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

(3)

OCT 04 1983

NOTE FOR: Tom Ippolito, DD/AEOD

SUBJECT: OPERATION CENTER REPORTS BY GRAND GULF, La SALLE, AND SUSQUEHANNA

In response to your request, the NAS recovered data on the number of events reported to the NRC Operations Center by Grand Gulf, La Salle, and Susquehanna. The total number of events by month and the number of human factor-related events for the time period August 1982 - August 1983 were used to construct the enclosed table.

To update the table, events for September 1983 were pulled for Grand Gulf. The data are:

September 1983	
Number of Events (excluding safeguards)	13
Human factor-related events	7

We will provide a monthly update.

K Black

Kathleen M. Black, Chief
Nonreactor Assessment Staff, AEOD

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9/8/83

COMPARISON OF REPORTS RECEIVED BY NRC OPERATIONS CENTER
FROM GRAND GULF AND REACTORS (La SALLE AND SUSQUEHANNA) THAT ARE AT COMPARABLE STAGES

Reactor Date	GRAND GULF		La SALLE		SUSQUEHANNA	
	Total Number of OC* Reports Retrieved From Data Base	Reports Containing Human Factors	Total Number of OC* Reports Retrieved From Data Base	Reports Containing Human Factors	Total Number of OC* Reports Retrieved From Data Base	Reports Containing Human Factors
ug 83	17	12	7	1	2	0
ul 83	11	3	6	4	4	0
un 83	4	2	7	1	2	0
ay 83	19	3	1	0	0	0
pr 83	19	5	2	0	7	1
ar 83	18	4	4	1	4	2
eb 83	9	3	2	0	1	0
an 83	4	0	0	0	3	1
2 (Aug 17 to Dec 31)	14	5	14**	5**	17	8
983 Monthly VG Number f Reports	~12	4	~4	~1	~3	<1

* OC-Operations Center
* Excluding 12/82

COMPARISON OF LERs FOR
GRAND GULF AND La SALLE AND SUSQUEHANNA

	GRAND GULF		La SALLE		SUSQUEHANNA	
	Total LERs	Human Factors LERs	Total LERs	Human Factors LERs	Total LERs	Human Factors LERs
1983 (June 1)	59	33	39	17	61	22
1982	181	106	150	67	78	42

STARTUP PROGRAM NOT PREOPERATIONAL!

	UNIT 1	UNIT 2
1983	85	64
1982	77	65
1981	133	27
1980	197 (RECON)	

Table 2

Personnel Errors Reported in LERs

Plant/Unit	Period	Personnel Errors	LERs Received	
Quad Cities, Unit 1	1983*	7***	36	SCSS HAS NO LERs FOR ≤ 1980.
Quad Cities, Unit 2	1983*	4	20	
Grand Gulf, Unit 1	1983*	58	162	
Grand Gulf, Unit 2	1983*	0	0	
Sequoyah, Unit 1	1983*	18	85	
Sequoyah, Unit 2	1983*	9	64	
Sequoyah, Unit 1	June 1, 1982-June 1, 1983**	7	90	LICENSED SEP 17, 1980
Sequoyah, Unit 2	August 1, 1981-August 1, 1982**	18	61	LICENSED SEP 15, 1981

SEP 15, 1981 - 1982 => 64 LER

* Some LERs for 1983 have not yet been received and added to the data base. However, the period is essentially the same for all units.

** First year of commercial operation.

*** Many of the personnel errors reported to the Operations Center were also reported in LERs. Therefore, the numbers in Tables 1 and 2 should not be added.

Clearly from Tables 1 and 2, Grand Gulf has reported more personnel errors than the other units analyzed. However, care should be taken in reaching conclusions from this data. As the ACRS discussed in Appendix E to NUREG-0572 (enclosed) there are many reasons for non-randomness (e.g., outliers) in operational data, including differences in reporting requirements, differences in reporting philosophies, etc. It should be noted that many of these differences have been reduced by the recent publication of 10 CFR 50.73, "Licensee Event System"; and 10 CFR 50.72, "Immediate Notification Requirement for Operating Nuclear Reactors," which became effective on January 1, 1984. In addition, a review of a count of personnel errors does not consider the severity of the error or its consequences. For example, many of the errors reported by Grand Gulf were missed surveillance requirements that did not directly affect plant operation.

Finally, because of the time available to prepare this analysis and the size of the computer printout, we were not able to make copies of the printout. Consequently, the printouts have been provided (separately) only to Commissioner Gilinsky's office and have not been provided to other interested parties and have not been

1. INTENSITY OF STARTUP TESTING.

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

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APR 19 1984

MEMORANDUM FOR: Chairman Palladino
Commissioner Gilinsky
Commissioner Roberts
Commissioner Asselstine
Commissioner Bernthal

FROM: William J. Dircks
Executive Director for Operations

SUBJECT: GRAND GULF OPERATING EXPERIENCE

In a memorandum dated March 2, 1984, Commissioner Gilinsky inquired about the availability of a February 27, 1984 memorandum on Grand Gulf Operating Experience for discussion at the Commission Briefing on Grand Gulf on February 29, 1984. The memorandum of March 2, 1984, was received by the EDO on March 22, 1984.

Commissioner Gilinsky asked for an "explanation of why the memorandum was withheld from the Commission during the briefings on Grand Gulf's status." There was no intent to withhold information from the Commission. The memorandum was not furnished to the Commission during the briefing because it was not used by, nor its issuance known to, the Region staff personnel presenting the briefing to the Commission. Other Region II staff, not at the February 29 meeting, had been informally consulted earlier by NRR staff during preparation of the February 27 memorandum, but these staff persons did not believe that the NRR study was reaching significantly different conclusions than what was presented by Region II representatives at the February 29 meeting. Region II personnel have subsequently reviewed the February 27 memorandum and have confirmed that it would not have caused them to alter their presentation since they believe that it is not inconsistent with the information and conclusions they presented to the Commission. Frank Miraglia, who signed the February 27 memorandum, was present at the Commission meeting and agrees that the staff presentation on operating experience was not inconsistent with his memorandum.

In response to Commissioner Gilinsky's other question as to "why this study was not furnished to my staff when they requested exactly that information earlier this week," I do not believe this is an accurate statement. I am aware that, in addition to the February 27 memo noted above, there was a request from his staff the previous week which was answered on February 24. The request was oral, direct to IE/AEOD, and requested an oral response. My office became aware of it and asked that the response be reduced to writing so that other Commissioners could be advised by copy. It specifically requested data on the frequency of

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personnel errors at selected operating plants, i.e., Grand Gulf, Sequoyah and Quad Cities. That information was provided exactly as requested to the best of staff's ability. I understand, further, that on the morning of the Commission meeting (February 29), a further oral request was made of the AEOD staff requesting (1) a count by plant of all LER's that occurred in 1983, and (2) a count by plant of all LER's reported in 1983 that included at least one personnel error. That data was provided to the Commission at the February 29 meeting and followed up by memo of March 28, 1984. All three of the memos -- responding to different requests and therefore providing slightly different data -- provided approximately the same insights into Grand Gulf operations. The February 27 memo differed from the others in that it covered a broader data base and provided a somewhat more mature development of the issue as more time was available. Had the "crash" nature of your requests not precluded it, and had you asked for an evaluation as opposed to data, it is likely that I would have involved NRR and the effort would have disclosed the parallel development of the February 27 memo. In summary, I believe you received what you asked for -- and, I might add -- promptly.

(Signed) William J. Dircks

William J. Dircks
Executive Director
for Operations

cc: SECY
OGC
OPE

Distribution:

Docket No. 50-416	LB #3 r/f
NRC PDR	DHouston
Local PDR	MDuncan
PRC System	MJambor
EDO Control 14269	DEisenhut
EDO r/f	Attorney, EDO
WJDircks	TNovak/PO'Brien
JRoe	KBowman, EDO 14269
TRehm	DeYoung
HDenton	Heltemes
ECase	GCunningham
	O'Reilly

*Revised in OEDO, see previous concurrence EDO920 on 5520

OFC	NRR	NRR*	NRR*	NRR*	AOED*	EDO	
NAME	DHouston/dd	DEisenhut	ECase	HDenton	FHebdon	WJDircks	
DATE	4/ /84	4/11/84	4/11/84	4/11/84	4/10/84	4/19/84	

DRAFT (5) NUREG/BR-0051
Vol. 6, No. 1

POWER REACTOR EVENTS

United States Nuclear Regulatory Commission

DRAFT

Date Published:

Power Reactor Events is a bi-monthly newsletter that compiles operating experience information about commercial nuclear power plants. This includes summaries of noteworthy events and listings and/or abstracts of USNRC and other documents that discuss safety-related or possible generic issues. It is intended to feed back some of the lessons learned from operational experience to the various plant personnel, i.e., managers, licensed reactor operators, training coordinators, and support personnel. Referenced documents are available from the USNRC Public Document Room at 1717 H Street, Washington, DC 20555 for a copying fee. Subscriptions and additional or back issues of Power Reactor Events may be requested from the NRC/GPO Sales Program, (301) 492-9530, or at Mail Stop 016, Washington, DC 20555.

Table of Contents

Editor: Sheryl A. Massaro

Associate Editor: James T. Fry

Office for Analysis and Evaluation
of Operational Data
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Period Covered: January-February 1984

This report documents the preliminary results of ongoing studies by the Office for Analysis and Evaluation of Operational Data with regard to particular operational situations, and is issued for review and comment as part of the "peer review" process used for this document. Since the study is ongoing, the content may not represent the final position of this office, the responsible program office, or the Nuclear Regulatory Commission.

The NRC has met with the vendor and the BWR RRG to determine whether the problem is unique to Hatch Unit 2, and whether other actions need to be taken to prevent recurrence of the problem. All aspects relevant to the failure will be reviewed in addition to the repairs made to Hatch Unit 2. The NRC staff will review the licensees' responses to the recommendations in the General Electric SIL, and determine if there is a need for further actions.

On March 14, 1984, NRC Region II forwarded to the licensee a notice of violations based on inspections performed at Hatch Units 1 and 2 between January 21 and February 20, 1984. The violation germane to the vent header problem pertained to procedural inadequacies in not properly implementing procedure HNP-2-1500, Primary Containment Atmospheric Control Systems. The violation noted that between July 2, 1983 and February 3, 1984, during periods of Unit 2 containment inerting evolutions, no procedural provision existed to prevent nitrogen being admitted to the torus at temperatures below the specified band of 100-250°F. (Refs. 1-4.)

1.2 Emergency Diesel Generator Problems

On August 12, 1983, at Shoreham Unit 1,* an event occurred in which emergency diesel generator (EDG) 102 failed due to a fractured crankshaft. There are three EDG units at Shoreham, all manufactured by Transamerica Delaval, Inc. (TDI). During subsequent investigation and repair of the failure, several conditions were identified which raised questions about the reliability of all TDI diesels at other nuclear power stations.

The failure at Shoreham occurred after 1.75 hours of testing at the 2-hour overload rating (3900 kW). At the time of failure, EDG-102 had accumulated about 718 operating hours and about 19 hours at the 110% overload rating. The test in progress when the crankshaft fractured was being performed to demonstrate EDG load carrying ability following replacement of all eight cylinder heads with a newer design (originally supplied cylinder heads had developed leaks from the cooling water area).

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*Shoreham Unit 1 (99% construction completed) is a BWR located in Suffolk County, New York, and is operated by Long Island Lighting Company.

The EDG-102 crankshaft fracture occurred on the generator (load) side of the No. 7 cylinder and extended through the load side crank arm into the crank pin. (The No. 8 cylinder is closest to the load.) Examination of the other two EDGs identified cracks similar in location and orientation to the one which developed into a fracture on EDG-102. In addition, four of 24 connecting rod bearings were found to contain cracks in the bearing shells.

The EDGs are TDI Model DSR-48 diesels. These EDGs are the only DSR-48 diesels manufactured with a crankshaft assembly having an 11-inch crank pin diameter and 13-inch crankshaft diameter (11 x 13). On November 3, 1983, the applicant and its technical consultant reported that the crankshaft failures were definitely caused by a basic design inadequacy. Independent analysis by the contractor established that the crankshaft was overstressed relative to industry standards, a conclusion supported by various considerations, including: industry-standard torsional analysis methods, detailed stress analyses, and actual torsional test results on EDG-101. Factors contributing to the bearing cracks were found to include unsupported, overhung bearing ends, excessive crank pin journal yawing, and the presence of large pores or voids in the aluminum bearing shells.

In 1974, the applicant contracted with TDI to purchase three EDGs for the Shoreham station. This was the first order received by TDI to provide an EDG for a commercial nuclear power station. Pre-operational testing of the engines at Shoreham commenced in late 1981. Each engine has eight cylinders in a straight line (straight-8). One of the Shoreham engines had been used by TDI to qualify the straight-8 series (R48) diesel engine for nuclear service. Since testing began, the licensee has experienced several problems with the EDGs. Many component parts required reworking, redesign, and/or replacement.

At the present time, only two plants with operating licences have TDI engines installed. One is San Onofre Unit 1 which has been shut down since February 27, 1982 for seismic modifications. The other is Grand Gulf which is authorized for power only up to 5%. A third operating plant, Rancho Seco, is presently installing TDI engines to supplement the existing non-TDI engines.

Grand Gulf has also experienced several problems with TDI engines. In 1981, pre-operational testing of two V-16 engines at Grand Gulf commenced. These engines represent the first V-16 units ordered from TDI; one of the Grand Gulf engines was used to qualify the entire TDI V-16 line of machines for nuclear applications.

There has been a total of 57 TDI engines ordered for 16 nuclear power plant sites in the United States. A list of these sites is shown in Table 1. Only San Onofre Unit 1, Grand Gulf, and Shoreham* have any significant equipment run time; therefore, the experience base of TDI units in United States nuclear service is limited.

For corrective actions at Shoreham, the applicant replaced the three 11 x 13 crankshaft assemblies with the 12 x 13 crankshaft assembly design that was reportedly installed in all other DSR-48 diesels. In addition, the connecting rod bearings were replaced with bearings designed to accommodate the new 12-inch crank pin diameter and to address the factors which caused the earlier bearings to develop cracks.

The applicant still intends to apply for a license to operate the Shoreham facility with the TDI diesel generators. However, as part of a long-term solution for the TDI diesel problems, the applicant has recently placed purchase orders for three diesel generators from Colt Industries. The NRC was informed that the applicant intends to ultimately replace the TDI diesels with Colt diesels. Delivery of the Colt diesels is scheduled for the fall of 1985, which coincides with the completion of a new diesel generator building that is currently under construction.

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*San Onofre Unit 1 is a 436 MWe (net) PWR located 5 miles south of San Clemente, California, and is operated by Southern California Edison.

Grand Gulf Unit 1 is a 1250 MWe (net) BWR and was granted a low power license in June 1982. It is located 25 miles south of Vicksburg, Mississippi, and is operated by Mississippi Power and Light.

Shoreham Unit 1 (99% construction completed) is a BWR located in Suffolk County, New York, and is operated by Long Island Lighting Company.

Table 1

Nuclear Plants with Transamerica Delaval, Inc.
Diesel Generators

Site	Licensee	Location	Engine Model No.
Bellefonte	Tennessee Valley Authority	Jackson County, AL	DSRV 16
Catawba	Duke Power Co.	York County, SC	DSRV 16
Comanche Peak	Texas Utilities Generating Company	Somervelle County, TX	DSRV 16
Grand Gulf	Mississippi Power & Light Company	Claiborne County, MS	DSRV 16
Harris	Carolina Power & Light Co.	Wake & Chatham Counties, NC	DSRV 16
Hartsville*	Tennessee Valley Authority	Trousdale & Smith Counties, TN	DSRV 16
Midland	Consumers Power Co.	Midland County, MI	DSRV 12
Perry	Cleveland Electric Illuminating Co.	Lake County, OH	DSRV 16
Phipps Bend*	Tennessee Valley Authority	Hawkins County, TN	DSRV 16
Rancho Seco	Sacramento Municipal Utility District	Sacramento County, CA	DSR 48
River Bend**	Gulf States Utilities	West Feliciana Parish, LA	DSR 48
San Onofre	Southern California Edison Co.	San Diego County, CA	DSRV 20
Shoreham	Long Island Lighting Co.	Suffolk County, NY	DSR 48
Vogtle	Georgia Power Co.	Burke County, GA	DSRV 16
WPPSS	Washington Public Power Supply System	Benton County, WA	DSRV 16
WPPSS 4*	Washington Public Power Supply System	Benton County, WA	DSRV 16

*Project delayed or cancelled

**River Bend Unit 2 has been cancelled

Note: Of the plants listed above, only San Onofre Unit 1, Rancho Seco, and Grand Gulf have received operating licenses.

In December 1983, the NRC staff was informed that a TDI diesel engine owners group had been formed to address the EDG reliability issue. In addition, the NRC performed inspections of the TDI facility in Oakland, California during July, September, and October 1983. These inspections were performed at the request of NRC Region I, in response to allegations of irregularities in the quality assurance (QA) program. Several potential nonconformances with NRC requirements were found during the July 1983 inspections. During the September and October 1983 inspections, the staff identified conditions which indicate that portions of the TDI QA program may not have been carried out in accordance with the provisions of 10 CFR 50, Appendix B.

The NRC continues to gather information regarding problems concerning TDI units, and is developing a course of corrective actions. The NRC believes that before additional licensing action is taken to authorize the operation of a nuclear power plant with TDI engines, issues relating to quality assurance, operating experience, and the ability of the machines to reliably perform their intended function, must be addressed. (Ref. 5.)

On August 30, 1983, the NRC issued Inspection and Enforcement Information Notice No. 83-58 to licensees to inform them of the Shoreham event. (Ref 6.) Previous to the Shoreham event, the NRC issued Information Notice No. 83-51 to licensees to inform them of various diesel generator problems. (Ref 7.)

~~1.3 Loss of Onsite AC Power Results in Loss of Normal Communication Links~~

~~On~~ January 8, 1984, Palisades* experienced a complete loss of all normal communication links between the plant, the NRC and State/local authorities. The event was precipitated by the need to isolate a faulty switchyard breaker. To accomplish the isolation, it was necessary to interrupt the offsite power

*Palisades is an 635 MWe (net) PWR located 5 miles south of South Haven, Michigan, and is operated by Consumers Power.

1.12 References

(1.1) 1. Georgia Power Company, Docket 50-321, Licensee Event Report 84-01, Revision 1, March 21, 1984.

2. NRC Memorandum from C. J. Heltemes, AEOD, to W. J. Dircks, EDO, transmitting "Abnormal Occurrence Recommendation - Through Wall Crack in Vent Header Inside BWR Containment Torus," April 5, 1984.

3. General Electric Nuclear Services Operations, Service Information Letter (SIL) No. 402, "Wetwell/Drywell Inerting," February 14, 1984.

4. NRC, Inspection and Enforcement Information Notice No. 84-17, "Problems with Liquid Nitrogen Cooling Components Below the Nil Ductility Temperature," March 5, 1984.

(1.2) 5. NRC, Abnormal Occurrence Report, October-December 1983, NUREG-0090, Vol. 6, No. 4, May 1984.

6. NRC, Inspection and Enforcement Information Notice No. 83-58, "Transamerica Delaval Diesel Generator Crankshaft Failure," August 30, 1983.

7. NRC, Inspection and Enforcement Information Notice No. 83-51, "Diesel Generator Events," August 5, 1983.

(1.3) 8. Consumers Power Company, Docket 50-255, Licensee Event Report 84-01, February 7, 1984.

(1.4) 9. NRC, Preliminary Notifications PNO-II-84-12 (February 13, 1984) and PNO-II-84-14 (February 16, 1984).

10. Florida Power and Light Company, Docket 50-250, Licensee Event Reports 84-06 (March 13, 1984) and 84-07 (March 19, 1984).

11. Florida Power and Light Company, Docket 50-251, Licensee Event Reports 84-01 and 84-02, March 13, 1984.

(1.5) 12. NRC, Preliminary Notifications PNO-II-13 and PNO-II-13A, February 14, 1984.

13. Tennessee Valley Authority, Docket 50-259, Licensee Event Report 84-12, March 6, 1984.

(1.6) 14. NRC, Report to Congress on Abnormal Occurrences, NUREG-0090-3 (January-March 1976) pp. 4-5, and NUREG-0090, Vol. 5, No. 2 (April-June 1982), pp. 8-10.

15. NRC, Power Reactor Events, Vol. 3, No. 2 (May 1981), pp. 10-11, and Vol. 4, No. 4 (November 1982), pp. 1-6.

NUREG-0090
Vol. 6, No. 4

Report to Congress on Abnormal Occurrences

October - December 1983

U.S. Nuclear Regulatory Commission

Office for Analysis and Evaluation of Operational Data

ABSTRACT

Section 208 of the Energy Reorganization Act of 1974 identifies an abnormal occurrence as an unscheduled incident or event which the Nuclear Regulatory Commission determines to be significant from the standpoint of public health or safety and requires a quarterly report of such events to be made to Congress. This report covers the period from October 1 to December 31, 1983.

The report states that for this report period, there was one abnormal occurrence at the nuclear power plants licensed by the NRC to operate. The item involved generic problems pertaining to a specific manufacturer's emergency diesel generators. There was one abnormal occurrence for the other NRC licensees. The item involved an overexposure of a radiographer. There was one abnormal occurrence reported by an Agreement State. The item involved an overexposure to a radiographer.

The report also contains information updating some previously reported abnormal occurrences.

CONTENTS

PREFACE

INTRODUCTION

The Nuclear Regulatory Commission reports to the Congress each quarter under provisions of Section 208 of the Energy Reorganization Act of 1974 on any abnormal occurrences involving facilities and activities regulated by the NRC. An abnormal occurrence is defined in Section 208 as an unscheduled incident or event which the Commission determines is significant from the standpoint of public health or safety.

Events are currently identified as abnormal occurrences for this report by the NRC using the criteria delineated in Appendix A. These criteria were promulgated in an NRC policy statement which was published in the Federal Register on February 24, 1977 (Vol. 42, No. 37, pages 10950-10952). In order to provide wide dissemination of information to the public, a Federal Register notice is issued on each abnormal occurrence with copies distributed to the NRC Public Document Room and all local public document rooms. At a minimum, each such notice contains the date and place of the occurrence and describes its nature and probable consequences.

The NRC has reviewed Licensee Event Reports, licensing and enforcement actions (e.g., notices of violations, civil penalties, license modifications, etc.), generic issues, significant inventory differences involving special nuclear material, and other categories of information available to the NRC. The NRC has determined that only those events, including those submitted by the Agreement States, described in this report meet the criteria for abnormal occurrence reporting. This report covers the period between October 1 to December 31, 1983.

Information reported on each event includes: date and place; nature and probable consequences; cause or causes; and actions taken to prevent recurrence.

THE REGULATORY SYSTEM

The system of licensing and regulation by which NRC carries out its responsibilities is implemented through rules and regulations in Title 10 of the Code of Federal Regulations. To accomplish its objectives, NRC regularly conducts licensing proceedings, inspection and enforcement activities, evaluation of operating experience and confirmatory research, while maintaining programs for establishing standards and issuing technical reviews and studies. The NRC's role in regulating represents a complete cycle, with the NRC establishing standards and rules; issuing licenses and permits; inspecting for compliance; enforcing license requirements; and carrying on continuing evaluations, studies and research projects to improve both the regulatory process and the protection of the public health and safety. Public participation is an element of the regulatory process.

In the licensing and regulation of nuclear power plants, the NRC follows the philosophy that the health and safety of the public are best assured through the establishment of multiple levels of protection. These multiple levels can

be achieved and maintained through regulations which specify requirements which will assure the safe use of nuclear materials. The regulations include design and quality assurance criteria appropriate for the various activities licensed by NRC. An inspection and enforcement program helps assure compliance with the regulations. Requirements for reporting incidents or events exist which help identify deficiencies early and aid in assuring that corrective action is taken to prevent their recurrence.

After the accident at Three Mile Island in March 1979, the NRC and other groups (a Presidential Commission, Congressional and NRC special inquiries, industry, special interests, etc.) spent substantial efforts to analyze the accident and its implications for the safety of operating reactors and to identify the changes needed to improve safety. Some deficiencies in design, operation and regulation were identified that required actions to upgrade the safety of nuclear power plants. These included modifying plant hardware, improving emergency preparedness, and increasing considerably the emphasis on human factors such as expanding the number, training, and qualifications of the reactor operating staff and upgrading plant management and technical support staffs' capabilities. In addition, each plant has installed dedicated telephone lines to the NRC for rapid communication in the event of any incident. Dedicated groups have been formed both by the NRC and by the industry for the detailed review of operating experience to help identify safety concerns early, to improve dissemination of such information, and to feed back the experience into the licensing and regulation process.

Most NRC licensee employees who work with or in the vicinity of radioactive materials are required to utilize personnel monitoring devices such as film badges or TLD (thermoluminescent dosimeter) badges. These badges are processed periodically and the exposure results normally serve as the official and legal record of the extent of personnel exposure to radiation during the period the badge was worn. If an individual's past exposure history is known and has been sufficiently low, NRC regulations permit an individual in a restricted area to receive up to three rems of whole body exposure in a calendar quarter. Higher values are permitted to the extremities or skin of the whole body. For unrestricted areas, permissible levels of radiation are considerably smaller. Permissible doses for restricted areas and unrestricted areas are stated in 10 CFR Part 20. In any case, the NRC's policy is to maintain radiation exposures to levels as low as reasonably achievable.

REPORTABLE OCCURRENCES

Since the NRC is responsible for assuring that regulated nuclear activities are conducted safely, the nuclear industry is required to report incidents or events which involve a variance from the regulations, such as personnel overexposures, radioactive material releases above prescribed limits, and malfunctions of safety-related equipment. Thus, a reportable occurrence is any incident or event occurring at a licensed facility or related to licensed activities which NRC licensees are required to report to the NRC. The NRC evaluates each reportable occurrence to determine the safety implications involved.

Because of the broad scope of regulation and the conservative attitude toward safety, there are a large number of events reported to the NRC. The information

provided in these reports is used by the NRC and the industry in their continuing evaluation and improvement of nuclear safety. Some of the reports describe events that have real or potential safety implications; however, most of the reports received from licensed nuclear power facilities describe events that did not directly involve the nuclear reactor itself, but involved equipment and components which are peripheral aspects of the nuclear steam supply system, and are minor in nature with respect to impact on public health and safety. Many are discovered during routine inspection and surveillance testing and are corrected upon discovery. Typically, they concern single malfunctions of components or parts of systems, with redundant operable components or systems continuing to be available to perform the design function.

Information concerning reportable occurrences at facilities licensed or otherwise regulated by the NRC is routinely disseminated by NRC to the nuclear industry, the public, and other interested groups as these events occur. Dissemination includes deposit of incident reports in the NRC's public document rooms, special notifications to licensees and other affected or interested groups, and public announcements. In addition, information on reportable events received from NRC licensees is routinely sent to the NRC's more than 100 local public document rooms throughout the United States and to the NRC Public Document Room in Washington, D.C.

The Congress is routinely kept informed of reportable events occurring at licensed facilities.

