



UNITED STATES  
 NUCLEAR REGULATORY COMMISSION  
 REGION II  
 101 MARIETTA ST., N.W., SUITE 3100  
 ATLANTA, GEORGIA 30303

Report Nos. 50-416/82-56 and 50-417/82-12

Licensee: Mississippi Power and Light Company  
 Jackson, MS 39205

Facility Name: Grand Gulf 1 and 2

Docket Nos. 50-416 and 50-417

License Nos. NPF-13 and CPPR-119

Inspection at Grand Gulf site near Port Gibson, Mississippi

Inspector: T. E. Conlon For 8-11-82  
 W. H. Miller, Jr. Date Signed

Approved by: T. E. Conlon 8-11-82  
 T. E. Conlon, Section Chief Date Signed  
 Engineering Inspection Branch  
 Division of Engineering and Technical Programs

SUMMARY

Inspection on July 20-23, 1982

Areas Inspected

This routine, announced inspection involved 28 inspector-hours on site in the areas of fire protection/prevention.

Results

Of the areas inspected, no violations or deviations were identified.

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## REPORT DETAILS

### 1. Persons Contacted

#### Licensee Employees

- \*C. K. McCoy, Plant Manager
- \*R. A. Ambrosino, Assistant Plant Manager  
J. W. Yelverton, Site QA Manager
- \*W. M. Garner, QA Representative
- \*A. V. Holmberg, Fire Protection
- \*D. Phares, Licensing Engineer

#### Other Organizations

- \*H. D. Castles, Risk Control Specialist/Middle South Services, Inc.

\*Attended exit interview

### 2. Exit Interview

The inspection scope and findings were summarized on July 23, 1982, with those persons indicated in paragraph 1 above. The following new items were discussed:

- a. Inspector Followup Item (416/82-56-01), Automatic sprinkler system to be provided for area 1A424 prior to the first refueling outage - paragraph 3.a.
- b. Unresolved Item (416/82-56-02), Inadequate fire protection surveillance inspection and test procedures - paragraph 5.a.(1).
- c. Inspector Followup Item (416/82-56-03), Automatic sprinkler systems for safety-related areas of auxiliary and control buildings are not included in the Technical Specification - paragraph 5.a.(1).
- d. Inspector Followup Item (416/82-56-04), List of redundant safe shutdown circuits which are not separated by at least a 1-hour fire rated barrier is not provided onsite - paragraph 5.a.(2).
- e. Unresolved Item (416/82-56-05), Safety related cables in a number of areas of the plant are not provided with sufficient separation between safety divisions - paragraph 5.a.(2).
- f. Unresolved Item (416/82-56-06), Temporary structures within auxiliary building should be removed or equipped with appropriate fire protection features - paragraph 5.c.

- g. Unresolved Item (416/82-56-07), No maintenance and inspection program provided for 8 and 1½ hour emergency battery powered lighting units - paragraph 5.c.
- h. Inspector Followup Item (416/82-56-08), Licensee's evaluation of the location, distribution, and adequacy of portable fire extinguishers and interior fire hose system - paragraph 5.c.
- i. Inspector Followup Item (416/82-56-09), Review of licensee's evaluation of carbon dioxide actuation system - paragraph 6.

The licensee had no dissenting comment on these items.

### 3. Licensee Action on Previous Inspection Findings

- a. (Closed) Unresolved Item (416/81-48-01) - Automatic sprinkler protection not provided for the areas of the auxiliary building as required by the SER. This item has been reevaluated by NRR. The requirement for spinkler protection has been deleted for areas 1A101, 1A117, 1A215, and 1A314 but is still required for area 1A424. The licensee has committed to provide protection for this area prior to the first refueling outage. This item is closed but a new item is opened to assure that this protection is provided. The new item is identified as Inspector Followup Item 416/82-56-01, Automatic sprinkler protection to be provided for area 1A424 prior to the first refueling outage. This item will be reviewed during a subsequent NRC inspection.
- b. (Closed) Unresolved Item (416/82-34-01) - Fire protection systems required by FSAR not provided for rooms 1A305, 1A402, 1A529, and 1A606. A smoke detector has been installed in Room 1A529. The FSAR has been revised (Amendment 56) to indicate that fire suppression equipment is accessible to rooms 1A305, 1A402, and 1A606. This item is closed; however, the licensee has identified several other areas in which the fire detection system had not been installed as committed. This has been reported to the NRC and is identified by Licensee Event Report (LER) 82-07. This item will be reviewed during a subsequent NRC inspection.

