JUN 7 1978



Docket Nos: 50-416
50-417

LICENSEE: Mississippi Power & Light Company

FACILITY: Grand Gulf, Units 1 and 2

SUBJECT: SUMMARY OF MAY 31 - June 1, 1978 MEETING AND SITE VISIT

On May 31 - June 1, 1978, we met with representatives of the Licensee at the Grand Gulf site to discuss the scheduling of construction and to observe the construction activities in progress. The visit was in connection with the activities of the NRC Forecast Panel. The agenda for the meeting is attached as Enclosure 1. A list of attendees and persons contacted during the visit is included as Enclosure 2.

We met with representatives of the Licensee at the construction site offices on the morning of May 31, and toured the site during the afternoon, followed by additional discussions in the site offices. We held an exit briefing on the morning of June 1, 1978.

The May issue of the Yellow Book (April figures) shows Unit 1 at 60% complete with an estimated fuel load date of October 1980. Unit 2 is listed as less than 1% complete with an estimated fuel load date of July 1983. The purpose of the visit was to obtain a better feel for the actual status of construction and the project schedule to enable the Forecast Panel to confirm the estimated fuel load dates. Due to the construction status, the Panel members devoted their attention primarily to the Unit 1 and common facilities.

The Licensee is one of the operating companies of Middle South Utilities, Inc. (MSU) a holding company. Other operating subsidiaries of MSU include Arkansas Power & Light Company (Arkansas Nuclear One, Units 1 and 2) and Louisiana Power & Light Company (Waterford, Unit 3). The Grand Gulf Station is owned and is being financed by Middle South Energy, Inc. for MSU. The Licensee, Mississippi Power & Light Company is the designated agent for design, construction, operation and maintenance of the plant.

The Licensee is a summer peaking utility. Approximately 22% of the total annual production is during the months of July and August. The

peak demand grew at the rate of 9.8% per year during the period 1965 through 1973. The demand growth rate dropped during the 1974-1975 period, but it is predicted to grow at an average rate of 6.3% from now through 1992. The reserve goal of MSU is 15%. By the summer of 1981, the peak demand within MSU is estimated to be 13,160 MWe. Without Grand Gulf Unit 1 in commercial operation by that time, the system reserve would be only 15%. With Grand Gulf Unit 1, the system reserve would be 24.9%, and the Licensee is aiming at commercial operation by the summer of 1981 to assure this reserve capacity.

Plant design is being handled by Bechtel at the Gaithersburg office. Approximately 300 people are involved. Emphasis to date has focused on design of the Unit 1 and common facilities and I would estimate the overall design completion of these facilities at about 85 - 90%. Emphasis of the design effort is now starting to switch to Unit 2.

Procurement appears to be in good shape. About 95% of the civil-structural material is on site. The only major order still outstanding is the material for the enclosure building which is expected in September 1978. 95% of the electrical equipment and 98% of the mechanical equipment is on hand with the balance in both categories expected by November 1978. No problems are foreseen with availability of bulk materials. The Licensee has established a small pipe fabrication shop in Vicksburg which has proved to be a highly efficient means of obtaining both the small pipe and special orders.

A tornado struck the site in April of 1978, inflicting considerable damage to the Unit 1 cooling tower, the Unit 1 containment and the switchyard. A main station transformer also was damaged and probably will have to be returned to the manufacturer for rework. The tornado caused the collapse of a construction crane inside the cooling tower. A large, wedge-shaped segment was torn out of the cooling tower wall. Inspectors from Europe are due to inspect the damage and recommend repair measures. No work on the tower is currently underway. A large crane also fell across the top of the Unit 1 containment liner buckling the top of the liner. The damaged sections are being cut out and will be replaced with material from Unit 2 which is already on site. The containment dome for Unit 1 had been scheduled to be lifted into place several days after the tornado. This dome placement now is scheduled for September. The switchyard sustained extensive damage due to debris and several construction trailers which were tumbled through the yard by the tornado. The tornado damage is not expected to impact the overall schedule, although considerable effort is being applied to work around and minimize the effects of the damage.

Some 91% of the concrete for Unit 1 and common facilities now has been placed. About 75% of the large pipe is installed and about 38% of the small pipe. Cable tray installation is at about 75%, with conduit at

 

29%, cable at 12% and terminations at about 2%. The construction force consists of about 3,500 people total. Of this number, about 2,500 are direct hire in various crafts, 600 are non-manual Bechtel people, and 400 are subcontractor people. A considerable amount of the work such as the cooling towers, HVAC, turbine-generator erection, and painting is being subcontracted. Present construction efforts are on a two-shift basis with little scheduled overtime. No labor problems are foreseen.

All construction efforts seem to be well in hand except for the electrical work. This effort currently is behind schedule and the Licensee has instituted a recovery program to get back on schedule. The problem is that the Licensee has experienced difficulty attracting a sufficient number of skilled electricians, and the turn-over rate has been on the order of 25% per month. With the emphasis changing to more and more electrical work in the coming months, it appears that this chronic shortage of electricians could have a considerable impact on the Licensee's ability to maintain the construction schedule.

There now are about 120 people assigned to the operating staff who are in various stages of training. About 25% of the operating procedures have been written and about 40% of the startup procedures. All start-up procedures are available at least on a first draft basis. Technical procedures are 10% complete and radiation protection procedures are 30% complete. The Licensee intends to use the operating staff for the startup test program. The startup test schedule is just now being integrated with the construction schedule, which we see as a possible source of delay to the project.

Percentage completion status is calculated on the basis of man-hours expended divided by the total man-hours programmed for the job. The total effort allocated is revised periodically to take into account the productivity of labor, new or changed requirements, etc. The calculated completion rate has been running at about 1.4% per month. Scheduling is being done on the basis of a 66 month construction schedule which would call for being ready to load fuel by July 1980. This is considered by the Licensee to be optimistic. Accordingly, efforts are reported based on a 70 month schedule, which is more realistic and is where the October 1980 fuel load date comes from.

If the Licensee can maintain the 1.4% per month placement rate, the October 1980 fuel load date is achievable. However, the known problems with the lack of qualified electricians and the potential problem of conflicts between the actual construction schedule and the needs for the startup test program both indicate a potential for a slip. Our view is that there is a potential total slip on the order of five to six months due primarily to these causes.

During our exit interview with the Licensee, we indicated that in our best judgment a fuel load date for Unit 1 of March or April of 1981 would be more likely than the advertized date of October 1980. We also indicated that our recommendation would be to continue with the acceptance review and docketing of the OL application.

L. P. Crocker
Technical Assistant to the Director
Division of Project Management

Enclosures:
1. Note to Multiple Addressees
   from L. Crocker
2. Attendee List

cc: L. Dale, MP&L
K. McCoy, MP&L
V. Brownlee, RO II
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