

2.0 ENVIRONMENTAL PROTECTION ISSUES

In the FES-OL dated September 1981, the staff considered the environmental impacts associated with the operation of the Grand Gulf Nuclear Station. Certain environmental issues were identified which required study or license conditions to resolve environmental concerns and to assure adequate protection of the environment.

2.1 Aquatic Issues

No aquatic issues were identified in the FES-OL. Effluent limitations and monitoring requirements are contained in the effective NPDES permit issued by the Mississippi Department of Natural Resources. The NRC will rely on this agency for regulation of these matters as they involve water quality and aquatic biota.

2.2 Terrestrial Issues

- (1) Potential erosion along transmission line corridors during and immediately following their construction.
- (2) Potential impact of cooling tower drift on vegetation surrounding the site. In the FES the staff recommended an aerial remote sensing program. The applicant has opted to do a more detailed surveillance program as described in Section 4.2.2 of this EPP.

NRC requirements with regard to the terrestrial issues are specified in Subsection 4.2 of this EPP.

by the aerial surveys, and walking patrols will be directed to the problem areas to evaluate the extent of the problem to be corrected.

The Erosion Control Inspection Program shall begin upon commencement of normal transmission line inspection procedures. Semi-annual surveys shall continue until stabilization of soil and vegetation (i.e., ground cover establishment) is achieved.

A summary of the field inspection program and any procedures implemented to control abnormal erosion conditions associated with transmission line maintenance activities shall be reported in the Annual Environmental Operation Report in accordance with Subsection 5.4.1. Field logs indicating locations of erosion damage and measures taken to rectify erosion problem areas and estimation of the time to achieve effective stabilization will be maintained and available for inspection for a period of five years. Results reported shall contain information encompassing but not limited to inspection date, estimated size of erosion problem area, probable cause of erosion, type of stabilization program, and date of effective stabilization, as appropriate.

4.2.2 Cooling Tower Drift Program

Seven sampling sites ^{were} ~~will be~~ utilized to measure cooling tower drift-deposition. At least two of the sampling sites ^{had} ~~will have~~ duplicate sampling devices. Six of the seven sites ^{were} ~~will be~~ located in areas where maximum salt deposition ~~is~~ ^{was} predicted. These areas were extrapolated from the Bechtel Salt Deposition Model developed for the GGNS Final Environmental Report. The seventh sampling site

^{Why} ~~will be~~ a control site located south of Raymond, Mississippi. ^{An Eighth off site} ~~Control site was fielded in 1985 at Fort Gibson, Mississippi.~~

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Fallout samples will be collected using buckets with a known volume of deionized water in each. The buckets will be located four to six feet above the ground, fitted with bird rings, and covered with fine mesh screens to exclude leaves and insects. The samples will be collected on a quarterly basis and analyzed for calcium, magnesium, sodium, iron, phosphates, nitrates, chloride, fluorides, sulfates, and total dissolved solids. These parameters were selected because past analyses have shown them to be prevalent in the cooling water source water. The results of these analyses will be correlated with local rainfall data and

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Fallout samples were collected on a quarterly basis and analyzed for ten specific constituents. The details of the sampling procedure and chemical analysis were submitted to the NRC's Environmental Engineering Branch for review and approval prior to plant operation above 5% power. An evaluation of the results of the Cooling Tower Drift Program indicated that the operation of the GGNS cooling tower produced no statistically significant effect upon the salt deposition rate for those chemical species evaluated. The cooling tower drift program was therefore terminated.

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the results expressed as mg/m². Details of the sampling procedure and chemical analysis are to be submitted to the NRC's Environmental Engineering Branch for review and approval prior to plant operation above 5% power.

If statistically significant amounts of the analyzed components, at the 95% confidence level as determined by a repeated-measure analysis of variance, are obtained between the preoperational and operational samples, then a supplemental program will be implemented to determine if the increase in drift is of biological significance.

The results will be incorporated into the Annual Environmental Operating Report as described in Section 5.4.1 of the EPP.

This program is to be implemented at least 3 months prior to the operation of Unit 1 above 5% power and will be continued for three years of operation. If no statistically significant amounts of the analyzed components are detected during this time period, then a proposal can be made to NRC to terminate the program.

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