licensing/Date

FSAR7sd2

Part II - Evaluation

A. Safety

a. (continued): affected, there is no increase in the probability of an accident.

(continued):

b. Accident consequences. A concern over this increased pressure adding to the peak containment pressure following an accident was addressed by GE in response to Humphrey Issues (Action Plan 25) in MPGE-82/199, MPGE-82/234 and MPGE-83/012. The Humphrey Issue had postulated that the calculated peak accident pressure (11.5 psig) could be exceeded by 1.0 psi if the containment pressure was at the Technical Specification limit (1.0 psid) instead of the FSAR limit (-0.004 psid) shown in Table 6.2-4. The three GE letters referenced above demonstrated that realistic versus conservative bound analyses result in a peak containment pressure of 4.3 psig less than the FSAR 11.5 psig. Revising the lower limit from -1.0 in. wg (-0.036 psid) to -0.10 psid has ~~also been determined to not result in increased accident consequences. The proposed lower limit is well above the calculated~~ (continued)

(AND IN AGCN 82/574 dated 12/3/82)

FSAR UPDATE

NS-84-24

CN 3058

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b (continued)

also been determined to result in a containment differential pressure of -3 psid for the FSAR maximum negative pressure transient. Therefore, it can be concluded that if the containment initial pressure differential was -0.1 psid, the maximum negative pressure transient would not exceed the containment negative pressure capability. Consequently the proposed containment pressure limit changes will not result in increased accident consequences.

9/14/84

c. (continued): than any evaluated in the FSAR

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-25
SCN No. 3059

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B. FSAR UPDATE

B. Is an evaluation of this change required? NS-84-25
[X] Yes - Complete Part II. CN 3059
[ ] No - Enter basis and complete Part III: IER 84-84

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: THE DESIGN ANALYSES OF THE RCPB WERE
[X] No BASED ON THE CORRECT VALUE OF 80 LOSS OF FEEDWATER HEATER EVENTS, NOT 70.

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: SEE PART II.A.a, ABOVE.
[X] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: SEE PART II.A.a, ABOVE.
[X] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: SEE PART II.A.a, ABOVE.
[X] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: SEE PART II.A.a, ABOVE.
[X] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: SEE PART II.A.a, ABOVE.
[X] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: THE FSAR IS BEING CORRECTED TO AGREE WITH
[X] No THE TECH. SPECS. AND THE ACTUAL VALUE USED IN THE DESIGN ANALYSES OF THE RCPB.

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: CORRECTING THE FSAR TO AGREE WITH DESIGN
[X] No DOCUMENTS AND THE TECH. SPECS. WILL HAVE NO AFFECT ON THE ENVIRONMENT.

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: SEE PART II.B.a, ABOVE.
[X] No

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: SEE PART II.B.a, ABOVE.
[X] No

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: SEE PART II.B.a, ABOVE.
[X] No

FSAR UPDATE
85-84-25
CN 3059
1PR 4/6/84

PART III - REVIEW/CONCURRENCE

A. Originating Organization

E. J. Shetts 4/5/84 — Originator/Date
Paul V Holton 4/5/84 — Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number ______________

(See AMI-84/5208 for signatures)

Reviewer/Date — Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

[signature] 4/16/84 — Reviewer/Date
JR McKay 4/17/84 — Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Shetts 5/14/84 — Responsible Licensing Engineer/Date
Paul V. Holton for JGC 5/15/84 — Manager of Nuclear Licensing/Date

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-26
SCN No. 3060

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

B. Is an evaluation of this change required?
[X] Yes - Complete Part II.
~~[ ] No~~ - Enter basis and complete Part III: ~~See Attached Sheet~~ 5/14/84

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: See attached.
[X] No N/A

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: See attached.
[X] No N/A

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: See attached.
[X] No N/A

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See attached.
[X] No N/A

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See attached.
[X] No N/A

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: See attached.
[X] No N/A

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: The change is consistent with the Tech. Spec.
[X] No N/A

5/14/84

NS-84-26 SCN 3060 5/14/84

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.
[ ] Yes Basis: the EPP does not address ctmt. volume.
[X] No NA

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.
[ ] Yes Basis: the corrections to the FSAR are consistent with actual
[X] No analyses. NA

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).
[ ] Yes Basis: See II.B.b. Also, ctmt. volume has no effect on power
[X] No level. NA

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.
[ ] Yes Basis: See II.B.b.
[X] No NA

5/14/84

85-84-26 CN 7060

PART III - REVIEW/CONCURRENCE

A. Originating Organization

B. G. Beasley 4-5-84
Originator/Date

Paul V. Holton 4/5/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number NA J.W. Smith 5-17-84

~~See PM~~ EJS 5/14/84

Kenneth L. Hughey 5/16/84
Reviewer/Date

~~LR McKay 4/17/84~~ LRMcK 4/17/84
Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

D. Smith 4/16/84
Reviewer/Date

LR McKay 4/17/84
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Stetts 5/14/84
Responsible Licensing Engineer/Date

Paul V. Holton for JGC 5/17/84
Manager of Nuclear Licensing/Date

FSAR UPDATE
NS-84-26 CI 5/14/84 ES
CN 3060 CI 5/14/84 SS
IDE 4/6/84

Basis Part I.B

The containment volume in Table 1.3-4 includes the drywell volume. The change to Table 1.3-4 corrects this error. The volumes in Table 6.2-1 are carried out to six and seven significant digits. This level of accuracy is not necessary to adequately describe the drywell or containment volumes. The revision to Table 6.2-1 rounds off these numbers. In Table 6.5-6, the containment volume (including drywell) was misstated by a typographical error to be 1,640,000 ft^3. Each of the proposed changes is an editoral change to correct a typographical error or to clarify unnecessary detail. ~~For this reason, no evaluation is required.~~ 5/14/84

INSERT "A" 5/14/84

Furthermore, review of the calculation shown in FSAR section 6.2.1.1.4.1 demonstrates that the new numbers are consistent with those actually used in calculations.

In addition, neglecting round off, the new numbers are consistent with those in SER section 6, Table 6-1 (NUREG 0831, 9/81)

For the above reasons, these FSAR changes have no effect on the probability or consequences of an accident or the likelihood of an equipment malfunction. 5/16/84

INSERT "A"

and provides clarification by adding "(excluding drywell)" 5/14/84

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-29
SCN No. 3063

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[✓] No - Answer Question B.

B. Is an evaluation of this change required? IFR 4/6/84
[✓] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: _____

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: The proposed changes correct errors in the listing
[✓] No of penetration line sizes so that the revised table will accurately reflect the actual line size. (continued)

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: Refer to item "a" above.
[✓] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: Refer to item "a" above.
[✓] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: Refer to item "a" above.
[✓] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: Refer to item "a" above
[✓] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: Refer to item "a" above.
[✓] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: The proposed changes do not affect Technical
[✓] No Specification 3/4.6.4. They, therefore, do not affect the Bases for this Technical Specification.

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: The changes do not affect effluent releases, therefore, they don't affect the EPP.

[✓] No

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: Refer to item "a" above.

[✓] No

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: Refer to item "a" above.

[✓] No

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: Refer to item "a" above.

[✓] No

NS-84-29

CN 3067

IPR 4/6/84

PART III - REVIEW/CONCURRENCE

A. Originating Organization

Steven W. Kline 4/6/84
Originator/Date

Paul V. Hoffman 4/6/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number _____

(See PMI-84/5208 for signatures)

Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

[illegible] 4/16/84
Reviewer/Date

[illegible] 5/15/84
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Shelton 5/15/84
Responsible Licensing Engineer/Date

Paul V. Hoffman for JGC 5/15/84
Manager of Nuclear Licensing/Date

FSAR7sd2

Part II - Evaluation

NS-EV-29
CN 3063
IFR 4/6/84

A. Safety

a. (continued): NRC concerns regarding containment penetrations focus on the potential for a radioactive release through these penetrations. As noted in SRP 6.2.4, the NRC evaluates valve closure times, isolation signals and redundancy of isolation devices. They do not evaluate line sizes with respect to any concern with radioactive releases. Since the proposed changes do not change any of the items with which the NRC is concerned, the changes do not increase the probability or consequences of an accident, create a different type of accident, or affect any equipment important to safety.

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

MPFSAR-84/0025
SCR No. NS-84-30
SCN No. 3064

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

IER 84-62

B. Is an evaluation of this change required?
[X] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: N/A

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: AS THE DESIGN DRAWING INDICATES THAT THESE
[X] No VALVES ARE LOCKED CLOSED, the FSAR CHANGE REFLECTS THE PLANT AS DESIGNED AND ANALYZED.

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: SEE ITEM II.A.a, ABOVE.
[X] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: SEE ITEM II.A.a, ABOVE.
[X] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: SEE ITEM II.A.a, ABOVE.
[X] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: SEE ITEM II.A.a, ABOVE.
[X] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: SEE ITEM II.A.a, ABOVE.
[X] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: THE FSAR IS BEING CORRECTED TO AGREE
[X] No WITH THE TECH. SPECS., AND NO CHANGE TO THE PLANT OR TO DESIGN DOCUMENTS HAS BEEN MADE.

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: THE POSITION OF THESE VALVES CAN HAVE

[X] No NO AFFECT AT ALL ON THE ENVIRONMENT.

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: SEE ITEM II.B.a, ABOVE.

[X] No

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: AS THE POSITION OF THE VALVES HAS NOT

[X] No CHANGED, THERE IS NO CHANGE IN EFFLUENTS OR POWER LEVEL.

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: SEE ITEM II.B.a, ABOVE.

[X] No

NS-84-30
NRC FSAR 4/1985
CN 3064
LFR 4/1984

PART III - REVIEW/CONCURRENCE

A. Originating Organization

E. J. Shelt 4/7/84 — Originator/Date

Paul V. Holt 4/9/84 — Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number ______

(See PM1-84/4973 for signatures)

Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

S.O. Smith 4/16/84 — Reviewer/Date

L.R. McKay 4/17/84 — Manager of Radiological & Environmental Services/Date

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D. Nuclear Licensing

E. J. Shelt 5/15/84 — Responsible Licensing Engineer/Date

Paul V. Holt for JGC 5/15/84 — Manager of Nuclear Licensing/Date

FSAR7sd2

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-31
SCN No. 3065

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

B. Is an evaluation of this change required?
[X] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: N/A

IFR 4/2/84
CL 4/12/84 PAH
IFR 4/16/84

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR. See also attached sheet.
[ ] Yes Basis: PLANT SAFETY ANALYSES USED THE
[X] No CORRECT MINIMUM VALUE OF 0.28% ΔK/K, NOT THE ERRONEOUS VALUE PREVIOUSLY GIVEN IN FSAR 4.6.3.1.1.5. 4/12/84

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: SEE PART II.A.a, ABOVE.
[X] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: SEE PART II.A.a, ABOVE.
[X] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: SEE PART II.A.a, ABOVE.
[X] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: SEE PART II.A.a, ABOVE.
[X] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: SEE PART II.A.a, ABOVE.
[X] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: THE FSAR IS BEING CORRECTED TO REFLECT
[X] No THE CORRECT VALUE WHICH IS IN THE TECH. SPECS, See part II.A.a above 4/12/84

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: THE VALUE OF THE SHUTDOWN MARGIN OF THE REACTOR CORE HAS NO EFFECT ON THE ENVIRONMENT.

[X] No

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: SEE ITEM II. B. a, ABOVE.

[X] No

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: THE VALUE OF THE SHUTDOWN MARGIN HAS NO EFFECT ON EFFLUENTS OR POWER LEVEL.

[X] No

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: SEE ITEM II. B. a, ABOVE.

[X] No

NS-84-31 CI 4/14/84 PVH

CN 3065 [illegible] 4/14/84

PART III - REVIEW/CONCURRENCE

IF 4/7/84

A. Originating Organization

Eric J. Shelton 4/6/84 — Originator/Date

Paul V. Holtum 4/6/84 — Section Manager/Supervisor/Date

Gautam Sen 4/13/84 PVH 4/14/84

B. Nuclear Safety and Compliance

Safety Review Action Serial Number ____________

(See PMI-84/4973 for signatures)

Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

S.O. Smith 4/16/84 — Reviewer/Date

S.R. McKay 4/17/84 — Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

Eric J. Shelton 5/15/84 — Responsible Licensing Engineer/Date

Paul V. Holtum for JGC 5/15/84 — Manager of Nuclear Licensing/Date

FSAR7sd2

FSAR UPDATE

CN 3065
CI 4/12/84 PVH
JFR 4/10/84

During the March, 1984 review of the Technical Specifications, it was found that the FSAR Subsection 4.6.3.1.1.5 requiring the shutdown margin to be at least 0.25 ΔK is in error. The minimum value of the shutdown margin has been revised to incorporate both the analytical and the test values, which are now consistent with the Tech. Spec section 3/4.1.1 and GE's Nuclear Design Bases, Data Book No. 457HA909, Rev. 2

The demonstration of shutdown margin of at least 0.28% $\Delta k/k$ (Test) and 0.38% $\Delta k/k$ (analytical) requires the strongest operable control rod fully withdrawn and also all other rods (operable or inoperable) in a fully inserted position. It is important to note that the highest worth rod cannot be fully withdrawn anyway to perform this test if there is at least one control rod inoperable and/or partially inserted. Since the necessary condition for demonstrating the shutdown margin rests upon the fully inserted position of all other rods not upon their operability, the word "operable" has been deleted.

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. 1694-32
SCN No. 3066

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[✓] No - Answer Question B.

