JAN 2 9 1982

Docket Nos.: 50-424
and 50-425

Mr. Doug Dutton
Vice President - Project Management
Georgia Power Company
Post Office Box 4545
Atlanta, Georgia 30302

Dear Mr. Dutton:

Subject: Amendment to Construction Permits for Alvin W. Vogtle Nuclear Plant, Unit Nos. 1 and 2

Your letter, dated May 1, 1981, transmitted an application for amendments to the Alvin W. Vogtle Nuclear Plant, Unit Nos. 1 and 2 (Vogtle 1 & 2) Construction Permits CPPR-108 and CPPR-109. The application for amendments to the construction permits was requested to reflect a modification in plant design which would substitute a single-point, submerged plant discharge structure for the original submerged multiport discharge structure design. This design modification would (a) meet the U. S. Corps of Engineers navigation and maintenance operations criteria; (b) represent environmental improvement over the original design in that it reduces the potential of maintenance and operational problems due to biofouling by Asiatic Clams which are present in the Savannah River; and (c) result in a plant discharge with a smaller chemical and thermal plume than predicted for the original design.

The amendments also delete three conditions (3.E.(5)(a), (b), and (d)) concerning plant chlorine discharges and related monitoring. These conditions were based on the use of a multiport diffuser discharge structure and four-unit operation. They are inapplicable to both the discharge design modifications and the proposed two-unit operation. All three conditions on chlorine releases and related monitoring should be deleted as a matter of law, as they are properly subject to National Pollutant Discharge Elimination System (NPDES) limitations. Effluent limits and monitoring requirements on chlorine will be considered by the State of Georgia in issuance of the Vogtle 1 & 2 NPDES permit.

We have reviewed your application and have concluded that the proposed redesign and deletion of conditions to Construction Permits CPPR-108 and CPPR-109 does not constitute an unreasonable risk to the health and safety of the public, and is not inimical to the common defense and security. The bases for these conclusions are set forth in the enclosed Safety Evaluation.

We have also concluded that there will be no environmental impact attributable to the proposed action that was not considered in our Final Environmental Statement, and therefore, no environmental impact statement need be prepared

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for the proposed action. The bases for these conclusions are set forth in the enclosed Environmental Impact Appraisal. Also enclosed is the applicable Negative Declaration.

Enclosed are Amendment Nos. 3 to CPPR-108 and CPPR-109 for the Alvin W. Vogtle Nuclear Plant, Units 1 and 2, which reflect the changes discussed above. A copy of a related notice which has been forwarded to the Office of the Federal Register for publication is also enclosed.

Sincerely,

/s/ Robert Purple
for Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 3 to CPPR-108
2. Amendment No. 3 to CPPR-109
3. Safety Evaluation
4. Environmental Impact Appraisal
5. Negative Declaration
6. Federal Register Notice

cc w/encls.: See next page

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Burke County Commission
Waynesboro, Georgia 30830

UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-424

GEORGIA POWER COMPANY

OGLETHORPE ELECTRIC MEMBERSHIP CORPORATION

MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA

CITY OF DALTON, GEORGIA

ALVIN W. VOGTLE NUCLEAR PLANT, UNIT 1

AMENDMENT TO CONSTRUCTION PERMIT

Amendment No. 3
Construction Permit No. CPPR-108

1. The Nuclear Regulatory Commission (the Commission) having found that:

   A. The application for amendment by Georgia Power Company, dated May 1, 1981, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;

   B. The issuance of this amendment will not be inimical to the common defense and security nor to the health and safety of the public;

   C. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations, and all applicable requirements have been satisfied; and

   D. Prior public notice of this amendment is not required because it does not involve a significant hazards consideration.

2. Accordingly, Construction Permit No. CPPR-108 is amended to delete the following conditions and to add a new paragraph:

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Delete:

3.E. (5) (a), (b) and (d).

Add a new paragraph 3.E. (5) (e):

Substitute the original multiport, submerged design of the discharge structure with a single-point, submerged discharge structure.