### 4. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable or may involve violations or deviations. New unresolved items identified during this inspection are discussed in paragraph 5.a(1), 5.a(2), and 5.c (two items).

## 5. Fire Prevention/Protection Program Implementation (Module 64704)

## a. Procedures

## (1) Surveillance of Fire Protection Features

The inspector reviewed the surveillance inspection and test procedures for the fire protection items included in the Technical Specification (TS). A number of discrepancies were noted. The principle item included the following:

- (a) Semi-annual functional tests of the fire detection devices for the fire suppression systems, smoke detector zone nos. 2-15 and 2-18, and the detector systems for the charcoal filter trains are not specified as required by TS 4.3.9.1.
- (b) All supervisory features of the fire protection alarm and suppression panels are not required to be demonstrated operable at least once per six months as required by TS 4.3.7.9.2.
- (c) Procedures have not yet been issued for an inspection and test of the valves and "puff test" of the carbon dioxide system required by TS 4.7.6.3.2.
- (d) PGCC halon cylinders are not required to be weight and pressure verified each six months as required by TS 4.7.6.4.b.
- (e) Flow test of computer room halon system is not required each 18 months as required by TS 4.7.6.4.c.
- (f) Inspection procedures have not been issued for visual inspection of each fire rated assembly and barrier penetration seals as required by TS 4.7.7.1.

All of the above tests and inspections were recently conducted during the startup testing program at the plant. Therefore, this item is identified as Unresolved Item (416/82-56-02), Inadequate fire protection surveillance inspection and test procedures, and will be reviewed during a subsequent NRC inspection.

While reviewing the above procedures it was noted that none of the automatic sprinkler systems in the auxiliary and control buildings were included in the Technical Specifications. The licensee is evaluating this item. This item is identified as Inspector Followup Item (416/82-56-03), Automatic sprinkler systems for safety related areas of the auxiliary and control buildings are not included in the Technical Specification, and will be reviewed during a subsequent NRC inspection.

(2) Redundant Safe Shutdown Circuits

FSAR Amendment 56 removed the lists of redundant safe shutdown related cables not separated by at least a 1-hour fire rated barrier from Section 7.2 of FSAR Appendix 9A. The FSAR states that this list was to be maintained at the site. As of July 23, 1982, this list had not yet been sent to the site by Bechtel. This information is to be provided by DCN 1 to drawing no. E-0731 which was scheduled to be issued the week of July 26-30, 1982. This item is identified as Inspector Followup Item (416/82-56-04), list of redundant safe shutdown circuits not separated by at least a 1-hour fire rated barrier, and will be reviewed during a subsequent NRC inspection.

The inspector also noted that a large number of situations existed in several areas of the plant in which the separation between divisions of safety related cables did not conform to the 5 feet vertical and 3 feet horizontal criteria of Regulatory Guide 1.75 as committed by FSAR Appendix 9A Section 7.1. These areas are identified by a Bechtel Report dated June 3, 1982. The licensee was advised that this problem must be corrected prior to criticality or adequate justification provided and approved by NRR and to Region II. This item is identified as Unresolved Item (416/82-56-05), Safety related cables in a number of areas of the plant are not provided with sufficient separation between safety division, and will be reviewed during a subsequent NRC inspection.

b. Fire Brigade

(1) Training and Drills

The inspector reviewed the training records for the brigade members and noted that all members had received initial training and additional training the first and second quarter of 1982. Most of the members had participated in a practice fire fighting session in July 1981 and all members are scheduled for another session in August 1982. The licensee stated that practically all of the brigade members had received a recent physical examination and all members are scheduled to receive a physical by July 27, 1982. Approximately four drills had been conducted in 1982 but the licensee stated that a sufficient number of drills were to be scheduled for the remainder of 1982 to assure that all members would participate in at least two drills during the year. The annual drill with the local fire department had not yet been conducted. This drill is to be scheduled to be accomplished prior to the end of 1982. The brigade training and drill participation will be reviewed during subsequent routine NRC inspections to verify that the licensee is meeting the commitments to the NRC.

## (2) Fire Brigade Equipment

A total of 18 full sets of turnout gear (coats, boots, helmets, gloves, etc.) were provided for the brigade. This equipment was equally divided in storage lockers located on 139' elevation of auxiliary building, 166' elevation of turbine building and in the railroad access bay to the auxiliary building. A total of 14 self contained breathing apparatus were designated for fire brigade use. Additional units were available from the health physics group. The equipment appeared to be adequately maintained and in service. A total of 6 smoke ejectors are to be located adjacent to the storage lockers. The equipment meets the commitments to the NRC.