FSAR UPDATE

B. Is an evaluation of this change required? IFA 4/3/84
[✓] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: _____

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: See Attached Sheet
[✓] No

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: See response to item (a) on the attached sheet.
[✓] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: See response to item (a) on the attached sheet.
[✓] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See Attached Sheet
[✓] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See the response to item (d) on the attached sheet.
[✓] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: See the response to item (d) on the attached sheet.
[✓] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: The margin of safety defined in the basis for Technical Specification 3/4.8.4.2 is not reduced. The bases for this Technical Specification requires compliance with Regulatory Guide 1.106. Each method of thermal overload protection bypass in the change to FSAR section 7.1.2.6.22 complies with Regulatory Guide 1.106.
[✓] No

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis:
[✓] No The Environmental Protection Plan does not address the thermal overload protection bypass so no change is required.

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis:
[✓] No The proposed change will have no adverse environmental impact.

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis:
[✓] No The proposed FSAR change does not create a change in the effluents or power level.

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis:
[✓] No The clarification of the thermal overload bypass in the FSAR will not have an adverse environmental impact.

PART III - REVIEW/CONCURRENCE

NS-84-32
CN 3066
IFN 4/2/84

A. Originating Organization

B. D. Beasley 4-5-84
Originator/Date

Paul V. Hoffman 4/6/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number (See PM1-84/5208 for signatures)

Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

L. O. Smith 4/16/84
Reviewer/Date

J. R. McKay 4/17/84
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Shelton 5/15/84
Responsible Licensing Engineer/Date

Paul V. Hoffman for TGC 5/17/84
Manager of Nuclear Licensing/Date

FSAR7sd2

NS-84-32 CI 4/12/84

CN 3066

IFR 4/7/84

II.A.a The proposed change to FSAR section 7.1.2.6.22 will not increase the probability of occurrence or consequences of an accident previously evaluated. Nor does the change create the possibility of an accident of a different type. The change brings the FSAR into line with Technical Specification 3/4.8.4.2 and the actual plant design and analyses. The FSAR revision will clarify that not all motor operated valve circuitry utilizes continuous thermal overload bypass schemes during normal plant operation. Some overload heaters ~~valves~~ can be manually bypassed to place the valve in its safe mode. Other valves are automatically bypassed on receipt of a LOCA signal. ~~It is advantageous not to bypass some valves, such as valves necessary for safe shutdown that are not involved in accident mitigation.~~ The proposed change clarifies that the plant has several different types of thermal overload bypass circuitry. All modes of bypass circuitry discussed in the FSAR revision comply with Regulatory Guide 1.106. 4/12/84

II.A.d The probability or consequences of a malfunction of equipment important to safety are not increased by this FSAR change. Since different valves have different service requirements, different types of thermal overload protection override are needed. The change to FSAR section 7.1.2.6.22 describes the different thermal overload bypass circuitry that is used in the plant. There is no change to the plant equipment or configuration. See also II.A.a.

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-37
SCN No. 3067

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy f the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[✓] No - Answer Question B.

IFR 4/7/84

B. Is an evaluation of this change required?
[✓] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: _____

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: The change to valve EZIF012-A is editorial since
[✓] No it corrects an obvious typographical error. → (continued)

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: Refer to item "a" above.
[✓] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: Refer to item "a" above.
[✓] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: Refer to item "a" above.
[✓] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: Refer to item "a" above.
[✓] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: Refer to item "a" above.
[✓] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: The proposed changes do not affect the Technical
[✓] No Specifications and therefore do not reduce the margin of safety in the Technical Specification.

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: The changes do not affect the control or release of

[✓] No effluents. The EPP is therefore not affected.

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: Refer to item "a" above.

[✓] No

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: Refer to item "a" above.

[✓] No

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: Refer to item "a" above.

[✓] No

NS-84-37
CW 3067
IFR 4/7/84

PART III - REVIEW/CONCURRENCE

A. Originating Organization

Steven W. Rose 4/6/84
Originator/Date

Paul V. Hall 4/6/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number _____

(See PMI-84/4973 for signatures)

Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

JO Smith 4/16/84
Reviewer/Date

JRMcKay 4/17/84
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

Eric J. Shelton 5/15/84
Responsible Licensing Engineer/Date

Paul V. Hall for TGC 5/15/84
Manager of Nuclear Licensing/Date

FSAR UPDATE

NS-84-37
CN 3067
IFR 4/7/84

Part II - Evaluation

A. Safety

a. (continued): The incorrect power supply designation and the mislabeled valve locations are being changed to reflect the actual plant design. These changes will not affect the operation of these valves or their ability to perform their safety function. The required diversity of power or redundancy of isolation barriers has not been changed. Since the changes do not affect the actual valves installed and relied upon to meet the NRC requirements, the proposed changes do not increase the probability or consequences of an accident, create a new type of accident or increase the likelyhood of a valve malfunction.

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-~~34~~ 30
SCN No. CN 3068

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[✓] No - Answer Question B.

FSAR UPDATE

B. Is an evaluation of this change required? (FR 4/2/84)
[✓] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: _____

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: See attached sheet
[✓] No

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: See attached sheet
[✓] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: See attached sheet
[✓] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See attached sheet
[✓] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See attached sheet
[✓] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: See attached sheet
[✓] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: See attached sheet
[✓] No

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: Isolation valve power sources are not addressed in the Environmental Protection Plan so no change is required.

[✓] No

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: The corrations to the power sources will not have an adverse environmental impact.

[✓] No

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: The proposed changes do not change the effluents or power level.

[✓] No

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: The corrections to the power sources will not have an adverse environmental impact.

[✓] No

FSAR UPDATE

NS-84-34-034

CN 3068

PART III - REVIEW/CONCURRENCE

A. Originating Organization

B. D. Beasley 4-6-84
Originator/Date

Paul V. Hobbs 4/6/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number NA

Kenneth Hughey 5/17/84
Reviewer/Date

Gary D. Smith 5-17-84
Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

J O Smith 4/16/84
Reviewer/Date

R R McKay 4/17/84
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

Eric J. Hobbs 5/16/84
Responsible Licensing Engineer/Date

5/17/84 PVH 5/17/84
5/18/84

Paul V. Hobbs for JGC
Manager of Nuclear Licensing/Date

FSAR UPDATE
NS-84-~~34~~-3034
CN 3068 CI 7/6/84 EJS
IER 4/7/84

Part II.A

The proposed changes to FSAR Table 6.2-44 correct a typographical error and inadvertent omission of power sources. The power sources for Refueling Water Transfer Pump Suction are reversed. The power source for the RCIC Turbine Exhaust Vacuum Breaker was inadvertently omitted. These two corrections reflect the actual plant design. The correction of the reversal of power sources maintains the required redundancy of the isolation valves. These changes will not affect the ability of these valves to perform their safety function. There is no change to the plant configuration or equipment, and the changes reflect the actual plant design and analyses.

For the above reasons, this FSAR change has no effect on the probability or consequences of an accident, nor is the likelihood of equipment malfunction increased. Since the change is consistent with T.S. 3/4.6.4, and for the above reasons, the margin of safety in the T.S. Bases has not been reduced. 5/16/84

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. US-84-35
SCN No. 3069

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[✓] No - Answer Question B.

FSAR UPDATE IFA 4/2/84

B. Is an evaluation of this change required?
[✓] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: _____

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: See attached sheet
[✓] No

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: See attached sheet
[✓] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: See attached sheet
[✓] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See attached sheet
[✓] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See attached sheet
[✓] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: See attached sheet
[✓] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: See attached sheet
[✓] No

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: The Environmental Protection Plan does
[✓] No not address isolation valves so no change is required

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: The changes to Table 6.2-44 will have
[✓] No no adverse environmental impact.

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: This FSAR change does not concern a
[✓] No change in effluents or power level.

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: The changes to Table 6.2-44 will have
[✓] No no adverse environmental impact.

FSAR UPDATE

US-84-35
ca 3069
IFA 4/84

PART III - REVIEW/CONCURRENCE

A. Originating Organization

B. L. Beasley 4-6-84
Originator/Date

Paul V. Hobbs 4/6/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number NA

Kenneth Hughey 5/16/84
Reviewer/Date

Doug W. Smith 5-17-84
Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

L O Smith 4/16/84
Reviewer/Date

A R McKay 4/17/84
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Shelton 5/16/84
Responsible Licensing Engineer/Date

Paul V. Hobbs for JGC 5/17/84
Manager of Nuclear Licensing/Date

NS-84-35 CI 5/16/84 EJS
CN 3169
ICN 4/1/84

Part II.A

The changes to FSAR Table 6.2-44 are editoral changes made for consistency and clarification. The normal flow direction for some systems is corrected to clearly indicate which valves in that system have which direction of flow. The normal flow direction has no impact on any aspect of containment isolation. The table is changed to reflect the actual plant design and analyses. There is no change to the plant configuration or equipment

For the above reasons, this FSAR change has no effect on the probability or consequences of an accident or the likelihood of an equipment malfunction. Since direction of flow is not addressed in the Tech. Specs., as well as for the above reasons the margin of safety in the T.S. Bases has not been reduced. 5/16/84

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. US-84-36
SCN No. 3070

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

B. Is an evaluation of this change required? IFR 4/3/84
[X] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: N/A

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: THE ONLY ACCIDENT REQUIRING OPERATION OF THE SLCS
[X] No IS A FAILURE FOR CONTROL RODS TO INSERT. THE PROBABILITY OF THIS ACCIDENT DOES NOT DEPEND ON THE VOLUME OF SOLUTION.

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: THE REVISED FSAR FIGURE REFLECTS THE ACTUAL
[X] No VALUES USED IN THE FSAR ACCIDENT EVALUATIONS.

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: SEE ITEM II.A.b, ABOVE.
[X] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: SEE ITEM II.A.b, ABOVE.
[X] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: SEE ITEM II.A.b, ABOVE.
[X] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: SEE ITEM II.A.b, ABOVE.
[X] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: THE FSAR IS BEING REVISED TO AGREE
[X] No WITH TECH. SPEC. 3/4.1.5 AND ITS BASIS.

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: THE SLCS DOES NOT INTERACT WITH THE
[X] No ENVIRONMENT IN ANY WAY.

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: SEE ITEM II.B.a, ABOVE.
[X] No

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: THE SLCS DOES NOT AFFECT EFFLUENTS OR
[X] No POWER LEVEL.

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: SEE ITEM II.B.a, ABOVE.
[X] No

PART III - REVIEW/CONCURRENCE

NS-84-36
CN 3070

A. Originating Organization

E. J. Shelton 4/6/84
Originator/Date

IFR 4/7/84
Paul V. Hobbs 4/6/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number _____

(See PM1-84/4973 for signatures)

Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

[illegible] 4/16/84
Reviewer/Date

J R McKay 5/15/84
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Shelton 5/15/84
Responsible Licensing Engineer/Date

for JGC
Paul V. Hobbs 5-5-84
Manager of Nuclear Licensing/Date

FSAR7sd2

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-39
SCN No. 3073

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[✓] No - Answer Question B.

B. Is an evaluation of this change required?
[✓] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: JFR 4/10/84

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: See Attached Sheet
[✓] No

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: See Attached Sheet
[✓] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: See Attached Sheet
[✓] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See Attached Sheet
[✓] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See Attached Sheet
[✓] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: See Attached Sheet
[✓] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: See Attached Sheet
[✓] No

3073

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: Nothing in the Environmental Protection Plan
[✓] No is based on isolation valve closure times so no change is required.

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: The modifications to closure times will
[✓] No not result in a significant adverse environmental impact.

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: The changes to Table 6.2-44 do not
[✓] No concern a significant change in effluents or power level.

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: The changes to isolation valve closure
[✓] No times will not have a significant adverse environmental impact.

PART III - REVIEW/CONCURRENCE

A. Originating Organization

B. D. Beasley 4-7-84
Originator/Date

IFA 4/10/84
Paul V. Hobbs 4/7/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number _____

(See PMI-84/4973 for signatures)
Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

[signature] 4-17-84
Reviewer/Date

[signature] 4/17/84
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Shelton 5/15/84
Responsible Licensing Engineer/Date

[signature] for JGC 5/16/84
Manager of Nuclear Licensing/Date

Part II.A

The proposed changes to FSAR Table 6.2-44 do not increase the probability of occurrence or consequences of an accident, or malfunction of equipment. A defense of this conclusion is provided below for each category of change to the isolation valve closure times.

Valve closure times should be marked "N/A" for those containment isolation valves which do not receive automatic isolation signals. This is consistent with information provided elsewhere in Table 6.2-44 and has no significance. For consistency with the Technical Specifications, valves with fractional closure times have been rounded to the nearest whole number. The valves do not have analytically based closure times, so no safety analyses are affected.

For consistency with the Technical Specifications, references to "Max/min" closure times are revised to specifically address the range of values. No safety analyses are impacted; therefore these changes are not significant. The revision of valve closure times to agree with the Technical Specifications for those valves which are not addressed in safety analyses is not significant. The revision of closure times for valves which impact safety analyses have been made in compliance with the bases and assumptions of these analyses. Revised values are consistent with the Technical Specifications and do not increase the probability or consequences of an accident or equipment malfunction.

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84--40
SCN No. 3074

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[✓] No - Answer Question B.