AGREEMENT STATES

Section 274 of the Atomic Energy Act, as amended, authorizes the Commission to enter into agreements with States whereby the Commission relinquishes and the States assume regulatory authority over byproduct, source and special nuclear materials (in quantities not capable of sustaining a chain reaction). Comparable and compatible programs are the basis for agreements.

Presently, information on reportable occurrences in Agreement State licensed activities is publicly available at the State level. Certain information is also provided to the NRC under exchange of information provisions in the agreements. NRC prepares a semiannual summary of this and other information in a document entitled, "Licensing Statistics and Other Data," which is publicly available.

In early 1977, the Commission determined that abnormal occurrences happening at facilities of Agreement State licensees should be included in the quarterly report to Congress. The abnormal occurrence criteria included in Appendix A is applied uniformly to events at NRC and Agreement State licensee facilities. Procedures have been developed and implemented and abnormal occurrences reported by the Agreement States to the NRC are included in these quarterly reports to Congress.

FOREIGN INFORMATION

The NRC participates in an exchange of information with various foreign governments which have nuclear facilities. This foreign information is reviewed and considered in the NRC's assessment of operating experience and in its research and regulatory activities. Reference to foreign information may occasionally be made in these quarterly abnormal occurrence reports to Congress; however, only domestic abnormal occurrences are reported.

REPORT TO CONGRESS ON ABNORMAL OCCURRENCES

OCTOBER-DECEMBER 1983

NUCLEAR POWER PLANTS

The NRC is reviewing events reported at the nuclear power plants licensed to operate during the fourth calendar quarter of 1983. As of the date of this report, the NRC had determined that the following was an abnormal occurrence.

83-15 Emergency Diesel Generator Problems

The following information pertaining to this event is also being reported concurrently in the Federal Register. Appendix A (see Example 12 of "For All Licensees") of this report notes that incidents with implications for similar facilities (generic incidents), which create major safety concern, can be considered an abnormal occurrence. The problem discussed below involving the Transamerica Delaval, Inc. (TDI) emergency diesel generators (EDGs) at the Shoreham Nuclear Power Plant was previously described in Appendix C of NUREG-0090, Vol. 6, No. 3. It was not reported as an abnormal occurrence at that time because the immediate problem involved a plant still under construction. However, it was mentioned that reliability of the TDI EDGs remained under active review. It has now been determined that the question of reliability of TDI diesels has generic implications and should be reported as an abnormal occurrence.

Date and Place - On August 12, 1983, EDG-102 at the Shoreham Nuclear Power Plant (99% construction completion) failed due to a fractured crankshaft. The applicant for the plant is Long Island Lighting Company. The plant is a boiling water reactor and is located in Suffolk County, New York. There are three EDG units at Shoreham, all manufactured by TDI. During the following investigations of the failure and needed repairs, several conditions were identified which raised questions about the reliability of all TDI diesels at other nuclear power stations.

Nature and Probable Consequences - The failure at Shoreham occurred after 1.75 hours of testing at the two-hour overload rating (3900 kW). At the time of failure, EDG-102 had accumulated about 718 operating hours and about 19 hours at the 110% overload rating. The test in progress when the crankshaft fractured was being performed to demonstrate EDG load carrying ability following replacement of all eight cylinder heads with a newer design (originally supplied cylinder heads had developed leaks from the cooling water area).

The EDG-102 crankshaft fracture occurred on the generator (load) side of the No. 7 cylinder and extended through the load side crank arm into the crank pin. (The No. 8 cylinder is closest to the load.) Examination of the other two EDGs identified cracks similar in location and orientation to the one which developed into a fracture on EDG-102. In addition, four of 24 connecting rod bearings were found to contain cracks in the bearing shells.

The EDGs are TDI Model DSR-48 diesels. These EDGs are the only DSR-48 diesels manufactured with a crankshaft assembly having an 11" crank pin diameter and 13" crankshaft diameter (11 x 13). On November 3, 1982, the applicant and its technical consultant reported that the crankshaft failures were definitely caused by a basic design inadequacy. Independent analysis by the contractor established that the crankshaft was overstressed relative to industry standards, a conclusion supported by various considerations, including: industry-standard torsional analysis methods, detailed stress analyses, and actual torsional test results on EDG-101. Factors contributing to the bearing cracks were found to include unsupported, overhung bearing ends, excessive crack pin journal yawing, and the presence of large pores or voids in the aluminum bearing shells.

In 1974, the licensee contracted with TDI to purchase three EDGs for the Shoreham station. This was the first order received by TDI to provide an EDG for a commercial nuclear power station. Pre-operational testing of the engines at Shoreham commenced in late 1981. Each engine has eight cylinders in a straight line (straight-8). One of the Shoreham engines had been used by TDI to qualify the straight-8 series (R48) diesel engine for nuclear service. Since testing began, the licensee has experienced several problems with the EDGs. Many component parts required reworking, redesign, and/or replacement.

At the present time, only two plants with operating licenses have TDI engines installed. One is San Onofre Unit 1 which has been shut down since February 27, 1982 for seismic modifications. The other is Grand Gulf which is authorized for power only up to 5%. A third operating plant, Rancho Seco, is presently installing TDI engines to supplement the existing non-TDI engines.

Grand Gulf has also experienced several problems with TDI engines. In 1981, preoperational testing of two V-16 engines at Grand Gulf commenced. These engines represent the first V-16 units ordered from TDI; one of the Grand Gulf engines was used to qualify the entire TDI V-16 line of machines for nuclear applications.

There has been a total of 57 TDI engines ordered for 16 nuclear power plant sites in the United States. A list of these sites is shown in Table 1. Only San Onofre Unit 1, Grand Gulf, and Shoreham have any significant equipment run time; therefore, the experience base of TDI units in United States nuclear service is limited.

Cause or Causes - The large number of failures together with the inspection history of TDI described below, indicate that quality assurance problems exist at TDI.

Actions Taken to Prevent Recurrence

Long Island Lighting Company - The licensee has replaced the three 11 x 13 crankshaft assemblies with the 12 x 13 crankshaft assemblies like those reportedly installed in all other DSR-48 diesels. In addition, the connecting rod bearings were replaced with bearings designed to accommodate the new 12" crank pin diameter and to address the factors which caused the earlier bearings to develop cracks.

Table 1

Nuclear Plants with Transamerica Delaval, Inc.
Diesel Generators

Site	Licensee	Location	Engine Model No.
Bellefonte	Tennessee Valley Authority	Jackson County, AL	DSRV 16
Catawaba	Duke Power Co.	York County, SC	DSRV 16
Comanche Peak	Texas Utilities Generating Co.	Somervelle County, TX	DSRV 16
Grand Gulf	Mississippi Power & Light Co.	Claiborne County, MS	DSRV 16
Harris	Carolina Power & Light Co.	Wake & Chatham Counties, NC	DSRV 16
Hartsville*	Tennessee Valley Authority	Trousdale & Smith Counties, TN	DSRV 16
Midland	Consumers Power Co.	Midland County, MI	DSRV 12
Perry	Cleveland Electric Illuminating Co.	Lake County, OH	DSRV 16
Phipps Bend*	Tennessee Valley Authority	Hawkins County, TN	DSRV 16
Rancho Seco	Sacramento Municipal Utility District	Sacramento County, CA	DSR 48
River Bend**	Gulf States Utilities	West Feliciana Parish, LA	DSR 48
San Onofre	Southern California Edison Co.	San Diego County, CA	DSRV 20
Shoreham	Long Island Lighting Co.	Suffolk County, NY	DSR 48
Vogtle	Georgia Power Co.	Burke County, GA	DSRV 16
WPPSS 1	Washington Public Power Supply System	Benton County, WA	DSRV 16
WPPSS 4*	Washington Public Power Supply System	Benton County, WA	DSRV 16

*Project delayed or cancelled.

**River Bend Unit 2 has been cancelled.

Note: Of the plants listed above, only San Onofre Unit 1, Rancho Seco, and Grand Gulf have received operating licenses.

The applicant still intends to apply for a license to operate the Shoreham facility with the TDI diesel generators. However, as part of a long-term solution for the TDI diesel problems, the applicant has recently placed purchase orders for three diesel generators from Colt Industries. It is understood that the applicant intends to ultimately replace the TDI diesels with Colt diesels. Delivery of the Colt diesels is scheduled for the fall of 1985 which coincides with the completion of a new diesel generator building that is currently under construction.

Additional actions will also be required in conjunction with the other actions described below.

Other Licensees - By letter dated December 23, 1983, the NRC staff was informed that a TDI diesel engine owners group has been formed to address the EDG reliability issue.

NRC - The staff continues to gather information regarding problems concerning TDI units, reviewing specifics of the problems, and developing a course of action to assure that the affected plants have reliable EDG capability.

The NRC Region IV Vendor Inspection Branch performed inspections of the TDI facility in Oakland, California during July, September, and October 1983. These inspections were performed at the request of Region I (Region I has responsibility for inspection activities at the Shoreham facility) and in response to allegations of irregularities in the quality assurance program. Several potential nonconformances with NRC requirements were found during the July 1983 inspections. During the September and October 1983 inspections, the staff identified conditions which indicate that portions of the TDI quality assurance program may not have been carried out in accordance with the provisions of 10 CFR 50, Appendix B.

The staff has met with the applicant for Shoreham and the licensee for Grand Gulf to discuss the failures to date, the results of the Shoreham investigation, and the actions to be taken to recover from the failures. The staff has also developed several lists of questions that it feels need to be addressed as part of the TDI engine evaluations. One list, which has been sent to all TDI diesel owners, requested specific information about each engine. Another was sent to TDI on December 1, 1983, requesting information about the design development history of various parts of TDI machines. Delaval responded on December 16, 1983.

On January 16, 1984, a special NRC project group was formed to coordinate the overall NRC review of TDI diesel generators. Their primary responsibility is to evaluate the overall qualification of TDI diesel generators for nuclear service. Pacific Northwest Laboratory has been chosen to assist the staff in assessing and evaluating the corrective action plans being submitted by utilities possessing TDI diesel generators.

The staff held a meeting on January 26, 1984 with senior utility executives representing each of the applicants listed in Table 1. The staff informed them of its concerns regarding the breakdown in quality assurance in the TDI manufacturing facility and emphasized the significance of the widespread operating problems to date with TDI engines.

The staff believes that before additional licensing action is taken to authorize the operation of a nuclear power plant with TDI engines, these issues, relating to quality assurance, operating experience, and the ability of the machines to reliably perform their intended function, must be addressed.

On August 30, 1983, the NRC issued Inspection and Enforcement Information Notice No. 83-58 to licensees to inform them of the Shoreham event (Ref. 1). Previous to the Shoreham event, the NRC issued Information Notice No. 83-51 to licensees to inform them of various diesel generator problems (Ref. 2).

Further reports will be made as appropriate.

FUEL CYCLE FACILITIES

(Other than Nuclear Power Plants)

The NRC is reviewing events reported by these licensees during the fourth calendar quarter of 1983. As of the date of this report, the NRC had not determined that any events were abnormal occurrences.

OTHER NRC LICENSEES

(Industrial Radiographers, Medical Institutions, Industrial Users, etc.)

There are currently more than 8,000 NRC nuclear materal licenses in effect in the United States, principally for use of radioisotopes in the medical, industrial, and academic fields. Incidents were reported in this category from licensees such as radiographers, medical institutions, and byproduct material users.

The NRC is reviewing events reported by these licensees during the fourth calendar quarter of 1983. As of the date of this report, the NRC had determined that the following were abnormal occurrences.

83-16 Overexposure of a Radiographer

The following information pertaining to this event is also being reported concurrently in the Federal Register. Appendix A (see General Criterion 3) of this report notes that major deficiencies in design, construction, use of, or management controls for licensed facilities or material can be considered an abnormal occurrence. Since the licensee had not installed a radiation detector as required by the NRC, a radiographer received a serious overexposure to his right thumb.

Date and Place - On January 9, 1984, the NRC Region I office was informed that on December 20, 1983, a radiographer working at Pittsburgh Testing Laboratory in Pittsburgh, Pennsylvania, received an estimated 3400 rem to his right thumb and 2.9 rem to the whole body while performing radiography with a state (Pennsylvania) regulated x-ray unit. During the same calendar quarter, the radiographer also received exposure from NRC licensed material resulting in a combined whole body exposure of 3.1 rem for the quarter. Both the extremity and whole body doses are in excess of applicable 10 CFR §20 quarterly restrictions.

Nature and Probable Consequences - During November 1982, the state-regulated x-ray unit was replaced. At that time, the interlock on the room door was disconnected, and never reconnected. On December 20, 1983, the radiographer turned on the x-ray unit to allow it to warm up prior to making his first exposure. He later entered the radiography room to set his film and make final adjustments in the position of the piece to be radiographed. This involved localizing the beam center with a plumb-bob, which had to be held under the beam port with the radiographer's thumb. There were no indicators inside the room which showed when the x-ray beam was on. The radiographer realized that he had been exposed when he returned to the console to start the exposure and found that the beam was already on. It is estimated that the radiographer's thumb was in the beam port for about 5 seconds.

The licensee reported the incident to, and it was investigated by, the Commonwealth of Pennsylvania because the source of the overexposure (the x-ray tube) is regulated by the state. The state's reconstruction of the event, using ionization chambers, indicated that the radiographer's right thumb received an estimated 3400 rem, and that the whole-body dose was about 5-10 rem. The radiographer's film badge showed a dose of 2.9 rem for the month of the incident, and, including the two previous month's exposure, was 3.1 rem for the fourth quarter of 1983.

As discussed later, the NRC Region I also performed an inspection. The room used for x-ray radiography is also used for radiography with NRC licensed materials. As such, the room was supposed to have been equipped with a radiation-sensitive visible and audible alarm. It was found that such an alarm had never been installed.

The exposure to the radiographer's right thumb has resulted in erythema and blistering. At the time of the NRC inspection, the radiographer had not yet been seen by a medical specialist in radiation injuries, and, consequently, additional medical information is unavailable. NRC Region I has urged the licensee to obtain a consultant in radiation injuries.

Cause or Causes - The principal causes of the incident were the failure of the licensee to install the NRC-required radiation alarm and the absence of an interlock on the room door. A contributing cause was the absence of a beam-status indicator inside the room.

Actions Taken to Prevent Recurrence

Licensee - The interlock on the room door was immediately reconnected. The radiation alarm required by the NRC has been ordered, and radiography with NRC-licensed materials will not be resumed in the room until the alarm is in place.

State Agency - The Commonwealth of Pennsylvania investigated the incident and found that the interlock on the room door was disconnected. The Agency also reconstructed the event to estimate the amount of radiation received by the radiographer. The Agency is taking appropriate actions with the licensee.

NRC - Since NRC licensed material was also involved in the radiographer's whole body overexposure for the calendar quarter, and since the licensee had a

history of several violations of NRC requirements, the NRC also performed an investigation. The NRC confirmed the State Agency's findings and found that the NRC required radiation alarm had not been installed. Had the alarm been installed, the radiographer would have known that the x-ray beam was on before he attempted to adjust it.

The NRC Region I office held an enforcement conference with the licensee on January 31, 1984. NRC Region I expressed their serious concern with the licensee management's procedures and controls for the use of radiography devices, as evidenced not only with the immediate violations, but also with the numerous violations of requirements found during several previous inspections. On March 2, 1984, the NRC sent to the licensee a Notice of Violation and Proposed Imposition of Civil Penalty in the amount of $8000, which the licensee subsequently paid.

This incident is closed for purposes of this report.

AGREEMENT STATE LICENSEES

Procedures have been developed for the Agreement States to screen unscheduled incidents or events using the same criteria as the NRC (see Appendix A) and report the events to the NRC for inclusion in this report. During the fourth calendar quarter of 1983, one of the Agreement States reported the following abnormal occurrence to the NRC.

AS83-10 Overexposure of a Radiographer

Appendix A (Example 1 of "For All Licensees") of this report notes that an exposure of the feet, ankles, hands or forearms of any individual to 375 rems or more of radiation can be considered an abnormal occurrence.

Date and Place - On July 8, 1983, a radiation safety officer (RSO) for X-Ray Inspection Company, a Louisiana industrial radiography licensee, located in Lafayette, Louisiana, received a significant overexposure to a finger while performing work at Conoco Oil Company in Westlake, Louisiana.

Nature and Probable Consequences - On July 8, 1983, the RSO received a call from two of his radiographers, indicating that a 108-curie iridium-192 source was stuck in the exposed position between the camera and the end of the source tube. He went to the radiography jobsite to evaluate the situation. Upon arrival, he visually inspected the radiographic exposure device and noted that the outlet nipple on the camera was broken and the drive cable could be seen. He did not know the exact location of the source but knew that it was in the exposed position because his survey meter indicated a full up-scale reading. He did not try to locate the source in the source tube but instead, picked up the source tube in both hands and tried to pull the source tube from the camera in an attempt to remove the source from the source tube. During this effort, he apparently placed the index finger of his left hand very close to the iridium source.

About 13 days later, he experienced pain in his left index finger and eventually, a blister developed. The individual's pocket dosimeter was discharged beyond its range during this retrieval, and since he was not wearing a whole-body TLD badge, it was quite difficult to establish a whole-body dose.

However, from the reenactment, it was estimated that the whole-body dose was approximately 3 rems. From the clinical indications, the dose to the finger was estimated at between 4,000 and 8,000 rads. The individual is receiving medical treatment for this injury.

Cause or Causes - The RSO was well aware of the mistakes which had been made during the source retrieval but could not explain why he had taken such action. The only reason offered was that the customer was rushing him to get the job completed so that production would not be hindered.

Actions Taken to Prevent Recurrence

Licensee - The licensee reinstructed the RSO regarding the proper procedures to be used.

Louisiana Nuclear Energy Division - Appropriate violations have been cited for allowing excessive exposure to the individual and for the individual's failure to use the appropriate personnel monitoring devices.

This incident is closed for purposes of this report.

REFERENCES

1. U.S. Nuclear Regulatory Commission, Inspection and Enforcement Information Notice No. 83-58, "Transamerica Delaval Diesel Generator Crankshaft Failure," August 30, 1983.*

2. U.S. Nuclear Regulatory Commission, Inspection and Enforcement Information Notice No. 83-51, "Diesel Generator Events," August 5, 1983.*

*Available in NRC Document Room, 1717 H Street, NW, Washington, DC 20555, for inspection and copying (for a fee).

APPENDIX A

ABNORMAL OCCURRENCE CRITERIA

The following criteria for this report's abnormal occurrence determinations were set forth in an NRC policy statement published in the FEDERAL REGISTER on February 24, 1977 (Vol. 42, No. 37, pages 10950-10952).

Events involving a major reduction in the degree of protection of the public health or safety. Such an event would involve a moderate or more severe impact on the public health or safety and could include but need not be limited to:

1. Moderate exposure to, or release of, radioactive material licensed by or otherwise regulated by the Commission;

2. Major degradation of essential safety-related equipment; or

3. Major deficiencies in design, construction, use of, or management controls for licensed facilities or material.

Examples of the types of events that are evaluated in detail using these criteria are:

For All Licensees

1. Exposure of the whole body of any individual to 25 rems or more of radiation; exposure of the skin of the whole body of any individual to 150 rems or more of radiation; or exposure of the feet, ankles, hands or forearms of any individual to 375 rems or more of radiation (10 CFR §20.403(a)(1)), or equivalent exposures from internal sources.

2. An exposure to an individual in an unrestricted area such that the whole-body dose received exceeds 0.5 rem in one calendar year (10 CFR §20.105(a)).

3. The release of radioactive material to an unrestricted area in concentrations which, if averaged over a period of 24 hours, exceed 500 times the regulatory limit of Appendix B, Table II, 10 CFR §20 (10 CFR §20.403(b)).

4. Radiation or contamination levels in excess of design values on packages, or loss of confinement of radioactive material such as (a) a radiation dose rate of 1,000 mrem per hour three feet from the surface of a package containing the radioactive material, or (b) release of radioactive material from a package in amounts greater than regulatory limit (10 CFR §71.36(a)).

5. Any loss of licensed material in such quantities and under such circumstances that substantial hazard may result to persons in unrestricted areas.

6. A substantiated case of actual or attempted theft or diversion of licensed material or sabotage of a facility.

7. Any substantiated loss of special nuclear material or any substantiated inventory discrepancy which is judged to be significant relative to normally expected performance and which is judged to be caused by theft or diversion or by substantial breakdown of the accountability system.

8. Any substantial breakdown of physical security or material control (i.e., access control, containment, or accountability systems) that significantly weakened the protection against theft, diversion or sabotage.

9. An accidental criticality (10 CFR §70.52(a)).

10. A major deficiency in design, construction or operation having safety implications requiring immediate remedial action.

11. Serious deficiency in management or procedural controls in major areas.

12. Series of events (where individual events are not of major importance), recurring incidents, and incidents with implications for similar facilities (generic incidents), which create major safety concern.

For Commercial Nuclear Power Plants

1. Exceeding a safety limit of license Technical Specifications (10 CFR §50.36(c)).

2. Major degradation of fuel integrity, primary coolant pressure boundary, or primary containment boundary.

3. Loss of plant capability to perform essential safety functions such that a potential release of radioactivity in excess of 10 CFR §100 guidelines could result from a postulated transient or accident (e.g., loss of emergency core cooling system, loss of control rod system).

4. Discovery of a major condition not specifically considered in the Safety Analysis Report (SAR) or Technical Specifications that requires immediate remedial action.

5. Personnel error or procedural deficiencies which result in loss of plant capability to perform essential safety functions such that a potential release of radioactivity in excess of 10 CFR §100 guidelines could result from a postulated transient or accident (e.g., loss of emergency core cooling system, loss of control rod system).

For Fuel Cycle Licenses

1. A safety limit of license Technical Specifications is exceeded and a plant shutdown is required (10 CFR §50.36(c)).

2. A major condition not specifically considered in the Safety Analysis Report or Technical Specifications that requires immediate remedial action.

3. An event which seriously compromised the ability of a confinement system to perform its designated function.

APPENDIX B

UPDATE OF PREVIOUSLY REPORTED ABNORMAL OCCURRENCES

During the October through December 1983, period, the NRC, NRC licensees, Agreement States, Agreement State licensees, and other involved parties, such as reactor vendors and architects and engineers, continued with the implementation of actions necessary to prevent recurrence of previously reported abnormal occurrences. The referenced Congressional abnormal occurrence reports below provide the initial and any updating information on the abnormal occurrences discussed. These occurrences not now considered closed will be discussed in subsequent reports in the series.

NUCLEAR POWER PLANTS

79-3 Nuclear Accident at Three Mile Island

This abnormal occurrence was originally reported in NUREG-0090, Vol. 2, No. 1, "Report to Congress on Abnormal Occurrences: January-March 1979," and updated in subsequent reports in this series, i.e., NUREG-0090, Vol. 2, No. 2; Vol. 2, No. 3; Vol. 2, No. 4; Vol. 3, No. 1; Vol. 3, No. 2; Vol 3., No. 3; Vol. 3, No. 4; Vol. 4, No. 1; Vol. 4, No. 2; Vol. 4, No. 3; Vol. 4, No. 4; Vol. 5, No. 1; Vol. 5, No. 2; Vol. 5, No. 3; Vol. 5, No. 4; Vol. 6, No. 1; Vol. 6, No. 2; and Vol. 6, No. 3. It is further updated as follows.

Reactor Building Entries

During the fourth calendar quarter of 1983, 15 entries were made into containment. There have been a total of 312 entries since the March 28, 1979 accident. Major activities included sampling the reactor coolant drain tank and the retrieval of three core debris samples.

EPICOR-II/Submerged Demineralizer System (SDS) Processing

The EPICOR-II system processed approximately 71,000 gallons of water during the fourth quarter of 1983. The SDS processed approximately 66,000 gallons of water during the same time period.

EPICOR-II/Prefilter and SDS Liner Shipments

A total of 30 EPICOR-II demineralizers were shipped from the TMI site to Hanford, Washington. As of December 16, 1983, all EPICOR demineralizers meeting present disposal criteria and that would exceed Class A Criteria (10 CFR 6, effective December 27, 1983) have been shipped for disposal. One SDS liner was also shipped to the Hanford facility.

Spent Fuel Pool "A" Refurbishment

Work continued on the refurbishment of spent fuel pool "A". This involves the removal of concrete shield blocks, tanks from the upper and lower tank farm, and support steel. The use of the "A" spent fuel pool will be required for the transfer and temporary storage of fuel and debris from the damaged reactor core.

Auxiliary and Fuel Handling Building Activities

Work on the expansion of the 328 ft. elevation decontamination facility continued during this quarter. Partial operation of the facility has begun. Full operation should occur after the receipt of additional equipment components. Decontamination activities in the auxiliary and fuel handling building consisted of some surface scabbling and cubicle decontamination by hydrolazing.

Reactor Building Polar Crane

On November 18, 1983, the staff approved the licensee's safety evaluation for the refurbishment and use of the Reactor Building Polar Crane. The crane had been the subject of allegations made by several GPUNC and contractor (Bechtel) employees relating to mismanagement, NRC/licensee collusion, unsafe modifications, and harassment.

Sonic Core Topographical Model

A computer generated map of the core void was completed from sonic measurements which were obtained inside the reactor vessel in August and September 1983. A scale, plastic model of the damaged core was also constructed from the sonic data. Based on the sonic measurements, the cavity volume in the damaged area of the core is 330 cubic feet or 26½ percent of the original core volume. The irregular cavity bottom is generally 5 feet below the top of the core region, with the deepest point, a narrow channel, being 6½ feet deep. Laterally, the cavity extends to the core forming walls in several areas.

Of the 177 fuel assemblies in the reactor, 42 assemblies around the core perimeter exhibit some continuous vertical development through the void region. The cross sections of 23 of these standing assemblies were less than 50% of their fuel pins, and 2 assemblies appear to be relatively intact. The sonic plot showed that fuel assembly segments, typically 2 to 10 inches long are randomly attached to the underside of the plenum. The top 2 to 4 feet of several assemblies on the west side of the core overhang the void. In several areas where the core forming wall was exposed, the sonic device mapped the 3/4 inch thick stainless steel plates which form the perimeter of the core. On the east side of the core, one area of the core forming wall appears to be bowed outward by 2½ inches.

The sonic topographical data is being evaluated and will be useful in planning for plenum and fuel removal. The data supplements the previously obtained closed circuit television tapes of the void and at the present stage of disassembly and defueling planning does not alter the existing concepts for future work.

Advisory Panel

On November 29, 1983, Arthur E. Morris, Mayor of Lancaster, Pennsylvania, was appointed Chairman of the Advisory Panel for the Decontamination of the Three Mile Island Nuclear Station, Unit 2, by NRC Chairman Nunzio J. Palladino. The Advisory Panel obtains local citizen views and provides the Commission with valuable counsel on the actions to be proposed and taken by the NRC regarding cleanup of the damaged reactor.

On December 8, 1983, the Advisory Panel held a meeting in Harrisburg, Pennsylvania. Representatives from the NRC, EPA and DOE provided an update of their respective agency's activities relative to the cleanup effort.

The Panel was given a presentation by GPUN personnel which provided both an overview of the licensee's safety evaluation and the sequence of activities associated with the planned reactor pressure vessel head lift.