3. This amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation

Date of Issuance: JAN 29 1982

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UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NO. 50-425

GEORGIA POWER COMPANY

OGLETHORPE ELECTRIC MEMBERSHIP CORPORATION

MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA

CITY OF DALTON, GEORGIA

ALVIN W. VOGTLE NUCLEAR PLANT, UNIT 2

AMENDMENT TO CONSTRUCTION PERMIT

Amendment No. 3
Construction Permit No. CPPR-109

1. The Nuclear Regulatory Commission (the Commission) having found that:

   A. The application for amendment by Georgia Power Company, dated May 1, 1981, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;

   B. The issuance of this amendment will not be inimical to the common defense and security nor to the health and safety of the public;

   C. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations, and all applicable requirements have been satisfied; and

   D. Prior public notice of this amendment is not required because it does not involve a significant hazards consideration.

2. Accordingly, Construction Permit No. CPPR-109 is amended to delete the following conditions and to add a new paragraph:

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Delete:

3.E. (5) (a), (b) and (d).

Add a new paragraph 3.E. (5) (e):

Substitute the original multiport, submerged design of the discharge structure with a single-point, submerged discharge structure.

3. This amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

/s/ R. Purple
for Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation

Date of Issuance: JAN 29 1982

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| DATE | 12/11/81 | 12/11/81 | 12/ /81 | 12/11/81 | 12/16/81 | 12/29/81 | |

JAN 2 9 1982

# SAFETY EVALUATION REPORT BY THE OFFICE OF NUCLEAR REACTOR REGULATION RELATED TO AMENDMENT NOS. 3 TO CONSTRUCTION PERMITS CPPR-108 AND CPPR-109

## Introduction

On May 1, 1981, Georgia Power Company, acting on its own behalf and as agent for Oglethorpe Electric Membership Corporation, Municipal Electric Authority of Georgia, and the City of Dalton, requested an amendment to the Construction Permits CPPR-108 and CPPR-109, for the Alvin W. Vogtle Nuclear Plant, Units 1 and 2 (Vogtle), to reflect a modification in plant design. The modification would substitute a single-point, submerged plant discharge structure for the original multiport, submerged discharge structure design.

Modification of the plant discharge structure had been prompted by the U. S. Corps of Engineers (COE) review of the original Vogtle multiport discharge structure design. To install the Vogtle discharge structure in the Savannah River, a permit was required from the COE. An application was submitted for this permit by Georgia Power Company on August 15, 1980. By letter dated November 14, 1980, the COE informed Georgia Power Company that the discharge structure as designed could not be permitted under the navigation and maintenance operations criteria of COE.

Georgia Power Company has proposed a modification to the original discharge structure design that would (a) meet COE criteria; (b) represent environmental improvement over the original design in that it reduces the potential of maintenance and operational problems due to biofouling by Asiatic Clams which are present in the Savannah River; and (c) most importantly, result in a plant discharge having a smaller predicted chemical and thermal plume than predicted for the original design and assessed in the construction permit stage Final Environmental Statement (FES). In support of the reduced environmental effect, Georgia Power Company has submitted thermal and chemical dispersion studies with the request-for-amendment letter dated May 1, 1981.

In conjunction with the request for approval of the design change, Georgia Power Company also requests amendment of Construction Permit CPPR-108 and CPPR-109 to delete related conditions 3.E.(5)(a), (b) and (d) which concern plant chlorine discharges. Conditions 3.E.(5)(b) and (d) assume four unit operation and as written are inappropriate for the present two-unit plant. These same two conditions are based on the use of a multiport diffuser discharge structure and are inapplicable for the redesign. Georgia Power Company states that, in any event, all three conditions on chlorine releases and related monitoring should be deleted as a matter of law, as they are properly subject to National Pollutant Discharge Elimination System (NPDES) limitations. Georgia Power Company has discussed this request with the State of Georgia which has NPDES permitting authority granted to it by the Environmental

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Protection Agency (EPA) and has learned that effluent limits and monitoring requirements on chlorine will be considered by the State in issuance of the Vogtle NPDES permit.

Based on the information submitted in the Preliminary Safety Analysis Report (PSAR) and the request-for-amendment letter dated May 1, 1981, the NRC staff has completed its review of all safety- and environmental-related matters pertinent to the issuance of the Construction Permit amendment as requested in the May 1, 1981 application. This Safety Evaluation is issued in support of Amendment Nos. 3 to Construction Permits CPPR-108 and CPPR-109, allowing the design change of the discharge structure and the deletion of three related construction permit conditions for plant chlorine discharges.