B. Is an evaluation of this change required? JFR 4/10/84 CI 5/16/84 EF
[✓] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: _____

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: See Attached Sheet
[✓] No

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: See Attached Sheet
[✓] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: See Attached Sheet
[✓] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See Attached Sheet
[✓] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See Attached sheet
[✓] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: See Attached Sheet
[✓] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: ~~See Attached Sheet~~ Change is consistent with Tech. Spec. 3/4.3.2.
[✓] No

5/16/84

 3074

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: The Environmental Protection Plan does not address valve isolation signal so no change is required.

[✓] No

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: The changes to Table 6.2-44 will have no adverse environmental impact.

[✓] No

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: The changes do not concern a change in effluents or power level.

[✓] No

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: The changes to Table 6.2-44 will have no adverse environmental impact.

[✓] No

PART III - REVIEW/CONCURRENCE

A. Originating Organization

B. G. Beasley 4-6-84
Originator/Date

IFR 4/10/84
Paul V. Hobbs 4/9/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number NA

Kenneth Hughey 5/14/84
Reviewer/Date

Gary D. Smith 5-17-84
Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

5-18-84
Reviewer/Date

L R McKay 5/18/84
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Shelton 5/16/84
Responsible Licensing Engineer/Date

Paul V. Hobbs for JGC 5/17/84
Manager of Nuclear Licensing/Date

FSAR UPDATE

Subject of Change

IFR 4/N/84

FSAR Table 6.2-44 provides much information on containment isolation valves. A number of changes are needed to the isolation signal for a number of valves. The changes are grouped below.

a. Change electric motor operated gate valves from "remote manual" to "N/A" (total of 64)

b. Change manually operated globe valves from "high RV pressure, remote manual, high main steam line pressure, high main steam line flow" to "N/A" (total of 4

c. Add isolation of pneumatically operated globe valve on "low main condenser vacuum" (total of 1)

d. Delete isolation of electric motor operated gate valve on "RV low water level - level 1, high drywell pressure, high containment pressure" (total of 2)

e. Same as above plus delete isolation on "containment spray system actuation" (total of 2)

f. Delete electric motor operated gate valve isolation on "high RV pressure" and add "high drywell pressure" (total of 2)

g. Delete isolation of electric motor operated gate valve on "RHR pump discharge flow - normal, remote manual" and add "N/A" (total of 3)

h. Delete isolation of electric motor operated globe valve on "RV low water level - level 2, high drywell pressure, line break in RHR shutdown and head cooling" and add "N/A" (total of 2)

i. Delete isolation of electric motor operated gate valve on "high RV level, remote manual" and add "N/A" (total of 1)

j. Delete "N/A" isolation of process fluid check valves and add "reverse flow" (total of 3)

k. Delete isolation of electric moter operated gate valve on "high HPCS discharge flow, low HPCS discharge pressure, remote manual" and add "N/A" (total of 1)

l. Delete electric motor operated gate valve on "high temperature at outlet of cleanup system regenerative heat exchanger, SLCS actuated" (total of 3)

m. Delete electric motor operated gate valve on "SLCS actuated" (total of 5)

n. Delete electric motor operated globe valve on "high RCIC pump discharge flow, remote manual" and add "N/A" (total of 1)

o. Delete reference to "N/A" for process fluid operated relief valves and add "none" (total of 5)

3074

FSAR UFI

Part II. A

FR 4/10/87

The changes to FSAR Table 6.2-44 have no adverse impact on any aspect of containment isolation. The changes are made to reflect the actual plant design and analyses. The changes will have no adverse impact on the proper performance of each valves' safety function. Much of the information in Table 6.2-44 is also contained in FSAR Table 1.7-1. Table 6.2-44 merely gives a summary of data provided elsewhere. There is no change to the plant configuration or equipment. For these reasons, the changes to FSAR Table 6.2-44 have no effect on the probability or consequences of an accident, or the likelihood of an equipment malfunction.

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-41
SCN No. 3075

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

NS-84-41
CN 3075
LFDL 4/10/84

B. Is an evaluation of this change required?
[X] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: N/A

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: THE REVISED MBA ANALYSIS ASSUMES NO CHANGE
[X] No IN THE PROBABILITY OF OCCURENCE OF THE ACCIDENT FROM THE OLD ANALYSIS.

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: THE REVISED ANALYSIS REACHES THE SAME CONCLUSION
[X] No AS THE OLD ONE, i.e., NO FUEL DAMAGE OCCURS AS A RESULT OF THIS ACCIDENT.

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: THIS IS A REVISION TO AN ACCIDENT ANALYSIS
[X] No ALREADY IN THE FSAR, AND THE CONSEQUENCES WERE FOUND TO BE NO MORE SEVERE.

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: SEE ITEM II.A.a, ABOVE.
[X] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: SEE ITEM II.A.b, ABOVE.
[X] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: SEE ITEM II.A.c, ABOVE.
[X] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: SEE ATTACHED.
[X] No

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: THE ENVIRONMENTAL PROTECTION PLAN DOES
[X] No NOT ACCIDENT ANALYSES.

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: THE REVISED ACCIDENT ANALYSIS REACHES THE
[X] No SAME CONCLUSION AS THE OLD ONE, WHICH IS THAT NO FUEL DAMAGE OCCURS AND THEREFORE, THERE IS NO IMPACT.

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: See ITEM II.B.b, ABOVE
[X] No

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: SEE ITEM II.B.b, ABOVE.
[X] No

NS-84-41

CN 3075

IFR 4/10/84

PART III - REVIEW/CONCURRENCE

A. Originating Organization

E. J. Shetler 4/7/84
Originator/Date

Paul V. Hoh 4/9/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number

(See PM1-84/5208 for signatures)

Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

4-17-84
Reviewer/Date

J. M. McKay 4/17/84
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Shetler 5/15/84
Responsible Licensing Engineer/Date

Paul V. Hoh for TGC 5/16/84
Manager of Nuclear Licensing/Date

NS-84-41
CN 3075
JFRY/10/84

II.A.9. THE MARGIN OF SAFETY DEFINED IN THE BASIS FOR TECH. SPEC. 3/4.2.3 IS BASED ON THE DIFFERENCE IN THE MCPR FOR THE LIMITING TRANSIENT OR ACCIDENT AND THE SAFETY LIMIT OF 1.06. THE REVISED MBA ANALYSIS HAS DETERMINED THAT IF THE REACTOR IS OPERATED AT THE TECH. SPEC. LIMIT OF MCPR = 1.18, THEN THE LOWEST MCPR WOULD BE NO LESS THAN 1.08. THEREFORE, THE MBA IS NOT THE LIMITING CASE FOR THIS TECH. SPEC. MARGIN, AND THE MARGIN OF SAFETY FOR THE 1.18 MCPR LIMIT IS MAINTAINED.

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-34-43
SCN No. 3077

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

B. Is an evaluation of this change required?
[X] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: N/A

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: THIS CHANGE CORRECTS THE FSAR TO SHOW THE
[X] No PLANT AS DESIGNED, BUILT, AND ANALYZED. THE VALVE CONFIGURATIONS ARE IN ACCORDANCE WITH NRC GUIDELINES.

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: SEE PART II.A.a, ABOVE.
[X] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: SEE PART II.A.a, ABOVE.
[X] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: SEE PART II.A.a, ABOVE.
[X] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: SEE PART II.A.a, ABOVE.
[X] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: SEE PART II.A.a, ABOVE.
[X] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: THESE CHANGES ARE CONSISTENT WITH TECH.
[X] No SPEC. 3/4.6.4 AND ITS BASIS.

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: THE ENVIRONMENTAL PROTECTION PLAN DOES NOT

[X] No ADDRESS CONTAINMENT ISOLATION VALVES AND, THEREFORE, DOES NOT REQUIRE REVISION.

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: THE CHANGE TO THE FSAR CORRECTS ERRORS TO

[X] No REFLECT THE ACTUAL DESIGN AS ANALYZED PREVIOUSLY. THE VALVES CONFORM TO NRC GUIDELINES.

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: THE POSITIONS OF THESE VALVES UPON A POWER

[X] No LOSS WILL NOT AFFECT EFFLUENTS OR POWER.

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: SEE PART II.B.b, ABOVE.

[X] No

US-84-47

CN 3077

IFA 4/10/84

PART III - REVIEW/CONCURRENCE

A. Originating Organization

E. J. Shott 4/3/84
Originator/Date

Paul V. Hobbs
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number _____

(See PMI-84/4973 for signatures)
Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

J. Baker 4-17-84
Reviewer/Date

M. McKay 4/17/84
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Shott 5/15/84
Responsible Licensing Engineer/Date

Paul V. Hobbs for SGC 5/16/84
Manager of Nuclear Licensing/Date

FSAR7sd2

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-45
SCN No. 3080

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

B. Is an evaluation of this change required?
[X] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: _____

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: The ranges being revised here reflect the plant as actually
[X] No designed and analyzed. The specific setpoint itself is not being revised.

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: See a.
[X] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: See a.
[X] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See a.
[X] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See a.
[X] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: See a.
[X] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: This change makes the FSAR consistent
[X] No with Tech Spec Table 3.3.2-1.

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: Instrument ranges are not in the EPP.

[X] No

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: Instrument ranges have no impact on

[X] No environmental releases or effluents.

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: Instrument ranges have no effect on effluents

[X] No or power level.

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: See a.b. and c. above.

[X] No

NS-84-95

CN 3080

IFN 4/18/84

PART III - REVIEW/CONCURRENCE

A. Originating Organization

Paul V. Hoban 4/10/84
Originator/Date

Paul V. Hoban 4/10/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number _____

(See PNL-84/4973 for signatures)
Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

4-17-84
Reviewer/Date

4/17/84
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

5/15/84
Responsible Licensing Engineer/Date

for JCC 5/16/84
Manager of Nuclear Licensing/Date

GRAND GULF NUCLEAR STATION UNIT ONE
CHANGES, TESTS OR EXPERIMENTS
SAFETY AND ENVIRONMENTAL EVALUATION FORM

Originator W. E. Edge
Document Evaluated OQAM, Rev. 3
References FSAR Chapter 17.2
10 CFR 50, App. B
Attachments

Description The Operational Quality Assurance Manual (OQAM) was reviewed (Revision 3) to update the QA Program based on experience at GGNS. This OQAM controls all safety-related activities at GGNS and is described in Chapter 17.2 of the FSAR.

I. SAFETY EVALUATION

TECHNICAL SPECIFICATIONS

A. ☐ YES ☒ NO 1. Implementation or performance of the action described in the evaluated document will require a change to the GGNS Unit One Technical Specifications.
Basis: No changes made which are covered in GGNS Technical Specifications except an interpretation of T.S.6.5.8 (Policy 18.5.13).

UNREVIEWED SAFETY QUESTION

B. Implementation or performance of the action described in the evaluated document will:

☐ YES ☒ NO 1. increase the probability of occurrence of an accident previously evaluated in the FSAR.
Basis: The changes made do not alter or diminish the basic controls; only alternate methods of accomplishing required activities have been specified

☐ YES ☒ NO 2. increase the consequences of an accident previously evaluated in the FSAR.
Basis: Since the manner of controlling activities which could affect systems remains equivalent, no change in systems will take place.

☐ YES ☒ NO 3. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
Basis: In each case, if controls were altered, equivalent controls were established. Thus the probability of malfunction should remain the same.

☐ YES ☒ NO 4. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
Basis: No changes were made to systems.

FSAR UPDATE
B
LFR 4-12-84
CN 3081
CR-GS-84-46

Attachment C to PMI-84/4414
Page 5 of 7

☐ YES ☒ NO 5. create the possibility of an accident of a different type than any already evaluated in the FSAR.
Basis: The controls which could affect systems remain unchanged or were replaced with equivalent controls.

☐ YES ☒ NO 6. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
Basis: No changes were made to systems.

☐ YES ☒ NO 7. reduce the margin of safety as defined in the basis for any technical specification.
Basis: No changes were made to systems.

ENVIRONMENTAL EVALUATION

ENVIRONMENTAL PROTECTION PLAN

A. ☐ YES ☒ NO 1. will require a change in the Environmental Protection Plan.
Basis: Not included in the Environmental Protection Plan.

B. UNREVIEWED ENVIRONMENTAL QUESTION

☐ YES ☒ NO 1. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.
Basis: QQAM does not cover these activities.

☐ YES ☒ NO 2. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).
Basis: QQAM does not address these areas.

FSAR UPDATE

IFR 4-12-84 B

CN 3081

CR-NS-84-46

☐ YES ☒ NO 3. concerns a matter not previously reviewed and evaluated in the documents specified in D.1. above, which may have a significant adverse environmental impact.

Basis: OOAM does not affect the environment.

William A Rubin 6/2/83
Evaluated by/Date

Reviewed/Approved: J.C. Burgess 6/10/83
Supervisor/Date

Reviewed/Approved: W.E. Ellis 6/10/83
Manager/Date

SAFETY AND LICENSING REVIEW

Reviewed: _____ Reviewing Engineer/Date

Reviewed/Approved: _____ Supervisor of Nuclear Safety/Date

Reviewed/Approved: _____ Manager of Safety and Licensing/Date

RADIOLOGICAL & ENVIRONMENTAL SERVICES REVIEW

Reviewed: _____ Reviewing Engineer/Date

Reviewed/Approved: _____ Supervisor of Environmental Services/Date

Reviewed/Approved: _____ Manager of Radiological & Environmental Services/Date

IER 4-12-84
CN 3081
CR-NS-84-96

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-47
SCN No. 3083

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[✓] No - Answer Question B.

B. Is an evaluation of this change required? FSAR UPDATE
[✓] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: NS-84-47
CN 3083
IEA 4/1/84

PART II - EVALUATION See the attached sheet.