Dr. Bernard J. Snyder, Director, NRC TMI Program Office (TMIPO), presented the Panel with copies of a TMIPO fact sheet and resumes of the TMIPO staff.

Mr. B. K. Kanga, Director TMI-2, GPUN, answered questions posed by the Panel on the issue of funding. Currently the licensee estimates approximately $75 million in funds for TMI-2 activities will be available during calendar year 1984. However, there is still a fair degree of uncertainty associated with the 1984 funding levels. The Advisory Panel passed a resolution that states that the Panel is against the consideration of the restart of TMI Unit 1 until committed funding for the cleanup of the damaged Unit 2 reactor is in place. The vote of this resolution was five in favor, one opposed, and one abstention.

Further reports will be made as appropriate.

* * * * * *

83-5 Large Diameter Pipe Cracking in Boiling Water Reactors (BWRs)

This abnormal occurrence was originally reported in NUREG-0090, Vol. 6, No. 3, "Report to Congress on Abnormal Occurrences: July-September 1983." It is further updated as follows.

As stated in the previous report, NRC Orders were issued on August 26, 1983 to the four licensees of five plants which had not yet begun inspections of piping. The Orders confirmed accelerated inspection schedules which had been developed by the licensees in a meeting with the NRC. The four licensees and their respective plants are as follows: (1) Tennessee Valley Authority (Browns Ferry Unit 3, located in Limestone County, AL), (2) Carolina Power & Light Company (Brunswick Unit 2, located in Brunswick County, NC), (3) Boston Edison Company (Pilgrim Unit 1, located in Plymouth County, MA), and (4) Commonwealth Edison Company (Dresden Unit 3, located in Grundy County, IL; and Quad Cities Unit 2, located in Rock Island County, IL).

The inspections have now either been completed, or, in the case of the Pilgrim plant, the licensee decided to undertake a pipe replacement program rather than repair. The results for the five plants are shown in Table B-1.

Table B-1

Inspection Results and Repairs for Plants Subject to August 26, 1983 NRC Order

Plant	Welds in Program	No. Inspected	No. of Cracks Detected	No. Repaired*
Browns Ferry Unit 3	191	191	1	1
Brunswick Unit 2	131	131	24	9
Dresden Unit 3	337	240	64	61
Pilgrim Unit 1		REPLACING PIPE		
Quad Cities Unit 2	225	225	23	10

As discussed in the previous report, Georgia Power Company, licensee for Hatch Unit 2, located in Appling County, Georgia, has also decided to initiate a pipe replacement program. This plant, even though it has only a relatively brief operating history, showed extensive cracking. The licensee shut down the plant on January 13, 1984 to begin the replacement program. Similarly, Northern States Power, licensee for Monticello, shut down the plant on February 3, 1984, to replace recirculation system piping. The licensee anticipates an approximate 30 week outage.

Further reports will be made as appropriate.

*Not all cracks detected will necessarily require repairs. Cracks identified by ultrasonic testing are evaluated to determine the size and depth. Some cracks are determined to be sufficiently minor that they do not require repair. These minor cracks will then be tested again in the future to determine if there have been any changes in size or configuration.

APPENDIX C

OTHER EVENTS OF INTEREST

The following events are described below because they may possibly be perceived by the public to be of public health significance. The events did not involve a major reduction in the level of protection provided for public health or safety; therefore, they are not reportable as abnormal occurrences.

1. Contamination Due to Failed Fuel

By letter dated November 7, 1983, the Sierra Club requested that the NRC halt dry cask shipments of spent fuel, including shipments from West Valley, New York and the Cooper Nuclear Station in Nebraska, until appropriate analyses of a May 1980 incident involving possible oxidation of spent fuel at Battelle Columbus Laboratories (Battelle) of West Jefferson, Ohio, concerning a Model No. NFS-4 shipping cask are performed and factored into licensing requirements (Ref. C-1). The Sierra Club letter was treated as a request for action under 10 CFR §2.206. The details associated with the Battelle incident are as follows.

On May 1, 1980, an irradiated fuel assembly having known, severe fuel cladding failures was shipped from the Haddam Neck facility (operated by Connecticut Yankee Atomic Power Company and located in Middlesex County, Connecticut) to Battelle for postirradiation examination. The fuel assembly was shipped dry (normal atmosphere air) inside a Model No. NFS-4 shipping cask. The cask arrived at Battelle on May 2, 1980. Before immersing the cask in the fuel pool, the fuel assembly was cooled by slowly filling the cask cavity with water while venting the cask to the hot cell through a connected hose. Steam was initially discharged from the hose indicating that the assembly was thermally hotter than fuel previously handled. A high radiation level alarm was also activated within the hot cell.

Following cavity flooding, the cask was lowered into the pool and the cask head removed. A dark cloud emanated from the cask, spread through the pool water, rose to the surface, and spread contamination throughout the high-bay cask handling area. The event caused "chirpers" (radiation detectors) worn by the operators to respond and caused a radiation level of about 200 mr/hr three feet above the water level, as measured by a portable instrument. Floor smears showed that contamination had deposited on the room surfaces. Five personnel were working in the area at the time. Respirators were not being worn since normally they would not be needed. The personnel continued work until the fuel assembly was removed from the cask and placed in a pool storage rack (about one hour after cask lid removal). Subsequent entries into the pool area were made by the personnel wearing respirators.

Nasal swabs, film badge measurements, urinalyses, fecal samples, and in vivo counts were obtained from the five individuals involved in the incident; none indicated significant doses to any of the individuals. The highest film badge measurement was 220 mr gamma.

Continuous air monitors were in operation during and after the cask opening. The highest air activity detected was for a period of about 1.5 hours shortly

after the cask opening, in which both alpha and beta concentrations were about 20 times maximum permissible concentration levels. The concentration of radioactivity in the fuel pool water reached a peak of about 400 and 50 times the concentration limits imposed by a license condition for beta and alpha activities respectively. These concentrations were reduced to the permitted levels over a period of weeks by circulating the water through the installed ion exchange resin beds. The decontamination of the surface areas and equipment in the pool areas required significant labor and supplies. Before cleanup began, contamination levels were up to 150 times and 1000 times the licensee's control limits for alpha and beta-gamma activities, respectively. There was no release of radioactive material from the building. Normal work activities in the laboratory were not interrupted by the decontamination efforts.

Analysis showed that the contaminating material was fuel and fission products in the form of very fine particles. The radioactive particulate material, which was capable of becoming airborne, represented a radiological source term which had not been anticipated.

The specific mechanisms by which these particles were produced and by which they were transported are not precisely known. However, it is believed that the particulates were primarily caused by the oxidation of UO_2 fuel. A significant amount of fuel was exposed to the air environment of the cask since the fuel assembly was known to contain several fuel rods with severe cladding splits (thereby exposing the fuel pellets inside). Some irradiated fuel material in the form of UO_2 and higher oxides could have been released from failed fuel rods into the confines of the shipping cask during transportation and handling, subsequently being released to the fuel pool when the cask lid was removed.

Two important parameters affecting oxidation rate are temperature and time. The amount of oxidation increases with higher fuel temperatures and the length of time the fuel is exposed to an oxygen-rich environment (such as normal air).

The residual heat content of the fuel assembly, and consequently the fuel temperatures reached, were considerably higher than expected. Original calculations performed by Connecticut Yankee indicated a decay heat content of 2.09 kW. After the incident, Battelle made their own calculations (based on a later industry standard) which indicated a decay heat rating of greater than 2.50 kW. Since the NRC had imposed a restriction to 2.5 kW on the shipping cask, Battelle notified Connecticut Yankee. The latter recalculated and found that the decay heat rating was actually as much as 3.50 kW; these calculations were verified by the cask licensee.

In addition, the fuel was exposed to air longer than anticipated. The dry fuel assembly had been in the cask for six days prior to its removal at Battelle. The fuel assembly was loaded into the cask on April 26, 1980 at the Haddam Neck facility. However, departure was delayed until May 1, 1980 because of problems in decontaminating the cask walls to below permissible levels, and excessive radiation levels emanating from the cask which required placing external shielding on the container transport vehicle.

Corrective actions taken by Battelle included (1) performing a comprehensive review of hot cell laboratory receiving procedures and modifying or supplementing them as necessary, (2) at least until the review was completed, requiring the use of respiratory protection during cask unloading procedures involving failed fuel assemblies, (3) requiring approval of the hot cell laboratory operations manager of case reviews submitted to the Radiological Safety Committee, and (4) improving communications with shippers regarding potential hazards associated with shipments.

The circumstances associated with the incident, and subsequent activities to decontaminate the cask, were included in a routine inspection at Battelle performed by NRC Region III on September 22-26 and November 12, 1980. The inspection report was forwarded to Battelle on December 8, 1980 together with a Notice of Violation (Ref. C-2). The violations involved (1) an employee receiving an overexposure to the hand during Battelle's preparation of the NFS-4 cask for reuse, and (2) radioactivity in the fuel storage pool exceeding license conditions.

The NRC amended the Certificate of Compliance for the Model No. NFS-4 cask to preclude shipment of failed fuel assemblies (UO_2 pellets) which are oxidized. Shipment of other failed fuel was authorized in a dry inert atmosphere; in the absence of oxygen, oxidation of any exposed UO_2 would be suppressed.

The radioactivity releases into the air of the high-bay area and resultant laboratory personnel exposures, associated with the May 2, 1980 incident at Battelle, were small. In addition, there was no release of radioactive material from the building. Therefore, there was no impact on public health or safety and the event is not considered reportable as an abnormal occurence.

In view of the 10 CFR §2.206 action request mentioned above, the NRC staff reevaluated the Battelle incident. The staff concluded that while fuel oxidation does not significantly alter the risks of transport, it could increase the risks of personnel exposure during receiving and handling operations. Therefore, all Certificates of Compliance were revised to require spent fuel casks to be inerted for shipment to prevent handling problems from oxidized fuel at facilities receiving spent fuel. In addition, shipments of known or suspected failed fuel assemblies (fuel rods) may not be made unless each fuel assembly is appropriately canned for shipment. Based on the staff reevaluation, and the revisions made to the Certificates of Compliance, the Sierra Club's request was denied on April 13, 1984, by the Director, NRC Office of Nuclear Material Safety and Safeguards (Ref. C-3). The decision will constitute the final action of the Commission 25 days after the date of issuance of the decision unless the Commission, on its own motion, institutes a review of the decision within that time.

2. Failed Fuel Assemblies

During Cycle 5 of the Millstone Unit 2 reload core, the licensee (Northeast Nuclear Energy Company) noted elevated levels of radioactive iodine and other fission products in the reactor coolant. Millstone Unit 2 is a Combustion Engineering (CE) designed plant, utilizing a pressurized water reactor, and is located in New London County, Connecticut.

By the end of Cycle 5 operation, the primary system activity was about two percent of the plant's Technical Specification limit; this was indicative of about 10 to 30 fuel pin failures. The plant was shut down on May 28, 1983, for refueling and maintenance. The licensee established a fuel pin failure investigation program. Fuel sipping (analysis of the fuel assembly for leakage of fission products) was conducted on the entire core and 26 fuel assemblies were identified which had one or more failed fuel pins. Five of the assemblies were supplied by one vendor and were scheduled for discharge at the end of Cycle 5; these assemblies had been irradiated for several cycles. Twenty-one of the assemblies were supplied by another vendor and had been scheduled for reinsertion for Cycle 6; these assemblies had seen no more than a few cycles of operation.

Ultrasonic inspections showed that there were 32 failed fuel pins in the 26 fuel assemblies. The licensee evaluated a number of possible failure mechanisms and concluded that the failures apparently resulted from multiple sources, none of which were indicative of a situation that may lead to continued serious degradation of the fuel cladding. For example, there was evidence of debris induced wear of the cladding and one case of confirmed grid spring/fuel rod fretting. The probable cause of the latter was a damaged cell, most likely related to either fuel manufacturing or handling. To reduce the possibility of debris induced wear, the licensee performed an extensive cleanup of the primary system.

Visual inspections revealed 15 fuel assemblies to have broken holddown springs. The probable cause was attributed to system flow induced vibration, near the core periphery, leading to fatigue failure of the springs. The licensee's analysis concluded that although broken, the springs remained functional and the assemblies could continue in operation. Future new fuel assemblies will have redesigned springs.

Further inspections revealed two fuel assemblies with structural damage; one of the two also had a broken holddown spring. However, the requirements for structural integrity, such as strength and loading capability, were still met for normal as well as for accident conditions by these fuel assemblies. The cause was attributed to insufficient gap clearances between the assembly structurals and the fuel alignment plate. Additional clearances will be incorporated into new fuel assemblies.

The problems described above necessitated a revision to the licensee's originally planned reload core for Cycle 6. A combination of new and previously discharged fuel assemblies were used to replace the leaking and two damaged fuel assemblies. Nine fuel assemblies, each with a single broken holddown spring, were also used for Cycle 6 (the licensee decided that repair of these springs on the irradiated fuel assemblies would involve a high risk of damaging fuel pins).

As part of the scheduled shutdown activities, the reactor vessel internals were inspected. Damage was noted to both the thermal shield and the core barrel. The damage appeared similar to that experienced at St. Lucie Unit 1, another CE designed facility. The damage incurred at St. Lucie Unit 1 was described in Appendix C of a previous issue of these quarterly abnormal occurrence reports (NUREG-0090, Vol. 6, No. 2). As described in that report, it is

believed that the damage to the thermal shield was not a single event, but rather occurred over a period of time and was related to mechanical stress caused by flow induced vibrations. Also as described in the report, the use of a thermal shield is a design option in CE plants. The licensee for Millstone Unit 2 decided to operate the plant in the future without the thermal shield. The thermal shield was therefore removed and the minor damage to the core support barrel was repaired.

The Cycle 6 core reload changes, together with operation without the thermal shield, were submitted to the NRC for approval. NRC approval was granted on December 30, 1983 and the plant achieved criticality on January 5, 1984.

The number of fuel pins which failed constituted less than 0.1% of the total number of fuel pins in the core. The resultant primary activity was only a small fraction of the Technical Specifications limitations. Therefore, there was no impact on public health or safety and the event is not considered reportable as an abnormal occurrence.

REFERENCES

(FOR APPENDICES)

C-1 Letter from M. Resnikoff, Sierra Club, to C. MacDonald, Chief, Transportation Certification Branch, Division of Fuel Cycle and Material Safety, NRC Office of Nuclear Material Safety and Safeguards, November 7, 1983.*

C-2 Letter from J. G. Keppler, Director, NRC Region III, to Dr E. W. Unger, Director, Battelle Columbus Laboratories, forwarding an inspection report and Notice of Violation, Docket Nos. 70-008, 30-5728, and 50-006, December 8, 1980.*

C-3 Letter from John G. Davis, Director, NRC Office of Nuclear Material Safety and Safeguards, forwarding "Director's Decision (DD-84-9) Under 10 CFR §2.206," to Dr. Marvin Resnikoff, Sierra Club, April 13, 1984.*

*Available in NRC Document Room, 1717 H Street, NW, Washington, DC 20555, for inspection and copying (for a fee).

NRC FORM 335 (7-77) U.S. NUCLEAR REGULATORY COMMISSION

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October-December 1983

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16. ABSTRACT *(200 words or less)*

Section 208 of the Energy Reorganization Act of 1974 identifies an abnormal occurrence as an unscheduled incident or event which the Nuclear Regulatory Commission determines to be significant from the standpoint of public health or safety and requires a quarterly report of such events to be made to Congress. This report covers the period October 1 to December 31, 1983.

During the report period, there was one abnormal occurrence at the nuclear power plants licensed by the NRC to operate. The item involved generic problems pertaining to a specific manufacturer's emergency diesel generators. There was one abnormal occurrence for the other NRC licensees. The item involved an overexposure of a radiographer. There was one abnormal occurrence reported by an Agreement State. The item involved an overexposure to a radiographer.

The report also contains information updating some previously reported abnormal occurrences.

17. KEY WORDS AND DOCUMENT ANALYSIS 17a. DESCRIPTORS

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FEB 27 1984

MEMORANDUM FOR: Thomas Novak, Assistant Director
for Licensing
Division of Licensing

FROM: Frank J. Miraglia, Assistant Director
for Safety Assessment
Division of Licensing

SUBJECT: GRAND GULF OPERATING EXPERIENCE

In response to your request (memorandum of October 6, 1983) the Operating Reactors Assessment Branch (ORAB) has reviewed operating experience during the past year at the Grand Gulf facility and prepared the attached report.

The ORAB review included a survey of reported events at Grand Gulf during the past 15 months (i.e. the low power license period) and a comparison of the event reports with reports from two other recently licensed BWRs (LaSalle and Susquehanna) filed during their low power license periods. The sources of event reports included prompt (telephone) notifications filed per 10 CFR 50.72 as well as Licensee Event Reports (LER) required by the Technical Specifications. Operating reactor events briefing summaries were also examined to identify the more significant events. AEOD provided us with substantial support in obtaining event reports.

In general the review revealed that high number of prompt reportable events (10 CFR 50.72) have occurred at Grand Gulf in the past year. The rate of occurrence of these events has been at least three times greater than that of the two other recently licensed BWRs used for comparison. The large number of prompt reports are concerned for the most part with inadvertent actuations of engineered safety features. According to the 50.72 reports, equal numbers of these events have been caused by equipment failure and errors on the part of operators and technicians.

Review of operating reactor event briefing summaries indicates that five "significant" events have been reported for Grand Gulf during the year. They include a low temperature vessel pressurization incident, electrical system malfunction causing inadvertent RPS trips, a diesel generator room fire incident, simultaneous malfunction of both Transamerica DeLaval diesel generators, and an operator error which resulted in 10,000 gallons of water being drained from the reactor vessel to the suppression pool. The number of significant events at Grand Gulf during the low power license period is higher than that for the two other recently licensed BWRs considered in the review. LaSalle had only one event significant enough to be reported at a briefing and Susquehanna had none. It should also be noted that the periods of low power license for LaSalle and Susquehanna were much shorter than Grand Gulf.

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FEB 27 1984

Based on our review we have concluded that operating experience at Grand Gulf during the past year has been atypical. Comparison of Grand Gulf experience with that of other BWRs indicates that the period of operation with the low power license at Grand Gulf has been abnormally long (greater than 12 months versus 4 months for Susquehanna and LaSalle) and that the rate of prompt reportable events has been much greater than expected. Based on discussions with Region II we believe that the high rate of reported events is at least in part related to the large amount of construction and testing activities which have gone on during the past year. This construction and testing activity is the result of design changes being implemented at the plant. The fact that many events which have occurred are related to personnel errors may indicate a lack of experience, on the part of plant personnel.

The rate at which events have occurred at Grand Gulf has not decreased steadily over the long term as the plant has moved closer to commercial operation. However, a sudden sharp decrease in the rate did occur in November 1983 which may be attributed to site inactivity following completion of low power testing in October. On this basis it would be reasonable to expect the incident rate to continue this decreasing trend as the plant moves closer to commercial operation, and testing and construction activities are completed.

We have discussed the results of our review with IE Region II, and they have informed us that our conclusions are consistent with their most recent SALP review. Region II will continue to monitor plant performance and take appropriate actions should problems continue to occur at a high rate.

Original signed by
Frank J. Miraglia

Frank J. Miraglia, Assistant Director
for Safety Assessment
Division of Licensing

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01/11/84	01/11/84	02/27/84	02/27/84

OPERATING EXPERIENCE REVIEW

AT GRAND GULF UNIT #1

INTRODUCTION

The staff review of operating experience included a survey of reported events at Grand Gulf during the past 15 months (i.e. the low power license period) and a comparison of the event reports with reports from two other recently licensed BWRs (LaSalle and Susquehanna) filed during their low power license periods. The sources of event reports include prompt (telephone) notifications filed per 10 CFR 50.72 as well as Licensee Event Reports (LER) required by the Technical Specifications. Operating reactor events briefing summaries were also examined to identify the more significant events. These briefings are regularly scheduled meetings among NRC management to discuss recent events at operating reactors.

SURVEY OF EVENT REPORTS

In the period between mid-August 1982 and September 1, 1983 160 incidents requiring prompt notification were reported as required by 10 CFR part 50.72 One hundred and twenty-two of these events involved plant systems. The remaining 38 events involved the plant physical security system. This review has focused on the non-security related events. The security related events were not considered significant and were expected based on the testing and construction occurring at the plant. Thirty-five percent (35%) of the non-security related events have root causes related to operator and technician activities (e.g. testing, troubleshoorting). Equipment problems (mostly electrical) account for thirty-two (32%) of the events. The direct causes of the remaining one-third of the events are unknown or not apparent from the brief 50.72 reports. Most of the events involve inadvertent actuations of safety systems with the plant shutdown (e.g., standby gas treatment system, control room fresh air system, reactor trip, diesel generator start). The average monthly rate at which these events have been reported is approximately 10 events/month. This rate is compared with rates for LaSalle and Susquehanna in Table I and appears to be abnormally high. Region II inspectors attribute the high rate to the large amount of testing and construction going on at the plant. A review of the data by month does not reveal any particular trend in the incident rate. Data for the past three months shows a rate of occurrence close to the average in September and October with a sharp decrease in November to 3 events/month. The sharp decrease is attributed to site inactivity following completion of low power tests. A steady reduction in the rate of occurrence is expected as the plant nears commercial operation, since design changes and associated tests are expected to be completed.

In the period beginning August 1, 1982 and ending July 1, 1983 a total of 227 LERs were issued from Grand Gulf. The average monthly rate at which LERs have been issued is shown in table I along with comparable rates for LaSalle and Susquehanna. The Grand Gulf rate is similar to the rates for LaSalle and Susquehanna. This is in sharp contrast with the 10 CFR part 50.72 reports discussed above where the Grand Gulf rate was significantly higher than the other two plants. Review of the Grand Gulf LERs indicates that about one-half of the reports relate to problems with fire protection systems. These problems include many instances of smoke detector alarms caused by dust from construction; and, removal of fire barriers for construction purposes. Only nineteen percent (19%) of the 227 reported events involved personnel errors and/or procedural

TABLE I

RATE OF REPORTED EVENTS AT THREE BWR PLANTS DURING LOW POWER LICENSE PERIOD

Facility	Period of Low Power License (months)	Rate of Reported Events (Avg. No. reports/month) 50.72	LER
Grand Gulf	12*	10	21
LaSalle I	4	1	19
Susquehanna I	4	3	12

* The study period consists of the first 12 months of the low power license period. The actual period of the low power license will be longer than 12 months.

deficiencies. Other causes of reported events include equipment problems and planned entry of technical specification action statements for purposes of testing or construction.

REVIEW OF SIGNIFICANT EVENTS

Significant events which have occurred at Grand Gulf during the past year have been identified through a review of issues raised at the regularly scheduled briefings of NRR management on operating reactor experience. The review consisted of a review of the Operating Reactor Event Briefing meeting minutes. For purposes of comparison a similar review has been performed for LaSalle and Susquehanna for the periods they held low power licenses. Events which are discussed at operating reactor event briefings have been subjected to a screening process in which five or six significant events are selected every two weeks for discussion based on the review of 100 to 150 events reports during the two week period. The purpose of identifying those events here is to provide a measure of the severity and extent of significant operational problems.

During the Grand Gulf low power license period, five significant problems at Grand Gulf were reported. Our review indicates that only one significant event was reported for LaSalle during the period of its low power license. No events were reported for Susquehanna. The Grand Gulf events are summarized below.

Violation of RTNDT Heating Limits During ECCS Injection October 5, 1982

During surveillance testing with the plant in cold shutdown a high DC voltage spike occurred which initiated an ECCS injection. Low pressure core spray injected and caused the reactor vessel to become water solid (extending to the MSIVs). The resulting pressure transient violated the Technical Specification on nil-ductility reference temperature, RTNDT.

Reactor Protection System (RPS) MG-Set Output Breaker Trips, May 19, 1983

Inadvertent tripping of the RPS MG-set output breakers has occurred repetitively resulting in isolation of the instrument air system and a reactor scram signal. The causes of the trips have been identified as thermal overload due to insufficient cabinet ventilation, and low voltage due to voltage swings while the RPS bus is fed from the alternate power supply. To reduce the number of output breaker trips the licensee increased cabinet ventilation, installed voltage regulators to smooth out voltage fluctuations, and installed a new station electrical transmission line from off-site. In addition instrument air system isolation relays have been re-aligned to an interruptable power supply. This problem

re-occurred in January 1984. Upward voltage spikes remaining above the setpoint longer than .1 second have caused the protective MG-set output breaker to trip, resulting in de-energization of containment isolation system logic circuits followed by isolation of the RHR system. The licensee has been unable to identify the source of the voltage spikes. To correct the problem, the licensee has increased the output breaker delay time from .1 second to 1.4 seconds. The new delay time is based on measurements of spike duration and consultation with suppliers of the electrical equipment. The modification assures that spikes lasting less than 1.4 seconds will not result in a trip of the protective breaker. Additional corrective actions are also under discussion between the licensee and Region II.

Inadvertent Reactor Vessel Drainage During Shutdown April 3, 1983

On April 3, 1983, approximately 10,000 gallons of water drained from the reactor vessel to the suppression pool through the residual heat removal (RHR) system. This drainage was caused by two RHR valves (F004 and F006) being open simultaneously. At the time of the event, the reactor was at atmospheric pressure with vessel water temperature approximately 100°F (cold shutdown conditions). The vessel water level continued to decrease until the low level isolation signal was received and shutdown cooling isolation valves closed to terminate the leakage.

Diesel Generator Room Fire September 4, 1983

A diesel generator engine fire was caused by a ruptured fuel oil supply line which sprayed oil on the hot exhaust manifold of the diesel. The diesel which caught fire was running at 25 percent load for testing at the time. Two other diesel generators were not affected by the fire. The water deluge system failed to function automatically, but was manually activated to extinguish the fire. The diesel generator governor and turbo chargers were damaged. In addition some electrical equipment in the room suffered water damage.

Inoperability of Delaval Diesel Generators October 28, 1983

On October 28, 1983, a Technical Specification Action Statement was entered when two of the three diesel generators became inoperable. The Division I diesel generator was inoperable due to gasket failure on a lube oil line. The Division II diesel generator became inoperable due to a loose base plate nut on the turbocharger which resulted in a trip of the vibration sensor which tripped the diesel. Corrective action was taken to repair both diesel generators. Both of the diesel generators were manufactured by Transamerica Delaval Inc. (TDI). TDI diesel generators have recently come under close scrutiny by the staff following a crankshaft failure in a TDI diesel generator at the Shoreham plant. Staff review of the Transamerica Delaval diesel generator problem at Grand Gulf is still ongoing.