The construction permit conditions, which Georgia Power Company requests to be deleted, address chlorine discharges and the thermal mixing zone. Conditions 3.E(5)(b) and 3.E.(5)(d) are no longer appropriate because they relate to the original four-unit plant with the multiport diffuser; the Vogtle plant is now proposed for two units, only. Also, conditions 3.E(5)(a), (b) and (d) address effluent limitations and monitoring requirements which are now under the jurisdiction of the State of Georgia's NPDES permitting system pursuant to the Clean Water Act. For these reasons we agree with Georgia Power Company that the three conditions should be deleted from the Vogtle construction permits. Deletion of water quality related requirements are done as a matter of law and is a ministerial action for which no prior Environmental Impact Appraisal need be prepared. Therefore, the impact of the deletions of the water quality requirements from the Vogtle construction permit are not addressed in the following review.

Furthermore, the staff finds that the design change from a multiport to a single-point diffuser does not impact the functional performance of the discharge structure. The requested amendment has no effect on the staff's prior safety review of the discharge structure as the design change does not involve a significant increase in the probability or consequences of accidents previously considered nor a significant decrease in safety margins. Therefore, safety impacts are not discussed in the following review.

The purpose of this Safety Evaluation is to examine the impact of the proposed modifications to the discharge structure for Vogtle 1&2. Specifically, the Safety Evaluation addresses environment-related items with regard to hydrologic and biologic considerations.

Evaluation

We have reviewed this application for amendment, submitted May 1, 1981. Our review of environment-related matters and our conclusions concerning each item are described in the following subsections of this evaluation report.

Hydrology

Georgia Power Company has submitted a design change for the Alvin W. Vogtle Nuclear Plant, Unit Nos. 1 & 2, which replaces the submerged multiport diffuser with a single-port, horizontal jet, submerged diffuser located on the shoreline (Ref.1). The new diffuser consists of a 24-inch diameter pipe angled 70 degrees from the downstream shoreline and pointing 5 degrees downward from the horizontal. Heated effluent from the closed-cycle condenser cooling system will be discharged at a rate of 5,500 to 55,000 gallons per minute. The high-velocity jet will disperse in the Savannah River and be carried downstream. Flow in the river is regulated by upstream dams. Flow at the site is maintained at or above a minimum of 5800 cubic feet per second (cfs), primarily for navigation reasons.

The main impetus for redesigning the diffuser system was the strong recommendation by the U.S. Corps of Engineers that the orginally-designed submerged multiport diffuser would present an obstacle to maintenance dredging of the river (Ref. 2). The applicant also feared that the small ports in the submerged diffuser would tend to collect sediment and Asiatic clams, and clog during periods of inoperation. The newly designed submerged jet discharge would alleviate these two problems in addition to being simpler and cheaper.

The applicant performed a design study of the thermal performance of the proposed shoreline discharge diffuser. A wide range of effluent release conditions, pipe diameters, discharge angles and ambient river temperatures and flows was considered. The Hirst mathematical model of jet diffusion was used to simulate the dispersion of the thermal effluent (Ref. 3). The Hirst model is a well accepted model of submerged jet dispersion (Ref. 4) and is appropriate for the present study.

The Hirst model is an integral jet model which considers jet dispersion in a stagnant or uniformly moving infinite body of water. The designer of the model must be cognizant of the boundary conditions of the prototype which would limit the validity of the model. In the Vogtle case, the low-flow depth of the river

in the area of the site ranges from about nine (9) to fifteen (15) feet. Interference of the jet with the surface or bottom of the river would decrease the dispersion in the vertical direction, and therefore, the model would overestimate the degree of dispersion. Therefore, close attention had to be paid to the spatial relationship of the jet and the river surface or bottom.

Table 1 presents the applicant's analyses of jet dispersion for a 24-inch pipe angled 20 degrees from the perpendicular and for the minimum river flow-rate of 5800 cfs. The cases chosen cover normal operation of the plant for Units 1 and 2 with and without plant dilution flow and for extremes of ambient river temperature.