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: See attached.
[✓] No

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: See attached.
[✓] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: See attached.
[✓] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See attached.
[✓] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See attached.
[✓] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: See attached.
[✓] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: This change provides consistency with
[✓] No the tech specs. See attached.

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: It is not included in the Environmental
[✓] No Protection Plan

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: Not ~~applicable~~ included in EPP
[✓] No

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: It does not pertain to the effluent
[✓] No release or power level.

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: It does not have a significant
[✓] No adverse environment impact

PART III - REVIEW/CONCURRENCE

A. Originating Organization

Gautam Sen 4/11/84 — Originator/Date

Paul V. Holmes 4/11/84 — Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number NA

Kenneth Hughey 5/17/84 — Reviewer/Date

[signature] 5/17/84 — Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

[signature] 4-17-84 — Reviewer/Date

L R McKay 4/17/84 — Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Sheth 5/16/84 — Responsible Licensing Engineer/Date

Paul V. Holmes for JGC 5/17/84 — Manager of Nuclear Licensing/Date

AS-84-97
003083

3083

The proposed change in the FSAR Table 7.3-10 will render the FSAR consistent with the present plant design. The proposed change is considered to be conservative, in terms of safety, in that single failure criteria will be met for both MSL high flow trip systems. This constitutes a more stringent limitation than that presently described in the FSAR.

FSAR UPDATE
NS-84-47 CE 5/16/84 EJF
CN 3083
JFR 4/13/84

For the above reasons, this change will not increase the probability of an accident or the consequences of an accident, nor will it increase the likelihood or consequences of an equipment malfunction. 5/16/84

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-48
SCN No. 3084

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

FSAR UPDATE
IFR 4/16/84

B. Is an evaluation of this change required?
[X] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: N/A

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: SEE ATTACHED SHEET.
[X] No

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: SEE ATTACHED SHEET.
[X] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: SEE ATTACHED SHEET.
[X] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: SEE ATTACHED SHEET.
[X] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: SEE ATTACHED SHEET.
[X] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: SEE ATTACHED SHEET.
[X] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: SEE ATTACHED SHEET.
[X] No

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: SEE ALSO BASIS FOR PART II.A. THE EPP

[X] No DOES NOT ADDRESS SURVEILLANCE OF THESE MONITORS.

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: SEE BASIS FOR PART II.A.

[X] No

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: SEE ALSO BASIS FOR PART II.A. SURVEILLANCE

[X] No OF THESE MONITORS WILL NOT AFFECT POWER LEVEL.

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: SEE BASIS FOR PART II.A.

[X] No

FSAR UPDATE

NS-84-48 CN 3048 IAR 4/16/84

PART III - REVIEW/CONCURRENCE

A. Originating Organization

E. J. Shetler 4/13/84
Originator/Date

Paul V. Hubbard 4/14/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number NA

Kenneth Hughey 5/17/84
Reviewer/Date

David D. Smith 5/17/84
Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

J. R. [illegible] 4-17-84
Reviewer/Date

J. M. McKay 4/17/84
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Shetler 5/16/84
Responsible Licensing Engineer/Date

Paul V. Hubbard for JGC 5/17/84
Manager of Nuclear Licensing/Date

FSAR UPDATE

NS-84-48	CZ 5/16/84		
CN 3084			
IFR 4/16/84			

BASIS FOR PART II.A

THIS FSAR CHANGE CORRECTS THE DESCRIPTION OF RADIATION MONITOR CHANNEL CHECK AND CHANNEL FUNCTIONAL TEST REQUIREMENTS TO BE CONSISTENT WITH TECH. SPEC. 3/4.3.7.1, WHICH IS CORRECT. THE REQUIREMENTS OF THE TECH. SPECS. ARE MORE CONSERVATIVE BECAUSE THE SURVEILLANCE INTERVALS ARE SHORTER, THEREBY GIVING A HIGHER CONFIDENCE LEVEL THAT THESE MONITORS WILL BE OPERABLE.

For the reasons stated above, this change will not increase the probability or consequences of an accident, nor will it increase the likelihood of an equipment malfunction. Since the change makes the FSAR consistent with the Tech. Specs., the margin of safety in the Tech. Spec. Bases is not reduced. 5/16/84

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-10.
SCN No. CN 3085

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

FSAR UPDATE
IER 4/13/84

B. Is an evaluation of this change required?
[X] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III. N/A

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: See Attached Sheet.
[X] No

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: See attached sheet.
[X] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: See attached sheet.
[X] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See attached sheet.
[X] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See attached sheet.
[X] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: See attached sheet.
[X] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: See attached sheet.
[X] No

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: The Environmental Protection Plan does not
[X] No address drywell leakage testing, so no change is required.

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: The proposed FSAR changes will not have
[X] No an adverse impact on the environment.

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: The changes concerning drywell leak tests
[X] No do not change the plant effluents or power level.

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: See item II.B.b, Above.
[X] No

FSAR UPDATE

NS-84-10

CN 3085

IER 4/13/84

PART III - REVIEW/CONCURRENCE

A. Originating Organization

E. J. Shelton 4/13/84 — Originator/Date

Paul V. Holloman 4/15/84 — Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number ____________

(See PM1-84/4973 for signatures)

Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

[signature] 4-17-84 — Reviewer/Date

L R McKay 4/17/84 — Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Shelton 5/16/84 — Responsible Licensing Engineer/Date

Paul V. Holloman for IGC 5/11/84 — Manager of Nuclear Licensing/Date

FSAR UPDATE

NS-8440 _____ _____
CN 3085 _____ _____
IFR 4/13/84 _____ _____

THE CHANGES TO FSAR SUBSECTION 6.2.6.5.1 DO NOT INVOLVE AN UNREVIEWED SAFETY QUESTION BECAUSE ONLY EDITORIAL CHANGES ARE BEING MADE. THIS SUBSECTION DESCRIBES THE PREOPERATIONAL AND PERIODIC DRYWELL LEAKAGE TESTS AND REFERENCES THE TECHNICAL SPECIFICATIONS AS DEFINING THE PRESSURES FOR THESE TESTS AS WELL AS THE DESIGN LEAKAGE LIMITS BASED ON 10% OF $A/\sqrt{k} = 0.9\ ft^2$ FOR SMALL BREAK ACCIDENTS AND $A/\sqrt{k} = 4.3\ ft^2$ FOR DESIGN BASIS ACCIDENTS. SINCE THE TECHNICAL SPECIFICATIONS DO NOT ADDRESS THE PREOPERATIONAL TESTS, AND SINCE THESE TESTS ARE ADEQUATELY DESCRIBED ELSEWHERE IN THE FSAR, REFERENCES TO THIS TEST AND THE CRITERION OF $A/\sqrt{k} = 4.3\ ft^2$ (WHICH ONLY APPLIES TO THE PREOPERATIONAL TEST) HAVE BEEN DELETED FROM PAGE 6.2-84.

FSAR SUBSECTIONS 6.2.6.3, 6.2.6.4, AND 6.2.6.5 REFER TO A FSAR CHAPTER 16, WHICH WAS TO CONTAIN THE TECHNICAL SPECIFICATIONS; THESE REFERENCES ARE BEING CORRECTED. ANOTHER CLARIFICATION IS MADE TO ELIMINATE ANY CONFUSION ABOUT DRYWELL LEAKAGE TESTS. DRYWELL LEAKAGE TESTS AND DRYWELL STRUCTURAL LEAKAGE TESTS ARE ONE AND THE SAME. TO AVOID CONFUSION, REFERENCES TO "DRYWELL STRUCTURAL LEAKAGE TESTS" ARE CHANGED TO "DRYWELL LEAKAGE TESTS."

SINCE ALL CHANGES BEING MADE TO FSAR SUBSECTIONS 6.2.6.3, 6.2.6.4, AND 6.2.6.5 ARE EDITORIAL CLARIFICATIONS, THE PROBABILITY OR CONSEQUENCES OF ANY ACCIDENT ARE NOT INCREASED, NOR IS THE LIKELIHOOD OF AN EQUIPMENT MALFUNCTION INCREASED.

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-51
SCN No. 3088

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[✓] No - Answer Question B.

B. Is an evaluation of this change required? May/12/84
[✓] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: _____

PART II - EVALUATION

A. SAFETY See the attached sheet.

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: See attached.
[✓] No

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: See attached.
[✓] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: See attached.
[✓] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See attached.
[✓] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See attached.
[✓] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: See attached.
[✓] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: This brings the FSAR into consistency with
[✓] No the tech specs.

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: It is not included in the Environmental
[✓] No Protection Plan

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: It does not arise because it is
[ ] No not a part of the EPP.

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: It has no relationship with effluents
[✓] No or power level.

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: It is not included in the EPP.
[✓] No

NS-84-51

CN 3088

PART III - REVIEW/CONCURRENCE

A. Originating Organization

Gautam Sen 4/12/84 — Originator/Date

Paul V. Holt 4/12/84 — Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number ______

(See DM1-84/5208 for signatures)

Reviewer/Date — Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

[signature] 4-17-84 — Reviewer/Date

S.R. McKay 4/17/84 — Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Shetter 5/16/84 — Responsible Licensing Engineer/Date

Paul V. Holt for JGC 5/16/84 — Manager of Nuclear Licensing/Date

This change of the coolant temperature difference between the dome and the bottom head drain from 145°F to 100°F is considered to be more conservative in terms of safety. Minimizing the temperature difference to 100°F assures less undue stress on the vessel and therefore reinforces a greater reactor vessel structural integrity. It does neither create the possibility of an accident or equipment malfunction, nor increase the consequences of an accident or equipment malfunction previously evaluated since this change imposes a more stringent limitation on the limiting condition for operation.

NS-PY-77
CN 3088
Item 4/3/84

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-52
SCN No. 3089

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[✓] No - Answer Question B.

B. Is an evaluation of this change required? IFR B 4-13-84 CN 3089
[✓] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: CR-NS-84-52

PART II - EVALUATION

See the attached sheet

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis:
[✓] No

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis:
[✓] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis:
[✓] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis:
[✓] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis:
[✓] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis:
[✓] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis:
[✓] No

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.
[ ] Yes Basis: It is not included in the Environmental
[✓] No Protection Plan

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.
[ ] Yes Basis: It does not arise because it is
[✓] No not a part of the EPP.

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).
[ ] Yes Basis: It does not have any effect on
[✓] No effluents or power level.

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.
[ ] Yes Basis: It is not included in the EPP.
[✓] No

PART III - REVIEW/CONCURRENCE

A. Originating Organization

Gautam Sen 4/12/84
Originator/Date

Paul V Hoffman 5/13/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number _____

(See PNL-84-5208 for signatures)
Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

4-18-84
Reviewer/Date

J M McKay 4/17/84
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Sheldt 5/16/84
Responsible Licensing Engineer/Date

Paul V. Hoffman for JGC 5/16/84
Manager of Nuclear Licensing/Date

FER 4-13-84
CN 3089
CR-NS-84-52

This FSAR change addresses the nominal setpoints of APRM system making them consistent with the GE specifications and the Technical Specifications. Since the Technical specification values represent the required setpoints for different plant conditions and this reflect the plant as designed and analyzed, this FSAR change does neither increase the possibility of an accident and a malfunction of equipment nor increase the consequences of an accident and a malfunction of equipment important to safety.

Since this change results in incorporating Technical Specification values, it does not reduce the margin of safety.

[illegible]

B

IFR 4-13-84 _____ _____

CN 3089 _____ _____

CR-NS-84-52 _____ _____

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NPEFSAR-84/0023
SCN No. 3091

UPDATE

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

IFR 4/16/84

B. Is an evaluation of this change required?
[X] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: N/A

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis:
[X] No This change will show that loss of one ADS valve will not cause max. cladding temperature to be exceeded.

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis:
[X] No Loss of one ADS valve will still allow depressurization fast enough to prevent exceeding peak cladding temperature.

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis:
[X] No For ADS the limiting factor is a small break. The analysis showed ADS would still allow depressurization without exceeding peak cladding temperature.

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis:
[X] No With 7 operable ADS valves, depressurization of the RPV would still be fast enough to allow low pressure ECCS systems to inject water in the required time.

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis:
[X] No Fuel rod peak cladding temperature (PCT) will not be exceeded so changes in rate will not occur due to one ADS valve out of service.

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis:
[X] No Loss of one ADS valve will depressurize allow RPV depressurization fast enough to allow low pressure ECCS systems to prevent exceeding PCT.

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis:
[X] No This FSAR change results from an analysis which showed that Gen. Elec. is OK to allow one ADS valve out of service for 14 days.

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84 04/09 15:45 201 *BURROUGHS SALES HOUSTON 27*

FSAR UPDATE

NPEFSAR-84/0003
CN 3091
IRR 4/16/84

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: _____

[X] No Rod cladding temperature will not be exceeded, so fuel damage will not occur, and an increase in radiation will not be seen.

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: _____

[X] No Shutdown will still be obtainable with one ADS valve out of service without exceeding PCT and no additional releases will result.

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: _____

[X] No Will not have effect on power generation, but deals with safe shutdown of reactor.

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: _____

[X] No Fuel rod integrity will not be impaired due to loss of one ADS valve and additional releases will not result from this change.

