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D. O. Foster
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December 28, 1984

Director of Nuclear Reactor Regulation
Attention: Ms. Elinor G. Adensam, Chief
Licensing Branch #4
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

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NRC DOCKET NUMBERS 50-424 AND 50-425
CONSTRUCTION PERMIT NUMBERS CPPR-108 AND CPPR-109
VOGTLE ELECTRIC GENERATING PLANT - UNITS 1 AND 2
SUPPLEMENTAL INFORMATION SETTLEMENT REVIEW REPORT

Dear Mr. Denton:

Enclosed are five copies of the Plant Vogtle Settlement Review Report dated September 1984. This report was prepared prior to our receiving staff DSER comments and therefore only partially addresses those DSER items which are related to settlement. The remaining settlement related items, including presentation of settlement data and sectional views of category 1 piping, will be treated separately. This report is being transmitted at this time to provide a prompt response to several of the settlement related issues raised in staff question Q241.18 and paragraph 2.5.4.4.3 of the Vogtle DSER, including the following:

- Comparison between total and differential settlements allowed for in design and actual settlement records at specific locations of structures. (p. 18, Tables 2-1 and 3-2 of the attached report)

- Differential settlements occuring within structures; tipping of structures (pp. 10-13, Table 3-1, Figures 3-1 to 3-3 of the attached report)

- Identification of specific maximum recorded settlements for each structure and comparison with design estimates. (pp. 10-18, Table 2-1 of the attached report)

The enclosed report revises the settlement analysis originally presented in the FSAR. Previous settlement estimates considered compression of the dense sand underlying the marl bearing stratum to be negligible under the applied loading. This report concludes that the lower sand stratum

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is a significant element in the settlement analysis. The revised settlement analysis, therefore includes contributions from both the lower sand and the marl bearing startum. The revised settlement estimate compares well with measured settlement.

The primary factory contributing to settlement at Plant Vogtle is the weight of fill over a large area causing compression of the underlying marl and sand strata. Therefore, while total settlement recorded to date is larger in magnitude than originally estimated, the settlement of fill and structures is quite uniform. Because settlement is uniform, differential settlement is expected to be small and comparable to values originally estimated. Because it is primarily differential settlement that can affect structures and the connections between them and because differential settlement is expected to be small, no adverse effects on structures or equipment are anticipated as a result of settlement at Plant Vogtle.

I hope that this report will be of assistance to your staff in preparation for the January 23, 1985 meeting. If there are any questions concerning the enclosed report, please do not hesitate to call.

Yours truly,

D. O. Foster

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