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September 30, 1983

JAMES P. McGAUGHY, JR.
VICE PRESIDENT

U. S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D. C. 20555

Attention: Mr. H. R. Denton, Director

Dear Mr. Denton:

SUBJECT: Grand Gulf Nuclear Station
Unit 1
Docket No. 50-416
License No. NPF-13
File: 0272/16684
GGNS Extended Outage
AECM-83/0630

Reference: MAEC-83/0278, dated August 28, 1983

This letter is in response to your referenced letter to MP&L wherein you requested information concerning reasons for the length of the extended outage for the Grand Gulf Nuclear Station - Unit 1 (GGNS-1).

In October, 1981, MP&L chose to pursue the completion, testing and startup of GGNS-1 in a phased approach. This Phased Startup allowed MP&L to concentrate its resources on the approximately 30 plant systems (Phase I) needed to be operational to safely load fuel and perform certain low power testing activities. The rationale was that completion and testing of the remaining (Phase II) systems could proceed in parallel with fuel loading and low power testing, thus allowing MP&L to better prioritize its work load and shorten the total startup schedule while not compromising plant safety. This two-phased approach was discussed with the Nuclear Regulatory Commission (NRR and Region II) and was approved for implementation. During the early part of 1982 MP&L worked to achieve completion of the Phase I portion of this plan and on June 16, 1982 received its Facility Operating License (NPF-13) authorizing fuel loading and low power testing.

The following is an approximate chronological account of the activities that occurred at GGNS-1 between June 16, 1982 and October 15, 1982:

June 16, 1982 - July 1, 1982

During the first two weeks after license issuance activities were concentrated on reviewing the newly issued Technical Specifications to ensure that Phase I systems and surveillances were in compliance. Where differences were identified, new or modified surveillances had to be run.

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July 1, 1982 - August 5, 1982

Loading of the initial core of nuclear fuel was accomplished during this five week period. Problems were encountered with the one-of-a-kind horizontal fuel transfer canal and mechanism which slowed this activity somewhat. However, this duration is not considered unreasonable for the Mark III containment configuration (in which the spent fuel pool is in the auxiliary building) with an 800 bundle core.

August 5, 1982 - August 16, 1982

This time was devoted to final preparations for initial criticality and low power physics testing. It included running of Mode 2 surveillances and installation of vibration monitoring system sensors for vessel internals.

August 16, 1982 - August 19, 1982

Initial criticality and low power physics testing were accomplished along with review and acceptance of the test results.

August 19, 1982 - September 16, 1982

This time was used for preparations for non-nuclear heatup. Activities included installation of vessel internals and head, flooding-up of pools, readying the drywell and containment and establishing secondary containment.

September 16, 1982 - October 15, 1982

Non-nuclear heatup was conducted during this time interval. It was discovered that GCNS-1 had insufficient drywell heat removal capability. The testing activities, including recording of vibration data, were successfully accomplished by using the drywell purge system and temporary blowers to keep the drywell temperature within acceptable limits.

The experience gained during non-nuclear heatup showed that substantial modifications would be necessary to the drywell cooling capability before plant operations could begin. In October, 1982 a decision was made to enter an extended outage for the purpose of accomplishing the necessary design analyses and physical work in the plant. MP&L believes that its progress toward startup of GCNS-1 had been successful and carried out with reasonable durations up until the point at which the drywell cooling issue forced the extended outage.

Modifications to the drywell cooling capability at GCNS-1 were the critical path item for the outage from October, 1982 through June, 1983. The modifications included extensive design and installation work including repair and rework of the existing reflective insulation, the addition of insulation in certain areas, modifications and additions to the air

distribution system and addition of 1200 tons of chiller capacity for the drywell. This phase of work was the largest single contributor to the length of the outage.

In December, 1982 MP&L reviewed the amount of work that was scheduled to be performed at the first refueling outage. This appeared to be significant and since the drywell cooling outage was forecasted to be several months long, a decision was reached to proceed with portions of the outage work before startup in order to minimize the length of the refueling outage and maximize plant availability and capacity factor. Some of this work included modifying the reactor protection system to reduce inadvertent containment isolations and SCRAM's, modifying the Plant Service Water control system, adding the isolation valve status board, modifications to increase the reliability of the plant air systems, adding more in-plant communications capability, modifying the Liquid Radwaste Effluent Monitoring System, modifying the coolant leakage detection capability in the drywell, increasing the vent capacity of the Reactor Water Cleanup backwash receiving tank, and increasing the height of some of the upper containment pool separation walls. Although this work was not allowed to be critical path in nature it appears that it did compound and have some impact on the overall schedule.

Phase II systems completion and testing proceeded during the October, 1982 - July, 1983 time frame. Major modifications were made to the solid radwaste system and a significant amount of rework was necessary for nuclear grade painting and coatings in certain buildings. A large amount of effort was required in certain areas such as TMI items, cable tray protection and fire penetration sealing.

Overlapping the extended outage work to a great extent, was the work necessary to respond to the NRC Confirmation of Action Letter issued on October 20, 1982. The review and rewrite of surveillance procedures addressed in this letter began in December, 1982 and was completed in early September, 1983. Many surveillances had to be re-run as a result of this effort and those were completed in mid-September, 1983. Requests for changes to the facility Technical Specifications were submitted to the NRC in packages beginning in March, 1983 with the final change requests needed for next criticality being submitted in August, 1983.

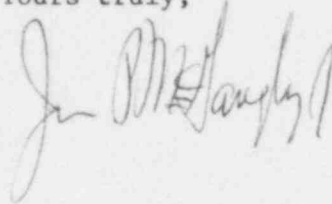
In March, 1983, MP&L submitted to Region II its Operations Enhancement Program (OEP). This program was developed after considerable self-evaluation by MP&L and discussions with Region II personnel, and is intended to improve operations at GCNS-1. The program is composed of six major objectives which are further divided into action items. The program addresses strengthening the surveillance program, enhancing operator training, improving management control and effectiveness, improving procedure awareness and compliance, and enhancing effectiveness of the operating staff. Each OEP commitment has a specific date or milestone completion deadline associated with it. A substantial amount of work has been devoted to meeting these commitments over the past several months. Additionally, many of these objectives entail long range activities that will continue into plant operation.

The last few weeks before September 25, 1983 (the date when critical operations resumed) were spent completing the necessary surveillances to proceed into startup. Additionally, the Division I standby diesel/generator experienced a fire from a broken fuel line. This delayed completion of the diesel and ECCS surveillances by approximately two weeks. Closeout of software for the Design Change Packages that have been implemented was completed in mid-September, 1983.

MP&L has worked diligently completing construction and testing of GGNS-1 and readying the unit for startup and power ascension. As you can see from the description of our activities over the past fifteen months a significant amount of work has been accomplished and the durations of these activities have been for the most part uncontrollable factors. However, MP&L is confident that GGNS-1 is ready for power ascension and that many problems which might otherwise have been discovered during power operation have been addressed with the unit in shutdown.

If you have any questions, please call me.

Yours truly,



JPM:aly

cc: Mr. J. B. Richard
Mr. R. B. McGehee
Mr. T. B. Conner
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