CONCLUSIONS

Based on our review, we have concluded that operating experience at Grand Gulf during the low power license period has been atypical. Comparison of Grand Gulf experience with that of other BWRs indicates that the period of operation with the low power license at Grand Gulf has been abnormally long (12 months versus 4 months for Susquehanna and LaSalle) and that the rate of prompt reportable events has been much greater than expected. Based on discussions with Region II we believe that the high rate of reported events is related, at least in part, to the large amount of testing and construction activities which have gone on during the past year. This construction and testing activity is the result of design changes being implemented at the plant. The fact that many of the events are related to personnel errors may indicate a lack of experience on the part of plant personnel. The rate at which events have occurred at Grand Gulf has not decreased steadily over the long term as the plant has moved closer to commerical operation. However, a sudden sharp decrease in the rate did occur in November 1983 which may be attributed to site inactivity following completion of the low power testing in October. On this basis, we believe it is reasonable to expect the incident rate to continue this decreasing trend as the plant moves closer to commercial operation, and testing and construction activities cease. Should an abnormally high rate of incidents re-appear, appropriate actions such as initiating a review of personnel training programs and plant procedures should be initiated to identify the root cause of the continuing problem so that necessary corrective measures measures can be taken.

For FOIA 84-459 Item I

- Printout of LERs on SCSS data base for period 1/1/84 to present for Grand Gulf Unit 1
- Referenced LERs are available in PDR
- Most recent LERs are not on data base yet.

LER SCSS DATA 06-19-84

DOCKET	YEAR	LER NUMBER	REVISION	DCS NUMBER	NSIC	EVENT DATE
416	1984	001	0	8402220126	189289	1- 3-1984

DOCKET:416 GRAND GULF 1 TYPE:BWR
REGION: 2 VENDOR:GE
ARCHITECTURAL ENGINEER: BECH
FACILITY OPERATOR: MISSISSIPPI POWER & LIGHT CO.
SYMBOL: MPL

REPORTABILITY CODES FOR THIS LER ARE:
13

ABSTRACT
POWER LEVEL - 000%. ON JANUARY 3, 1984, WHILE IN COLD SHUTDOWN AT 0920 HOURS AND WHILE PLACING A DIVISION 2 BATTERY CHARGER ON EQUALIZE, THE DIVISION 2 POWER SUPPLY TRIPPED ON HIGH VOLTAGE RESULTING IN THE FOLLOWING AUTOMATIC ACTIONS: INITIATION OF CONTROL ROOM FRESH AIR UNIT (CRFAU) B, SGTS B, DRYWELL PURGE COMPRESSOR B, STANDBY SERVICE WATER B, DIVISION 2 HYDROGEN ANALYZERS, LOW PRESSURE COOLANT INJECTION B AND C, AND ISOLATION OF SHUTDOWN COOLING, RWCU, THE AUXILIARY BUILDING AND CONTAINMENT BUILDING. THE DIVISION 2 DIESEL GENERATOR WAS OUT OF SERVICE AT THE TIME. THE LPCI INJECTION RAISED THE WATER LEVEL TO GREATER THAN 400 INCHES. WHILE TROUBLESHOOTING THE PROBLEM ON JANUARY 6, 1984. CRFAU B ACTUATED WHEN THE CHLORINE DETECTOR WAS DEENERGIZED FROM A REPEAT OF THE TRIP. OTHER SYSTEMS HAD BEEN REMOVED FROM SERVICE FOR THE TEST. THE EQUALIZING POTENTIOMETER ON THE BATTERY CHARGER WAS SET HIGHER THAN ITS NORMAL EQUALIZING VOLTAGE OF 140 VDC. THE INVERTER TRIPPED AT 147 VDC. THE CHARGER THEN TRIPPED AT 152 VDC ALLOWING THE INVERTER TO RESET AND INITIATE THE ECCS ACTUATION. THE PROCEDURE WAS REVISED TO INSTRUCT THE TECHNICIANS TO ADJUST THE CHARGER OUTPUT TO 140 PLUS OR MINUS 1 VDC WHEN PLACING THE CHARGERS ON EQUALIZE. A DESIGN CHANGE WILL LOWER THE CHARGER HIGH VOLTAGE TRIP TO 145 VDC, ALLOWING THE CHARGER TO TRIP PRIOR TO THE INVERTER TRIP.

FORM 2 LER SCSS DATA 06-19-84

DOCKET	YEAR	LER NUMBER	REVISION	DCS NUMBER	NSIC	EVENT DATE
416	1984	002	0	8402140013	189079	1- 7-1984

COMMENTS
EVENTS OCCURRED OVER A 3 WEEK PERIOD

DOCKET:416 GRAND GULF 1 TYPE:BWR
REGION: 2 VENDOR:GE
ARCHITECTURAL ENGINEER: BECH
FACILITY OPERATOR: MISSISSIPPI POWER & LIGHT CO.
SYMBOL: MPL

WATCH-LIST CODES FOR THIS LER ARE:
913 UPDATE NEEDED

REPORTABILITY CODES FOR THIS LER ARE:
14

ABSTRACT
POWER LEVEL - 000%. SINCE JAN. 7, 1984, SEVERAL INSTANCES OF RPS BUS BREAKER TRIPS HAVE RESULTED IN A LOSS OF SHUTDOWN COOLING. DATES OF OCCURRENCES WERE JAN. 7, 9, 11, 14, 19, AND 20. REDUNDANT TRAINS OF THE SHUTDOWN COOLING MODE OF RHR ARE SUPPLIED THROUGH A COMMON INLET CONTAINING TWO MOTOR OPERATED VALVES IN SERIES. THE ISOLATION LOGIC

FOR THESE VALVES RECEIVE POWER FROM THE RPS BUS. LOSS OF EITHER RPS BUS CAUSES ONE OR THE OTHER ISOLATION VALVE TO FAIL SHUT, CAUSING A TOTAL LOSS OF SHUTDOWN COOLING. THE CAUSE OF THE TRIPS IS UNDETERMINED, HOWEVER, WE ARE CONTINUING TO INVESTIGATE. THE RESULTS OF THE INVESTIGATION WILL BE INCLUDED IN A FOLLOW-UP REPORT.

FORM 3 LER SCSS DATA 06-19-84

DOCKET	YEAR	LER NUMBER	REVISION	DCS NUMBER	NSIC	EVENT DATE
416	1984	003	0	8403130464	189324	2-10-1984

DOCKET:416 GRAND GULF 1 TYPE:BWR
REGION: 2 VENDOR:GE
ARCHITECTURAL ENGINEER: BECH
FACILITY OPERATOR: MISSISSIPPI POWER & LIGHT CO.
SYMBOL: MPL

REPORTABILITY CODES FOR THIS LER ARE:
13

ABSTRACT
POWER LEVEL - 000%. AS PART OF A MAINTENANCE WORK ORDER, POWER WAS REMOVED FROM THE 'B' CONTROL ROOM FRESH AIR UNIT CHLORINE DETECTOR. DUE TO INCOMPLETE WORK INSTRUCTIONS, THIS CAUSED THE 'B' CONTROL ROOM FRESH AIR UNIT TO START UP AUTOMATICALLY IN THE ISOLATION MODE.

FORM 4 LER SCSS DATA 06-19-84

DOCKET	YEAR	LER NUMBER	REVISION	DCS NUMBER	NSIC	EVENT DATE
416	1984	004	0	8402270085	189080	1-14-1984

DOCKET:416 GRAND GULF 1 TYPE:BWR
REGION: 2 VENDOR:GE
ARCHITECTURAL ENGINEER: BECH
FACILITY OPERATOR: MISSISSIPPI POWER & LIGHT CO.
SYMBOL: MPL

REPORTABILITY CODES FOR THIS LER ARE:
14

ABSTRACT
POWER LEVEL - 000%. A FUSE FAILED WHILE A TECHNICIAN WAS WORKING IN A PANEL CAUSING ISOLATION OF A SHUTDOWN COOLING SUCTION VALVE. THE VALVE IS COMMON TO BOTH SHUTDOWN COOLING LOOPS AND THEREFORE RESULTED IN THE INOPERABILITY OF BOTH LOOPS. THE REACTOR WATER CLEANUP SYSTEM WAS OPERATED AS AN ALTERNATE METHOD OF COOLANT CIRCULATION UNTIL THE CAUSE WAS DETERMINED. THE FUSE WAS REPLACED, AND SHUTDOWN COOLING WAS RESTORED.

FORM 5 LER SCSS DATA 06-19-84

DOCKET	YEAR	LER NUMBER	REVISION	DCS NUMBER	NSIC	EVENT DATE
416	1984	005	0	8402280550	189081	1-19-1984

DOCKET:416 GRAND GULF 1 TYPE:BWR
REGION: 2 VENDOR:GE
ARCHITECTURAL ENGINEER: BECH
FACILITY OPERATOR: MISSISSIPPI POWER & LIGHT CO.
SYMBOL: MPL

WATCH-LIST CODES FOR THIS LER ARE:
913 UPDATE NEEDED

REPORTABILITY CODES FOR THIS LER ARE:
13

ABSTRACT
POWER LEVEL - 000%. DURING THE PERFORMANCE OF A SPECIAL TEST OF THE DRYWELL PURGE COMPRESSOR 'A' LOGIC RELAYS, THE COMPRESSOR WAS INADVERTENTLY STARTED. ORIGINALLY IT WAS THOUGHT THAT THE COMPRESSOR START WAS CAUSED BY LIFTING LEADS TO ONE OF THE TIMING RELAYS IN THE COMPRESSOR'S CONTROL CIRCUIT LOGIC AS INSTRUCTED BY THE PROCEDURE. HOWEVER, FURTHER INVESTIGATION OF APPLICABLE WIRING DIAGRAMS INDICATED THAT THIS COULD NOT BE THE CAUSE. A MAINTENANCE WORK ORDER HAS BEEN WRITTEN TO REPERFORM THE TEST AND TROUBLESHOOT THE CIRCUIT AS NECESSARY. THE WORK IS EXPECTED TO BE COMPLETE BY FEB. 23, 1984.

FORM 6 LER SCSS DATA 06-19-84

DOCKET	YEAR	LER NUMBER	REVISION	DCS NUMBER	NSIC	EVENT DATE
416	1984	008	0	8403190059	189108	2- 2-1984

DOCKET:416 GRAND GULF 1 TYPE:BWR
REGION: 2 VENDOR:GE
ARCHITECTURAL ENGINEER: BECH
FACILITY OPERATOR: MISSISSIPPI POWER & LIGHT CO.
SYMBOL: MPL

REPORTABILITY CODES FOR THIS LER ARE:
14

ABSTRACT
POWER LEVEL - 000%. CONTROL POWER TO THE HPCS PUMP WAS LOST. THE HPCS PUMP POWER SUPPLY BREAKER WAS INCORRECTLY OPENED WHILE PERFORMING AN ELECTRICAL LINEUP FOR THE HPCS DIESEL GENERATOR (THE DIESEL WAS BEING TAGGED OUT FOR MAINTENANCE). THE WRONG BREAKER WAS OPENED DUE TO INCORRECT INFORMATION ON THE ELECTRICAL LINEUP SHEET OF THE SYSTEM OPERATING INSTRUCTION FOR THE HPCS DIESEL GENERATOR.

FORM 7 LER SCSS DATA 06-19-84

DOCKET	YEAR	LER NUMBER	REVISION	DCS NUMBER	NSIC	EVENT DATE
416	1984	011	0	8404060247	189295	3- 9-1984

COMMENTS
STEP 1: EFFECT CODE IX - ARCING

DOCKET:416 GRAND GULF 1 TYPE:BWR
REGION: 2 VENDOR:GE
ARCHITECTURAL ENGINEER: BECH
FACILITY OPERATOR: MISSISSIPPI POWER & LIGHT CO.
SYMBOL: MPL

REPORTABILITY CODES FOR THIS LER ARE:
13
14

ABSTRACT
POWER LEVEL - 000%. ARCING OCCURRED IN A 500KV SWITCHYARD BREAKER AS IT WAS RETURNED TO SERVICE AFTER MAINTENANCE WAS PERFORMED ON THE BREAKER. THIS CAUSED A DIFFERENTIAL CURRENT IN THE UNIT'S SERVICE TRANSFORMER WHICH TRIPPED THE SWITCHYARD BREAKER SUPPLYING POWER TO THE UNIT'S BOP LOADS AND ONE ESF TRANSFORMER. AS A RESULT, SHUTDOWN COOLING ISOLATED, RWCU ISOLATED, THE AUXILIARY BUILDING ISOLATED, SBGT INITIATED, CONTROL ROOM FRESH AIR INITIATED, REACTOR SCRAM INITIATED AND THE HPCS DIESEL GENERATOR STARTED.

(10)

SEQ-NO	DOCKET	LICENSEE	LER-NO	EVNT-DTE	REPT-DTE	DISP-CAT
838327	416	GRAND GULF 1	8400100	01/03/84	02/02/84	4
838072	416	GRAND GULF 1	8400200	01/07/84	02/06/84	4
838563	416	GRAND GULF 1	8400300	02/10/84	03/08/84	4
838401	416	GRAND GULF 1	8400400	01/14/84	02/14/84	4
838442	416	GRAND GULF 1	8400500	01/19/84	02/20/84	4
838804	416	GRAND GULF 1	8400501	01/19/84	03/30/84	4
838510	416	GRAND GULF 1	8400600	01/20/84	02/24/84	4
838517	416	GRAND GULF 1	8400700	01/28/84	03/02/84	4
838596	416	GRAND GULF 1	8400800	02/02/84	03/05/84	4
838749	416	GRAND GULF 1	8401100	03/09/84	04/03/84	4
838832	416	GRAND GULF 1	8401200	03/14/84	04/10/84	4
838833	416	GRAND GULF 1	8401300	03/22/84	04/11/84	4
838831	416	GRAND GULF 1	8401400	03/14/84	04/13/84	4
838916	416	GRAND GULF 1	8401500	03/26/84	04/23/84	4
838924	416	GRAND GULF 1	8401600	03/24/84	04/23/84	4
839033	416	GRAND GULF 1	8401700	04/09/84	05/07/84	4

Category 4 = Events with no apparent significance to safety (noncontributing events)

For FOIA 84-459 Item 1

Printout from AEOD WAMS data base -

Listing of 16 LERs for Grand Gulf Unit 1 reviewed and categorized for significance since 1/1/84 (as of 6/19/84).

SEQ-NO	DOCKET	LICENSEE	LER-NO	EVNT-DTE	REPT-DTE	DISP-CAT
839056	416	GRAND GULF 1	8401800	04/14/84	05/10/84	
839103	416	GRAND GULF 1	8401900	04/18/84	05/17/84	
839089	416	GRAND GULF 1	8402000	04/23/84	05/17/84	
839102	416	GRAND GULF 1	8402100	05/01/84	05/17/84	
839098	416	GRAND GULF 1	8402200	04/20/84	05/18/84	
839146	416	GRAND GULF 1	8402300	04/30/84	05/30/84	

(11)

For FOIA 84-459 Item I

Listing of 6 LERs from AEOD WAMS data base that were received but review is on-going at this time

<ACCESSION NO.> 00Z0189342
<TITLE> UPDATE ON HIGH PRESSURE CORE SPRAY DIESEL TRIPS AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1984
<TYPE> Q
<MEMO> LTR W/LER 83-189 REV 1 TO U.S. NRC, REGION 2, MAR 12, 1984, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8403200017
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0165
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-189 REV 1
<ABSTRACT> DATE OF EVENT - 120783. POWER LEVEL - 000%. ON 12/7/83, BREAKER 152-1704 TO THE DIVISION 3 ESF BUS TRIPPED. THE HIGH PRESSURE CORE SPRAY (HPCS) DIESEL GENERATOR (DG) ATTEMPTED TO START BUT IMMEDIATELY TRIPPED. THE CAUSE COULD NOT BE DETERMINED AT THE TIME. THE FAILURE WAS CONSIDERED VALID AND THE TESTING FREQUENCY WAS INCREASED. ON 2-1-84, THE DIESEL GENERATOR TRIP RECURRED (SPECIAL REPORT 84-005) AND WAS ATTRIBUTED TO A LOW LUBE OIL PRESSURE SIGNAL WHICH IS BYPASSED IN THE EMERGENCY MODE. THE FAILURE IS NOW

CONSIDERED INVALID PURSUANT TO POSITION C.2.E.(2) OF REG. GUIDE 1.108. THE BREAKER TRIPPED DUE TO A BROKEN CURRENT LIMITER RESISTOR SOCKET FOR THE BREAKER POSITION INDICATING LIGHT. THE RESISTOR SOCKET SHORTED CAUSING THE TRIP COIL TO ENERGIZE. THE SOCKET WAS ACCIDENTALLY BROKEN DURING A CHANGING OF THE BULB. THE DG TRIP WAS CAUSED BY THE FAILURE OF A TIME DELAY RELAY WHICH ALLOWED A PREMATURE LOW LUBE OIL PRESSURE SIGNAL.
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);ACTUATOR;BREAKER;CABLES AND CONNECTORS;CONTROL SYSTEM;CORE SPRAY;CORE SPRAY/SSF;CORE SPRAY/TSF;CRACK; DRIFT;ELECTRIC POWER;ELECTRICAL FAILURE;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;ENGINEERED SAFETY FEATURE;ENGINES, INTERNAL COMBUSTION; EQUIPMENT;FAILURE, EQUIPMENT;FAILURE, INSTRUMENT;FAILURE, MAINTENANCE ERROR; GENERATOR, DIESEL;INCIDENT, HUMAN ERROR;INSTRUMENT, NON-NUCLEAR;INSTRUMENT, SWITCH;LUBRICATION;MAINTENANCE AND REPAIR;ON SITE;OPERATOR ACTION;RELAYS; RESPONSE TIME;SENSORS, PRESSURE;SUBSYSTEM FAULT;TOTAL SYSTEM FAULT;UPDATE

<ACCESSION NO.> 00Z0189295
<TITLE> LOSS OF BOP POWER DUE TO BREAKER FAULT AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1984
<TYPE> Q
<MEMO> LTR W/LER 84-011 TO U.S. NRC, REGION 2, APR 03, 1984, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8404060247
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0165
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 84-011
<ABSTRACT> DATE OF EVENT - 030984. POWER LEVEL - 000%. ARCING OCCURRED IN A 500KV SWITCHYARD BREAKER AS IT WAS RETURNED TO SERVICE AFTER MAINTENANCE WAS PERFORMED ON THE BREAKER. THIS CAUSED A DIFFERENTIAL CURRENT IN THE UNIT'S SERVICE TRANSFORMER WHICH TRIPPED THE SWITCHYARD BREAKER SUPPLYING POWER TO THE UNIT'S BOP LOADS AND ONE ESF TRANSFORMER. AS A RESULT, SHUTDOWN COOLING ISOLATED, RWCU ISOLATED, THE AUXILIARY BUILDING ISOLATED, SBGT INITIATED, CONTROL ROOM FRESH AIR INITIATED, REACTOR SCRAM INITIATED AND THE HPCS DIESEL

(12)

For TOIA 89-45 Item #2

- LER Printout for Grand Gulf Unit 1 from DOE/RECON NSIC file. Used DIESEL GENERATOR as keyword.
- References LERs are available in PDR
- Most Recent LERs are not on data base yet.

GENERATOR STARTED.
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);ACTUATION;BREAKER;BUILDING; CONTAINMENT;CONTROL;COOLANT PURIFICATION SYSTEM;CORE SPRAY;ELECTRIC POWER; ELECTRICAL FAILURE;ENGINEERED SAFETY FEATURE;ENGINES, INTERNAL COMBUSTION; FAILURE, EQUIPMENT;GENERATOR, DIESEL;OFF SITE;ON SITE;RHR;TOTAL SYSTEM FAULT; TRANSFORMERS;VALVES;VENTILATION SYSTEM;VENTILATION SYSTEM/TSF

DIS 6/0/000001-000057//3 PAGE 1
<ACCESSION NO.> 00Z0189290
<TITLE> UPDATE ON DIESEL GENERATOR INOPERABLE AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1984
<TYPE> Q
<MEMO> LTR W/LER 83-156 REV 1 TO U.S. NRC, REGION 2, MAR 02, 1984, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8403130274
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0165
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-156 REV 1
<ABSTRACT> DATE OF EVENT - 100383. POWER LEVEL - 001%. DURING A ROUTINE INSPECTION OF THE DIV. I D/G, A CAPSCREW SECURING THE STARTING AIR MANIFOLD TO ITS SUPPORT PLATE ON THE NO. 8 LEFT BANK (LB) CYLINDER WAS FOUND BROKEN INSIDE THE PLATE. A SIMILAR CAPSCREW ON THE NO. 7 LB CYLINDER WAS FOUND NOT SECURELY TIGHTENED. AN LCO WAS ENTERED (DIV. I D/G DECLARED INOPERABLE) PURSUANT TO TECH SPEC 3.8.1.1.A SINCE IT WAS QUESTIONABLE WHETHER THE SEISMIC COMPONENT (SUPPORT PLATE) WAS CAPABLE OF FERFORMING ITS DESIGNED FUNCTION.

DIS 6/0/000001-000057//3 PAGE 2
DIV. 2 & 3 D/GS WERE OPERABLE. THE ROOT CAUSE OF THE FAILED CAPSCREW COULD NOT BE DETERMINED DUE TO THE CAPSCREW BEING REMOVED AND ELIMINATED BEFORE AN ACCURATE ANALYSIS COULD BE PERFORMED. THE FAILED CAPSCREW WAS REPLACED WITH ONE OF THE SAME TYPE AND GRADE. THE OTHER CAPSCREW WAS TIGHTENED TO ITS REQUIRED TORQUE. THE D/G WAS OUT OF SERVICE FOR 6.5 HOURS.
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);CRACK;EARTHQUAKE;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION; ENVIRONMENT;ENVIRONMENT/TSF;FAILURE, EQUIPMENT;FASTENER;GENERATOR, DIESEL; INSPECTION;PNEUMATIC SYSTEM;REACTOR STARTUP;SUBSYSTEM FAULT;SUPPORT STRUCTURE; TEST, SYSTEM OPERABILITY;TOTAL SYSTEM FAULT;UPDATE

DIS 6/0/000001-000057//4 PAGE 1
<ACCESSION NO.> 00Z0189018
<TITLE> UPDATE ON DIESEL FUEL OIL INSTRUMENT LINE LEAK AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1984
<TYPE> Q
<MEMO> LTR W/LER 83-167 REV 1 TO U.S. NRC, REGION 2, FEB 07, 1984, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8402220119
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0165
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-167 REV 1
<ABSTRACT> DATE OF EVENT - 102283. POWER LEVEL - 000%. ON OCT. 22, 1983, DIESEL GENERATOR (DG) 12 WAS INTENTIONALLY SECURED WHEN A LEAK WHICH WAS CONSIDERED A POTENTIAL FIRE HAZARD DEVELOPED IN THE FUEL OIL FILTER DIFFERENTIAL PRESSURE INSTRUMENT LINE. THE ENGINE HAD OPERATED APPROX. 27 HRS OF A 7 DAY SURVEILLANCE RUN. THE DIESEL WAS DECLARED INOPERABLE AND AN LCO WAS ENTERED PURSUANT TO TECH SPEC 3.8.1.1. DG 11 AND 13 WERE OPERABLE. DG 12 REMAINED

INOPERABLE FOR 4.5 HRS. THIS IS CONSIDERED A NONVALID FAILURE PURSUANT TO

REGULATORY POSITION C.2.E(2) OF R.G. 1.108. THE TUBING RUBBED AGAINST A DG AIR BOX WHICH EVENTUALLY CAUSED A RUPTURE IN THE TUBING DUE TO VIBRATION. THE TUBING WAS REPLACED AND ROUTED TO PREVENT RUBBING. DIVISION 1 AND 2 DG'S WILL BE INSPECTED FOR OTHER SIMILAR DEFICIENCIES. FUEL OIL TUBING FOUND DAMAGED OR RUBBING IS BEING REPLACED. THIS IS SUBMITTED AS A FINAL REPORT.
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);BUILDING;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION;FAILURE, EQUIPMENT;FAILURE, INSTALLATION ERROR;FAILURE, TUBING;FIRE;FUEL, FOSSIL; GENERATOR, DIESEL;HUMAN FACTORS;INSPECTION;INSTRUMENT LINE;INSTRUMENT, NON-NUCLEAR;LEAK;OPERATOR ACTION;SMOKE;SUBSYSTEM FAULT;TEST, SYSTEM OPERABILITY;TUBING;UPDATE;VIBRATION

<ACCESSION NO.> 00Z0188944
<TITLE> UPDATE ON DIESEL GENERATORS INOPERABLE DUE TO PERSONNEL ERRORS AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1984
<TYPE> Q
<MEMO> LTR W/LER 83-179 REV 1 TO U.S. NRC, REGION 2, MAR 08, 1984, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8403200064
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0165
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-179 REV 1
<ABSTRACT> DATE OF EVENT - 110583. POWER LEVEL - 002%. DURING A 7 DAY MAINTENANCE RUN, THE DIV. II DIESEL GENERATOR WAS SHUTDOWN UPON DISCOVERY OF A FUEL OIL RETURN LINE LEAK. UPON RESTART, AFTER REPAIR OF THE FUEL LEAK, THE DIESEL GENERATORS TRIPPED DUE TO ISOLATION OF FUEL SUPPLY VALVE F016B. PER R.G.1.108, THESE WERE NOT VALID FAILURES BECAUSE THE DIESEL RAN FOR LONGER THAN 1 HR AT GREATER THAN 50% LOAD AND DUE TO OPERATOR ERROR. THE

REQUIREMENTS OF TECH SPEC 3.8.1.1 WERE MET. THIS IS REPORTED PURSUANT TO TECH SPEC 4.8.1.1.3. THIS IS A FINAL REPORT. THE FUEL LINE LEAK WAS A RESULT OF ACCIDENTAL DAMAGE TO THE TUBING BY PERSONNEL. THE FUEL LINE WAS REPLACED. THE CAUSE OF THE FAILURE TO RESTORE THE ISOLATED VALVE WAS PERSONNEL ERROR & PROCEDURAL INADEQUACY. AN OPS. SECTION DIRECTIVE IS BEING REVISED TO ENSURE THAT DEVIATIONS IN VALVE POSITIONS DUE TO EMERGENCY SITUATIONS ARE DOCUMENTED AND CONTROLLED.
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);BUILDING;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION;FAILURE, ADMINISTRATIVE CONTROL;FAILURE, EQUIPMENT;FAILURE, MAINTENANCE ERROR;FAILURE, TUBING;FLOW BLOCKAGE;FUEL, FOSSIL;FUEL, FOSSIL/SSF;GENERATOR, DIESEL;HUMAN FACTORS;INSPECTION;LEAK;OPERATOR ACTION;PROCEDURES AND MANUALS;REACTOR STARTUP;RESPONSE TIME;SUBSYSTEM FAULT;TEST, SYSTEM OPERABILITY;TUBING;UPDATE; VALVES

<ACCESSION NO.> 00Z0188939
<TITLE> UPDATE ON DELUGE VALVE FAILURE DURING DIESEL GENERATOR FIRE AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1984
<TYPE> Q
<MEMO> LTR W/LER 83-126 REV 3 TO U.S. NRC, REGION 2, MAR 08, 1984, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8403190033

<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0165
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-126 REV 3
<ABSTRACT> DATE OF EVENT - 090483. POWER LEVEL - 000%. ON 9-4-83 AFTER APPROXIMATELY 8.3 HRS OF MAINTENANCE OPERATION, A DIV. I D/G FUEL LINE RUPTURED RESULTING IN A FIRE NEAR THE LEFT BANK TURBOCHARGER. THE ENGINE WAS SECURED AND AN UNUSUAL EVENT WAS DECLARED FROM 1447 HRS TO 1559 HRS. PERSON(S) RESPONDING TO THE FIRE NOTED THAT THE FIRE PROTECTION DELUGE VALVE FAILED TO OPEN. THE VALVE WAS FORCED OPEN BY A MECHANIC. THE FIRE WAS

DIS 6/0/000001-000057//6 PAGE 2
REPORTED OUT APPROXIMATELY 25 MINUTES AFTER STARTING. THIS IS REPORTED PURSUANT TO TECH SPEC 6.9.1.12.I. THE FUEL LINE FAILURE WAS DUE TO FATIGUE CRACK PROPAGATION. THE CAUSE OF THE DELUGE VALVE FAILURE WAS DUE TO ROUGH MATING SURFACES OF THE VALVE'S LATCH AND CLAPPER. CORRECTIVE ACTIONS INCLUDE THE ADDITION OF A FUEL LINE SUPPORT TO DIV. 1 AND 2 DIESEL GENERATORS, A MORE THOROUGH VALVE TEST PROCEDURE, AND SMOOTHING THE VALVE MATING SURFACES.
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);ANNUNCIATORS;BUILDING; BUILDING/SSF;COMPONENTS;DEFORMATION;DRIVE;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION;EQUIPMENT;FAILURE, COMPONENT; FAILURE, EQUIPMENT;FAILURE, TUBING;FATIGUE;FIRE;FIRE PROTECTION;FIRE PROTECTION/SSF;FLOOD;FUEL, FOSSIL;GENERATOR, DIESEL;INSPECTION;INSTRUMENT, ALARM;LEAK;MAINTENANCE AND REPAIR;SMOKE;SUBSYSTEM FAULT;TEST, SYSTEM OPERABILITY;TUBING;UPDATE;VALVES

DIS 6/0/000001-000057//7 PAGE 1
<ACCESSION NO.> 00Z0188821
<TITLE> UPDATE ON DIESEL GENERATOR FAILURE AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1984
<TYPE> Q
<MEMO> LTR W/LER 83-136 REV 3 TO U.S. NRC, REGION 2, JAN 13, 1984, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8401300179
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0164
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-136 REV 3
<ABSTRACT> DATE OF EVENT - 083083. POWER LEVEL - 000%. ON 8-30-83, DURING A 24 HR SURVEILLANCE TEST RUN, THE DIV. I D/G WAS SHUTDOWN WHEN THE RB1 AND LB5 CYLINDER EXHAUST GASKETS FAILED AND A CRACK AND 2 BROKEN WELDS WERE DISCOVERED ON THE INTERCOOLERS. THE DIESEL WAS 98 MINUTES INTO THE TEST RUN. PER REG. GUIDE 1.108, PARA C.2.E.(3), THIS WAS A VALID SUCCESSFUL TEST. THIS IS REPORTED PURSUANT TO TECH SPEC 4.8.1.1.3. THIS IS AN INTERIM REPORT. THE GASKET FAILURES WERE CAUSED BY LOOSE MANIFOLD BOLTS AND HAVE BEEN REPLACED.