The applicant speculated that the five (5) degrees Fahrenheit (F) isotherm in case 7a would be slightly larger than that stated in Table 1 because of some interference with the river surface - although there would still be lateral dispersion. The two (2) F isotherm, being larger, would be more greatly in error, particularly in cases 1a, 2a, 4a and 7a. Since lateral dispersion would not be affected by vertical interference, the applicant placed an arbitrary correction factor of 150 percent on the volume within the five (5) F isotherm to account for diminished vertical dispersion for the worst cases of interference. The staff considers this to be a reasonable and conservative correction.

The staff has independently reviewed the applicant's analysis for several cases. We have relied on the Shirazi-Davis nomograms for submerged jet discharges (Ref. 5). The Shirazi-Davis nomograms are based on somewhat different jet models and field data than used by the applicant.

The graphical technique was expedient, but has the drawback that it was only applicable in this case for stagnant water, whereas the present case is that of a uniform ambient flow. The Shirazi-Davis nomograms can be used cautiously, however, if the following two factors are considered:

1. A moving flow will cause the jet to be bent in the downstream direction. Therefore, the length of the jet should be the measure along its centerline; and

2. Dispersion in a flowing body of water will generally be greater than dispersion in a stagnant body of water, providing that there is no interference of the jet with the near shore.

The applicant's cases 2a and 7a were chosen for the staff's comparison calculations. Table 2 shows key comparisons of the applicant's and staff's results. The models agree reasonably well. The applicant's results appear to be slightly more conservative.

The staff concludes that the applicant's analysis of the thermal plumes associated with the revised diffuser design has been accurately performed and interpreted. The staff bases its conclusion on its experience with jet diffuser designs and models and an independent appraisal of the jet dispersion for two of the cases evaluated by the applicant.

Biology

Construction of the originally proposed diffuser system would have resulted in permanent alteration of about 800 feet (ft) of the river bottom and in temporary siltation effects during dredging for diffuser placement (FES-CP, Sec. 10.3.2). Construction of the new design will result in less impact on the benthic community because less river bottom area will be disrupted and less suspended sediments will be introduced to the water column. The river bottom is characterized as an inhospitable habitat for benthic and perphytic organisms because the substrate consists of shifting sands; thus, construction of either of the discharge designs would not have caused significant impacts.

Operational effects of the discharge on aquatic biota are similar in type except that the plume from the submerged single-port design is nearer the shoreline and may, under certain operating modes, reach the river bottom and surface. Impingement of the plume on the river bottom could cause some localized scouring and disruption of the benthic community. As noted above, the shifting sand substrate is rather inhospitable as a habitat for benthic organisms; thus, the impact of localized bottom scour is judged to be negligible. The applicant has predicted that the benthic area affected would extend along the jet centerline trajectory starting about 25 ft from the discharge port to a distance of about 30 ft. For this same operating mode, the plume is predicted to become visible at the water surface at a distance of about 30 ft from the discharge port. Because of the orientation of the discharge port, the plume is not expected to impinge on the shoreline; thus, the movement of migratory fish species along the Georgia side of the river will not be completely blocked; the zone of passage along the Georgia side is less for the new discharge design than for the original diffuser design. The river width unaffected by the discharge mixing zone is larger for the new design; therefore, the potential for blockage of fish migratory pathways is less than previously assessed.

Conclusion

On the basis of the foregoing analysis, we conclude that there will be no environmental impact due to construction and operation greater than those already predicted and described in the Commission's Final Environmental Statement for the Construction Permit, issued in March 1974. Furthermore, based on our previous conclusions that the requested amendment does not involve a significant increase in the probability or consequences of accidents previously considered nor a significant decrease in safety margins,we find that this amendment does not involve a significant hazards consideration. The issuance of Amendment No. 3 to Construction Permits CPPR-108 and CPPR-109 wil not be inimical to the common defense and security or the health and safety of the public. Having made these conclusions, the Commission has further concluded that no environmental impact statement for the proposed action need be prepared and that a negative declaration to this effect is appropriate.