PART III - REVIEW/CONCURRENCE

A. Originating Organization

Rick L Patterson /NPE/ 4-7-84
Originator/Organization/Date

E Rimas 4/7/84
Section Manager/Supervisor/Date

NP&L - NPE Concurrence

_____
NPE Responsible Engineer

(For Contractor Originated PCR's)

B. Nuclear Safety and Compliance

Safety Review Action Serial Number _____

(See PNH-84/4973 for signatures)

Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

NA
Reviewer/Date

NA
Manager of Radiological & Environmental Services/Date

ORIGINATED BY NPE.
PNH 5/16/84

D. Nuclear Licensing

Eric J. Shelton 5/16/84
Responsible Licensing Engineer/Date

NA
Manager of Nuclear Licensing/Date

FSARIled2

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-55
SCN No. 3094

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[✓] No - Answer Question B.

IFR 4-18-84

B. Is an evaluation of this change required? CN 3094
[✓] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: NS-84-55

PART II - EVALUATION

See the attached sheet.

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: See attached
[✓] No

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: See attached
[✓] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: See attached
[✓] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See attached
[✓] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See attached
[✓] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: See attached
[✓] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: See attached
[✓] No

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.
[ ] Yes Basis: It is not included in the Environmental Protection Plan (EPP)
[✓] No

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.
[ ] Yes Basis: It is not a part of EPP.
[✓] No

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).
[ ] Yes Basis: It does not affect the effluents or power level.
[✓] No

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.
[ ] Yes Basis: It is not a part of EPP.
[✓] No

PART III - REVIEW/CONCURRENCE

A. Originating Organization

Gustavo Gn 4/17/84
Originator/Date

Paul V. Hall 4/17/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number _____

(See PM1-84/5208 for signatures)
Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

5-19-84
Reviewer/Date

J R McKay 5/25/84
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Shetts 5/16/84
Responsible Licensing Engineer/Date

Paul V Hall for JGC 5/17/84
Manager of Nuclear Licensing/Date

IFR 4-19-84
CN 3094
NS-84-45

FSAR7sd2

(1)e

IFR 4-18-84
CN 3094
NS-84-55

Evaluation for SGTS Change Request

The proposed change to FSAR subsection 7.3.1.1.8.2 revises the description of the events that take place following SGTS initiation to clarify that both trains will not start given a manual SGTS initiation signal. The existing description implies that a manual SGTS initiation will cause both trains to start, however, a manual initiation of one of the SGTS control systems will only start the equipment associated with that control system train.

The proposed change to the FSAR is not the result of a design change to the SGTS. The SGTS logic has not been changed. Both SGTS trains will start on an automatic initiation signal as described in the FSAR.

Since the proposed change does not affect the as-designed operation of the SGTS, that is, both trains start on an automatic initiation signal and one train starts on a manual signal (used for testing), the proposed change does not change the accident assumptions described in Chapters 6 and 15 of the FSAR. It therefore, will not increase the probability of occurrence or the consequences of an accident.

(2) e

The proposed change does not alter any equipment in the SGTS. It therefore, does not increase the probability or consequences of a malfunction of equipment important to safety or create the possibility of a different type of accident or malfunction.

The proposed change does not affect the GGNS Technical Specifications. It therefore does not reduce the margin of safety in the Technical Specifications.

Note: SER 6.2.2 describes the basis used by the NRC to accept the SGTS design as being adequate to perform its function. The NRC only assumed that one SGTS train was operable to prevent the unfiltered release of radioactivity following an accident. Since the SGTS operation following an accident, that is following an automatic initiation signal, is adequately described in the FSAR, the proposed change to the description of SGTS manual initiation will not affect the basis of the NRC acceptance of the SGTS.

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. _____
SCN No. _____

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[✓] No - Answer Question B.

B. Is an evaluation of this change required?
[✓] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: _____

PART II - EVALUATION

A. SAFETY See the attached sheet

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: See attached
[✓] No

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: See attached
[✓] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: See attached
[✓] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See attached
[✓] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See attached
[✓] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: See attached
[✓] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: See attached
[✓] No

IFR 4-18-84
CN 3096
NS-84-57

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: It is not included in the
[✓] No Environmental Protection Plan (EPP)

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: It is not a part of EPP
[✓] No

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: It has no effect on the
[✓] No effluents and power level.

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: It is not a part of EPP.
[✓] No

PART III - REVIEW/CONCURRENCE

A. Originating Organization

Gautam Sen 4/17/84 / Originator/Date
Paul V. Hall 4/17/84 / Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number _____

(See PMI-84/5208 for signatures)

Reviewer/Date
Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

J. Bath 5-17-84 / Reviewer/Date
F R McKay 5/25/84 / Manager of Radiological & Environmental Services/Date

---

D. Nuclear Licensing

Eric J. Shelton 5/16/84 / Responsible Licensing Engineer/Date
Paul V. Hall for JGC 5/17/84 / Manager of Nuclear Licensing/Date

IFR 4-18-84
CN 3096
NS-84-57

This change in the FSAR section 4.6.3.1.1.5.d deletes the requirement for verifying the accumulator level during operation.

During normal plant operation, the accumulator piston with water above and pressurized Nitrogen below from the Nitrogen cylinder is seated at the bottom of its cylinder. Proper Nitrogen pressure on one side of the accumulator piston ensures the availability of high pressure water on a scram. Since the piston is at the bottom of the accumulator, there is no water level to be verified inside the accumulator.

Therefore, this change makes the FSAR consistent with the Tech Spec section 4.1.3.3a which describes the weekly surveillance of the accumulator pressure only.

It is to be noted, however, that there is a level switch which actuates an alarm if water leaks past the piston barrier and collects in the accumulator instrumentation block.

Since this change reflects the actual plant design and analysis it does not increase the probability or consequences of an accident nor increased the possibility or consequences of a malfunction of an equipment. Since this change reflects the actual design of the plant system, the margin of safety is not reduced.

IFR 4-18-84
CN 3046
NS-84-57

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-60
SCN No. 3099

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

B. Is an evaluation of this change required?
[X] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: N/A

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: THE DESIGNS AND ANALYSES REQUIRING THE FUEL
[X] No ASSEMBLY WEIGHT AS AN INPUT HAVE USED A WEIGHT IN EXCESS of 699 lbs.

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: See above.
[X] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: See above.
[X] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See above.
[X] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See above.
[X] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: See above.
[X] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: THE WEIGHT OF A FUEL ASSEMBLY IS NOT SPECIFICALLY
[X] No ADDRESSED BY TECH. SPECS. SINCE A CONSERVATIVE WEIGHT WAS USED FOR DESIGNING AND ANALYZING FUEL HANDLING EQUIPMENT, THE APPROPRIATE TECH. SPEC. BASES ARE CONSISTENT.

IFR 4-20-84
CN3099
NS-84-60

FSAR7sd1

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: THE WEIGHT OF A FUEL ASSEMBLY HAS NO
[X] No AFFECT ON THE EPP.

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: SINCE THE DESIGN OF FUEL HANDLING EQUIPMENT BOUNDS
[X] No THE 699 lb. WEIGHT, AND THE FUEL HANDLING ACCIDENT ANALYSES BOUND THE 699 lb. WEIGHT, NO INCREASE IN ENVIRONMENTAL IMPACT WILL OCCUR.

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: SEE "a" ABOVE.
[X] No

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: SEE "b" ABOVE.
[X] No

PART III - REVIEW/CONCURRENCE

A. Originating Organization

E. J. Shelton 4/18/84 — Originator/Date

Paul V. Holton 4/19/84 — Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number ____________

(See PMI-84/5292 for signatures)

Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

J. Boh 5-18-84 — Reviewer/Date

LRMcKay 5/25/84 — Manager of Radiological & Environmental Services/Date

---

D. Nuclear Licensing

E. J. Shelton 5/16/84 — Responsible Licensing Engineer/Date

Paul V. Holton for JGC 5/17/84 — Manager of Nuclear Licensing/Date

IFR 4-20-84
CN 3099
NS-84-60

FSAR7sd2

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-61
SCN No. 3100

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[✓] No - Answer Question B.

B. Is an evaluation of this change required?
[✓] Yes - Complete Part II.
~~[ ] No~~ - Enter basis and complete Part III: N.A.

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: THE PROPOSED CHANGES REVISE THE FSAR
[✓] No TO REFLECT THE NORMAL CONTAINMENT AIR TEMPERATURE TO BE CONSISTENT WITH (CONTINUED)

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: REFER TO ITEM "a" ABOVE
[✓] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: THE REVISION TO THE INITIAL TEMPERATURE
[✓] No WAS BEEN SHOWN IN ITEM "a" ABOVE TO BE BOUNDED BY THE EXISTING FSAR (CONTINUED)

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: THE INCREASE IN NORMAL CONTAINMENT
[✓] No TEMPERATURE WAS REVIEWED FOR IMPACT TO THE EQUIPMENT QUALIFICATION ACCIDENT (CONT)

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: EQUIPMENT IS NOT BEING CHANGED WHICH
[✓] No COULD EFFECT THE ACCIDENT CONSEQUENCES.

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: NO DIFFERENT MALFUNCTION TO EQUIPMENT
[✓] No THAN THAT ALREADY REPORTED IN THE FSAR IS CONSIDERED CREDIBLE

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: THE CHANGE IS CONSISTENT WITH THE
[✓] No TECHNICAL SPECIFICATIONS AND THEREFORE, THERE IS NO REDUCTION IS SAFETY.

IFR 4-20-84
CN 3100
NS-84-61

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: NO CHANGES ARE BEING MADE WITHIN COULD AFFECT EFFLUENT RELEASES OR POWER LEVELS AND THEREFORE THERE IS NO EFFECT ON THE EPP

[+] No

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: SEE ITEM "a" ABOVE

[+] No

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: SEE ITEM "a" ABOVE

[+] No

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: SEE ITEM "a" ABOVE

[+] No

PART III - REVIEW/CONCURRENCE

A. Originating Organization

[signature] 4/14/84
Originator/Date

Paul V. Hoth 4/20/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number _____

(See PMI-84/5292 for signatures)
Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

[signature] 5-18-84
Reviewer/Date

S R McKay 5/25/84
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Stelts 5/16/84
Responsible Licensing Engineer/Date

Paul V. Hoth for JGC 5/17/84
Manager of Nuclear Licensing/Date

IFR 4-20-84
CN 3140
NS-84-61

FSAR7s62

II EVALUATION

A SAFETY

a. (CONTINUED): AND SUPPORT THE TECHNICAL SPECIFICATION (TS) LIMIT OF 90°F (TSPS #260) THE CHANGE PROPOSED TO FSAR PAGE 6.2-28 CLARIFIES THAT A MORE REALISTIC CONTAINMENT NEGATIVE PRESSURE ANALYSIS HAS BEEN PERFORMED TO SUPPORT THE 90°F STATED IN TS 3/4.6.1.8. THIS ANALYSIS WAS CONDUCTED IN RESPONSE TO ACTION PLAN 27 OF THE MARK III CONTAINMENT ISSUES (HUMPHREY CONCERNS) TRANSMITTED TO THE NRC IN AECM-82/353 DATED AUGUST 19, 1982. IN ADDITION, THE PEAK ACCIDENT CONTAINMENT AIR TEMP OF 185°F IS SUPPORTED BY SIMILAR ANALYSES PERFORMED FOR THE HUMPHREY CONCERNS. SINCE THIS PROPOSED CHANGE ONLY MODIFIES THE INITIAL CONDITION USED IN THE ANALYSIS, IT DOES NOT INCREASE THE PROBABILITY OF AN ACCIDENT.

c. (CONT): ANALYSIS. SINCE THE FSAR IS BOUNDING THE CREATION OF A NEW TYPE OF ACCIDENT IS NOT CONSIDERED CREDIBLE.

IFR 4-20-84
CN 3109
NS-84-61

d. (CONT): PROFILES FOR HARSH ENVIRONMENT. THE RESULTS SHOW THAT THE EXISTING THERMAL PROFILES HAVE INCLUDED SUFFICIENT MARGIN FOR AN INCREASE IN CONTAINMENT AIR TEMPERATURE OF 90°F.

THE NORMAL CONTAINMENT AIR TEMPERATURE OF 90°F WAS ALSO REVIEWED FOR ITS IMPACT ON EQUIPMENT QUALIFIED LIFE. SOME ACCELERATED AGING OF EQUIPMENT WILL OCCUR DUE TO THIS INCREASE, AND THEREFORE, THE EQ PROGRAM WILL REQUIRE REVISION TO FACTOR THIS INCREASED TEMPERATURE INTO THE GGNS NUREG-0588 AGING PROGRAM. BASED ON THE ABOVE JUSTIFICATION AND THE MODIFICATION TO THE E.Q. AGING PROGRAM THE PROBABILITY OF A MALFUNCTION OF EQUIPMENT WILL NOT BE INCREASED FROM THAT EVALUATED IN THE FSAR.

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-62
SCN No. 3101

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

B. Is an evaluation of this change required?
[X] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: N/A

PART II - EVALUATION

A. SAFETY

see attached sheet #8

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: ACCIDENT OCCURRENCE IS NOT AFFECTED BY
[X] No THIS CHANGE.

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: WHILE MONITORING MAY BE LOST WITH A DBA,
[X] No ESF POWER CAN BE RESTORED TO THE RPS BUS AND THUS THE MONITORING.

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: ACCIDENT TYPES ARE NOT AFFECTED BY
[X] No THESE MONITORS

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: COMPONENTS ARE QUALIFIED. PROBABILITY
[X] No OF MALFUNCTION IS NOT AFFECTED BY THIS CLARIFICATION

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: MONITORING SYSTEM SHOULD HAVE NO EFFECT
[X] No ON MALFUNCTION CONSEQUENCES

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: THIS ~~CLARIFICATION~~ IS A MONITORING SYSTEM
[X] No AND DOES NOT CONTRIBUTE TO EQUIPMENT MALFUNCTION

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: THIS CHANGE DOES NOT REDUCE THE ~~BASIS~~ MARGIN
[X] No OF SAFETY AS THE POWER SUPPLY TO THE MONITORS IS NOT ADDRESSED IN THE TECH SPECS.