### c. Plant Tour

A tour was made of the plant to review general housekeeping, control of flammable and combustible materials and general fire protection features. The general housekeeping was considered typical for a plant undergoing the transition from construction to operation phase. Most of the temporary construction materials and supplies had been removed; however, three structures, two on 139' elevation and one on 119' elevation of the auxiliary building, remain in place and reportedly are required to be used during the low power testing phase. The licensee was advised that these temporary structures provide an exposure fire hazard to safety related equipment and should either be removed or additional appropriate fire protection features should be provided. This item is identified as Unresolved Item (416/82-56-06), Temporary structures within auxiliary building should be removed or equipped with appropriate fire protection features, and will be reviewed during a subsequent NRC inspection.

All of the installed fire protection systems covered by the technical specifications were found in service. Fire hydrant equipment house nos. 9, 19, 20, 23, 24 and 25 were inspected and found to contain the required quantity of equipment. The inspector noted that, in some areas of the plant, the travel distance to fire extinguishers appeared excessive, the wrong type fire extinguisher was provided, and the length of fire hose on a few of the interior hose packs appeared to be too short. This problem had also been identified by the licensee and an evaluation was being made to identify problem areas and initiate appropriate corrective action. This evaluation was being made by Bechtel under Design Change Assistance Request No. NPE-2-311. The results of this evaluation will be reviewed during a subsequent NRC inspection. This item is identified as Inspector Followup Item (416/82-56-08), Licensee's evaluation of the location, distribution, and adequacy of portable fire extinguishers and interior fire hose system.



A number of the 8-hour and 1½-hour emergency lighting units were inspected, tested and found to be in service by the inspector; however, it was noted that a routine maintenance and inspection program for those lighting units had not yet been initiated. This discrepancy is identified as Unresolved Item (416/82-56-07), No maintenance and inspection program for 8 and 1½-hour emergency battery lighting units, and will be reviewed during a subsequent NRC inspection.

Within the areas examined, no violations or deviations were identified.

#### 6. Carbon Dioxide System Actuation

The inspector reviewed the events concerning the July 13, 1982 carbon dioxide fire protection actuation into the ESF switchgear room on elevation 119' of the auxiliary building. The carbon dioxide system activated about 3 times due to a defective relay in the main control panel (short in supervisory coil). Each activation discharged approximately 2000 pounds of carbon dioxide into the room. The licensee estimated that a total of approximately 8,000 pounds of carbon dioxide was discharged into the room. This quantity of carbon dioxide created sufficient pressure within the room to force open the normally locked entrance door. This door was repaired on July 13 and the defective relay was replaced on July 14. The licensee maintained a fire watch within this room as required by the Technical Specifications until the necessary repairs were made. The licensee stated that this actuation did not damage any equipment within this room. The licensee is evaluating the design of the actuation system to determine if any design modifications should be made. This item will be reviewed during a subsequent NRC inspection and is identified as Inspector Followup Item (416/82-56-09), Review of licensee's evaluation of carbon dioxide actuation system.

Within the areas examined, no violations or deviations were identified.

#### 7. Licensee Identified Items

(Closed) CDR 416/80-67 and 417/80-67, Inadequate specification for installation of fire dampers. This item is the same item previously identified as Noncompliance Item (416/80-25-01 and 417/80-15-01) which was closed by Region II Report Nos. 50-416/81-48 and 50-417/81-21. Therefore, this CDR is closed.

#### 8. Inspector Followup Items (IFI)

- a. (Closed) Inspector Followup Item (416/82-08-02) - Installation of permanent plant fire protection equipment and systems required prior to fuel load. The installation of the permanent plant fire protection equipment and systems was essentially complete. The only outstanding items are as follows:

- (1) 1P64PT03: Fire damper is not functional in one room but a fire watch is provided as required by the Technical Specification; and one carbon dioxide valve position does not register properly in the computer, i.e., leads closed when valve is open.
- (2) SC83PT01: Computer point for the manual sprinkler system to the post accident sampling monitoring room does not register properly.

These items are being corrected by the licensee; therefore, this item is closed.

- b. (Closed) Inspector Followup Item (416/82-08-04) - Revision and plant management approval required of fire protection procedures. The fire protection administrative control procedures have been issued. This item is closed.
- c. (Closed) Inspector Followup Item (417/82-08-03) - Six hour supply of emergency breathing air required prior to fuel load. This item was closed for Unit 1 by Report 416/82-34 and is common to both units. Therefore, this item is also closed for Unit 2.