Date of Issuance: JAN 2 9 1982

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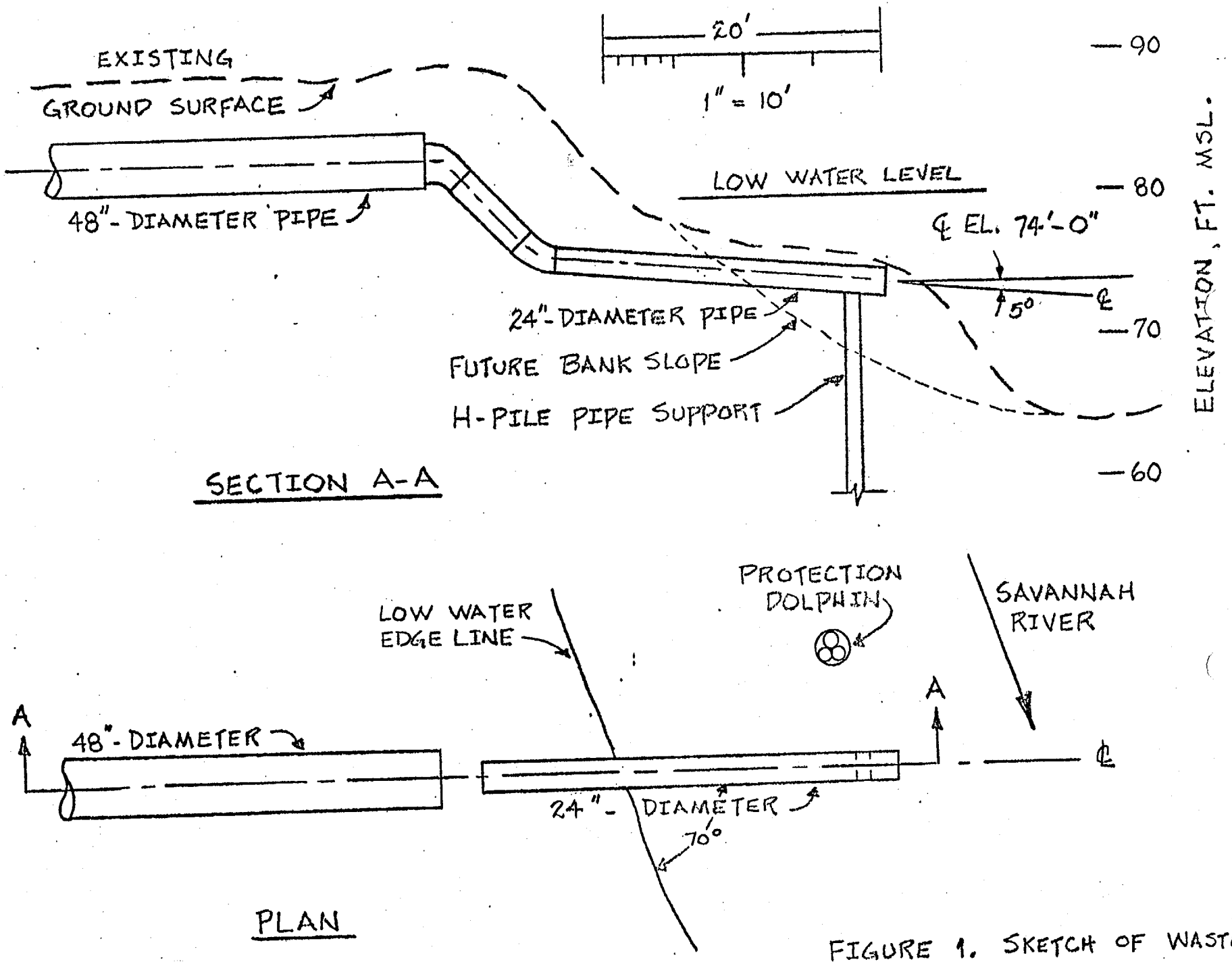


FIGURE 1. SKETCH OF WASTE WATER EFFLUENT DISCHARGE STRUCTURE.

TABLE 1

THERMAL PLUME CHARACTERISTICS FOR RIVER FLOW = 5,800 CFS
PIPE DIAMETER: 24 INCHES: DISCHARGE ANGLE: $\theta_{10}$ = 20 DEGREES