IFR 4-20-84
CN 3101
NS-84-62

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: Not addressed in EPP

[✓] No

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: As noted in safety evaluation above, neither accident

[✓] No occurrence nor consequences are affected by this change. Change will not affect environment.

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: see (b)

[✓] No

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: see (b)

[✓] No

5/16/84

PART III - REVIEW/CONCURRENCE

A. Originating Organization

GWS for J.G. Burford
Originator/Date

Gary W. Smith 4/20/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number ______

(See PMI-84/5292 for signatures)

Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

[illegible] for G.O. Smith 5-17-84
Reviewer/Date

L.R. McKay 5/17/84
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

Eric J. Shelton 5/16/84
Responsible Licensing Engineer/Date

Paul V. [illegible] for JGC 5/17/84
Manager of Nuclear Licensing/Date

IFR 4-20-84 [illegible]
CN 3101
NS-84-62

ATTACHMENT TO SAFETY EVALUATION FOR FSAR CR ON
SUPPRESSION POOL TEMPERATURE MONITORING SYSTEM

This change clarifies the fact that the suppression pool temperature monitoring system is powered from the RPS Power System. This power system is fed from the RPS motor-generator sets with the capability to be alternately fed from an ESF MCC. In the event of the motor generator sets becoming unavailable (maintenance, failure) the operator can switch, from the control room, to the alternate feed as long as offsite power is available. In the event of a loss of offsite power, however, re-establishing power to the RPS bus requires additional manual actions at local panels to realign breakers. This action is estimated to take less than 10 minutes and the procedure is outlined in the plant procedure for loss of offsite power.

Because power and thus monitoring capability can be restored in a short period of time and because no operator action is assumed to occur in response to the indication for 10 minutes, this change is not considered to increase probability or consequences of an accident or equipment malfunction.

IFR 4-20-84
CN 3101
NS-84-62

In support of this change notice safety evaluation various accident evaluations have been reviewed. The intent was to determine whether the analyzed accidents produced vessel pressure-suppression pool temperature combinations which exceeded the heat capacity temperature limit (HCTL) of the suppression pool. The HCTL curve may be found in GGNS Emergency Procedure 05-S-01-EP-3, Figure C.

For a large break LOCA the vessel depressurizes rapidly. For a small break LOCA the vessel depressurization is slower and the suppression pool temperature has time to respond to the heat input from the accident while the vessel is at high pressures. The accident response curves showing reactor vessel pressure in Section 6.3 of the FSAR (specifically, Figures 6.3-15, 25, 33, 41, 45, 49, 57, 61, 65 and 75) cover a range of break sizes and failure assumptions. In each case except the steamline break outside containment, the reactor pressure is below 150 psig well within 10 minutes. During this period no operator action is assumed. At the end of this period, further depressurization which would be the action taken based on exceeding the HCTL, would not be required (i.e., at low vessel pressures operator action is not required regardless of pool temperature).

5/16/84

In addition, FSAR Q021.7 requested additional information with respect to the pool temperature limit. In response to this question three new sets of curves were developed:

a. SORV event
b. depressurization from isolation event
c. small break event

For each event, curves of vessel pressure and suppression pool temperature versus time were developed. This information can be used to demonstrate that the temperature limit will not be exceeded during the initial 30 minutes following the event. While some operator action based on pool temperatures is assumed in the event descriptions (i.e., additional SRV's are opened when the pool gets to 120°F) the curves demonstrate that safe limits as defined by the HCTL are not exceeded.

Based on a review of these analyses results the possible loss of suppression pool temperature monitoring for approximately 20-30 minutes should not compromise plant safety.

FSAR UPDATE
CI 5/16/84 EP

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-64
SCN No. 3103

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

B. Is an evaluation of this change required?
[X] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: _____

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: THE PROPOSED CHANGES CORRECT EXISTING ERRORS ON FSAR FIGURE 14.2-4; "START UP TEST CONDITION THERMAL POWER VS CORE FLOW" MAP. (CONT)
[X] No

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: SEE "a" ABOVE
[X] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: SEE "a" ABOVE
[X] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: SEE "a" ABOVE
[X] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: SEE "a" ABOVE
[X] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: SEE "a" ABOVE
[X] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: SEE "a" ABOVE
[X] No

CN 3103
NS-84-64
Rev 5-24-84

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: See "A. a" on previous page

[X] No

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis:

[X] No

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis:

[X] No

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis:

[X] No

PART III - REVIEW/CONCURRENCE

A. Originating Organization

5/29/84
Originator/Date

5-29-84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number NA

Kenneth Wigley 6/11/84
Reviewer/Date

6-11-84
Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

N.A.
Reviewer/Date

N.A.
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

1/24/85
Responsible Licensing Engineer/Date

1/25/85
Manager of Nuclear Licensing/Date

CN 3103
NS-84-64
Rev 5-24-84

PART II A. - (CONTINUED)

SINCE THE EXISTING FSAR FIGURE 14.2-4 IS INCONSISTANT WITH THE STARTUP TESTING PROGRAM DESCRIBED IN THE FSAR SECTION 14.2 TEXT, AND WITH THE STANDARD GENERAL ELECTRIC POWER FLOW OPERATING MAP (ATTACHED), THE PROPOSED CHANGE WHICH CORRECTS THE INCONSISTENCY, WILL NOT INCREASE THE PROBABILITY OF OCCURANCE OF AN ACCIDENT PREVIOUSLY EVALUATED IN THE FSAR. DUE TO THE NATURE OF THIS CHANGE NO OTHER SAFETY OR ENVIRONMENTAL EVALUATION SECTIONS ARE AFFECTED. LIKEWISE, THE MARGIN OF SAFETY AS DEFINED IN THE BASIS OF THE TECHNICAL SPECIFICATIONS WILL NOT BE REDUCED, SINCE THIS CHANGE IS A CORRECTION TO AN EXISTING FSAR CLERICAL ERROR.

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. PLS-8402
SCN No. 3104

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

B. Is an evaluation of this change required?
[X] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: N/A

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: The subject trips are bypassed upon an ECCS actuation signal.
[X] No The effects of the trips not being bypassed is of concern after the LOP has occurred.

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: In the Loss of AC Power (15.2.6) operation of ECCS (HPCS)
[X] No was not simulated on the analysis since its operation occurs beyond the concerns of fuel thermal margin & over pressure effects.

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: See b.
[X] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: The automatic trips not being bypassed does not increase
[X] No the probability of a malfunction. (see e)

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: During a LOP the probability of a D/G trip as a result of a
[X] No malfunction is increased. However actuation of HPCS was not simulated in the accident analysis (see b).

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: (see e)
[X] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: Tech Spec 4.8.1.1.2.d.8 only requires the listed automatic
[X] No trips to be bypassed upon an ECCS actuation signal.

FR 4-24-84
CN 3104
-84-02

CI 5/13/84

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: _____

[X] No _____

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: _____

[X] No _____

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: _____

[X] No _____

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: _____

[X] No _____

PART III - REVIEW/CONCURRENCE

A. Originating Organization

Ron Byrd / 1-25-83 — Originator/Date

[signature] 1/25/83 — Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number _____

Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

Reviewer/Date

Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

Responsible Licensing Engineer/Date

Manager of Nuclear Licensing/Date

AFR 4-24-84
CN 3104
PLS-84-02

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. PS-84-02
SCN No. 3104

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[ ] No - Answer Question B.

B. Is an evaluation of this change required?
[ ] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: _____

C15/17/84
CN3104

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: This change only comes into play after loss of offsite
[X] No power and has no effect on the initiation of any accident previously evaluated.

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: Consequences of an accident are not changed as
[X] No the trips are bypassed on a LOCA signal and the HPCS pump is not required to function on just a loss of offsite power.

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: This change only effects HPCS. Loss of HPCS
[X] No is already evaluated.

5/17/84

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: Inclusion of the additional trips during a loss of offsite
[X] No power event does not effect such probability. It provides protection to the diesel in the event of an equipment malfunction.

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See b & c.
[X] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: See b & c.
[X] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: Tech. Spec. 4.8.1.1.2.d.8 only requires the listed
[X] No automatic trips to be bypassed upon an ECCS actuation signal.

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: _____

[X] No _____

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: _____

[X] No _____

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: _____

[X] No _____

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: _____

[X] No _____

CL 5/17/84

EW 5/16

PART III - REVIEW/CONCURRENCE

A. Originating Organization

E. J. Shelton 5/17/84
Originator/Date

Paul W. Holden 5/17/84
Section Manager/Supervisor/Date

5/17/84

B. Nuclear Safety and Compliance

Safety Review Action Serial Number NA

Kenneth Hughey 5/18/84
Reviewer/Date

Gary W. Smith 5-17-84
Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

N/A
Reviewer/Date

N/A
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

E. J. Shelton 5/17/84
Responsible Licensing Engineer/Date

Paul W. Holden for TGC 5/17/84
Manager of Nuclear Licensing/Date

FSAR7sd2

Approved

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. _____
SCN No. _____

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

B. Is an evaluation of this change required?
[ ] Yes - Complete Part II.
[X] No - Enter basis and complete Part III: SAFETY EVALUATION NOT REQUIRED PER 10 CFR 50.59 AS PRIOR NRC APPROVAL OF CHANGES HAD BEEN OBTAINED. REFER TO AECM-83/0361, 7-21-83 and AECM-83/0483, 8-23-83 (CHANGES ACCEPTED BY NRC PER MAEC-83/0367, 9-23-83 LETTERS ARE ATTACHED.)

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: _____
[ ] No _____

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: _____
[ ] No _____

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: _____
[ ] No _____

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: _____
[ ] No _____

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: _____
[ ] No _____

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: _____
[ ] No _____

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: _____
[ ] No _____

1FR 4-24-84
CN 3107
PLS-84-05

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: EFFLUENT DISCHARGE LIMITS AS SPECIFIED BY PLANT TECH SPECS
[X] No WILL BE MAINTAINED AT ALL TIMES, THUS THE BASIS OF THE EPP IS UNCHANGED.

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: No significant deviations are intended over and
[X] No above those associated with normal plant operation

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: EFFLUENT DISCHARGES AS A RESULT OF MODIFICATIONS TO THE
[X] No TEST PROGRAM (specifically added SRV testing) are negligible and are within the bounds of previously evaluated conditions

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: AS PLANT OPERATIONAL LIMITS AND ACTIVITIES ARE NOT
[X] No IMPACTED BEYOND THAT ALREADY ANALYZED, NO ADVERSE ENVIRONMENTAL IMPACTS ARE CREATED.

PART III - REVIEW/CONCURRENCE

A. Originating Organization

T. E. [illegible] 1/31/84 — Originator/Date

[signature] 2/29/84 — Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number ____________

Reviewer/Date — Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

Reviewer/Date — Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

Responsible Licensing Engineer/Date — Manager of Nuclear Licensing/Date

IFR 4-24-84
CN 3107
DLS-84-05

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-66
SCN No. ~~3084~~ 3108

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

FSAR UPDATE

B. Is an evaluation of this change required?
[X] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: N/A

See also Item 4.C of ACM-84/0216, attached.

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: The containment spray mode of RHR is used only
[X] No post-LOCA; eliminating the 90-sec. delay between actuation of "A" and "B" has no effect on accident probability.

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: FSAR accident analyses already assume
[X] No simultaneous spray initiation. Analysis shows that the containment can withstand simultaneous actuation.

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: Simultaneous actuation is presently in the FSAR
[X] No analysis.

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See items "a" & "b", above.
[X] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See item "b", above.
[X] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: See item "c", above.
[X] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: The basis for Tech. Spec. 3/4.3.8 assumes
[X] No simultaneous actuation, and Tech. Spec. Table 3.3.8-2 requires simultaneous actuation.

FSAR UPDATE
NS-84-66
CN 3108

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.
[ ] Yes Basis: the EPP does not address ctmt. spray.
[x] No

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.
[ ] Yes Basis: Analysis shows that the containment can
[x] No withstand simultaneous ctmt. spray actuation.

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).
[ ] Yes Basis: Containment spray has no effect on effluents
[x] No or power level.

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.
[ ] Yes Basis: See "b", ABOVE.
[x] No

PART III - REVIEW/CONCURRENCE

A. Originating Organization

[signature] 5/10/84 — Originator/Date

[signature] 5/14/84 — Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number ______

(See PMI-84/6110 for signatures)

Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

[signature] 5-18-84 — Reviewer/Date

SR McKay 5/25/84 — Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

[signature] 5/16/84 — Responsible Licensing Engineer/Date

Paul V. Holl... for JGC 5/17/84 — Manager of Nuclear Licensing/Date

FSAR7sd2

(Attachment to Safety Evaluation of FSAR CN 3.8) C. W. Delaney

MISSISSIPPI POWER & LIGHT COMPANY
Helping Build Mississippi
P. O. BOX 1640, JACKSON, MISSISSIPPI 39205

April 7, 1984

JAMES P. McGAUGHY, JR.
VICE PRESIDENT

FSAR UPDATE
NS-84-66
~~CN 3.8.1~~
CN 3.8

U. S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D. C. 20555

Attention: Mr. Harold R. Denton, Director

Dear Mr. Denton:

SUBJECT: Grand Gulf Nuclear Station
Unit 1
Docket No. 50-416
License No. NPF-13
File: 0260/0840/L-860.0
Proposed Amendment to the Operating License (PCOLs-84/05 & -84/06)
AECM-84/0216

In accordance with the provisions of 10 CFR 50.59 and 10 CFR 50.90, Mississippi Power & Light (MP&L) requests an amendment to License NPF-13, for Grand Gulf Nuclear Station (GGNS) Unit 1.