DIS 6/0/000001-000057//7 PAGE 2
A CRACK IN THE BASE METAL OF THE LB INTERCOOLER WAS CAUSED BY THE TURBOCHARGER MISALIGNMENT AND MOUNTING PROBLEMS REPORTED IN LER 83-107/03 X-1. TWO BROKEN STAY ROD WELDS ON THE RB INTERCOOLER WERE DUE TO INSUFFICIENT FILLER WELDS. THE CRACK AND WELDS WERE WELD REPAIRED.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);BUILDING;CRACK;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION; EQUIPMENT;FAILURE, EQUIPMENT;FAILURE, FABRICATION ERROR;FASTENER;FATIGUE;FLAW; GENERATOR, DIESEL;HUMAN FACTORS;INSPECTION;LEAK;MAINTENANCE AND REPAIR;

OPERATOR ACTION;SEAL;SUBSYSTEM FAULT;TEST, SYSTEM OPERABILITY;UPDATE;
VIBRATION;WELDS

DIS 6/0/000001-000057//8 PAGE 1
<ACCESSION NO.> 00Z0188306
<TITLE> HIGH PRESSURE CORE SPRAY DIESEL TRIPS AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1984
<TYPE> Q
<MEMO> LTR W/LER 83-189 TO U.S. NRC, REGION 2, JAN 10, 1984, DOCKET 50-416,
TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8401240491
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05
CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0163
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-189
<ABSTRACT> DATE OF EVENT - 120783. POWER LEVEL - 000%. ON 12/7/83, BREAKER
152-1704 TO THE DIVISION 3 ESF BUS TRIPPED. THE HIGH PRESSURE CORE SPRAY
(HPCS) DIESEL GENERATOR ATTEMPTED TO START BUT IMMEDIATELY TRIPPED. THE ONLY
INDICATION AS TO THE CAUSE OF THE TRIP WAS THE HIGH CRANKCASE PRESSURE
ANNUNCIATOR. THIS TRIP IS BYPASSED IN THE EMERGENCY OPERATING MODE.
THEREFORE THE FAILURE WAS INITIALLY CONSIDERED AN INVALID FAILURE PURSUANT TO
POSITION C.2.E.(2) OF REG GUIDE 1.108. AFTER FURTHER INVESTIGATION THE

DIS 6/0/000001-000057//8 PAGE 2
FAILURE IS NOW CONSIDERED VALID DUE TO AN UNDETERMINED CAUSE. THE BREAKER
TRIPPED DUE TO A BROKEN CURRENT LIMITER RESISTOR SOCKET FOR THE BREAKER
POSITION INDICATING LIGHT. THE RESISTOR SOCKET SHORTED CAUSING THE TRIP COIL
TO ENERGIZE. THE SOCKET WAS ACCIDENTALLY BROKEN DURING A CHANGING OF THE
BULB. THE CAUSE OF THE DIESEL GENERATOR TRIP COULD NOT BE DETERMINED. THE
TESTING FREQUENCY WILL BE 3 DAYS.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);BREAKER;CABLES AND
CONNECTORS;COMPONENTS;CORE SPRAY;CORE SPRAY/SSF;CRACK;ELECTRIC POWER;
ELECTRICAL FAILURE;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;
ENGINES, INTERNAL COMBUSTION;FAILURE, COMPONENT;FAILURE, EQUIPMENT;FAILURE,
MAINTENANCE ERROR;GENERATOR, DIESEL;HUMAN FACTORS;MAINTENANCE AND REPAIR;ON
SITE;OPERATOR ACTION;SUBSYSTEM FAULT

DIS 6/0/000001-000057//9 PAGE 1
<ACCESSION NO.> 00Z0188115
<TITLE> HPCS DIESEL GENERATOR FAILS TO START AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-182 TO U.S. NRC, REGION 2, DEC 13, 1983, DOCKET 50-416,
TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8312200484
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05
CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0163
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-182
<ABSTRACT> DATE OF EVENT - 112983. POWER LEVEL - 000%. ON NOV. 29, 1983, THE
HIGH PRESSURE CORE SPRAY (HPCS) DIESEL GENERATOR FAILED TO START WHEN ESF BUS
17 AC WAS INADVERTENTLY DEENERGIZED WHILE TRANSFERRING POWER FROM ESF
TRANSFORMER 12 TO ESF TRANSFORMER 11. THE FAILURE IS CONSIDERED THE THIRD
VALID FAILURE IN THE LAST 100 VALID TESTS. THE TESTING FREQUENCY HAS BEEN
INCREASED TO ONCE PER 7 DAYS. THE DIESEL GENERATOR WAS UNAVAILABLE FOR 69.3

HOURS. THIS IS REPORTED PURSUANT TO TECH SPEC 6.9.1.12.I AND IS SUBMITTED AS

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A FINAL REPORT. THE CAUSE OF THE LOSS OF POWER WAS PERSONNEL ERROR. THE CAUSE OF THE DIESEL ENGINE FAILURE WAS A MALFUNCTIONING UNIT MODE SELECT SWITCH. THE SWITCH FAILED TO FULLY ENGAGE INTO THE AUTO POSITION RESULTING IN A CONTACT NOT CLOSING. THE SWITCH WAS REPLACED. THE ROOT CAUSE IS ATTRIBUTED TO THE MANUFACTURING OF THE GE TYPE SBM MODEL NO. 10BP429 SWITCH.
<COMPONENT CODE> CKTBRK-CIRCUIT CLOSERS/INTERRUPTERS
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);CABLES AND CONNECTORS; CONTROL SYSTEM;CORE SPRAY;CORE SPRAY/SSF;ELECTRIC POWER;ELECTRICAL FAILURE; EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION;FAILURE, EQUIPMENT;FAILURE, FABRICATION ERROR;FAILURE, INSTRUMENT; FAILURE, OPERATOR ERROR;GENERATOR, DIESEL;HUMAN FACTORS;INSTRUMENT, ABNORMAL INDICATION;INSTRUMENT, CONTROL;INSTRUMENT, SWITCH;MAINTENANCE AND REPAIR;ON SITE;OPERATOR ACTION;SUBSYSTEM FAULT

DIS 6/0/000001-000057//10 PAGE 1
<ACCESSION NO.> 00Z0187979
<TITLE> OPERATOR FAILS TO ENTER LCO WHEN DIESEL GENERATOR DECLARED INOPERABLE AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-184 TO U.S. NRC, REGION 2, DEC 15, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8312280465
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0163
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-184
<ABSTRACT> DATE OF EVENT - 112283. POWER LEVEL - 000%. ON NOV. 22, 1983, THE DIVISION I DIESEL GENERATOR WAS DECLARED INOPERABLE DUE TO THE STANDBY SERVICE WATER "A" PUMP BEING INOPERABLE (DUE TO LOW COOLING WATER FLOW). AFTER BEING QUESTIONED BY THE RESIDENT INSPECTOR AS TO WHY THERE WAS NO LCO ENTERED COVERING THE DIV. I D/G, AN LCO WAS ENTERED PURSUANT TO TECH SPEC 3.8.1.2.A. THIS IS REPORTABLE PURSUANT TO TECH SPEC 6.9.1.13.C. THE FAILURE

DIS 6/0/000001-000057//10 PAGE 2
TO ENTER INTO THE ACTION STATEMENT WAS DUE TO PERSONNEL ERROR. A MEMO WAS WRITTEN TO THE OPERATOR INVOLVED. THIS IS A FINAL REPORT.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> SF-EMERG CORE COOLING SYS & CONT
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);EMERGENCY POWER, ELECTRIC; EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION;FAILURE, EQUIPMENT; FAILURE, OPERATOR ERROR;FLOW;GENERATOR, DIESEL;HUMAN FACTORS;LICENSED OPERATOR;LOW;SERVICE WATER SYSTEM;SERVICE WATER SYSTEM/SSF;SUBSYSTEM FAULT

DIS 6/0/000001-000057//11 PAGE 1
<ACCESSION NO.> 00Z0187976
<TITLE> UPDATE ON DELUGE VALVE FAILURE DURING DIESEL GENERATOR FIRE AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-126 REV 2 TO U.S. NRC, REGION 2, DEC 30, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8401060421
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000

<EDITION> 0163
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-126 REV 2
<ABSTRACT> DATE OF EVENT - 090483. POWER LEVEL - 000%. ON 9-4-83 AFTER APPROXIMATELY 8.3 HOURS OF MAINTENANCE OPERATION, A DIV. I DIESEL GENERATOR FUEL LINE RUPTURED RESULTING IN A FIRE NEAR THE LEFT BANK TURBOCHARGER. THE ENGINE WAS SECURED AND AN UNUSUAL EVENT WAS DECLARED FROM 1447 HOURS TO 1559 HOURS. PERSON(S) RESPONDING TO THE FIRE NOTED THAT THE FIRE PROTECTION DELUGE VALVE FAILED TO OPEN. THE VALVE WAS FORCED OPEN BY A MECHANIC. THE

FIRE WAS REPORTED OUT APPROXIMATELY 25 MINUTES AFTER STARTING. THIS IS REPORTED PURSUANT TO TECH SPEC 6.9.1.12.I. THE FUEL LINE FAILURE WAS DUE TO FATIGUE CRACK PROPAGATION. INVESTIGATION OF THE DELUGE VALVE FAILURE IS CONTINUING. THE CAUSE IS BELIEVED TO BE ROUGH MATING SURFACES OF THE VALVE'S LATCH AND CLAPPER. CORRECTIVE ACTIONS INCLUDE THE ADDITION OF A FUEL LINE SUPPORT TO DIV. 1 AND 2 D/GS AND A MORE THOROUGH TEST PROCEDURE FOR THE DELUGE VALVES.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);ANNUNCIATORS;BUILDING; BUILDING/SSF;COMPONENTS;DEFORMATION;DRIVE;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION;EQUIPMENT;FAILURE, COMPONENT; FAILURE, EQUIPMENT;FAILURE, TUBING;FATIGUE;FIRE;FIRE PROTECTION;FIRE PROTECTION/SSF;FLOOD;FUEL, FOSSIL;GENERATOR, DIESEL;INSPECTION;INSTRUMENT, ALARM;LEAK;MAINTENANCE AND REPAIR;SMOKE;SUBSYSTEM FAULT;TEST, SYSTEM OPERABILITY;TUBING;VALVES

<ACCESSION NO.> 00Z0187877
<TITLE> DIESEL GENERATOR INOPERABLE TWICE DUE TO PERSONNEL ERRORS AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-179 TO U.S. NRC, REGION 2, DEC 06, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8312160291
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0162
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-179
<ABSTRACT> DATE OF EVENT - 110583. POWER LEVEL - 002%. ON 11/5/83 DURING A 7-DAY MAINTENANCE RUN, THE DIV. II DIESEL GENERATOR WAS SHUT DOWN UPON DISCOVERY OF A FUEL OIL RETURN LINE LEAK. UPON RESTART, AFTER REPAIR OF THE FUEL LEAK, THE DIESEL GENERATOR TRIPPED DUE TO ISOLATION OF FUEL SUPPLY VALVE F016B. PER R.G. 1.108, THESE WERE NOT VALID FAILURES BECAUSE THE DIESEL RAN FOR LONGER THAN 1 HOUR AT GREATER THAN 50% LOAD AND DUE TO OPERATOR ERROR.

THE REQUIREMENTS OF TECH SPEC 3.8.1.1 WERE MET. THIS IS REPORTED PURSUANT TO TECH SPEC 4.8.1.1.3. THIS IS AN INTERIM REPORT. THE CAUSE OF THE FUEL LINE LEAK WAS DUE TO PHYSICAL DAMAGE TO THE TUBING BY PERSONNEL. THE BROKEN FUEL LINE WAS REPLACED WITH NEW TUBING AND FITTINGS. THE CAUSE OF THE ISOLATION OF VALVE F016B WAS DUE TO PERSONNEL ERROR. PLANT STAFF IS STILL EVALUATING THIS EVENT TO DETERMINE THE NECESSARY CONTROLS TO PREVENT RECURRENCE.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);OPERATOR ACTION;INCIDENT, HUMAN ERROR;RESPONSE TIME;FUEL, FOSSIL/SSF;FLOW BLOCKAGE;HUMAN FACTORS;TEST,

SYSTEM OPERABILITY;INSPECTION;TUBING;FAILURE, TUBING;FUEL, FOSSIL;ENGINES, INTERNAL COMBUSTION;EMERGENCY POWER, ELECTRIC;BUILDING;LEAK;FAILURE, EQUIPMENT;GENERATOR, DIESEL;EMERGENCY POWER, ELECTRIC/SSF;SUBSYSTEM FAULT; REACTOR STARTUP;VALVES;FAILURE, MAINTENANCE ERROR

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<ACCESSION NO.> 00Z0187876
<TITLE> DIESEL GENERATOR AIR START VALVE OVERHEATS AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-178 TO U.S. NRC, REGION 2, DEC 08, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8312200164
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0162
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-178
<ABSTRACT> DATE OF EVENT - 110883. POWER LEVEL - 004%. ON NOVEMBER 8, 1983, AT 0420 HOURS DIESEL GENERATOR 12 WAS SHUT DOWN AFTER 70 HOURS OF CONTINUOUS OPERATION TO REPLACE THE NO. 1 LEFT BANK AIR START VALVE. AN LCO WAS ENTERED UNDER TECH SPEC 3.8.1.1 FOR 2.6 HOURS. THE D/G WAS RESTARTED AT 0600 HOURS AND DECLARED OPERABLE AT 0700 HOURS. THE FAILURE IS CONSIDERED NONVALID PURSUANT TO REGULATORY POSITION C.2.E(3) OF R.G. 1.108. AT THIS TIME TESTING FREQUENCY IS ONCE PER 14 DAYS DUE TO 2 PREVIOUS FAILURES. THIS EVENT DOES

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NOT INCREASE TESTING FREQUENCY. THE CAUSE OF THE VALVE FAILURE IS ATTRIBUTED TO FOREIGN MATERIALS IN THE STARTING AIR LINE. A SIMILAR INCIDENT WAS REPORTED IN LER 83-082 FOR D/G 11. A WORK AUTHORIZATION WAS INITIATED AT THAT TIME TO INSPECT AND PERFORM MAINTENANCE ON THE D/G 12 STARTING AIR SYSTEM. THIS WORK HAD NOT BEEN PERFORMED BUT IS SCHEDULED TO BE PERFORMED DURING THE PRESENT OUTAGE.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);VALVES;ENGINES, INTERNAL COMBUSTION;EMERGENCY POWER, ELECTRIC;PNEUMATIC SYSTEM;HIGH TEMPERATURE;TEST, SYSTEM OPERABILITY;INSPECTION;GENERATOR, DIESEL;EMERGENCY POWER, ELECTRIC/SSF; SUBSYSTEM FAULT;OPERATION;FAILURE, EQUIPMENT

DIS 6/0/000001-000057//14 PAGE 1
<ACCESSION NO.> 00Z0187824
<TITLE> DIESEL GENERATOR TRIPS ON HIGH VIBRATION SIGNAL AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-175 TO U.S. NRC, REGION 2, NOV 28, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8312130022
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0162
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-175
<ABSTRACT> DATE OF EVENT - 102883. POWER LEVEL - 003%. ON OCTOBER 28 AND 31, 1983, DURING A 7-DAY TEST RUN, THE DIVISION II DIESEL GENERATOR TRIPPED DUE TO A HIGH VIBRATION SIGNAL. PER REG. GUIDE 1.108, THESE WERE NOT VALID FAILURES AS THE VIBRATION CIRCUITRY IS NOT OPERATIVE IN THE EMERGENCY MODE. THE REQUIREMENTS OF TECH SPEC 3.8.1.2 WERE MET. THIS IS REPORTED PURSUANT TO TECH SPEC 4.8.1.1.3. THIS IS A FINAL REPORT. THE VIBRATION CIRCUITRY AND

INSTRUMENTS WERE TESTED AND EXTENSIVE VIBRATION TESTS WERE CONDUCTED ON THE

DIESEL GENERATOR. AS A RESULT, A VIBRATION DETECTOR SETPOINT WAS DETERMINED TO BE SET TOO SENSITIVE. THE SETPOINT WAS CORRECTED AND THE INSTRUMENT WAS RECALIBRATED. THE DIESEL GENERATOR WAS TESTED SATISFACTORILY.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);OPERATOR ACTION;FAILURE, ADMINISTRATIVE CONTROL;TEST, SYSTEM OPERABILITY;INSPECTION;VIBRATION;FAILURE, INSTRUMENT;ENGINES, INTERNAL COMBUSTION;CONTROL SYSTEM;EMERGENCY POWER, ELECTRIC;DRIFT;INSTRUMENT, ABNORMAL INDICATION;FAILURE, EQUIPMENT;GENERATOR, DIESEL;EMERGENCY POWER, ELECTRIC/SSF;SUBSYSTEM FAULT;REACTOR STARTUP;TESTING; PROCEDURES AND MANUALS;CALIBRATION

<ACCESSION NO.> 00Z0187758
<TITLE> LEAK IN DIESEL GENERATOR FUEL OIL LINE AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-174 TO U.S. NRC, REGION 2, NOV 28, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8312080098
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0162
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-174
<ABSTRACT> DATE OF EVENT - 102683. POWER LEVEL - 001%. DURING A DIV. II D/G MONTHLY SURVEILLANCE ON OCT. 26, 1983, A FUEL OIL LEAK WAS DISCOVERED ON THE #8LB CYLINDER INJECTOR RETURN LINE. THE D/G WAS UNLOADED AND SHUTDOWN. ACTION STATEMENT (A) OF TECH SPEC 3.8.1.1 WAS ENTERED INTO AND MET. THE D/G WAS INOPERATIVE FOR 3.15 HOURS. PER REG. GUIDE 1.108, THIS WAS NOT A VALID FAILURE. THIS IS REPORTED PURSUANT TO TECH SPEC 4 3.1.1.3. THIS IS A FINAL REPORT. THE LEAK OCCURRED AT A CRIMP CAUSED BY AN UNKNOWN BUMP BY A TOOL OR

PERSONNEL DURING PREVIOUS DIESEL GENERATOR MAINTENANCE. THE LINE WAS REPLACED.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);OPERATOR ACTION;PIPES AND PIPE FITTINGS;FAILURE, PIPE;FUEL, FOSSIL;ENGINES, INTERNAL COMBUSTION; EMERGENCY POWER, ELECTRIC;BUILDING;IMPACT SHOCK;LEAK;TEST, SYSTEM OPERABILITY; INSPECTION;FAILURE, EQUIPMENT;GENERATOR, DIESEL;EMERGENCY POWER, ELECTRIC/SSF; SUBSYSTEM FAULT;OPERATION;INCIDENT, HUMAN ERROR;MAINTENANCE AND REPAIR; FAILURE, MAINTENANCE ERROR

<ACCESSION NO.> 00Z0187755
<TITLE> FUEL OIL LEAK FOUND ON DIESEL GENERATOR AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-171 TO U.S. NRC, REGION 2, NOV 28, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8312080094
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0163
<CORP CODE> MPL

<COUNTRY> A
<LER NO> 83-171
<ABSTRACT> DATE OF EVENT - 102883. POWER LEVEL - 001%. ON OCTOBER 28, 1983, WHILE PRELUBING D/G 11, A FUEL OIL LEAK WAS DISCOVERED AT A 90 DEGREE CONNECTION IN THE #5 RIGHT BANK CYLINDER LINE. THE SUBCOVER HEAD GASKET AT THE SAME CYLINDER WAS ALSO DAMAGED AND LEAKING. DURING MAINTENANCE WORK ON THESE FAILURES, A CONNECTOR PUSHROD WAS FOUND BROKEN BETWEEN THE BALL WELD AND THE ROD. THE D/G WAS DECLARED INOPERABLE AND AN LCO WAS ENTERED PURSUANT TO TECH SPEC 3.8.1.1 WHEN THE OIL LEAK WAS DISCOVERED. THIS IS REPORTED

PURSUANT TO TECH SPEC 6.9.1.13.B. THE LEAKING FUEL OIL FITTING AND TUBING, THE BLOWN SUBCOVER GASKET, AND THE BROKEN PUSHROD WERE REPLACED. THE CAUSE OF THE PUSHROD FAILURE AND ACTIONS REQUIRED TO PREVENT RECURRENCE ARE UNDER INVESTIGATION. THIS IS SUBMITTED AS AN INTERIM REPORT. AN UPDATE IS EXPECTED TO BE SUBMITTED BY FEBRUARY 28, 1984.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);BUILDING;CRACK;DEFORMATION; DRIVE;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION;FAILURE, EQUIPMENT;FAILURE, PIPE;FUEL, FOSSIL;GENERATOR, DIESEL;INSPECTION;LEAK;MAINTENANCE AND REPAIR;OPERATION;PIPES AND PIPE FITTINGS;SEAL;SUBSYSTEM FAULT;TEST, SYSTEM OPERABILITY

<ACCESSION NO.> 00Z0187641
<TITLE> DIESEL FUEL OIL INSTRUMENT LINE LEAKS AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-167 TO U.S. NRC, REGION 2, NOV 21, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8312010296
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0163
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-167
<ABSTRACT> DATE OF EVENT - 102283. POWER LEVEL - 000%. ON OCTOBER 22, 1983, D/G 12 WAS INTENTIONALLY SECURED WHEN A LEAK WHICH WAS CONSIDERED A POTENTIAL FIRE HAZARD DEVELOPED IN THE FUEL OIL FILTER DIFFERENTIAL PRESSURE INSTRUMENT LINE. THE ENGINE HAD OPERATED APPROX. 27 HOURS OF A 7 DAY SURVEILLANCE RUN. THE DIESEL WAS DECLARED INOPERABLE AND AN LCO WAS ENTERED PURSUANT TO TECH SPEC 3.8.1.1. D/G'S 11 AND 13 WERE OPERABLE. D/G 12 REMAINED INOPERABLE FOR 4.5 HOURS. THIS IS CONSIDERED A NON-VALID FAILURE PURSUANT TO REGULATORY

POSITION C.2.E(2) OF R.G. 1.108. THE TUBING RUBBED AGAINST A D/G AIR BOX WHICH EVENTUALLY CAUSED A RUPTURE IN THE TUBING DUE TO VIBRATION. THE TUBING WAS REPLACED AND ROUTED TO PREVENT RUBBING. DIVISION 1 AND 2 D/G'S WILL BE INSPECTED FOR OTHER SIMILAR DEFICIENCIES. THIS IS SUBMITTED AS AN INTERIM REPORT. AN UPDATE IS EXPECTED TO BE SUBMITTED BY JANUARY 20, 1984.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);BUILDING;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION;FAILURE, EQUIPMENT;FAILURE, INSTALLATION ERROR;FUEL, FOSSIL;GENERATOR, DIESEL;HUMAN FACTORS;INSPECTION;INSTRUMENT LINE;INSTRUMENT, NON-NUCLEAR;LEAK;OPERATOR ACTION;SUBSYSTEM FAULT;TEST, SYSTEM OPERABILITY;VIBRATION

<TITLE> UPDATE ON IMPROPER MODIFICATION OF STARTING AIR TANK AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-135 REV 1 TO U.S. NRC, REGION 2, OCT 20, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8311010173
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0162
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-135 REV 1
<ABSTRACT> DATE OF EVENT - 091383. POWER LEVEL - 000%. ON SEPTEMBER 13, 1983, OPERATIONS WAS NOTIFIED OF A TEMPORARY CONNECTION FROM THE DISCHARGE OF THE DIVISION 2 DIESEL GENERATOR STARTING AIR STORAGE TANK D TO THE DIVISION 1 DIESEL GENERATOR THAT WAS MADE WITHOUT THE PROPER REVIEWS, AUTHORIZATIONS, AND DOCUMENTATION. THE CONNECTION WAS MADE TO JACK THE DIV. 1 D/G CRANKSHAFT OVER TO INSPECT AND DRY THE GENERATOR. THE PRESSURE IN THE C AND D TANKS DID NOT FALL BELOW 160 PSIG DURING THIS TIME. THE CAUSE WAS DUE TO PERSONNEL