| CASE | TEMPERATURES* $T_o$ °F | $T_a$ °F | $\Delta T_o$ °F | FLOW RATE GPM | PLUME WITHIN 5° F RISE ISOTHERM: LENGTH ALONG ℄ FT. | END OF JET ℄: DISTANCE OFF BANK FT. | END OF JET ℄: VELOCITY FPS | TRAVELING TIME SEC | MAX. WIDTH FT. | VOLUME $FT.^3$ | PLUME WITHIN 2° F. RISE ISOTHERM: LENGTH FT. | END OF JET ℄: DISTANCE OFF BANK FT. | END OF JET ℄: VELOCITY FPS | TRAVELING TIME SEC. | MAX WID FT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1a | 84 | 41 | 43 | 5,500 | 29 | 12 | 1.8 | 13 | 5.2 | 370 | 98 | 20 | 1.7 | 52 | 12 |
| 1b | 92 | 79 | 13 | 5,500 | 10 | 7 | 2.3 | 3 | 2.4 | 30 | 21 | 10 | 1.9 | 8 | 4 |
| 2a | 84 | 41 | 43 | 11,000 | 32 | 19 | 2.2 | 9 | 6.4 | 620 | 89 | 30 | 1.9 | 38 | 11 |
| 2b | 92 | 79 | 13 | 11,000 | 12 | 10 | 4.0 | 2 | 2.6 | 50 | 26 | 17 | 2.4 | 6 | 5 |
| 3a | 56 | 41 | 15 | 15,500 | 16 | 14 | 4.7 | 2 | 3.0 | 80 | 30 | 21 | 2.7 | 6 | 6 |
| 3b | 84 | 79 | 5 | 15,500 | 8 | 7 | 11.0 | 1 | 2.0 | 10 | 14 | 12 | 5.8 | 1 | 2 |
| 3-1a | 50 | 41 | 9 | 25,500 | 13 | 12 | 13.2 | 1 | 2.0 | 40 | 26 | 22 | 5.1 | 2 | 4 |
| 3-1b | 82 | 79 | 3 | 25,500 | 10 | 9 | 18.0 | 1 | 2.0 | 20 | 13 | 12 | 13.2 | 1 | 2 |
| 4a | 72 | 41 | 31 | 15,500 | 27 | 20 | 2.9 | 5 | 5.6 | 380 | 60 | 31 | 2.1 | 19 | 10 |
| 4b | 88 | 79 | 9 | 15,500 | 11 | 10 | 7.6 | 1 | 2.0 | 30 | 22 | 17 | 3.5 | 3 | 4 |
| 5a | 56 | 41 | 15 | 31,000 | 22 | 19 | 8.7 | 1 | 3.2 | 120 | 38 | 31 | 4.3 | 4 | 7 |
| 5b | 84 | 79 | 5 | 31,000 | 11 | 10 | 22.0 | 1 | 2.0 | 20 | 19 | 17 | 10.4 | 1 | 2 |
| 6a | 50 | 41 | 9 | 55,000 | 17 | 16 | 24.5 | 1 | 2.0 | 50 | 34 | 30 | 10.4 | 1 | 5 |
| 6b | 82 | 79 | 3 | 55,000 | 12 | 11 | 39.0 | 1 | 2.0 | 20 | 15 | 14 | 30.3 | 1 | 2 |
| 7a | 84 | 41 | 43 | 31,000 | 41 | 33 | 4.0 | 4 | 8.6 | 1300 | 85 | 52 | 2.4 | 20 | 16 |
| 7b | 92 | 79 | 13 | 31,000 | 19 | 17 | 10.4 | 1 | 2.8 | 90 | 35 | 29 | 4.7 | 3 | 6 |

*$T_0$ = initial jet temperature
$T_a$ = ambient water temperature
$\Delta T_0$ = initial temperature difference

Table 2 - Comparison of Applicant's and Staff's Jet Analysis

| Case | Jet Discharge | $\Delta T$(1) °F | APPLICANT $L_5$(2) ft | APPLICANT $W_5$(3) ft | APPLICANT $L_2$(4) ft | APPLICANT $W_2$(5) ft | STAFF $L_5$(2) ft | STAFF $W_5$(3) ft | STAFF $L_2$(4) ft | STAFF $W_2$(5) ft |
|---|---|---|---|---|---|---|---|---|---|---|
| 2a | 11,000 gpm | 43 | 32 | 6.4 | 89 | 11 | 35 | 4.2 | 88 | 11.5 |
| 7a | 31,000 gpm | 43 | 41 | 8.6 | 85 | 16 | 35 | 4.4 | 90 | 12 |

(1) Difference between discharge temperature and ambient river temperature
(2) Length of 5°F isotherm along center line
(3) Maximum width of 5°F isotherm
(4) Length of 2°F isotherm along center line
(5) Maximum width of 2°F isotherm

References


1. C. S. Chiou, "Vogtle Nuclear Plant Units 1 and 2 Wastewater Effluent Discharge Structure Plume Analysis," Attachment 2, letter to D. Eisenhut from W. Ehrensperger, Georgia Power Company, dated May 1, 1981.