In accordance with provisions of 10 CFR 50.30, three (3) signed originals and forty (40) copies of the requested amendment are enclosed. The attachment provides the complete technical justification and discussion to support the requested amendment. This amendment has been reviewed and accepted by the Plant Safety Review Committee (PSRC) and the Safety Review Committee (SRC).

Based on the guidelines presented in 10 CFR 50.92, it is the opinion of MP&L that this proposed amendment involves no significant hazards considerations.

In accordance with the requirements of 10 CFR 170.22, we have determined that the proposed amendment is considered to be administrative in nature. Based on the guidance provided by the Project Manager (NRC), we have determined that the total fee is $1,200. A remittance of $1,200 is attached to this letter.

Yours truly,

James P. McGaughy

JPM:rg
Attachments: GGNS PCOLs-84/05 & -84/06

cc: (See next page)

FOR INFORMATION ONLY

4. CONTAINMENT ISSUES (Continued)

C. (MP&L P/L Item No. 033)

SUBJECT: Containment Spray Timer Setpoints, Technical Specification Table 3.3.8 and Bases 3/4.3.8.

DESCRIPTION OF CHANGE: Revisions to Technical Specification 3.3.8 and Bases 3/4.3.8 are proposed to ensure that the technical specifications specify containment spray timer setpoints and allowable values that are consistent with the analyzed minimum and maximum containment spray initiation times.

1. Table 3.3.8-2 should be revised to require that both containment spray system timers have a trip setpoint of 10.85 ± 0.10 minutes and an allowable value of 10.26 - 0.00, + 1.18 minutes. In addition, the System B timer should be footnoted to indicate that the System B timer actually consists of two timers (E12-K093B and E12-K116) and that the trip setpoint for E12-K116 is not to exceed 10.00 seconds of the total 10.85 ± 0.10 minutes. (Page 3/4 3-99)

2. Bases 3/4.3.8 should be revised to refer to the analyzed minimum and maximum time delays between the initiation of the accident and containment spray initiation, which are 10 minutes and 13 minutes, respectively. (Page B 3/4 3-6)

JUSTIFICATION: The containment spray system is a subsystem of the residual heat removal (RHR) system. Two of three RHR trains provide the containment spray function. As described in FSAR Section 6.2.1.1.5.5, the safety analyses assume that containment spray initiates no sooner than 10 minutes and no later than 13 minutes after a loss of coolant accident (LOCA). These values constitute the analytical limits for the initiation of containment spray.

The lower limit of 10 minutes is based on directing RHR pump flow, via the low pressure coolant injection (LPCI) function, to the reactor vessel for at least the first 10 minutes of the postulated accident. This limit is established to ensure an adequate post-LOCA core cooling capability, consistent with the associated safety analyses. After 10 minutes, the analyses permit the diversion of RHR pump flow to the containment spray function. The upper time limit of 13 minutes for initiation of containment spray is related to minimizing post-LOCA containment pressure.

The initiation logic for the two spray trains is slightly different. Train B logic varies from Train A in that it has an additional timer to delay the initiation of that train for up to 90 seconds following the expiration (tripping) of the initial 10 minute timer. This additional time delay is presently provided to prohibit simultaneous spray train initiation.

FSAR UPDATE
NS-84-66
SN 3108

4. CONTAINMENT ISSUES (Continued)

C. (MP&L P/L Item No. 033)

It has been determined that the calculations necessary to establish the overall loop accuracy do not accurately reflect all parameters. With the present timer settings the possibility of exceeding the analytical limits for containment spray initiation exists. To ensure that this does not occur, calculations have been performed to determine new timer setpoints. These new setpoints are shown below:

Timers	Trip Setpoint	Allowable Value
System A	10.85 ± 0.10 min.	10.26 to 11.44 min.
System B	10.85 ± 0.10 min.	10.26 to 11.44 min.

These proposed setpoints and allowable values reflect the elimination of the 90 second time delay from System B. The current safety analyses (FSAR Section 6.2.1.1.4.2) include consideration of the containment response to simultaneous spray train initiation. The results of this analysis demonstrate that containment design requirements are met during this maximum depressurization transient, thus the 90 second time delay for System B initiation is unnecessary.

The bases for the new setpoint and allowable values were determined by General Electric and reviewed and approved by MP&L. For the purpose of calculating the new values, an upper analytical limit of 11.70 minutes was used, (i.e., 13 minutes minus the maximum allowable containment spray isolation valve opening time of 1.30 minutes). The new trip setpoint of 10.85 ± .10 minutes is midway between the lower analytical limit of 10 minutes and the 11.70 minute upper limit.

Implementation of this trip setpoint and corresponding allowable values ensures that the containment spray system will actuate without exceeding either the upper or lower analytical limit.

The proposed footnote for the System B timer will clarify that the new trip setpoint for System B is the sum of the two timers in that system. In addition, the footnote will specify that the present 90-second delay is to be set at a value not to exceed 10.00 seconds.

The proposed addition to the bases will clarify that containment spray initiation is bounded by both an upper and lower analytical limit.

FOR INFORMATION ONLY

FSAR UPDATE
NS-84-66
CN 3108

4. CONTAINMENT ISSUES (Continued)

C. (MP&L P/L Item No. 033)

SIGNIFICANT HAZARDS CONSIDERATION:

These changes have been proposed to render the technical specification and bases consistent with new containment spray timer trip setpoints, allowable values, and analytical limits as presented in FSAR Section 6.2.1.1.5.5. Implementation of these new values will ensure that containment spray will actuate only after the core has received at least 10 minutes of LPCI flow. The new values also ensure that the upper limit of 13 minutes, for containment spray actuation, will not be exceeded.

MP&L considers the change in timer values necessary to correct an error that exists in the present Technical Specifications. The new timer values are consistent with purpose of the containment spray system and therefore are not considered to:

(1) Involve a significant increase in the probability or consequences of an accident previously evaluated; or

(2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or

(3) Involve a significant reduction in a margin of safety.

Thus the proposed changes have been evaluated and determined to involve no significant hazard, as defined in 10 CFR 50.92.

FOR INFORMATION ONLY

TABLE 3.3.8-2

PLANT SYSTEMS ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION		TRIP SETPOINT	ALLOWABLE VALUE
1. CONTAINMENT SPRAY SYSTEM			
a. Drywell Pressure-High		1.39 ≤ ~~1.09~~ psig	1.44 ≤ ~~1.94~~ psig
b. Containment Pressure-High		≤ ~~9~~ psig 7.84	≤ ~~9.2~~ psig 8.34
c. Reactor Vessel Water Level-Low Low Low, Level 1		≥ - 150.3 inches	≥ - 152.5 inches
d. Timers			
1) System A	10.85 ± 0.10	~~10.3 ± .1~~ minutes	10.26 -0.00, +1.18 ~~10 + 1.7, -0~~ minutes
2) System B	10.85 ± 0.10**	~~11.2 ± .2~~ minutes	10.26 -0.00, +1.18 ~~11.5 + .2, -1.5~~ minutes
2. FEEDWATER SYSTEM/MAIN TURBINE TRIP SYSTEM			
a. Reactor Vessel Water Level-High, Level 8		≤ 53.5 inches*	≤ 55.7 inches

*See Bases Figure B 3/4 3-1.

** Setpoint for System B is the sum of E12-K093B plus E12-K116. E12-K116 is not to exceed 10.00 seconds.

FOR INFORMATION ONLY

UPDATE
~5-84-66
CN 3108

3/4.3.7.11 RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

The radioactive liquid effluent monitoring instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in liquid effluents during actual or potential releases of liquid effluents. The alarm/trip setpoints for these instruments shall be calculated in accordance with the procedures in the ODCM to ensure that the alarm/trip will occur prior to exceeding the limits of 10 CFR Part 20. The OPERABILITY and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63 and 64 of Appendix A to 10 CFR Part 50.

3/4.3.7.12 RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

The radioactive gaseous effluent monitoring instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in gaseous effluents during actual or potential releases of gaseous effluents. The alarm/trip setpoints for these instruments shall be calculated in accordance with the procedures in the ODCM to ensure that the alarm/trip will occur prior to exceeding the limits of 10 CFR Part 20. This instrumentation of potentially explosive gas mixtures in the waste gas holdup system. The OPERABILITY and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63 ad 64 of Appendix A to 10 CFR Part 50.

3/4.3.8 PLANT SYSTEMS ACTUATION INSTRUMENTATION

The plant systems actuation instrumentation is provided to initiate action to mitigate the consequences of accidents that are beyond the ability of the operator to control. The LPCI mode of the RHR system is automatically initiated on a high drywell pressure signal and/or a low reactor water level, level 1, signal. The containment spray system will then actuate automatically following high drywell and high containment pressure signals. A 10-minute minimum time delay exists between initiation of LPCI and containment spray actuation. A high reactor water level, level 8, signal will actuate the feedwater system/main turbine trip system.

13-minute maximum

Negative barometric pressure fluctuations are accounted for in the trip setpoints and allowable values specified for drywell and containment pressure - high.

FOR INFORMATION ONLY

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NPE-84-28
SCN No. 3120

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[✓] No - Answer Question B.

B. Is an evaluation of this change required?
[✓] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: (2)

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: This adds a description of an existing design to the FSAR.
[✓] No Incorporation of this section will provide more design information in the FSAR and will not increase the probability occurrence of an accident previously evaluated in FS

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: See response to the item a.
[✓] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: See response to the item a.
[✓] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See response to the item a.
[✓] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: See response to the item a.
[✓] No

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: See response to the item a.
[✓] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: The system is designed to meet or exceed the Safety
[ ] No bases of technical specification.

IFR 6-5-84
CN 3120
NPE-84-28

3120

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: The Environmental Protection Plan does not address
[✓] No the thermal overload ~~unit~~ UPS system ~~unit~~ so no change is required.

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: The proposed addition will have no adverse
[✓] No environmental impact.

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: The proposed addition does not create a change
[✓] No in effluents or power level.

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: The proposed addition will not have any
[✓] No adverse environmental impact.

PART III - REVIEW/CONCURRENCE

A. Originating Organization

emil/aw NPE 4/19/84
Originator/Organization/Date

emil/aw for SPH 4/19/84
Section Manager/Supervisor/Date

MP&L - NPE Concurrence

④
NPE Responsible Engineer

(For Contractor Originated FCR's)

B. Nuclear Safety and Compliance

Safety Review Action Serial Number _____

Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

NA
Reviewer/Date

NA
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

Responsible Licensing Engineer/Date

Manager of Nuclear Licensing/Date

NPE-84-28
CN 3120
NRR 6-5-84

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. PLS-84-11
SCN No. 3129

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

B. Is an evaluation of this change required?
[X] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: _____

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: _____
[x] No see attached justification for FSAR change

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: _____
[X] No see a. above.

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: _____
[X] No see a. above

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: _____
[X] No see a. above

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: _____
[X] No see a. above

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: _____
[X] No see a. above

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: _____
[X] No see a. above

IFR 6-25-84
CN 3129
PLS-84-11

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: _____

[X] No _____

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: _____

[X] No _____

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: _____

[X] No _____

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: _____

[X] No _____

PART III - REVIEW/CONCURRENCE

A. Originating Organization

R. J. Brandon 7-2-84
Originator/Date

Paul V. Hobbs 7/5/84
Section Manager/Supervisor/Date

B. Nuclear Safety and Compliance

Safety Review Action Serial Number NA

Kenneth Hughey 7/20/84
Reviewer/Date

S. W. Smith Jr. for S. H. Hobbs 7/24/84
Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

_____
Reviewer/Date

_____
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

_____
Responsible Licensing Engineer/Date

_____
Manager of Nuclear Licensing/Date

IFR 6-25-84
CN 3129
PLS-84-11

IFR 6-25-84

JUSTIFICATION FOR FSAR Change Notice 3129 CN 3129
Changes to FSAR Section 18.1.30.5 PLS-8411

This response is much more in line with the requirement as stated in NuReg 0737 Section II.k.3.17. The NuReg does not mention an annual report. It only requests data from 5 years of operation. Also, with the present response, MP&L is commited to submitting an annual report for the life of the plant. This is beyond what the NuReg asks for. It says that the NRC will use the data to determine if a change to Technical Specifications is necessary in this area.

There are several advantages, to both MP&L and the NRC, to submitting a single report after 5 years instead of annual reports for several years and then obtaining permission from the NRC to stop. A single report would ensure a single report format for ease and consistency in analysis of the data. It would also ensure that any subjective considerations in the report would be identical over the 5 year span so that eqivalent problems would be considered as equal. A single report would require less administrative effort and paperwork for MP&L and less effort for the NRC to track the several reports and combine them for the final evaluation. The advantage of using the first five years of commerical operation for the report is that it would be more representative of the conditions which will be experienced during the life of the plant. ECCS outage frequency and duration during the initial startup and testing program will normally be much greater than can be expected during the rest of the plant lifetime.