ERROR. THE ERROR WAS DUE TO MISCOMMUNICATION AND NONCOMPLIANCE WITH ADMINISTRATIVE PROCEDURES. THE PERSONNEL INVOLVED WERE COUNSELED AND ARE AWARE OF THE PROPER PROCEDURE. THIS IS REPORTED PURSUANT TO TECH SPEC 6.9.1.13.C.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);UPDATE;SUBSYSTEM FAULT; EMERGENCY POWER, ELECTRIC/SSF;MODIFICATION;PNEUMATIC SYSTEM;FAILURE, PIPE; PIPES AND PIPE FITTINGS;PROCEDURES AND MANUALS;FAILURE, MAINTENANCE ERROR; OPERATOR ACTION;EMERGENCY POWER, ELECTRIC;GENERATOR, DIESEL;FAILURE, EQUIPMENT;ENGINES, INTERNAL COMBUSTION

<ACCESSION NO.> 00Z0186836
<TITLE> DIESEL GENERATOR TRIPS ON HIGH VIBRATION AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-148 TO U.S. NRC, REGION 2, OCT 19, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8311010107
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0163
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-148
<ABSTRACT> DATE OF EVENT - 091983. POWER LEVEL - 000%. ON 9/19/83, THE DIVISION 1 DIESEL GENERATOR WAS MANUALLY STARTED FOR TESTING AND TRIPPED ON HIGH VIBRATION APPROXIMATELY 12 MINUTES AFTER LOADING. THE FAILURE IS CONSIDERED NON-VALID PURSUANT TO REGULATORY POSITION C.2.E.(2) OF REGULATORY GUIDE 1.108 AS THE VIBRATION TRIP IS BYPASSED IN THE EMERGENCY OPERATING MODE. THIS IS REPORTED PURSUANT TO TECH SPEC 6.9.1.13.B. THE CAUSE WAS DUE TO A MALFUNCTIONING CALCON VIBRATION SWITCH. THE SWITCH HAD BEEN PROCURED FROM

THE UNIT 2 STOCK AND INSTALLED ON THE RIGHT BANK TURBOCHARGER FOLLOWING THE DIVISION 1 D/G FIRE INCIDENT, (LER 83-126/01 T-0). THE FAILED UNIT 2 SWITCH WAS REPLACED ON 9/20/83. THIS IS SUBMITTED AS A FINAL REPORT.
<COMPONENT CODE> INSTRU-INSTRUMENTATION AND CONTROLS
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS

<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);CONTROL SYSTEM;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION; FAILURE, EQUIPMENT;FAILURE, INSTRUMENT;GENERATOR, DIESEL;INSPECTION; INSTRUMENT, ABNORMAL INDICATION;INSTRUMENT, SWITCH;SUBSYSTEM FAULT;TEST, SYSTEM OPERABILITY;VIBRATION

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<ACCESSION NO.> 00Z0186474
<TITLE> UPDATE ON SETPOINT DRIFT OF DIESEL GENERATOR TEMPERATURE SWITCH AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-095 REV 1 TO U.S. NRC, REGION 2, OCT 12, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8310190111
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0160
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-095 REV 1
<ABSTRACT> DATE OF EVENT - 071383. POWER LEVEL - 000%. ON 7/13/83, DURING PERFORMANCE OF THE DIV. I STANDBY DIESEL GENERATOR FUNCTIONAL TEST, THE DIESEL TRIPPED ON HIGH JACKET WATER TEMP. WHILE LOADED TO APPROXIMATELY 7000 KW IN PREPARATION FOR THE LOAD REJECTION TEST OF TECH SPEC 4.8.1.1.2.D.3. THE JACKET WATER EFFLUENT WAS MONITORED AT 168 DEGREES F. THE FAILURE IS CONSIDERED AN INVALID FAILURE PURSUANT TO R.G. 1.108.C.2.E(2) AS THE

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TEMPERATURE TRIP IS BYPASSED IN THE EMERGENCY MODE. THE TEMPERATURE SWITCH (1P75TSN162A) WAS FOUND OUT OF CALIBRATION. THE "AS FOUND" SETPOINT WAS 169 DEGREES F. THE CAUSE OF THE SETPOINT DRIFT WAS DUE TO A LOOSE SET SCREW. THE SWITCH WAS ADJUSTED TO 202 DEGREES F. THE DIV. 2 SWITCH WAS ALSO CHECKED. ITS SETPOINT WAS FOUND ACCEPTABLE AT 201 DEGREES F. THIS IS SUBMITTED AS A FINAL REPORT.
<COMPONENT CODE> INSTRU-INSTRUMENTATION AND CONTROLS
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);CONTROL SYSTEM;COOLING;DRIFT; EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION;FAILURE, EQUIPMENT;FAILURE, INSTRUMENT;FASTENER;GENERATOR, DIESEL; INSPECTION;INSTRUMENT, SWITCH;MAINTENANCE AND REPAIR;SENSORS, TEMPERATURE; SUBSYSTEM FAULT;TEST, SYSTEM OPERABILITY;UPDATE

DIS 6/0/000001-000057//21 PAGE 1
<ACCESSION NO.> 00Z0186320
<TITLE> UPDATE ON SHUTDOWN OF DIESEL ENGINE AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 82-020 REV 1 TO U.S. NRC, REGION 2, MAR 07, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8303160457
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0160
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 82-020 REV 1
<ABSTRACT> DATE OF EVENT - 071882. POWER LEVEL - 000%. DURING THE HIGH PRESSURE CORE SPRAY (HPCS) DIESEL GENERATOR 13 FUNCTIONAL TEST, THE DIESEL ENGINE WAS SHUT DOWN PRIOR TO COMPLETION OF THE TEST DUE TO RECEIPT OF THE "GENERATOR

CONDITION. IF NEEDED, OPERATION OF THE DIESEL COULD HAVE CONTINUED. THE EVENTS WOULD NOT HAVE PREVENTED OPERATION IN AN EMERGENCY. THE EVENT IS BEING REPORTED PURSUANT TO TECH SPEC 4.8.1.1.3 AND TECH SPEC 6.9.1.13.C.

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ACTUAL STATOR TEMPERATURE READINGS INDICATED THAT TEMPERATURES WERE WELL BELOW THE ALLOWABLE LIMIT. THE CAUSE OF THE ALARM IS ATTRIBUTED TO SPURIOUS SIGNALS AS THE GENERATOR WAS BEING PARALLELED TO THE BUS. AN INVESTIGATION REVEALED THAT THE ENGINE START WAS NOT A VALID START DUE TO OPERATING ERROR.
<COMPONENT CODE> HEATER-HEATERS,ELECTRIC
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);ANNUNCIATORS;CALIBRATION; ELECTRICAL FAILURE;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF; ENGINES, INTERNAL COMBUSTION;FAILURE, EQUIPMENT;FAILURE, INSTRUMENT; GENERATOR, DIESEL;HEATERS;HUMAN FACTORS;INSPECTION;INSTRUMENT, ABNORMAL INDICATION;INSTRUMENT, ALARM;INSTRUMENT, CURRENT;LUBRICATION;MAINTENANCE AND REPAIR;MEASUREMENT, TEMPERATURE;OPERATOR ACTION;REFUELING;RESPONSE TIME; SENSORS, TEMPERATURE;SUBSYSTEM FAULT;TEST, SYSTEM OPERABILITY;TESTING;UPDATE

DIS 6/0/000001-000057//22 PAGE 1
<ACCESSION NO.> 00Z0186217
<TITLE> DIESEL GENERATOR TRIPS ON HIGH BEARING TEMPERATURE AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-018 TO U.S. NRC, REGION 2, FEB 04, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8302140093
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0160
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-018
<ABSTRACT> DATE OF EVENT - 010583. POWER LEVEL - 000%. ON JANUARY 5, 1983, WITH THE PLANT IN SHUTDOWN, DIESEL GENERATOR II WAS STARTED FOR A MAINTENANCE CHECK. FORTY-FIVE SECONDS INTO THE RUN, IT TRIPPED ON HIGH BEARING TEMPERATURE. THE SIGNAL CLEARED IMMEDIATELY AND THERE WAS NO INDICATION OF HOT BEARINGS SO IT WAS STARTED AGAIN. AFTER 13 MINUTES UNDER LOAD THE LOCAL OPERATOR INDICATED THAT CRANKCASE PRESSURE WAS RISING. THE DIESEL WAS THEN UNLOADED AND SECURED. THE EVENT IS REPORTED PURSUANT TO TECH SPEC 4.8.1.1.3.

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A SENSOR ON THE REAR MAIN BEARING WAS LOOSE AND WAS ALLOWING AIR TO VENT OFF THE PNEUMATIC LOGIC SYSTEM. THIS CAUSED BOTH THE BEARING TEMPERATURE ALARM AND THE HIGH CRANKCASE PRESSURE ALARM. BASED ON THIS AND REG. GUIDE 1.108.C.2.E.2, THIS IS A NON-VALID TEST. THE SENSOR WAS REWORKED AND THE DIESEL PERFORMED SATISFACTORILY.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);BUILDING;CONTROL SYSTEM; EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION;FAILURE, EQUIPMENT;FAILURE, INSTRUMENT;GENERATOR, DIESEL; INSPECTION;INSTRUMENT, ABNORMAL INDICATION;INSTRUMENT, SWITCH;INSTRUMENTS, MISC.;LEAK;SENSORS, PRESSURE;SENSORS, TEMPERATURE;SUBSYSTEM FAULT;TEST, SYSTEM OPERABILITY

DIS 6/0/000001-000057//23 PAGE 1
<ACCESSION NO.> 00Z0186093
<TITLE> DIESEL GENERATOR FAILS TO REGULATE EMERGENCY BUS VOLTAGE AT GRAND GULF
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983

<MEMO> LTR W/LER 83-140 TO U.S. NRC, REGION 2, OCT 03, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8310120419
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0160
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-140
<ABSTRACT> DATE OF EVENT - 090283. POWER LEVEL - 000%. ON 9/2/83, THE POWER TO THE DIV. I ESF BUS WAS INTENTIONALLY REMOVED TO PERFORM A LOSS OF POWER TEST ON THE DIV. I DIESEL GENERATOR. THE DIESEL GENERATOR AUTO STARTED BUT DID NOT REGULATE BUS VOLTAGE DURING THE LOAD-SHEDDING SEQUENCE. THE VOLTAGE DIPPED BELOW 70% AT LEAST TWICE CAUSING 3 AUTO-STARTS OF LPCS AND 2 AUTO-STARTS OF RHR "A". THIS IS REPORTED PURSUANT TO TECH SPEC 4.8.1.1.3. THE AUTO-VOLTAGE REGULATOR FAILED DUE TO NUMEROUS INTERNAL ELECTRONIC

COMPONENT FAILURES THAT WERE INITIATED BY UNKNOWN CAUSES. THE FAILED COMPONENTS WERE REPLACED, AND THE REGULATOR HAS BEEN THOROUGHLY TESTED SATISFACTORILY.
<COMPONENT CODE> INSTRU-INSTRUMENTATION AND CONTROLS
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);CABLES AND CONNECTORS; COMPONENTS;CONTROL;CONTROL SYSTEM;CORE SPRAY;ELECTRIC POWER;ELECTRICAL FAILURE;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION;FAILURE, COMPONENT;FAILURE, EQUIPMENT;FAILURE, INSTRUMENT; GENERATOR, DIESEL;INSPECTION;INSTRUMENT, ABNORMAL INDICATION;INSTRUMENT, VOLTAGE;MAINTENANCE AND REPAIR;ON SITE;PUMPS;RHR;SUBSYSTEM FAULT;TEST, SYSTEM OPERABILITY

<ACCESSION NO.> 00Z0186092
<TITLE> DG FAILS TO TRIP ON HIGH BEARING TEMPERATURE ALARM AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-138 TO U.S. NRC, REGION 2, SEP 30, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8310190257
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0160
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-138
<ABSTRACT> DATE OF EVENT - 083183. POWER LEVEL - 000%. ON 8-30-83, DURING A 24 HOUR SURV. TEST RUN. THE DIVISION I D/G WAS SHUTDOWN WHEN IT DID NOT AUTOMATICALLY TRIP UPON RECEIPT OF AN UNEXPECTED "HIGH BEARING TEMPERATURE" ALARM (THE TRIP IS BYPASSED IF A LOCA/LOSP SIGNAL IS RECEIVED). THE DIESEL HAD BEEN LOADED TO GREATER THAN 50% FOR 90 MINUTES. PER REG GUIDE 1.108, PARAGRAPH C.2.E.(3), THIS WAS A VALID SUCCESSFUL TEST. THIS IS A FINAL REPORT. THE CAUSE WAS DUE TO A LEAKY PNEUMATIC TEMPERATURE SENSOR

MANUFACTURED BY CALIF. CONTROLS, TYPE 3434. THE SENSOR ALLOWED THE AIR TO BLEED DOWN JUST ENOUGH TO TRIP THE PNEUMATIC ALARM SWITCH BUT NOT THE PNEUMATIC D/G TRIP MECHANISM. THIS WOULD NOT AFFECT THE OPERATION DURING A LOCA/LOSP. THE DEVICE WAS REPLACED. THIS IS REFORTED PURSUANT TO TECH SPEC 4.8.1.1.3.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);ANNUNCIATORS;CONTROL SYSTEM;

EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION;FAILURE, EQUIPMENT;FAILURE, INSTRUMENT;GENERATOR, DIESEL; INSPECTION;INSTRUMENT, ALARM;INSTRUMENT, SWITCH;LEAK;MAINTENANCE AND REPAIR; SENSORS, TEMPERATURE;SUBSYSTEM FAULT;TEST, SYSTEM OPERABILITY

DIS 6/0/000001-000057//25 PAGE 1
<ACCESSION NO.> 00Z0186087
<TITLE> DIESEL GENERATOR DECLARED INOPERABLE TWICE AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-133 TO U.S. NRC, REGION 2, SEP 28, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8310060401
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0160
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-133
<ABSTRACT> DATE OF EVENT - 082983. POWER LEVEL - 000%. ON AUGUST 29 AND AUGUST 31, 1983, THE DIVISION 2 DIESEL GENERATOR WAS DECLARED INOPERABLE WHEN THE 'C' AIR RECEIVER PRESSURE DROPPED BELOW THE 160 PSIG LIMIT OF TECH SPEC 4.8.1.1.2.A.7(A). THE REDUNDANT 'D' RECEIVER MAINTAINED PRESSURE AT 250 PSIG. AN LCO WAS ENTERED PURSUANT TO TECH SPEC 3.8.1.2 AS THE DIVISION 1 DIESEL GENERATOR WAS ALSO INOPERABLE. THIS IS REPORTED PURSUANT TO TECH SPEC 6.9.1.13.B. DIVISION 2 DIESEL GENERATOR WAS RESTORED TO SERVICE ON 9/10/83.

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THE CAUSE IS ATTRIBUTED TO A DRIFTING SETPOINT ON THE ELECTRIC MOTOR DRIVEN COMPRESSOR DISCHARGE RELIEF VALVE AND A STICKING CHECK VALVE ON THE INLET TO THE AIR RECEIVER TANK. THE RELIEF VALVE WAS REPLACED. FURTHER CORRECTIVE ACTION WILL BE DISCUSSED IN AN UPDATE TO LER 83-078.
<COMPONENT CODE> VALVEX-VALVES
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);ANNUNCIATORS;DRIFT;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION; FAILURE, EQUIPMENT;FAILURE, MAINTENANCE ERROR;GENERATOR, DIESEL;HIGH TEMPERATURE;INSTRUMENT, ALARM;LOW;MAINTENANCE AND REPAIR;PNEUMATIC SYSTEM; PRESSURE RELIEF;PRESSURE, EXTERNAL;PRESSURE, INTERNAL;PUMPS;STORAGE CONTAINER; SUBSYSTEM FAULT;VALVE, CHECK;VALVES

DIS 6/0/000001-000057//26 PAGE 1
<ACCESSION NO.> 00Z0186085
<TITLE> HPCS DIESEL TRIPS AFTER INADVERTENT ACTUATION AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-129 TO U.S. NRC, REGION 2, SEP 26, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8310070239
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0160
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-129
<ABSTRACT> DATE OF EVENT - 082783. POWER LEVEL - 000%. ON AUGUST 17, 1983, AFTER AN AUTO-INITIATION OF HIGH PRESSURE CORE SPRAY (HPCS) BY A FALSE LOW REACTOR WATER LEVEL TRIP, THE HPCS DIESEL GENERATOR TRIPPED AFTER 13 MINUTES DUE TO HIGH JACKET WATER TEMPERATURE. THIS IS REPORTED PURSUANT TO TECH SPEC 4.8.1.1.3 AND 6.9.1.13.C. THIS IS A FINAL REPORT. THE CAUSE WAS PERSONNEL

CLOSED AS PART OF A SSW PUMP SURVEILLANCE. THE PROCEDURE STATED THAT IF THE

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DIESEL AUTO-STARTED, THE VALVES WERE TO BE IMMEDIATELY REOPENED. THE VALVES WERE REOPENED AFTER THE TRIP AND THE DIESEL WAS RESTARTED, LOADED AND RUN SUCCESSFULLY. ALL OPERATIONS PERSONNEL WILL BE INFORMED.
<COMPONENT CODE> VALVEX-VALVES
<SYSTEM CODE> WA-STATION SERV WATER SYS & CONT
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);CALIBRATION;COOLING;CORE SPRAY;CORE SPRAY/SSF;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF; ENGINES, INTERNAL COMBUSTION;FAILURE, ADMINISTRATIVE CONTROL;FAILURE, EQUIPMENT;FAILURE, INSTRUMENT;FAILURE, OPERATOR ERROR;GENERATOR, DIESEL;HIGH TEMPERATURE;HUMAN FACTORS;INSTRUMENT, ABNORMAL INDICATION;INSTRUMENT, LIQUID LEVEL;NONLICENSED OPERATOR;OPERATOR ACTION;PRESSURE PULSE;PRESSURE VESSELS; PROCESS MONITORING;REACTOR PROTECTION SYSTEM;SENSORS, LEVEL;SERVICE WATER SYSTEM;SUBSYSTEM FAULT;TESTING;TRAINING;VALVES

DIS 6/0/000001-000057//27 PAGE 1
<ACCESSION NO.> 00Z0185786
<TITLE> DIESEL GENERATOR FUEL LINE LEAKS AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-114 TO U.S. NRC, REGION 2, SEP 01, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8309120313
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0159
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-114
<ABSTRACT> DATE OF EVENT - 080283. POWER LEVEL - 000%. ON 8/2/83 THE HIGH PRESSURE FUEL INJECTION LINE FOR THE #2LB CYLINDER DEVELOPED A SMALL THRU WALL LEAK 6 HOURS INTO A DIV I DIESEL GENERATOR (D/G) HOUR TEST RUN. THE D/G WAS SHUTDOWN FOR REPLACEMENT OF THE LINE. THE D/G HAD BEEN LOADED TO GREATER THAN 50% FOR 6 HOURS, THEREFORE, THIS WAS A VALID SUCCESSFUL TEST PER R.G. 1.108. THIS IS A FINAL REPORT. THIS IS REPORTED PURSUANT TO TECH SPEC 4.8.1.1.3. THE CAUSE WAS ATTRIBUTED TO A MANDREL DRAW SEAM ON THE ID OF THE

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TUBING. THIS WAS A POTENTIAL DEFECT FOUND IN A PARTICULAR TUBING LOT AND WAS REPORTED BY THE MANUFACTURER ON 7/27/83. THE LINE WAS REPLACED WITH A NEW SPARE. LINES WITH LESS THAN 10,000,000 CYCLES ARE BEING INSPECTED AND WILL BE REPLACED IF A FLAW IS FOUND.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);BUILDING;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION;FAILURE, EQUIPMENT;FAILURE, FABRICATION ERROR;FAILURE, TUBING;FATIGUE;FUEL, FOSSIL; GENERATOR, DIESEL;HUMAN FACTORS;INSPECTION;LEAK;NRC-AE;OPERATOR ACTION; REACTOR STARTUP EXPERIENCE;SUBSYSTEM FAULT;TEST, SYSTEM OPERABILITY;TUBING

DIS 6/0/000001-000057//28 PAGE 1
<ACCESSION NO.> 00Z0185603
<TITLE> UPDATE ON REMOVAL OF ALL DIESEL GENERATORS FROM SERVICE AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-062 REV 1 TO U.S. NRC, REGION 2, AUG 31, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8309120426

<CATEGORY> 170000
<EDITION> 0159
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-062 REV 1
<ABSTRACT> DATE OF EVENT - 050483. POWER LEVEL - 000%. ON MAY 4, 1983, WHILE IN COLD SHUTDOWN, AN LCO WAS ENTERED UNDER TECH SPEC 3.8.1.2 ACTION (A) DUE TO NO DIESEL GENERATORS BEING OPERABLE. D/GS 11 AND 13 WERE INOPERABLE DUE TO A PLANNED DIV. I AND III ELECTRICAL OUTAGE. THE DIVISION II DIESEL WAS REMOVED FROM SERVICE FOR A PERIOD OF TWELVE HOURS TO PERFORM A MAINTENANCE INSPECTION. THIS IS REPORTED PURSUANT TO TECH SPEC 6.9.1.13.B. DURING A SURVEILLANCE RUN OF THE DIV. II DIESEL, AN ATTEMPT TO SECURE THE DIESEL

ENGINE FAILED. THE DIESEL WAS THEN LOADED UNTIL IT WAS SECURED TWO HOURS LATER. THE CAUSE IS ATTRIBUTED TO A BINDING LINKAGE FROM THE ENGINE GOVERNOR TO THE FUEL INJECTOR PUMP. A P.M. TASK CARD WAS ISSUED TO INSPECT AND EXERCISE THE LINKAGE PERIODICALLY.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);COMPONENTS;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;EMERGENCY POWER, ELECTRIC/TSF;ENGINES, INTERNAL COMBUSTION;FAILURE, COMPONENT;FAILURE, EQUIPMENT;FUEL, FOSSIL; GENERATOR, DIESEL;INSPECTION;PUMPS;SUBSYSTEM FAULT;TEST, SYSTEM OPERABILITY; TOTAL SYSTEM FAULT;UPDATE

<ACCESSION NO.> 00Z0185570
<TITLE> UPDATE ON BROKEN CAPSCREW ON DIESEL GENERATOR AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 82-080 REV 3 TO U.S. NRC, REGION 2, AUG 31, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8309130306
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0159
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 82-080 REV 3
<ABSTRACT> DATE OF EVENT - 100482. POWER LEVEL - 000%. WITH THE UNIT IN COLD SHUTDOWN, A SPECIAL INSPECTION ON DIVISION 2 STANDBY DIESEL GENERATOR WAS CONDUCTED. DURING THIS INSPECTION, ONE OF THE CAPSCREWS WHICH SECURES THE REAR CRANKCASE COVER TO THE ENGINE BLOCK WAS DISCOVERED TO BE DEFECTIVE. THIS REPORT IS SUBMITTED PURSUANT TO TECH SPEC 6.9.1.12.E AND I. THE DIV. 1 AND 3 D/G WERE OPERABLE AT THE TIME THE DEFECT WAS DISCOVERED. THE CAPSCREW BROKE WHILE BEING CHECKED FOR THE CORRECT TORQUE. IT IS BELIEVED THAT THE

CAPSCREW HAD PARTIALLY CRACKED DUE TO FATIGUE DURING ENGINE OPERATION PRIOR TO THE TORQUE CHECK. THE CAPSCREW AND 20 OTHERS WERE REPLACED. A DESIGN CHANGE HAS BEEN COMPLETED WHICH REPLACED THE CURRENT CAPSCREWS WITH HIGHER STRENGTH CAPSCREWS.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);CRACK;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION;FAILURE, EQUIPMENT;FAILURE, FABRICATION ERROR;FASTENER;FATIGUE;GENERATOR, DIESEL;HUMAN FACTORS;INSPECTION;OPERATOR ACTION;SUBSYSTEM FAULT;TEST, SYSTEM OPERABILITY; UPDATE

<ACCESSION NO.> 00Z0185493
<TITLE> INADEQUATE EVALUATION OF HPCS DIESEL GENERATOR MODIFICATIONS AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-106 TO U.S. NRC, REGION 2, AUG 23, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8309060209
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0159
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-106
<ABSTRACT> DATE OF EVENT - 072583. POWER LEVEL - 000%. ON JULY 25, 1983, THE NRC RESIDENT INSPECTOR IDENTIFIED INADEQUATE 10CFR 50.59 EVALUATIONS ON TWO TEMPORARY ALTERATIONS FOR THE HIGH PRESSURE CORE SPRAY (HPCS) DIESEL GENERATOR. THE HPCS DIESEL GENERATOR WAS DECLARED INOPERABLE AND AN LCO WAS ENTERED PURSUANT TO TECH SPEC 3.8.1.2. THE DIESEL GENERATOR WAS OUT OF SERVICE FOR APPROXIMATELY 67 HOURS. THIS IS REPORTED PURSUANT TO TECH SPEC

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6.9.1.13.B. TEMPORARY ALTERATION 810845 REPLACED A FUEL OIL STORAGE LEVEL TRANSMITTER CARD. THE CARD WAS DETERMINED ACCEPTABLE AND THE TEMPORARY ALTERATION WAS CANCELLED. TEMPORARY ALTERATION 810113 INSTALLED A PRE-LUBE SYSTEM FOR USE WHEN THE ENGINE IS OPERATED FOR MAINTENANCE OR TESTING. A NEW EVALUATION WAS APPROVED ON JULY 28, 1983.
<COMPONENT CODE> ZZZZZZ-COMPONENT CODE NOT APPLICABLE
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);CONTROL SYSTEM;CORE SPRAY; CORE SPRAY/SSF;ELECTRONIC FUNCTION UNITS;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION;FAILURE, EQUIPMENT;FAILURE, INSTRUMENT;FUEL, FOSSIL;GENERATOR, DIESEL;HUMAN FACTORS;INSTRUMENT, LIQUID LEVEL;LUBRICATION;LUBRICATION/SSF;MODIFICATION;OPERATOR ACTION;RESPONSE TIME; SENSORS, LEVEL;SOLID STATE DEVICE;STORAGE CONTAINER;SUBSYSTEM FAULT

DIS 6/0/000001-000057//31 PAGE 1
<ACCESSION NO.> 00Z0185370
<TITLE> HPCS DIESEL GENERATOR TRIPS DURING TEST AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-100 TO U.S. NRC, REGION 2, AUG 17, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8308260156
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0159
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-100
<ABSTRACT> DATE OF EVENT - 071883. POWER LEVEL - 000%. ON JULY 18, 1983, DURING PERFORMANCE OF THE HIGH PRESSURE CORE SPRAY (HPCS) D/G MONTHLY FUNCTIONAL TEST, THE D/G TRIPPED WHILE ATTEMPTING TO PARALLEL THE GENERATOR WITH BUS 17AC. THE FAILURE IS CONSIDERED AN INVALID FAILURE PURSUANT TO REGULATORY POSITION C.2.E.(2) OF REG. GUIDE 1.108. THIS IS REPORTED PURSUANT TO TECH SPEC 6.9.1.13.B AS REQUIRED BY TECH SPEC 4.8.1.1.3. THIS IS SUBMITTED AS A FINAL REPORT. THE CAUSE WAS DUE TO OPERATOR ERROR. THE SYSTEM WAS OPERATED