2. Letter to Mr. T. F. Byerly, Georgia Power Company, from Steven Oswald, Dept. of the Army, Corps of Engineers, Savannah GA, dated November 14, 1980, Attachment 1, to above letter.

3. E. A. Hirst, "Analysis of Round, Turbulent Jets Discharged to Flowing Stratified Ambients," ORNL-4685, Oak Ridge National Laboratory, June 1971.

4. B. A. Benedict, J. L. Anderson, E. L. Yandell Jr., "Analytical Modeling of Thermal Discharges," ANL/ES-18, Argonne National Laboratories, April 1974.

5. M. A. Shirazi, L. R. Davis, "Workbook of Thermal Plume Prediction, Vol. 1 - Submerged Discharges," EPA-R2-72-005a, U.S. Environmental Protection Agency, August 1972.

ENVIRONMENTAL IMPACT APPRAISAL

SUPPORTING AMENDMENT NO. 3 TO CPPR-108 AND AMENDMENT NO. 3 TO CPPR-109

RELATING TO THE DISCHARGE STRUCTURE MODIFICATIONS

ALVIN W. VOGTLE NUCLEAR PLANT, UNIT NOS. 1 AND 2

GEORGIA POWER COMPANY

OGLETHORPE ELECTRIC MEMBERSHIP CORPORATION

MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA

CITY OF DALTON, GEORGIA

DOCKET NOS. 50-424 AND 50-425

## Description of the Proposed Action

By letter dated May 1, 1981, Georgia Power Company filed a request with the Nuclear Regulatory Commission (the Commission) to reflect a modification in plant design. The action proposed by the permittees is the issuance of amendments to Construction Permits CPPR-108 and CPPR-109 that would delete the original multiport, submerged design of the discharge structure and substitute a single-point, submerged discharge structure. This design change would result in construction impacts less than those for the original design and operational impacts no greater than those previously assessed.

The staff's Final Environmental Statement (FES) relating to the construction of Alvin W. Vogtle Nuclear Plant, Unit Nos. 1 and 2 (Vogtle 1&2) was published in March 1974.

## Environmental Impact of the Proposed Action

The Commission has reviewed the proposed discharge structure design modifications for Vogtle 1 & 2, to determine the environmental impacts with regard to the hydrologic and biologic considerations.

(1) Hydrologic considerations - In support of the proposed modified design, Georgia Power Company, in a request-for-amendment letter dated May 1, 1981, submitted a thermal plume analysis for the proposed discharge diffuser. Based on the staff's independent review of the plume analysis and its experience with jet diffuser designs and models, the staff concludes that Georgia Power Company's analysis of the thermal plumes associated with the revised diffuser design has been accurately performed and interpreted.

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(2) Biologic considerations - The staff has also reviewed the information submitted in the request-for-amendment letter dated May 1, 1981, in regard to differences in potential impacts on aquatic resources due to construction and operation of the modified design. The staff concludes, in comparison to the original design, that the modified discharge structure will result in less impact on the benthic community, negligible river bottom scouring, no plume impingement on the shoreline, and a larger river width that is unaffected by the discharge mixing zone.

Conclusion and Basis for Negative Declaration

On the basis of the foregoing information, the staff concludes that there will be no environmental impacts resulting from the proposed action in addition to those impacts already predicted and impacted in the Commission's Final Environmental Statement, issued in March 1974. Having reached this conclusion, the Commission has further concluded that no environmental impact statement for the proposed action need be prepared, and that a negative declaration to this effect is appropriate.