In support of this position, other nuclear power plants were contacted to learn how they satisfied this requirement. Hatch Nuclear Plant had already been operational for several years when NuReg 0737 made the requirement. In January 1981, Hatch sent the NRC a report covering the previous 5 years data. In August 1983, the NRC forwarded a safety evaluation saying that "because their outage times fell within the industry average, there was no need for Technical Specification admendment". No annual reports were submitted or considered during the entire time frame. Susquehana Steam Electric Station had initial criticality in September 1982, a more similar position to that of Grand Gulf. In response to NuReg 0737, Susquehanna commited to make a single cumulative 5 year report after the first 5 years of operation. The commitment made no mention of any additional reports after that. The NRC accepted this position.

Since there is no requirement or reason to submit continuing annual reports, and a single report would be more meaningful and efficient, and since other sites are only submitting one report, MP&L should change this commitment by implementing the proposed FSAR Change.

GRAND GULF NUCLEAR STATION

FSAR/ER CHANGE REQUEST/CHANGE NOTICE EVALUATION

ORIGINATOR	DOCUMENT EVALUATED
CIVIL UNIT 2 R. PERRIN	FSAR SECTION 3.9.4.2

I. SAFETY EVALUATION

Incorporation of the change into the FSAR will:

1. Increase the probability of occurrence of an accident previously evaluated in the FSAR.

☐ YES ☒ NO Basis: THE INCLUSION OF SPECIFIC WELD UNDERCUT REQUIREMENTS WILL NOT INCREASE THE PROBABILITY OF AN ACCIDENT. THESE REQUIREMENTS SHALL ENSURE THAT WELDS HAVE A MEASURABLE AND ACCEPTABLE LEVEL OF QUALITY AS INTENDED BY STANDARD INDUSTRY WELDING PRACTICE.

2. Increase the consequences of an accident previously evaluated in the FSAR.

☐ YES ☒ NO Basis: See #1

3. Create the possibility of an accident of a different type than any already evaluated in the FSAR.

☐ YES ☒ NO Basis: See #1

4. Increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.

☐ YES ☒ NO Basis: See #1

5. Increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.

☐ YES ☒ NO Basis: See #1

6. Create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.

☐ YES ☒ NO Basis: See #1

7. Reduce the margin of safety as defined in the basis for any Technical Specification.

☐ YES ☒ NO Basis: CHANGES WILL PROVIDE ADDITIONAL ASSURANCE OF RCPB INTEGRITY.

CN 3130
NPE-84-13

II. ENVIRONMENTAL EVALUATION

Incorporation of the change into the FSAR:

1. Will require a change in the Environmental Protection Plan.

☐ YES ☒ NO Basis: Not part of the Environmental Protection Plan

2. Concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC Staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

☐ YES ☒ NO Basis: See #1

3. Concerns a significant change in effluents or power level (in accordance with 10 CFR 51.5(b)(2)).

☐ YES ☒ NO Basis: See #1

4. Concerns a matter not previously reviewed and evaluated in the documents specified in II.2, above, which may have a significant adverse environmental impact.

☐ YES ☒ NO Basis: See #1

APPROVED BY MP&L:
James M Fest

CN 3130
NPE-84-42

APPROVED BY: (Group Supv.)	APPROVED BY: (Licensing Engineer)	APPROVED BY: (Environ. Licensing Engineer)	APPROVED BY: (Project Engineer)
x [illegible] Date / /	x P B Montgomery 4-11-84 Date	N/A 4-11-84 x P B Montgomery Date	E J Ray 5/15/84 Date

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NS-84-77
SCN No. 3131

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

B. Is an evaluation of this change required?
[X] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: Although the fuel oil storage tanks are not located in a vital area per Section 4.3 of ANSI N195-1976, the tanks, fill lines and vents are protected per 10 CFR 73.55 (c)(1) and Review Guideline #17

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis:
[X] No

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis:
[X] No

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis:
[X] No

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis:
[X] No

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis:
[X] No See SECM-83/0504 attached - tanks, fill lines and vent lines are adequately protected

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis:
[X] No

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis:
[X] No

FSAR UPDATE
IFR 9-5-84
CN 3131
NS-84-77

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: _____

[X] No _____

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: _____

[X] No _____

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: _____

[X] No _____

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: _____

[X] No _____

PART III - REVIEW/CONCURRENCE

FSAR UPDATE
IFR 9-5-84
CN 3131
MS-84-77

A. Originating Organization

B. Burden 7-17-84
Originator/Date

Jimmy Darling 8/9/84
Section Manager/Supervisor/Date
for JGL

B. Nuclear Safety and Compliance

Safety Review Action Serial Number _____

Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

Reviewer/Date

Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

Responsible Licensing Engineer/Date

Manager of Nuclear Licensing/Date

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NAE-84-035
SCN No. 3138

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?
[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.
[X] No - Answer Question B.

FSAR UPDATE
1FR 11-2-84

B. Is an evaluation of this change required?
[X] Yes - Complete Part II.
[ ] No - Enter basis and complete Part III: _____

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.
[ ] Yes Basis: THE PROBABILITY OF OCCURENCE OF AN ACCIDENT IS
[X] No NOT INCREASED BY PROVIDING MORE EFFECTIVE CIRCUIT PROTECTION FOR THE NSSS COMPUTER EQUIPMENT POWER FEEDS.

b. increase the consequences of an accident previously evaluated in the FSAR.
[ ] Yes Basis: MOVING THESE CIRCUITS TO SMALLER SIZED DISCONNECTS
[X] No ENHANCES THEIR PROTECTION AND WILL NOT INCREASE THE CONSEQUENCES OF AN ACCIDENT.

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.
[ ] Yes Basis: ENHANCED CIRCUIT PROTECTION OF THESE CIRCUITS
[X] No WILL NOT CREATE THE POSSIBILITY OF AN ACCIDENT OF A DIFFERENT TYPE THAN PREVIOUSLY EVALUATED.

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: PROVIDING MORE EFFECTIVE CIRCUIT PROTECTION
[X] No WILL NOT INCREASE THE PROBABILITY OF EQUIPMENT MALFUNCTION.

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.
[ ] Yes Basis: THE CONSEQUENCES OF A MALFUNCTION OF EQUIPMENT
[X] No WILL NOT BE INCREASED BY MORE EFFICIENTLY PROTECTING THE NSSS COMPUTER EQUIPMENT POWER FEEDS.

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.
[ ] Yes Basis: NO POSSIBILITY OF A MALFUNCTION OF EQUIPMENT
[X] No DIFFERENT THAN PREVIOUSLY EVALUATED WOULD BE CREATED BY THE ENHANCED CIRCUIT PROTECTION OF THESE POWER FEEDS.

g. reduce the margin of safety as defined in the basis for any technical specification.
[ ] Yes Basis: DISCONNECT/FUSE PROTECTION FOR UNINTERRUPTIBLE
[X] No POWER DISTRIBUTION PANEL 1476 IS NOT ADDRESSED IN THE GGNS TECH. SPEC.

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: THIS CHANGE AFFECTS A FIGURE IN THE FSAR WHICH
[X] No SHOWS LOADS ON UNINTERRUPTIBLE POWER PANELS AND HAS NO EFFECT ON THE ENVIRONMENTAL PROTECTION PLAN.

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: RELOCATION OF THESE CIRCUITS ON APPROPRIATELY
[X] No SIZED DISCONNECTS WOULD HAVE NO IMPACT ON THE FINAL ENVIRONMENTAL STATEMENT.

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: ENHANCED PROTECTION OF THESE CIRCUITS DOES NOT
[X] No CONCERN A CHANGE IN EFFLUENTS OR POWER LEVEL IN ACCORDANCE WITH 10CFR51.5(B)(2).

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: RELOCATION OF THESE CIRCUITS ON APPROPRIATELY
[X] No SIZED DISCONNECTS HAS NO ENVIRONMENTAL IMPACT.

FSAR UPDATE

NAE-EN-35
3.38
IFR 11-2-M

PART III - REVIEW/CONCURRENCE

A. Originating Organization

DENNIS P. WILES/NPE/10-3-84
Originator/Organization/Date

[illegible] for SPH 10/3/84
Section Manager/Supervisor/Date

MP&L - NPE Concurrence

NA
NPE Responsible Engineer

(For Contractor Originated FCR's)

B. Nuclear Safety and Compliance

Safety Review Action Serial Number _____

Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

NA
Reviewer/Date

NA
Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

Responsible Licensing Engineer/Date

Manager of Nuclear Licensing/Date

FSAR11sd2

FSAR CHANGE REQUEST/CHANGE NOTICE EVALUATION FORM

SCR No. NAS-89-0106
SCN No. 3199

PART I - ORIGINATOR

A. Is this change the result of implementation of an activity which was previously subjected to a Safety and Environmental Evaluation?

[ ] Yes - Attach a copy of the Safety and Environmental Evaluation Form or equivalent. Complete Part III.

[X] No - Answer Question B.

FSAR UPDATE

IFR 12-3-89

B. Is an evaluation of this change required?

[X] Yes - Complete Part II.

[ ] No - Enter basis and complete Part III: _____

PART II - EVALUATION

A. SAFETY

Incorporation of the change into the FSAR will:

a. increase the probability of occurrence of an accident previously evaluated in FSAR.

[ ] Yes Basis: _____

[X] No This change is Software Only and serves to bring the FSAR to "As-Built" conditions.

b. increase the consequences of an accident previously evaluated in the FSAR.

[ ] Yes Basis: _____

[X] No The change brings the FSAR up to date with the "As-Built" conditions of the plant. This change is Software Only.

c. create the possibility of an accident of a different type than any already evaluated in the FSAR.

[ ] Yes Basis: _____

[X] No No additional components are being added or taken away from the system. The changes as described on NPEFSAR 89/0106 From FSAR4sd1 will not introduce any new failure modes into the sy

d. increase the probability of a malfunction of equipment important to safety previously evaluated in the FSAR.

[ ] Yes Basis: _____

[X] No No components are being added or taken away from the system. This change will introduce no new failure modes into the system.

e. increase the consequences of a malfunction of equipment important to safety previously evaluated in the FSAR.

[ ] Yes Basis: _____

[X] No No components are being added or taken away from the equipment. No new failure modes are introduced.

f. create the possibility of a malfunction of equipment important to safety different than previously evaluated in the FSAR.

[ ] Yes Basis: _____

[X] No This change is Software Only. No components are being added or taken away. No new failure modes are introduced.

g. reduce the margin of safety as defined in the basis for any technical specification.

[ ] Yes Basis: _____

[X] No The changes described on Form FSAR4sd1 of NPEFSAR 89/0106 do not affect Safety related equipment

FSAR1isd1

B. ENVIRONMENTAL

Incorporation of the change into the FSAR.

a. will require a change in the Environmental Protection Plan.

[ ] Yes Basis: ____

[X] No ____

b. concerns a matter which may result in a significant increase in any adverse environmental impact previously evaluated in the Final Environmental Statement (FES) as modified by the NRC staff's testimony to the Atomic Safety and Licensing Board (ASLB), supplements to the FES, environmental impact appraisal, or in any decisions of the ASLB.

[ ] Yes Basis: ____

[X] No ____

c. concerns a significant change in effluents or power level (in accordance with 10CFR51.5(b)(2)).

[ ] Yes Basis: ____

[X] No ____

d. concerns a matter not previously reviewed and evaluated in the documents specified in B.1.b. above, which may have a significant adverse environmental impact.

[ ] Yes Basis: ____

[X] No ____

FSAR UPDATE NPE-84-106 3199 IER 12-3-84

PART III - REVIEW/CONCURRENCE

A. Originating Organization

JHM Stine / NPE / 10-25-84

Originator/Organization/Date

10/26/84

Section Manager/Supervisor/Date

MP&L - NPE Concurrence

NPE Responsible Engineer

(For Contractor Originated FCR's)

B. Nuclear Safety and Compliance

Safety Review Action Serial Number ____

Reviewer/Date

Manager of Nuclear Safety and Compliance/Date

C. Radiological & Environmental Services

NA

Reviewer/Date

NA

Manager of Radiological & Environmental Services/Date

D. Nuclear Licensing

Responsible Licensing Engineer/Date

Manager of Nuclear Licensing/Date

FSAR11sd2

MISSISSIPPI POWER & LIGHT COMPANY
Helping Build Mississippi
P. O. BOX 1640, JACKSON, MISSISSIPPI 39215-1640

April 30, 1985

NUCLEAR LICENSING & SAFETY DEPARTMENT

U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, N. W., Suite 29
Atlanta, Georgia 30323

Attention: Dr. J. Nelson Grace, Regional Administrator

Dear Dr. Grace:

SUBJECT: Grand Gulf Nuclear Station
Unit 1
License No. NPF-29
Docket No. 50-416 H
File: 0260/15322
Annual Environmental Operating
Report for 1984
AECM-85/0111

In accordance with Grand Gulf Nuclear Station's (GGNS) Environmental Protection Program, attached is the Annual Environmental Operating Report for the period January 1 through December 31, 1984.

Questions concerning the technical content of this report should be referred to Mr. G. O. Smith, Acting Manager, Radiological & Environmental Services, at (601) 969-2672.

Yours truly,

L. F. Dale
Director

JDB/GOS:ay
Attachment

cc: Mr. J. B. Richard (w/a)
Mr. O. D. Kingsley, Jr. (w/a)
Mr. R. B. McGehee (w/a)
Mr. N. S. Reynolds (w/a)
Mr. G. B. Taylor (w/a)

Mr. Harold R. Denton, Director (w/a)
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

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Washington, D. C. 20555