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PER PROCEDURE. THE OPERATOR DELAYED IN LOADING THE GENERATOR FOLLOWING THE

CURRENT. THE ENGINE WAS RESTARTED AND THE TEST WAS SATISFACTORILY COMPLETED.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);CORE SPRAY;CORE SPRAY/SSF; ELECTRICAL FAILURE;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF; ENGINES, INTERNAL COMBUSTION;FAILURE, EQUIPMENT;FAILURE, OPERATOR ERROR; GENERATOR, DIESEL;HUMAN FACTORS;INSPECTION;NONLICENSED OPERATOR;SUBSYSTEM FAULT;TEST, SYSTEM OPERABILITY

DIS 6/0/000001-000057//32 PAGE 1
<ACCESSION NO.> 00Z0185262
<TITLE> HPCS DIESEL GENERATOR FAILS AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-101 TO U.S. NRC, REGION 2, AUG 17, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8308260102
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0158
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-101
<ABSTRACT> DATE OF EVENT - 071883. POWER LEVEL - 000%. ON 7/18/83, DURING PERFORMANCE OF THE HPCS D/G MONTHLY FUNCTIONAL TEST, THE D/G STARTED, BUT TRIPPED UPON REACHING APPROXIMATELY 800 RPM. NO ABNORMAL ALARMS WERE RECEIVED OTHER THAN THE HPCS DIESEL ENGINE TRIP ALARM. THE FAILURE IS CONSIDERED A VALID FAILURE PURSUANT TO REG. POSITION C.2.E. (5) OF REG. GUIDE 1.108. THIS IS REPORTED PURSUANT TO TECH SPEC 6.9.1.13.B AS REQUIRED BY TECH SPEC 4.8.1.1.3. (NOTE: THIS DIESEL GENERATOR IS USED EXCLUSIVELY FOR THE

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HPCS SYSTEM). A MAINTENANCE INSPECTION WAS PERFORMED BUT NO PROBLEMS WERE IDENTIFIED. THE DIESEL WAS RESTARTED AND TRIPPED DUE TO OPERATOR ERROR (LER 83-100). THE ENGINE WAS STARTED AGAIN AND TESTED SUCCESSFULLY, 12 HOURS AFTER THE FIRST TRIP. THIS IS THE SECOND VALID FAILURE. THE TESTING INTERVAL IS AT LEAST ONCE PER 14 DAYS AS REQUIRED BY SECTION C.2.D.(2) OF R.G.1.108.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);ANNUNCIATORS;CORE SPRAY;CORE SPRAY/SSF;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION;FAILURE, EQUIPMENT;GENERATOR, DIESEL;INSTRUMENT, ALARM; SUBSYSTEM FAULT

DIS 6/0/000001-000057//33 PAGE 1
<ACCESSION NO.> 00Z0185170
<TITLE> DIESEL GENERATOR FAILS TWICE DURING TESTING AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-082 TO U.S. NRC, REGION 2, AUG 01, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8308110336
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0158
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-082
<ABSTRACT> DATE OF EVENT - 071783. POWER LEVEL - 000%. ON JULY 17, 1983, WHILE PERFORMING THE EIGHTEEN MONTH DIVISION I STANDBY DIESEL GENERATOR FUNCTIONAL

THE NO. 8 RIGHT CYLINDER FAILED. THE VALVE FAILED APPROXIMATELY 16 HOURS INTO THE TEST. ON JULY 24, APPROXIMATELY 6 HOURS INTO A DIESEL TEST RUN, THE NO. 1 LEFT BANK CYLINDER AIR START VALVE ON THE DIVISION I DIESEL ALSO FAILED. THIS IS REPORTED IN ACCORDANCE WITH TECH SPEC 4.8.1.1.3 AND PURSUANT

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TO TECH SPEC 6.9.1.12.I. INVESTIGATION OF THE CAUSE OF THE VALVE FAILURES IS CONTINUING. MATERIAL NON-CONFORMANCE REPORT NO. 665-83 WAS WRITTEN TO TRACK THE INVESTIGATION AND DOCUMENT CORRECTIVE ACTIONS. THE FAILURES ARE CONSIDERED VALID PURSUANT TO R.G. 1.108.C.2.E(6). THE FAILURE ON JULY 24, IS THE FOURTH VALID FAILURE. TESTING FREQUENCY HAS INCREASED TO ONCE PER 3 DAYS.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);EMERGENCY POWER, ELECTRIC; EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION;FAILURE, EQUIPMENT; GENERATOR, DIESEL;HIGH TEMPERATURE;INSPECTION;LEAK;PNEUMATIC SYSTEM;SUBSYSTEM FAULT;TEST, SYSTEM OPERABILITY;VALVES

DIS 6/0/000001-000057//34 PAGE 1
<ACCESSION NO.> 00Z0183970
<TITLE> UPDATE ON DIESEL GENERATOR FAILURES AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 82-156 REV 1 TO U.S. NRC, REGION 2, MAR 18, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8304010402
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0157
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 82-156 REV 1
<ABSTRACT> DATE OF EVENT - 120482. POWER LEVEL - 000%. ON DEC 4, 1982, WHILE PERFORMING SURVEILLANCE TEST 06-OP-1P75-M-0002 THE DIV. II DIESEL FAILED TO START. UPON INVESTIGATION IT WAS OBSERVED THAT THE OVERLOAD ON THE D.C. FUEL OIL PUMP HAD TRIPPED. UPON RESET OF THE OVERLOAD THE DIESEL STARTED WITHOUT INCIDENT. DURING THE RUN THE DIESEL WAS INTENTIONALLY SHUTDOWN DUE TO FUEL OIL LEAKS. THIS WAS NOT A VALID FAILURE TO START. THE DIESEL GENERATOR FAILURE TO START IS DUE TO PERSONNEL ERROR. THE D.C. MOTOR-DRIVEN PUMP IS

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NONESSENTIAL FOR EMERGENCY OPERATION OF THE DIESEL GENERATOR. THE FUEL LEAKS WERE DUE TO LOOSE BLEED (VENT) PLUGS ON THE INJECTORS. THE PLUGS WERE TIGHTENED, AND THE SURVEILLANCE TEST WAS RUN. THIS IS A FINAL REPORT.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);BUILDING;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION;EQUIPMENT; FAILURE, EQUIPMENT;FAILURE, INSTRUMENT;FUEL, FOSSIL;GENERATOR, DIESEL; INSPECTION;INSTRUMENT, PROTECTIVE;LEAK;MAINTENANCE AND REPAIR;MOTORS;PUMPS; RELAYS;SEAL;SENSORS, TEMPERATURE;SUBSYSTEM FAULT;TEST, SYSTEM OPERABILITY; UPDATE

DIS 6/0/000001-000057//35 PAGE 1
<ACCESSION NO.> 00Z0182150
<TITLE> DIESEL GENERATOR AIR PRESSURE LOW AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-037 TO U.S. NRC, REGION 2, FEB 22, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8302280230
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05

CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0154
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-037
<ABSTRACT> DATE OF EVENT - 012383. POWER LEVEL - 000%. ON JANUARY 23, 1983, WHILE IN SHUTDOWN, ONE AIR START RECEIVER FOR DIESEL GENERATOR 12 WAS FOUND PRESSURIZED TO 125 PSIG. THIS PRESSURE IS LESS THAN THE MINIMUM REQUIRED BY TECH SPEC 4.8.1.1.2.A.7. AS A RESULT, DIESEL GENERATOR 12 AND DIVISION 2 ECCS WERE DECLARED INOPERABLE PER TECH SPEC 4.0.3. THE EVENT IS REPORTED PURSUANT TO TECH SPEC 6.9.1.13.B. THE REASON FOR THE LOW PRESSURE HAS BEEN ATTRIBUTED TO A STUCK VALVE ON THE INLET TO THE AIR DRYER FOR THE ELECTRIC

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DRIVEN AIR COMPRESSOR. THE PROBLEM WITH THE STUCK VALVE WAS CORRECTED AND THE COMPRESSOR AUTOMATICALLY PRESSURIZED THE RECEIVER TO GREATER THAN 160 PSIG. DIESEL GENERATOR 12 AND ECCS DIVISION 2 WERE RETURNED TO SERVICE ON THE SAME DAY. THIS IS A FINAL REPORT.
<COMPONENT CODE> AIRDRY-AIR DRYERS
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);ANNUNCIATORS;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION; FAILURE, EQUIPMENT;GENERATOR, DIESEL;INSPECTION;INSTRUMENT, ALARM;LOW; MAINTENANCE AND REPAIR;PNEUMATIC SYSTEM;PRESSURE, EXTERNAL;PRESSURE, INTERNAL; REACTOR STARTUP EXPERIENCE;STORAGE CONTAINER;SUBSYSTEM FAULT;TEST, SYSTEM OPERABILITY;VALVES

DIS 6/0/000001-000057//36 PAGE 1
<ACCESSION NO.> 00Z0182109
<TITLE> DIESEL GENERATOR AND DIVISION 1 DC POWER SOURCE DECLARED INOPERABLE AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-057 TO U.S. NRC, REGION 2, MAR 14, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8303220266
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0154
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-057
<ABSTRACT> DATE OF EVENT - 021183. POWER LEVEL - 000%. ON 2/11/83, DIVISION I BATTERY 1A3 FAILED TO SATISFACTORILY PASS AN "ALL CELLS CHECK" SURVEILLANCE PROCEDURE (SURVEILLANCE REQUIREMENT TECH SPEC 4.8.2.1.B.3). THE DIVISION I DC POWER SOURCE AND IT'S ASSOCIATED DIESEL GENERATOR WERE DECLARED INOPERABLE. ACTION STATEMENT A OF TECH SPEC 3.8.1.2 WAS ENTERED. THIS IS BEING REPORTED PURSUANT TO TECH SPEC 6.9.1.13.B. THE LOW BATTERY CELL TEMPS.

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WERE DUE TO A LOW ROOM TEMP. THE ROOM TEMP. WAS LOW BECAUSE THE PILOT SWITCHES FOR THE ROOM HEATER CONTROL CIRCUIT WERE IN THE 'OFF' POSITION. THE PILOT SWITCHES WERE PLACED IN THE 'ON' POSITION AND ROOM AND ELECTROLYTE TEMPS. RETURNED TO NORMAL. THE DIV. I BATTERY 1A3 THEN SATISFACTORILY PASSED THE SURVEILLANCE.
<COMPONENT CODE> INSTRU-INSTRUMENTATION AND CONTROLS
<SYSTEM CODE> EC-DC ONSITE POWER SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);BATTERIES & CHARGERS; ELECTRIC POWER;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF; ENGINES, INTERNAL COMBUSTION;FAILURE, EQUIPMENT;FAILURE, INSTRUMENT; GENERATOR, DIESEL;HEATERS;INSPECTION;INSTRUMENT, NON-NUCLEAR;INSTRUMENT,

SWITCH;LOW;REFUELING;SUBSYSTEM FAULT;TEMPERATURE;TEST, SYSTEM OPERABILITY

DIS 6/0/000001-000057//37 PAGE 1
<ACCESSION NO.> 00Z0182107
<TITLE> WEEKLY PRELUBE OF HPCS NOT PERFORMED AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-054 TO U.S. NRC, REGION 2, MAR 07, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8303160300
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0154
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-054
<ABSTRACT> DATE OF EVENT - 020383. POWER LEVEL - 000%. CORRECTIVE ACTION REQUEST (CAR) NO. 688, OCTOBER 15, 1982, IDENTIFIED THE FAILURE TO PERFORM A WEEKLY PRE-LUBE OF THE HPCS DIESEL PER SER 9.6.6. ON FEBRUARY 3, 1983, THE EVENT WAS DETERMINED REPORTABLE UNDER TECH SPEC 6.9.1.13.C. A PROCEDURE HAD NOT BEEN ESTABLISHED TO PRELUBE THE DIESEL AND THERE WERE NO DOCUMENTS VERIFYING THE PRELUBE HAD BEEN DONE. PROCEDURE 04-S-03-P81-1, HPCS DIESEL GENERATOR PRELUBE, WAS ISSUED ON NOVEMBER 29, 1982, AS CORRECTIVE ACTION.

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THIS IS SUBMITTED AS A FINAL REPORT.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);CORE SPRAY;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION;FAILURE, ADMINISTRATIVE CONTROL;FAILURE, EQUIPMENT;FAILURE, MAINTENANCE ERROR; GENERATOR, DIESEL;OPERATOR ACTION;PROCEDURES AND MANUALS;RESPONSE TIME;REVIEW; SUBSYSTEM FAULT;TEST INTERVAL;TESTING

DIS 6/0/000001-000057//38 PAGE 1
<ACCESSION NO.> 00Z0182021
<TITLE> DIESEL GENERATOR SHUT DOWN AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-038 TO U.S. NRC, REGION 2, FEB 24, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8303010178
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0157
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-038
<ABSTRACT> DATE OF EVENT - 012583. POWER LEVEL - 000%. WHILE CONDUCTING A SEISMIC QUALIFICATION VIBRATION TEST ON THE DIVISION 2 D/G, ON JANUARY 25, 1983, THE TACHOMETER WENT DOWNSCALE WHILE SPEED WAS BEING INCREASED. THE DIESEL WAS THEN SHUT DOWN. THIS IS BEING REPORTED PURSUANT TO TECH SPEC 6.9.1.13.B AS REQUIRED BY TECH SPEC SURVEILLANCE REQUIREMENT 4.8.1.1.3. THE CAUSE WAS FAILURE OF A SOLID STATE CHIP IN THE TACHOMETER RELAY. THIS WAS CAUSED BY A SHORT PRODUCED BY A VOLTAGE SURGE FROM THE HOOK UP OF MAINTENANCE

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AND TEST EQUIPMENT. THE TACHOMETER WAS REPLACED AND THE TEST WAS SATISFACTORILY PERFORMED. THIS WAS NOT A VALID TEST BASED ON POSITION C.2.E.2 OF REG. GUIDE 1.108. THIS IS A FINAL REPORT.
<COMPONENT CODE> INSTRU-INSTRUMENTATION AND CONTROLS

<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);CALIBRATION;COMPONENTS;
CONTROL SYSTEM;ELECTRICAL FAILURE;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER,
ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION;FAILURE, COMPONENT;FAILURE,
EQUIPMENT;FAILURE, INSTRUMENT;GENERATOR, DIESEL;HUMAN FACTORS;INDICATORS;
INSPECTION;INSTRUMENT, ABNORMAL INDICATION;INSTRUMENT, SPEED;MAINTENANCE AND
REPAIR;OPERATOR ACTION;SUBSYSTEM FAULT;TEST, SYSTEM OPERABILITY;TESTING

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<ACCESSION NO.> 00Z0181637
<TITLE> DIESEL GENERATOR OIL HEATER FAILS AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-020 TO U.S. NRC, REGION 2, FEB 14, 1983, DOCKET 50-416,
TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8302220358
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05
CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0153
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-020
<ABSTRACT> DATE OF EVENT - 011583. POWER LEVEL - 000%. THE LUBE OIL HEATER ON
DIESEL GENERATOR 12 WAS FOUND TO HAVE FAILED. AS A RESULT, DIESEL GENERATOR
12 AND DIVISION 2 ECCS WERE DECLARED INOPERABLE. LCO'S WERE ENTERED UNDER
TECH SPEC 3.8.12 AND TECH SPEC 3.5.2. THE EVENT IS REPORTED PURSUANT TO TECH
SPEC 6.9.1.13.B. THE HEATER OVERHEATED AND SHORTED TO GROUND. IT WAS
REPLACED AND THE DIESEL AND ECCS DIVISION 2 WERE RETURNED TO SERVICE ON
JANUARY 18. THIS IS SUBMITTED AS A FINAL REPORT.

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<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);ENGINES, INTERNAL COMBUSTION;
GENERATOR, DIESEL;EMERGENCY POWER, ELECTRIC;HEATERS;LUBRICATION;FAILURE,
EQUIPMENT;HIGH TEMPERATURE;EFFECT;FAILURE, INHERENT;REACTOR STARTUP
EXPERIENCE;EMERGENCY COOLING SYSTEM

DIS 6/0/000001-000057//40 PAGE 1
<ACCESSION NO.> 00Z0181608
<TITLE> ONLY ONE ECCS OPERABLE AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 82-165 TO U.S. NRC, REGION 2, JAN 11, 1983, DOCKET 50-416,
TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8301170268
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05
CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000
<EDITION> 0153
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 82-165
<ABSTRACT> DATE OF EVENT - 121382. POWER LEVEL - 000%. ON DECEMBER 13, 1982,
THE DIVISION I AND II DIESELS WERE ADMINISTRATIVELY DECLARED INOPERABLE DUE
TO DISCOVERY OF UNQUALIFIED CABLE IN THE DG CONTROL CIRCUITRY. ONLY ONE ECCS
REMAINED OPERABLE (HPCS); THEREFORE, LCO'S WERE ENTERED IN ACCORDANCE WITH
TECH SPECS 3.8.1.2 AND 3.5.2. THE EVENT HAS BEEN REPORTED UNDER THE
REQUIREMENTS OF 10CFR21 AND 10CFR50.55E. THE EVENT WAS DECLARED AFTER
NOTIFICATION BY THE VENDOR THAT THE CABLES FAILED TO MEET THE IEEE FLAME

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TEST. AN ENGINEERING EVALUATION DETERMINED THAT SUFFICIENT REDUNDANCY AND ADMINISTRATIVE CONTROLS EXISTED TO DECLARE THE DIESELS OPERABLE. THEY WERE RETURNED TO SERVICE ON DECEMBER 14, 1982. THIS IS A FINAL REPORT.
<COMPONENT CODE> GENERA-GENERATORS
<SYSTEM CODE> SF-EMERG CORE COOLING SYS & CONT
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);CABLES AND CONNECTORS; CONTRACTOR PERSONNEL;CONTROL SYSTEM;CORE SPRAY;CORE SPRAY/SSF;ELECTRICAL FAILURE;EMERGENCY POWER, ELECTRIC;EMERGENCY POWER, ELECTRIC/SSF;ENGINES, INTERNAL COMBUSTION;FAILURE, DESIGN ERROR;FAILURE, EQUIPMENT;GENERATOR, DIESEL;HPCI;HPCI/SSF;HUMAN FACTORS;LPCI;LPCI/SSF;MAIN COOLING SYSTEM;MAIN COOLING SYSTEM/SSF;NRC-AE;PRESSURE RELIEF;RCIC;RCIC/SSF;RHR;RHR/SSF;SUBSYSTEM FAULT

DIS 6/0/000001-000057//41 PAGE 1
<ACCESSION NO.> 00Z0181097
<TITLE> DIESEL GENERATOR TRIPS DUE TO HIGH BEARING TEMPERATURE AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 83-018S TO U.S. NRC, REGION 2, FEB 04, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8302140089
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000;100000;090000
<EDITION> 0152
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 83-018S
<ABSTRACT> DATE OF EVENT - 010583. POWER LEVEL - 000%. CAUSE - LOOSE SENSOR. DIESEL GENERATOR 11 WAS STARTED FOR A MAINTENANCE CHECK. FORTY-FIVE SECONDS INTO THE RUN, IT TRIPPED ON HIGH BEARING TEMPERATURE. THE SIGNAL CLEARED IMMEDIATELY AND THERE WAS NO INDICATION OF HOT BEARINGS SO IT WAS STARTED AGAIN. AFTER 13 MINUTES UNDER LOAD THE LOCAL OPERATOR INDICATED THAT CRANKCASE PRESSURE WAS RISING. THE DIESEL WAS THEN UNLOADED AND SECURED. THE EVENT IS REPORTED PURSUANT TO TECH SPEC 4.8.1.1.3. A SENSOR ON THE REAR

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MAIN BEARING WAS LOOSE AND WAS ALLOWING AIR TO VENT OFF THE PNEUMATIC LOGIC SYSTEM. THIS CAUSED BOTH THE BEARING TEMPERATURE ALARM AND THE HIGH CRANKCASE PRESSURE ALARM. BASED ON THIS AND REG. GUIDE 1.108.C.2.E.2, THIS IS A NON-VALID TEST. THE SENSOR WAS REWORKED AND THE DIESEL PERFORMED SATISFACTORILY.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);TEST, SYSTEM OPERABILITY; EMERGENCY POWER, ELECTRIC;GENERATOR, DIESEL;ENGINES, INTERNAL COMBUSTION; FAILURE, EQUIPMENT;FAILURE, INHERENT;SENSORS, TEMPERATURE;REACTOR STARTUP EXPERIENCE;PNEUMATIC SYSTEM;INSTRUMENT, ABNORMAL INDICATION;SENSORS, PRESSURE LEAK

DIS 6/0/000001-000057//42 PAGE 1
<ACCESSION NO.> 00Z0180847
<TITLE> DG AND ECCS INOPERABLE AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1983
<TYPE> Q
<MEMO> LTR W/LER 82-174 TO U.S. NRC, REGION 2, JAN 20, 1983, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8301260429
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000;100000
<EDITION> 0152
<CORP CODE> MPL

<COUNTRY> A
<LER NO> 82-174
<ABSTRACT> DATE OF EVENT - 122782. POWER LEVEL - 000%. CAUSE - CIRCUIT CARD FOR DG FAIL TO START ALARM FAILED. A DIVISION 2 DIESEL GENERATOR TROUBLE ALARM WAS RECEIVED IN THE CONTROL ROOM. INVESTIGATION REVEALED THAT THE DIESEL GENERATOR FAILURE TO START ALARM WAS ACTIVATED ON THE LOCAL PANEL. DIESEL GENERATOR 12 AND DIVISION 2 ECCS WERE DECLARED INOPERABLE. LCO'S WERE ENTERED UNDER BOTH TECH SPEC 3.5.2 AND TECH SPEC 3.8.1.2. THIS EVENT IS REPORTED PURSUANT TO TECH SPEC 6.9.1.13.B. IT WAS DISCOVERED THAT THE

CIRCUIT CARD FOR THE FAILURE TO START ALARM HAD FAILED. AN IDENTICAL CARD WAS INSTALLED IN THE LOCAL ANNUNCIATOR PANEL AND THE FAILED CARD WAS REPAIRED. ONCE THE CARD WAS REPLACED DIESEL GENERATOR 12 AND DIVISION 2 ECCS WERE RETURNED TO SERVICE ON DECEMBER 28, 1982.
<COMPONENT CODE> INSTRU-INSTRUMENTATION AND CONTROLS
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);INSTRUMENT, ALARM;REACTOR STARTUP EXPERIENCE;FAILURE, INHERENT;ENGINES, INTERNAL COMBUSTION;ELECTRONIC FUNCTION UNITS;GENERATOR, DIESEL;EMERGENCY COOLING SYSTEM;EMERGENCY POWER, ELECTRIC;FAILURE, INSTRUMENT

<ACCESSION NO.> 00Z0180257
<TITLE> DG AIR START RECEIVER PRESSURE FALLS BELOW LIMIT AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1982
<TYPE> Q
<MEMO> LTR W/LER 82-109 TO U.S. NRC, REGION 2, DEC 01, 1982, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8212090078
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000;100000
<EDITION> 0151
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 82-109
<ABSTRACT> DATE OF EVENT - 110282. POWER LEVEL - 000%. CAUSE - BREAKERS TO AIR DRIERS OPEN. WHILE CONDUCTING THE DIVISION III DIESEL GENERATOR SURVEILLANCE TEST, IT WAS OBSERVED THAT THE AIR START RECEIVER PRESSURE WAS LESS THAN THE REQUIRED 175 PSIG. THE PLANT WAS IN COLD SHUTDOWN AND THE SUPPRESSION POOL WAS DRAINED. THIS CONDITION CONSTITUTED ENTERING AN LCO PER TECH SPEC 3.8.1.2. THE CIRCUIT BREAKER TO THE AIR DRYER WAS OPEN, PREVENTING THE COMPRESSOR FROM CHARGING THE AIR RECEIVER. THE OPEN BREAKER WAS CLOSED,

ALLOWING THE COMPRESSOR TO CHARGE THE AIR RECEIVER TO GREATER THAN 175 PSIG. THE CAUSE OF THE BREAKER BEING OPEN IS UNKNOWN. THE SURVEILLANCE PROCEDURE WAS SUCCESSFULLY COMPLETED. AN UPDATED REPORT WITH RESULTS OF AN INVESTIGATION ON THE OPEN BREAKER WILL BE SUBMITTED BY FEBRUARY 2, 1983.
<COMPONENT CODE> CKTBRK-CIRCUIT CLOSERS/INTERRUPTERS
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);TEST, SYSTEM OPERABILITY; EMERGENCY POWER, ELECTRIC;ENGINES, INTERNAL COMBUSTION;GENERATOR, DIESEL; PNEUMATIC SYSTEM;STORAGE CONTAINER;BREAKER;FAILURE, EQUIPMENT;REACTOR STARTUP EXPERIENCE;AIR DRIERS

<ACCESSION NO.> 00Z0180252
<TITLE> ECCS SYSTEMS WITHOUT POWER AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1982
<TYPE> Q

<MEMO> LTR W/LER 82-128 TO U.S. NRC, REGION 2, DEC 01, 1982, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8212090110
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000;100000
<EDITION> 0151
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 82-128
<ABSTRACT> DATE OF EVENT - 110282. POWER LEVEL - 000%. CAUSE - 2 DIESEL GENERATORS IN MAINTENANCE MODE. WHILE IN COLD SHUTDOWN ON NOVEMBER 2, 1982, STANDBY DIESEL GENERATOR 12 WAS PLACED IN THE MAINTENANCE MODE. AT THIS TIME DIESEL GENERATOR 11 WAS ALSO DOWN FOR MAINTENANCE. AN LCO WAS ENTERED PURSUANT TO TECH SPEC 3.8.1.2. THE SUPPRESSION POOL HAD BEEN DRAINED IN ACCORDANCE WITH TECH SPEC 3.5.3.B, AND THE ECC SYSTEMS OF DIVISIONS I & II WERE INOPERABLE IN ACCORDANCE WITH TECH SPEC 3.5.2. ON OCTOBER 27, 1982, THE

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SUPPRESSION POOL WAS DRAINED IN ACCORDANCE WITH TECH SPEC 3.5.3.B, DISABLING THE ECC SYSTEMS OF DIVISIONS I & II. THE INOPERABLE DIESEL GENERATORS POSED NO THREAT TO PLANT SAFETY. DIESEL GENERATOR 11 WAS REPAIRED AND RETURNED TO SERVICE ON NOVEMBER 18, 1982.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);EMERGENCY COOLING SYSTEM; EMERGENCY POWER, ELECTRIC;GENERATOR, DIESEL;ENGINES, INTERNAL COMBUSTION; MAINTENANCE AND REPAIR;FAILURE, EQUIPMENT;FAILURE, ADMINISTRATIVE CONTROL; REACTOR PROTECTION SYSTEM

DIS 6/0/000001-000057//45 PAGE 1
<ACCESSION NO.> 00Z0180244
<TITLE> DIESEL GENERATOR FAILS TO START WHEN FUEL PUMP TRIPS AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1982
<TYPE> Q
<MEMO> LTR W/LER 82-156 TO U.S. NRC, REGION 2, DEC 31, 1982, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8301070187
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000;100000
<EDITION> 0151
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 82-156
<ABSTRACT> DATE OF EVENT - 120482. POWER LEVEL - 000%. CAUSE - FUEL LEAKS DUE TO LOOSE VENT PLUGS. WHILE PERFORMING SURVEILLANCE TEST 06-OP-1P75-M-0002 THE DIESEL FAILED TO START. UPON INVESTIGATION IT WAS OBSERVED THAT THE OVERLOAD ON THE D.C. FUEL OIL PUMP HAD TRIPPED. UPON RESET OF THE OVERLOAD THE DIESEL STARTED WITHOUT INCIDENT. DURING THE RUN THE DIESEL WAS INTENTIONALLY SHUT DOWN DUE TO FUEL OIL LEAKS. THIS IS NOT A VALID FAILURE TO START AND IS REPORTED PURSUANT TO TECH SPEC 6.9.1.13.C. THE D.C.