Date of Issuance: JAN 2 9 1982

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NEGATIVE DECLARATION

SUPPORTING AMENDMENT NO. 3 TO CPPR-108 AND AMENDMENT NO. 3 TO CPPR-109

RELATING TO THE DISCHARGE STRUCTURE MODIFICATIONS

ALVIN W. VOGTLE NUCLEAR PLANT, UNIT NOS. 1 AND 2

GEORGIA POWER COMPANY

OGLETHORPE ELECTRIC MEMBERSHIP CORPORATION

MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA

CITY OF DALTON, GEORGIA

DOCKET NOS. 50-424 AND 50-425

The U. S. Nuclear Regulatory Commission (the Commission) has reviewed the amendments to Construction Permits CPPR-108 and CPPR-109 relating to the discharge structure modifications at Alvin W. Vogtle Nuclear Plant, Unit Nos. 1 and 2. The amendments would delete the original multiport, submerged design of the discharge structure and substitute a single-point, submerged discharge structure. In accordance with 10 CFR Part 51, the Commission's Division of Licensing has prepared an Environmental Impact Appraisal (EIA) for the amendments. Based on the EIA the Commission has concluded that an environmental impact statement for this action is not warranted because there will be no adverse environmental impacts affecting the quality of the human environment, attributable to the proposed action, that would be in addition to those impacts already evaluated in the Commission's Final Environmental Statement for Alvin W. Vogtle Nuclear Plant, Unit Nos. 1 and 2, issued in March 1974. A negative declaration is, therefore, appropriate.

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The EIA is available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. 20555 and at the local public document room located at the Burke County Public Library, Fourth Street, Waynesboro, Georgia 30830. A copy of the EIA may be obtained upon request, addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing.

Dated at Bethesda, Maryland, this 29th day of January 1982.

FOR THE NUCLEAR REGULATORY COMMISSION

/s/

B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing

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UNITED STATES NUCLEAR REGULATORY COMMISSION

DOCKET NOS. 50-424 AND 50-425

GEORGIA POWER COMPANY

OGLETHORPE ELECTRIC MEMBERSHIP CORPORATION

MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA

CITY OF DALTON, GEORGIA

NOTICE OF ISSUANCE OF AMENDMENTS TO CONSTRUCTION PERMITS

The U. S. Nuclear Regulatory Commission (the Commission) has issued Amendment No. 3 to Construction Permit No. CPPR-108 and Amendment No. 3 to Construction Permit No. CPPR-109. The amendment deletes the original multiport, submerged design of the discharge structure and substitutes a single point submerged discharge structure. The amendment also deletes three conditions which concern chlorine discharge and are inappropriate for the discharge structure modifications. Georgia Power Company has sole responsibility for the design construction and operation of the facilities, which are located in Burke County, Georgia. The amendments are effective as of the date of issuance.

The application for the amendments complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations. The Commission has made appropriate findings as required by the Act and the Commission's rules and regulations in 10 CFR Chapter I and has concluded that the issuance of the Amendment will not be inimical to the common defense and security or to the health and safety of the public. Prior public notice of this amendment was not required since the amendment does not involve a significant hazards consideration.

In connection with the issuance of these amendments, the Commission has issued a Negative Declaration and Environmental Impact Appraisal.

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For further details with respect to this action, see (1) the application for amendments, dated May 1, 1981, (2) Amendment Nos. 3 to Construction Permits CPPR-108 and CPPR-109, (3) the Commission's related Safety Evaluation, (4) the Environmental Impact Appraisal, and (5) the Negative Declaration supporting the amendments to the Construction Permits. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. 20555, and at the Burke County Public Library, Fourth Street, Waynesboro, Georgia 30830. In addition, a copy of items 2, 3, 4 and 5 may be obtained upon request, addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Division of Technical Information & Document Control.

Dated at Bethesda, Maryland this 29th day of January 1982.

FOR THE NUCLEAR REGULATORY COMMISSION

/S/

B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing

See previous yellow.

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and CPPR-109, (3) the Commission's related Safety Evaluation, (4) the Environmental Impact Appraisal, and (5) the Negative Declaration supporting the amendments to the Construction Permits. All of these items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. 20555, and at the Burke County Public Library, Fourth Street, Waynesboro, Georgia 30830. In addition, a copy of items 2, 3, 4 and 5 may be obtained upon request, addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Division of Technical Information & Document Control.

Dated at Bethesda, Maryland this day of 1981.

FOR THE NUCLEAR REGULATORY COMMISSION

B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing

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DISTRIBUTION FOR AMENDMENT NO. 3 to CPPR-108 AND CPPR-109 _ ALVIN W. VOGTLE NUCLEAR PLANT, UNITS 1 AND 2 JAN 2 9 1982

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