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MOTOR-DRIVEN PUMP IS NONESSENTIAL FOR EMERGENCY OPERATION OF THE DIESEL GENERATOR. THE FUEL LEAKS WERE DUE TO LOOSE BLEED (VENT) PLUGS ON THE INJECTORS. THE PLUGS WERE TIGHTENED, AND THE SURVEILLANCE TEST WAS RUN. THIS IS A FINAL REPORT.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);TEST, SYSTEM OPERABILITY; ENGINES, INTERNAL COMBUSTION;GENERATOR, DIESEL;EMERGENCY POWER, ELECTRIC; PUMPS;FUEL, FOSSIL;LEAK;FAILURE, EQUIPMENT;FAILURE, INHERENT;REACTOR STARTUP EXPERIENCE

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<ACCESSION NO.> 00Z0180195
<TITLE> UPDATE ON HPCS DIESEL GENERATOR TRIP AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1982
<TYPE> Q
<MEMO> LTR W/LER 82-033 REV 1 TO U.S. NRC, REGION 2, DEC 20, 1982, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8212280344
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000;100000
<EDITION> 0151
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 82-033 REV 1
<ABSTRACT> DATE OF EVENT - 081482. POWER LEVEL - 000%. CAUSE - FAULTY TACHOMETER RELAY. HPCS DIESEL GENERATOR 13 STARTED (ON A LOW REACTOR VESSEL LEVEL INDICATION) AND TRIPPED ON OVERSPEED. THE DIESEL START FAILURE IS CONSIDERED A VALID FAILURE AND IS THE FIRST VALID FAILURE IN THE 10 VALID TESTS CONDUCTED SINCE ISSUANCE OF THE OPERATING LICENSE. THE NORMAL POWER SUPPLY TO THE HPCS PUMP WAS AVAILABLE. THE FAILURE IS BEING REPORTED IN ACCORDANCE WITH TECH SPEC 4.8.1.1.3. CAUSE OF THE DIESEL START FAILURE IS

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ATTRIBUTED TO A FAULTY TACHOMETER RELAY. THE DYNALCO RELAY (PART NO. RT 2450A) WAS REPLACED AND THE SYSTEM WAS RESTORED ON AUGUST 18, 1982. THIS IS A FINAL REPORT.
<COMPONENT CODE> RELAYX-RELAYS
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);REACTOR STARTUP EXPERIENCE; UPDATE;EMERGENCY POWER, ELECTRIC;GENERATOR, DIESEL;ENGINES, INTERNAL COMBUSTION;RELAYS;CORE SPRAY;FAILURE, EQUIPMENT;FAILURE, INHERENT

DIS 6/0/000001-000057//47 PAGE 1
<ACCESSION NO.> 00Z0180137
<TITLE> DIESEL FUEL INSOLUBLES TEST MISSED AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1982
<TYPE> Q
<MEMO> LTR W/LER 82-152 TO U.S. NRC, REGION 2, DEC 30, 1982, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8301060362
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000;100000
<EDITION> 0151
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 82-152
<ABSTRACT> DATE OF EVENT - 113082. POWER LEVEL - 000%. CAUSE - PERSONNEL ERROR. DURING A Q.A. AUDIT IT WAS DISCOVERED THAT BETWEEN RECEIPT OF THE OPERATING LICENSE ON JUNE 17, 1982, AND SEPTEMBER 9, 1982, THE DIESEL FUEL OIL INSOLUBLE TEST REQUIRED BY TECH SPEC 4.8.1.1.2.C WAS NOT PERFORMED. THIS IS BEING REPORTED PURSUANT TO TECH SPEC 6.9.1.13.C. DUE TO PERSONNEL ERROR, THE TESTS WERE OVERLOOKED, AND THE REQUIRED EQUIPMENT WAS NOT ON-HAND. THE NECESSARY EQUIPMENT WAS ORDERED AND RECEIVED, AND THE TESTS WERE COMPLETED ON

DIS 6/0/000001-000057//47 PAGE 2
SEPTEMBER 9, 1982. TESTING IS NOW BEING PERFORMED AS REQUIRED.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);QUALITY ASSURANCE;GENERATOR, DIESEL;ENGINES, INTERNAL COMBUSTION;EMERGENCY POWER, ELECTRIC;FUEL, FOSSIL;

STORAGE CONTAINER;TEST INTERVAL;FAILURE, EQUIPMENT;FAILURE, OPERATOR ERROR

DIS 6/0/000001-000057//48 PAGE 1
<ACCESSION NO.> 00Z0180049
<TITLE> UPDATE ON HIGH DIESEL GENERATOR COOLING JACKET TEMPERATURE AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1982
<TYPE> Q
<MEMO> LTR W/LER 82-011 REV 1 TO U.S. NRC, REGION 2, DEC 14, 1982, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8212210191
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000;100000
<EDITION> 0151
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 82-011 REV 1
<ABSTRACT> DATE OF EVENT - 072282. POWER LEVEL - 000%. CAUSE - COOLING WATER OUTLET VALVE FAILURE. DURING FUNCTIONAL TESTING OF DIESEL GENERATOR 12, THE DIESEL TRIPPED DUE TO HIGH WATER JACKET TEMPERATURE. AN INVESTIGATION OF THE FAILURE REVEALED ELEVATED COOLING WATER TEMPERATURE WAS CAUSED BY AN ISOLATED COOLING WATER OUTLET VALVE. THE PROTECTIVE TRIPS FUNCTIONED AS DESIGNED. THE DIESEL GENERATOR FAILURE IS CONSIDERED INVALID IN ACCORDANCE WITH

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REGULATORY GUIDE 1.108, SECTION C.2E(2). THE EVENT WAS REPORTED PURSUANT TO TECH SPECS 4.8.1.1.3 AND 6.9.1.12. THIS IS A FINAL REPORT. THE INDICATOR ARROW ON THE PRATT MDT-5 OPERATOR GAVE FAULTY INDICATION AND SHOWED THE VALVE IN THE OPEN POSITION. FOR AN INTERIM PERIOD, INFORMATION TAGS WARNING OF THE PROBLEM WERE HUNG ON THE VALVE AND ALL SIMILAR VALVES UNTIL A DESIGN CHANGE COULD BE IMPLEMENTED TO ASSURE CORRECT INDICATION ON ALL PRATT BUTTERFLY VALVES WITH MDT-5 OPERATORS. WORK MODIFYING VALVE POSITION INDICATORS WAS COMPLETED OCTOBER 8, 1982.
<COMPONENT CODE> VALVEX-VALVES
<SYSTEM CODE> WB-COOL SYS FOR REAC AUX & CONT
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);VALVES;UPDATE;VALVE OPERATORS;REACTOR STARTUP EXPERIENCE;FAILURE, EQUIPMENT;TEST, SYSTEM OPERABILITY;FAILURE, INHERENT;COMPONENT COOLING SYSTEM;HIGH TEMPERATURE; GENERATOR, DIESEL

DIS 6/0/000001-000057//49 PAGE 1
<ACCESSION NO.> 00Z0179416
<TITLE> UPDATE ON INOPERABLE HPCS AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1982
<TYPE> Q
<MEMO> LTR W/LER 82-103 REV 1 TO U.S. NRC, REGION 2, NOV 24, 1982, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8212020058
<AVAIL> NRC PUBLIC DOCUMEN. ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000;100000
<EDITION> 0150
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 82-103 REV 1
<ABSTRACT> DATE OF EVENT - 102282. POWER LEVEL - 000%. CAUSE - PERSONNEL ERROR. WHILE CLEARING A LCO WHICH DOCUMENTED DECLARING HPCS DIVISION III INOPERABLE, IT WAS DETERMINED THAT TECH SPEC 3.8.1.1, ACTION STATEMENT F REQUIREMENTS WERE NOT MET. OPERABILITY OF THE REMAINING AC POWER SOURCES WAS NOT DEMONSTRATED; I.E., BREAKER ALIGNMENTS WERE NOT VERIFIED, AND THE OTHER TWO DIESEL GENERATORS WERE NOT STARTED. FAILURE TO MEET TECH SPEC REQUIREMENTS WAS PERSONNEL ERROR. IN ORDER TO PREVENT A RECURRENCE, OPERATIONS PERSONNEL

DIS 6/0/000001-000057//49 PAGE 2
HAVE BEEN DIRECTED, IN ACCORDANCE WITH PROCEDURE 02-S-01-12, STATION OPERATING ORDERS, TO REVIEW TECH SPEC 3.8.1 REQUIREMENTS FOR AC POWER SOURCES.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);UPDATE;REACTOR STARTUP EXPERIENCE;CORE SPRAY;TEST INTERVAL;ENGINES, INTERNAL COMBUSTION;EMERGENCY POWER, ELECTRIC;GENERATOR, DIESEL;FAILURE, EQUIPMENT;FAILURE, OPERATOR ERROR; LICENSED OPERATOR

DIS 6/0/000001-000057//50 PAGE 1
<ACCESSION NO.> 00Z0178975
<TITLE> INSUFFICIENT NUMBER OF ECCS SYSTEMS AVAILABLE AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1982
<TYPE> Q
<MEMO> LTR W/LER 82-091 TO U.S. NRC, REGION 2, NOV 04, 1982, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8211090144
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000;120000
<EDITION> 0149
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 82-091
<ABSTRACT> DATE OF EVENT - 100682. POWER LEVEL - 000%. CAUSE - TESTING OF LPCS. THE LPCS SYSTEM WAS TAKEN OUT OF SERVICE TO PERFORM SURVEILLANCE PROCEDURE 06-ME-1M61-V-0001 (LOCAL LEAKRATE TEST). THIS LEFT ONLY ONE OF THE REQUIRED TWO ECCS SYSTEMS (TECH SPEC 3.5.2), HPCS, OPERABLE. AN LCO WAS ENTERED AND ALL OPERATIONS THAT HAD A POTENTIAL FOR DRAINING THE REACTOR VESSEL WERE SUSPENDED. THIS EVENT IS BEING REPORTED PURSUANT TO TECH SPEC 6.9.1.13.B. AT THE TIME LPCS WAS REMOVED FROM SERVICE, RHR A WAS ALIGNED FOR SHUTDOWN

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COOLING. RHR B & C WERE NOT OPERABLE DUE TO THE ASSOCIATED STANDBY DIESEL GENERATOR BEING OUT OF SERVICE PENDING RESOLUTION OF THE DEFECTIVE CAPSCREW PROBLEM IDENTIFIED IN LER 82-080/01 T-0. THE LCO WAS IN EFFECT FOR 23 HOURS. LPCS WAS RETURNED TO SERVICE ON OCTOBER 7, 1982 FOLLOWING COMPLETION OF THE ABOVE SURVEILLANCE PROCEDURE.
<COMPONENT CODE> XXXXXX-OTHER COMPONENTS
<SYSTEM CODE> SF-EMERG CORE COOLING SYS & CONT
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);TEST, SYSTEM OPERABILITY; EMERGENCY COOLING SYSTEM;CORE SPRAY;RHR;GENERATOR, DIESEL;FAILURE, EQUIPMENT; FAILURE, ADMINISTRATIVE CONTROL;PROCEDURES AND MANUALS;REACTOR STARTUP EXPERIENCE

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<ACCESSION NO.> 00Z0178939
<TITLE> HPCS DIESEL GENERATOR INOPERABLE AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1982
<TYPE> Q
<MEMO> LTR W/LER 82-103 TO U.S. NRC, REGION 2, NOV 05, 1982, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8211100335
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000;100000
<EDITION> 0149
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 82-103

<ABSTRACT> DATE OF EVENT - 102282. POWER LEVEL - 000%. CAUSE - LICENSED OPERATOR ERROR. WHILE REVIEWING DOCUMENTATION DECLARING HPCS DIVISION III DIESEL GENERATOR INOPERATIVE, IT WAS DISCOVERED THE REQUIREMENTS OF TECH SPEC 3.8.1.1.F WERE NOT SATISFIED. TECH SPEC 3.8.1.1.F REQUIRES THE DEMONSTRATION OF OPERABILITY OF THE REMAINING A.C. SOURCES AND RESTORATION OF THE INOPERABLE DIESEL GENERATOR TO OPERABLE STATUS WITHIN 72 HOURS OR DECLARE THE HPCS SYSTEM INOPERABLE AND TAKE THE ACTION REQUIRED BY TECH SPEC 3.5.1. THE

FAILURE TO MEET THE REQUIREMENTS OF TECH SPEC 3.8.1.1.F WAS PERSONNEL ERROR. ADDITIONAL EFFORTS ARE UNDER WAY TO DETERMINE APPROPRIATE ACTION TO PRECLUDE RECURRENCE OF SIMILAR SITUATIONS. THIS IS BEING SUBMITTED AS A INTERIM REPORT. THE FOLLOWUP REPORT WILL BE SUBMITTED BY NOVEMBER 22, 1982.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);GENERATOR, DIESEL;EMERGENCY POWER, ELECTRIC;CORE SPRAY;EMERGENCY COOLING SYSTEM;FAILURE, EQUIPMENT; FAILURE, OPERATOR ERROR;LICENSED OPERATOR;REACTOR STARTUP EXPERIENCE

<ACCESSION NO.> 00Z0177820
<TITLE> DIESEL GENERATOP CRANKCASE COVER CAPSCREW IS DEFECTIVE AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1982
<TYPE> Q
<MEMO> LTR W/LER 82-080 TO U.S. NRC, REGION 2, OCT 18, 1982, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8210220131
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000;100000
<EDITION> 0148
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 82-080
<ABSTRACT> DATE OF EVENT - 100482. POWER LEVEL - 000%. CAUSE - FATIGUE. A SPECIAL INSPECTION ON THE DIVISION 2 STANDBY DIESEL GENERATOR WAS CONDUCTED. DURING THIS INSPECTION, ONE OF THE CAPSCREWS WHICH SECURES THE REAR CRANKCASE COVER TO THE ENGINE BLOCK WAS DISCOVERED TO BE DEFECTIVE. THIS REPORT IS BEING SUBMITTED PURSUANT TO TECH SPEC 6.9.1.12.E. AND I. THE CAPSCREW BROKE WHILE BEING CHECKED FOR THE CORRECT TORQUE. IT IS BELIEVED THAT THE CAPSCREW (SAE GRADE 5, 5/8" MC X 1-3/4") HAD PARTIALLY CRACKED DUE TO FATIGUE DURING

ENGINE OPERATION PRIOR TO THE TORQUE CHECK. THIS CAPSCREW AND 20 OTHER CAPSCREWS WERE REPLACED. NUCLEAR PLANT ENGINEERING IS EVALUATING THE CAPSCREW FAILURE. DIV. 1 DIESEL GENERATOR CAPSCREWS WERE INSPECTED AND DETERMINED TO BE SATISFACTORY.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);INSPECTION;GENERATOR, DIESEL; EMERGENCY POWER, ELECTRIC;ENGINES, INTERNAL COMBUSTION;FASTENER;FAILURE, EQUIPMENT;FAILURE, FABRICATION ERROR;MODIFICATION;FATIGUE;REACTOR STARTUP EXPERIENCE

<ACCESSION NO.> 00Z0176797
<TITLE> THREE DIESEL GENERATORS PLACED IN MAINTENANCE MODE TO PREVENT STARTING AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1982
<TYPE> Q
<MEMO> LTR W/LER 82-044 TO U.S. NRC, REGION 2, SEP 13, 1982, DOCKET 50-416,

<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000;100000
<EDITION> 0147
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 82-044
<ABSTRACT> DATE OF EVENT - 081382. POWER LEVEL - 000%. CAUSE - SEVERAL SPURIOUS ECCS ACTUATIONS. WHILE VENTING NUCLEAR BOILER LEVEL INSTRUMENTS SEVERAL ECCS INITIATIONS TOOK PLACE DUE PRIMARILY TO PROCEDURAL INADEQUACY. ALL 3 DIVISIONAL DIESEL GENERATORS WERE PLACED IN MAINTENANCE MODE TO PREVENT THEIR STARTING AND RUNNING WHILE VENTING CONTINUED. THIS WAS IN VIOLATION OF TECH SPEC 3.8.1.2.B. THE DIESEL GENERATORS REMAINED IN THE MAINTENANCE MODE FOR

8.5 HOURS. AT ANY TIME HAD THE DIESEL GENERATORS BEEN REQUIRED TO RUN THEY WOULD HAVE BEEN RESTORED TO OPERABLE STATUS. PROCEDURAL INADEQUACY ALLOWED TECHNICIANS TO INITIATE LOW LEVEL SIGNALS WHEN RETURNING LEVEL TRANSMITTERS TO SERVICE, CAUSING ECCS INITIATIONS. IN THE FUTURE TEMPORARY DIRECTIVES WILL NOT BE USED AND A PERMANENT APPROVED PROCEDURE FOR VESSEL LEVEL TRANSMITTER WORK WILL BE USED.
<COMPONENT CODE> INSTRU-INSTRUMENTATION AND CONTROLS
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);FAILURE, INSTRUMENT; EMERGENCY POWER, ELECTRIC;SENSORS, LEVEL;GENERATOR, DIESEL;FAILURE, ADMINISTRATIVE CONTROL;ENGINES, INTERNAL COMBUSTION;PROCEDURES AND MANUALS; EMERGENCY COOLING SYSTEM;REACTOR STARTUP EXPERIENCE;ACTUATION;MAIN COOLING SYSTEM

<ACCESSION NO.> 00Z0175928
<TITLE> DIESEL GENERATOR SHUTDOWN DUE TO RECEIPT OF ALARM AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1982
<TYPE> Q
<MEMO> LTR W/LER 82-020 TO U.S. NRC, REGION 2, AUG 13, 1982, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8208200004
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000;100000
<EDITION> 0146
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 82-020
<ABSTRACT> DATE OF EVENT - 071882. POWER LEVEL - 000%. CAUSE - LICENSED OPERATOR ERROR. DURING THE HPCS DIESEL GENERATOR 13 FUNCTIONAL TEST, THE DIESEL ENGINE WAS SHUT DOWN PRIOR TO COMPLETION OF THE TEST DUE TO RECEIPT OF THE GENERATOR RTD HIGH TEMP ALARM WITH STATOR TEMPERATURE POINTS 1, 5, AND 6 IN THE ALARM CONDITION. IF NEEDED, OPERATION OF THE DIESEL COULD HAVE BEEN CONTINUED. THE EVENT IS BEING REPORTED PURSUANT TO TECH SPEC 6.9.1.13.C. STATOR TEMPERATURE READINGS INDICATED THAT TEMPERATURES WERE WELL BELOW THE

ALLOWABLE LIMIT. THE CAUSE OF THE ALARM IS ATTRIBUTED TO SPURIOUS SIGNALS AS THE GENERATOR WAS BEING PARALLELED TO THE BUS. AN INVESTIGATION REVEALED THAT THE ENGINE START WAS NOT A VALID START DUE TO OPERATING ERROR.
<COMPONENT CODE> HEATER-HEATERS,ELECTRIC
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);TEST, SYSTEM OPERABILITY; ENGINES, INTERNAL COMBUSTION;GENERATOR, DIESEL;EMERGENCY POWER, ELECTRIC; HEATERS;FAILURE, EQUIPMENT;FAILURE, OPERATOR ERROR;LICENSED OPERATOR

<ACCESSION NO.> 00Z0175697
<TITLE> HPCS DIESEL GENERATOR TRIPS ON OVERSPEED AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1982
<TYPE> Q
<MEMO> LTR W/LER 82-033 TO U.S. NRC, REGION 2, AUG 27, 1982, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8209080646
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000;100000
<EDITION> 0146
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 82-033
<ABSTRACT> DATE OF EVENT - 081482. POWER LEVEL - 000%. CAUSE - UNKNOWN. HPCS DIESEL GENERATOR 13 STARTED (ON A LOW REACTOR VESSEL WATER LEVEL) AND TRIPPED ON OVERSPEED. THE DIESEL START FAILURE IS CONSIDERED A VALID FAILURE AND IS THE FIRST VALID FAILURE IN THE 10 VALID TESTS CONDUCTED SINCE ISSUANCE OF THE OPERATING LICENSE. THE NORMAL POWER SUPPLY TO THE HPCS PUMP WAS AVAILABLE. THE FAILURE IS BEING REPORTED PURSUANT TO TECH SPEC 4.8.1.1.3. CAUSE OF THE DIESEL START FAILURE MAY BE ATTRIBUTED TO THE GOVERNOR FLUID SYSTEM OR A

FAULTY TACHOMETER RELAY. THE PRECISE ACTION WHICH DIRECTLY RESULTED IN ITS FAILURE IS INDETERMINATE BUT IS UNDER INVESTIGATION. THE DIESEL GENERATOR FLUID WAS REFILLED AND THE FAULTY RELAY REPLACED. THE SYSTEM WAS RESTORED ON AUGUST 18.
<COMPONENT CODE> ENGINE-ENGINES,INTERNAL COMBUSTION
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);REACTOR STARTUP EXPERIENCE; ENGINES, INTERNAL COMBUSTION;GENERATOR, DIESEL;EMERGENCY POWER, ELECTRIC; FAILURE, EQUIPMENT

<ACCESSION NO.> 00Z0175629
<TITLE> DIESEL GENERATOR TRIPS DUE TO HIGH WATER JACKET TEMPERATURE AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1982
<TYPE> Q
<MEMO> LTR W/LER 82-011 TO U.S. NRC, REGION 2, AUG 04, 1982, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8208090280
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000;100000
<EDITION> 0146
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 82-011
<ABSTRACT> DATE OF EVENT - 072282. POWER LEVEL - 000%. CAUSE - IMPROPER POSITIONED VALVE INDICATOR. DURING A DIESEL GENERATOR 12 FUNCTIONAL TEST, THE DIESEL TRIPPED DUE TO HIGH WATER JACKET TEMPERATURE. UPON INVESTIGATION, THE COOLING WATER WAS FOUND ISOLATED AT THE OUTLET VALVLE. THE PROTECTIVE TRIPS FUNCTIONED AS DESIGNED. THE DIESEL GENERATOR FAILURE IS CONSIDERED AN INVALID FAILURE PURSUANT TO REGULATORY GUIDE 1.108, SECTION C.2.E(2). THE

EVENT WAS REPORTED PURSUANT TO TECH SPEC 4.8.1.1.3 AND 6.9.1.12. THE INDICATOR ARROW ON THE PRATT MDT-5 OPERATOR SHOWED THE VALVE AS BEING OPEN. THE VALVE WAS THEN OPENED AND AN INFORMATION TAG ATTACHED TO IDENTIFY THE PROBLEM. THE INDICATOR WAS REALIGNED AND A DESIGN CHANGE INITIATED TO MODIFY THE INDICATOR TO ALLOW MOUNTING IN ONE POSITION ONLY.
<COMPONENT CODE> VALVEX-VALVES

<SYSTEM CODE> WE-ULTIMATE HEAT SINK FACILITIE 3
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);REFUELING;TEST, SYSTEM OPERABILITY;VALVES;GENERATOR, DIESEL;FAILURE, EQUIPMENT;INDICATORS;FAILURE, INHERENT;COMPONENT COOLING SYSTEM;HIGH TEMPERATURE;EFFECT;REACTOR STARTUP EXPERIENCE

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<ACCESSION NO.> 00Z0174254
<TITLE> DG CONTROL CIRCUIT LOSES POWER AT GRAND GULF 1
<CORPAUTH> MISSISSIPPI POWER & LIGHT CO.
<DATE> 1982
<TYPE> Q
<MEMO> LTR W/LER 82-001 TO U.S. NRC, REGION 2, JUL 02, 1982, DOCKET 50-416, TYPE--BWR, MFG--GE, AE--BECH, DCS NO.--8207150538
<AVAIL> NRC PUBLIC DOCUMENT ROOM, 1717 H STREET, WASHINGTON, D. C. 20555 (05 CENTS/PAGE -- MINIMUM CHARGE $2.00)
<CATEGORY> 170000;100000
<EDITION> 0144
<CORP CODE> MPL
<COUNTRY> A
<LER NO> 82-001
<ABSTRACT> DATE OF EVENT - 061882. POWER LEVEL - 000%. CAUSE - FUSES BLEW DUE TO ANNUNCIATOR MODULE FAULT. DURING A DIV. II DIESEL GENERATOR OPERABILITY SURVEILLANCE TEST, A LOSS OF DC POWER TO THE CONTROL CIRCUIT WAS DETECTED BY OPERATIONS PERSONNEL VIA A LOCAL ANNUNCIATOR. DIESEL GENERATOR 12 WAS SHUTDOWN AFTER TROUBLE-SHOOTING ATTEMPTS FAILED TO CORRECT THE CONDITION. THE INCIDENT IS REPORTABLE UNDER TECH SPEC 4.8.1.1.3. THE SEMICONDUCTOR ANNUNCIATOR MODULE, PORTEC MODEL SAM-2, HAS A FAULT IN ITS CIRCUITRY WHICH
DIS 6/0/000001-000057//57 PAGE 2
DIRECTLY CAUSED THE MAIN FUSES TO THE DC CONTROL PANEL TO FAIL. THE SAM HAS ELECTRICALLY BYPASSED AS IMMEDIATE CORRECTIVE ACTION. THE MODULE DOES NOT AFFECT OPERABILITY OF THE DIESEL GENERATOR. PLANNED ACTION IS TO REWORK THE SAM.
<COMPONENT CODE> INSTRU-INSTRUMENTATION AND CONTROLS
<SYSTEM CODE> EE-EMERG GENERATOR SYS & CONTROLS
<KEYWORDS> FAILURE;REACTOR, BWR;GRAND GULF 1 (BWR);INSTRUMENT, ALARM;TEST, SYSTEM OPERABILITY;FAILURE, INHERENT;ENGINES, INTERNAL COMBUSTION;REACTOR STARTUP EXPERIENCE;GENERATOR, DIESEL;FUSE;EMERGENCY POWER, ELECTRIC; ANNUNCIATORS;FAILURE, INSTRUMENT;ELECTRONIC FUNCTION UNITS
ENTER: