

NRC PUBLIC DOCUMENT ROOM

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION



In the Matter of)
)
SOUTH CAROLINA ELECTRIC &) Docket No. 50-395
GAS COMPANY, et al.)
) 12/1/78
(Virgil C. Summer Nuclear)
Station))

APPLICANT'S ANSWER TO NRC STAFF MOTION
FOR SUMMARY DISPOSITION

On October 3, 1978, the Nuclear Regulatory Commission ("NRC" or "Commission") Staff moved that Contentions A6 and A7 admitted as issues in controversy in the captioned proceeding be dismissed pursuant to 10 C.F.R. §2.749 in that no genuine issue of material fact existed. In Applicant's Response to Memorandum and Order Denying Motion for Dismissal of Intervenor dated October 2, 1978, South Carolina Electric and Gas Company ("Applicant") indicated that it supported the Staff Motion and would present further bases for dismissal in its own motion for summary disposition to be filed in approximately one month.

The Memorandum and Order of the Atomic Safety and Licensing Board ("Board") dated November 7, 1978 notes the applicability of revised §2.749 which provides for filing of motions for summary disposition not later than 45 days prior to the time fixed for a hearing. Applicant, therefore, will file its own motion on the other contentions within that time

frame as contemplated by that Memorandum and Order. That Memorandum and Order called for the Intervenor to file an answer to the Staff's motion within 20 days after service.

In view of these circumstances and the provisions of 10 C.F.R. §2.749(a) which permit any party to respond to a motion for summary disposition with or without affidavits, Applicant moves that this pleading be accepted by the Atomic Safety and Licensing Board as its answer to the Staff Motion.

As more fully discussed below, Applicant fully supports the Staff Motion. Applicant submits that with respect to Contentions A6 and A7, there are no material facts to which there exists a genuine issue to be heard and therefore the two contentions should be dismissed.

Contention A6

The matter of the environmental impact of the intake and discharge of water from the Summer Station and thermal effluents from the Station was fully analyzed and considered at the construction permit stage by the Applicant, the Staff, the Atomic Safety and Licensing Board, and the Atomic Safety and Licensing Appeal Board.^{1/} At that time, the presiding Atomic Safety and Licensing Board found:

1/ In South Carolina Electric and Gas Company (Virgil C. Summer Nuclear Station, Unit 1), ALAB-114, 3 AEC 253 (1973), the Appeal Board stated that it had reviewed the Licensing Board's decision and the record, and, with one exception not relevant here, was satisfied "(1) that the Board made all the findings requisite to its authorization of the issuance of the construction permit; and (2) that each of those findings is supported by reliable, prorative and substantial evidence of record."

55. The Staff as part of its environmental review considered in detail the effects of discharges from the plant on the Broad River and on the Monticello Reservoir. The Staff concluded that there would only be minimal effect on the Broad River and on the Monticello Reservoir. (FES, pp. V-4 to V-39, XII-22) The Board finds that there will only be minimal effects on the Broad River and the Monticello Reservoir as a result of discharges from the Summer Station.^{2/}

The Board further found that the balance between the benefits and costs involved in the construction and operation of the facility favored the granting the construction permit to the Applicant.^{3/} In weighing this cost-benefit balance, the Board included the "[d]ischarge of large quantities of heated water into the impoundment."^{4/}

Subsequent to that time, the State of South Carolina has issued NPDES Permit No. SC0030865 ("Permit") to the Applicant for the Summer Station.^{5/} With regard to thermal discharges, this permit limits the monthly average surface temperature of up to 32.2°C (90°F) from Monticello Reservoir and also places a requirement that this surface temperature should not be greater than 1.66°F (3.0°F) above the ambient

^{2/} South Carolina Electric and Gas Company (Virgil C. Summer Nuclear Station, Unit 1), LBP-73-11, 6 AEC 213, 223 (1973).

^{3/} Id.

^{4/} Id.

^{5/} A copy of the original permit is attached. The only subsequent change to the Permit involved a change in the timing for submittal of routine reports and is not related to the issues in this proceeding. See the Affidavit of William E. Moore at p. 2.

temperature, as defined in the Permit, on a monthly basis.^{6/}

At the construction permit stage, at the time the NRC reviewed the thermal impact of the discharges on Monticello Reservoir and the Broad River, the same water quality requirement regarding heat limitation, i.e., that streams entering the Broad River have an average temperature rise of less than 3°F, was in existence and was applicable.^{7/} The Commission examined the Alden Model and found it to be conservative^{8/} in that the predicted isotherms would be more favorable, i.e., even less extensive than predicted by the Alden Model. Viewing the environmental impact of thermal discharges from the plant on the Broad River and on the Monticello Reservoir, the Staff concluded that there would only be minimal effect on the Broad River and on the Monticello Reservoir.^{9/} As previously noted, the Atomic Safety and Licensing Board, at the construction permit stage, also

^{6/} Moreover, additional monitoring requirements and the requirements to conduct certain studies related to the discharge plume and intake pursuant to §316(b) of the Federal Water Pollution Control Act (Permit at p. 10 of 18) were imposed in the Permit.

^{7/} FES at V-5.

^{8/} Id. at V-19 and Appendix B. Again, this analysis was done before effluent limitations were set by the EPA or an NPDES Permit had been issued by the Station. The State issuance of an NPDES Permit was based upon the Alden Model and because of the existence of that Permit, the NRC is precluded from looking behind it. Even were the NRC to have the jurisdiction to look at the Alden Model, the record is uncontroverted that it is conservative.

^{9/} LBP-73-11 at 223 citing FES pp. V-4 to V-39, X-11-22.

found that there would only be minimal effects on the Broad River and the Monticello Reservoir as a result of discharges from the Summer Station.^{10/} Because the water quality requirements are the same now as then, the Commission analysis was done at the level of discharges permitted by state standards as reflected in the present NPDES Permit.

Associated with the construction of the Summer Station and Monticello Reservoir is a separate recreation area at the north end of the Monticello Reservoir where a high quality fishing area of several hundred acres will be created.^{11/} This environmental amenity should be considered as a positive factor in the cost benefit balance. Thus since the impact of discharges are expected to be minimal, and there are positive water-related aspects of the facility, e.g., the fishing area, there can be no question that the cost-benefit balance could be tilted against operation of the plant.

The Staff's Motion for Summary Disposition treats, in detail, the factual assertions contained in the contention. To avoid duplication, Applicant has examined the Staff Motion on this contention and fully concurs in and supports such motion and supporting affidavits.^{12/}

For his part, Mr. Bursey has not identified any witnesses^{13/} associated with this contention. At most he alleges

^{10/} Id.

^{11/} Affidavit of William E. Moore at 2.

^{12/} Id.

^{13/} Intervenor Brett Bursey's Answers to Interrogatories of NRC Staff at 7.

is that there are "numerous instances in the FES [construction permit phase] and related documents that are deficient in regards to the specific impact of the Summer plant on the ecosystem." He has been unable to give any specificity to this assertion.

Moreover, although clearly limited by the Board to consideration of cooling system impacts at the level of discharges permitted by the NPDES Permit issued by the State of South Carolina for the Station, the thrust of the Intervenor's responses indicates that he is seeking to attack the NPDES Permit and State water quality standards, and the permit issuing process. These are matters which, as this Board has already recognized, it may not consider. As an example, in response to Staff Interrogatory A6-6, Intervenor states that "[i]t is not clear if the Applicant's plan to average the daily releases to stay within the allowable limits is acceptable. . . ." It is clear, however, that such averaging is the method specified in the NPDES Permit. As another example, Mr. Bursey appears to be attempting to argue with the 90°F temperature limit and the 3°F monthly average set

by the State of South Carolina in the NPDES Permit.^{14/}

With regard to the intake velocity, Mr. Bursey erroneously asserts that the intake velocity is substantially greater than 0.5 fps, i.e., 1.3 fps,^{15/} per second because of the location he has chosen to determine that value, i.e., through the screens. The approach velocity, which is the parameter of interest, is approximately 0.5 fps or less depending on the water level in the reservoir. As discussed in the Affidavit of W. E. Moore, velocities of 0.5 fps or less are such that the impact of impingement is not expected to be significant. Furthermore, the 0.5 fps occurs at the emergency drawdown level. At higher levels, the approach velocity would be less.^{16/} Mr. Bursey could not dispute these approach velocities.^{17/}

^{14/} Id. at 8. In Intervenor's Response to NRC Staff Motion for Summary Disposition of Contentions, the naked assertion is made that the "original figures of 4.3 degrees above ambient for returning effluents has been lowered to 3:0 to coincide with state requirements." There is no basis given for that figure. The highest predicted temperature at any time, i.e., instantaneous v. averaged temperature permitted by the NPDES Permit, is 4.2°F for the hypothetical case of two units. Even in that case, the 3.0°F permitted by the NPDES permit is achieved. The FES at p. V-17 recites the finding of the Alden analysis:

The average daily water temperature rise at the discharge of the pumped storage plant into the Broad River will be less than 3°F rise with a 25°F temperature rise for two nuclear units. The maximum measured temperature rise in the Broad River during any phase of the pumped storage process will be 4.2°F. [emphasis in original]

The Staff's model predicts even a lesser effect. See Appendix B to the FES at p. 4.

^{15/} Bursey June 13, 1978 Dep. Tr. at 127.

^{16/} Affidavit of Moore at 2.

^{17/} Bursey June 13, 1978 Dep. Tr. at 128.

The contention asserts that fish mortalities are "excessive" although Mr. Bursey has not established any standards for giving a quantitative assessment for such an assertion.^{18/} Mr. Bursey has also admitted that he had not "quantified" these alleged impacts,^{19/} the alleged impacts were merely "abstractions"^{20/} and he had "not yet been able to adjudge the total impact of that."^{21/} Moreover, Mr. Bursey recognized that an operational monitoring program would be performed and it was capable of detecting any adverse effects.^{22/}

In effect, Mr. Bursey's contention is without supporting basis and it remains an unparticularized assertion. He has failed to make any showing whatsoever that the cost benefit balance for the facility would be tilted against the issuance of an operating license for the facility by consideration of the impact associated with thermal discharges at the levels specified in the NPDES Permit for the Station. There is no genuine issue of fact remaining and the motion for summary disposition should be granted.

Contention A7

With regard to Contention A7, Applicant has reviewed the NRC Staff Motion for Summary Disposition and the position taken

^{18/} Id. at 131.

^{19/} Id.

^{20/} Id.

^{21/} Id.

^{22/} Id. at 132.

therein is consistent with that of the Applicant, as discussed below and as presented in the Final Safety Analysis Report and Environmental Report. Applicant has thoroughly analyzed the possibility of an accidental release of radionuclides in liquids from the V. C. Summer Nuclear Station and, as discussed below, such hypothesized releases will not affect local or regional water groundwater supplies.^{23/} The analysis considered the specific design of the Summer Station and potential failure of four types of tanks. A comparison of the volumes and concentration of the radionuclides in these four types of tanks revealed that the hypothesized rupture of a waste holdup tank was the limiting case.^{24/}

The capacity of the waste holdup tank is 10,000 gallons. For conservatism it was assumed that at the time of the rupture of the tank it was full and had an isotope composition equivalent to the composition of reactor coolant, a conservative assumption. It was assumed that at the time of the accident that the entire tank, underlying foundation and adjoining walls rupture. The liquid in the waste holding tank is assumed to immediately contact the saturated geological material adjacent to the tank.

Two possible flow paths were analyzed in detail. The

^{23/} Affidavit of William R. Baehr at 2-5.

^{24/} Id. at 2.

method of analysis is fully described in Section 2.4.13.3.2 of the FSAR.^{25/}

Section 2.4.12.2 of the FSAR discusses groundwater flow paths for such an accident. Even if such a spill were to occur at the same time as the minimum historic flow in the Broad River of 149 CFS was occurring, the peak concentration of Cs¹³⁷, the controlling isotope, would be in order of magnitude less than the maximum permissible concentration of Cs¹³⁷ for unrestricted areas stated in 10 CFR 20.^{26/}

The analysis of the groundwater spill has conservatively neglected the initial dilution provided by water impounded in Parr Reservoir nor has any credit been taken for additional dilution provided by tributary inflow at downstream locations along the Broad River.^{27/}

The Applicant has, in Section 2.4.12.1 of the FSAR, analyzed other surface water flow paths, including a path where radioactive material from a postulated accident reached the Monticello Reservoir, an unlikely occurrence due to operational procedures and topographic considerations. Based upon the evaluation of surface water flow paths, the above described scenario, i.e., waste holdup tank spill to the Broad River, is the limiting one.^{28/}

^{25/} Id. at 3.

^{26/} Id.

^{27/} Id.

^{28/} Id.

The Applicant has analyzed under typical conditions the time necessary for a slug of radioactive effluent to travel to Columbia, South Carolina. The City of Columbia is the nearest downstream surface water user and is located approximately 28 miles below Parr Dam. The travel time to Columbia has been calculated to be 20 hours. During the assumed drought conditions, the travel time would be greater, approximately 32 hours. Moreover, if the travel time were 20 hours, it would mean that there was greater dilution in the river than for which credit was taken in the accident analysis described above.^{29/}

Various measures are taken to assure that the planned controlled release of small amounts of radioactive effluents meet all NRC requirements. Initially, liquid effluents from the liquid radioactive waste processing systems can only be released through the monitor tank. Prior to releasing the contents of any tank, an analysis of its contents must be made.^{30/} Moreover, a system of detectors and valves which shut automatically if excessive levels of radioactivity are detected are utilized to prevent the release of radioactive materials above pre-set levels.

The Applicant's emergency plans consider the spill of radioactive effluents into the Broad River.^{31/} Contact with

^{29/} Id. at 3-4.

^{30/} Id. at 4.

^{31/} Id. at 4-5.

the Department of Health and Environmental Control and City of Columbia water supply authorities indicate that sufficient storage is available to shut the intake gates on the Broad River in Columbia should an unanticipated radioactive release occur until it has passed. Thus the Applicant has sufficient equipment and procedures to anticipate, detect and/or mitigate any accidental release to the Broad River even during low flow conditions.^{32/}

Mr. Bursey, for his part, has admitted that he has not discovered any mechanism or any means for accidental release of radioactive material not analyzed by the Applicant in its Application.^{33/} His concerns are admittedly merely generalized and he has no mechanisms identified which would cause any release not analyzed by Applicant.^{34/} It is thus clear that Mr. Bursey has raised no substantial issue of fact related to Contention A7 and summary disposition should be granted in favor of the Applicant.

^{32/} Deposition of Brett Bursey dated June 13, 1978 at p. 141. See also Deposition of Brett Bursey of August 3, 1978 at 159.

^{33/} Id. at 147.

^{34/} Id.

Conclusion

For the foregoing reasons, with regard to Contentions A6 and A7, there are no material facts to which there exists an issue to be heard, and, therefore, summary disposition should be granted and these two contentions dismissed.

Respectfully submitted,

CONNER, MOORE & CORBER

Troy B. Conner, Jr.

Troy B. Conner, Jr.

Mark J. Wetterhahn

Mark J. Wetterhahn
Counsel for the Applicant

December 4, 1978

UNITED STATES OF AMERICA
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In the Matter of)
)
SOUTH CAROLINA ELECTRIC &) Docket No. 50-395
GAS COMPANY, et al.)
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(Virgil C. Summer Nuclear)
Station))

AFFIDAVIT OF WILLIAM E. MOORE REGARDING CONTENTION A6

William E. Moore being first duly sworn according to law comes forward and states:

My name is William E. Moore. I am employed by South Carolina Electric & Gas Company as Manager of Hydro-electric Engineering. In this position I am responsible for the conduct of environmental programs associated with the V. C. Summer Nuclear Station. I am familiar with the design of the Summer Station as it relates to discharges and am familiar with the effects of discharges at the Company's other steam electric power plants. A copy of a statement of my professional qualifications is attached hereto as Attachment I and incorporated herein by reference.

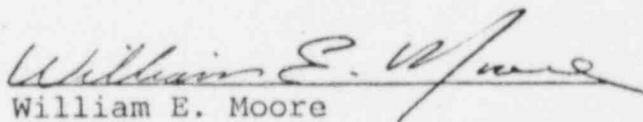
I have reviewed the NRC Staff Motion for Summary Disposition as it relates to Contention A6, including the relevant Affidavits. The material presented therein is consistent with the position of the Applicant, South Carolina Electric & Gas Company, as discussed below and as presented in the Final Safety Analysis Report and Environmental Report.

Applicant agrees that there are no genuine issues of material fact remaining and that summary disposition should be granted for Contention A6.

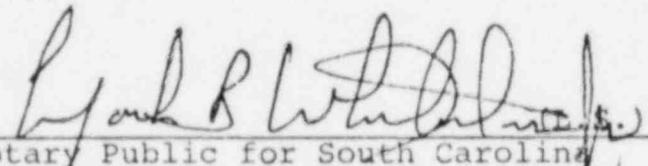
The State of South Carolina has issued NPDES Permit No. SC0030065, a copy of which is attached as Attachment II, and incorporated by reference herein. With regard to thermal discharges, the State's requirements as to water quality contained therein are the same as existed at the construction permit stage.

Associated with the construction of the Summer Station and impoundment is a separate recreation area of three hundred acres where a high quality fishing lake has been created. Such area is referenced in Section 2.4.1.2 of the Environmental Report which is incorporated herein by reference.

As described in Section 3.4.1.2.1 of the Environmental Report, the intake screen approach velocity is 0.5 fps or less depending on the level of water in the impoundment.


William E. Moore

SWORN to me before me this 1st day of December 1978.


Notary Public for South Carolina

My commission expires 4 7, 6 80.

ATTACHMENT I

NAME: William E. Moore

POSITION: Manager, Hydro Engineering

FORMAL EDUCATION: 1959 Graduated
University of South Carolina, Columbia,
South Carolina
B. S. Mechanical Engineering

1967 Graduated
Michigan State University
Nuclear Engineering

Environmental Courses at U. S. Public
Health Taft Institute, Cincinnati, Ohio

REGISTRATION: Registered Professional Engineer
State of South Carolina

EXPERIENCE:

1975 - Present South Carolina Electric and Gas Company,
Columbia, South Carolina, Fairfield
Pumped Storage Facility, as Manager,
Hydro Engineering, I report to the Group
Manager of Production Engineering. I am
responsible for all aspects of hydro-
electric licensing, license maintenance,
and designs. I am also responsible for
all environmental matters of Production-
Engineering Projects prior to commercial
operation exclusive of radiological
surveillance.

1969 - 1975 South Carolina Electric and Gas Company,
Columbia, South Carolina, Senior
Engineer - Staff Assistant to Vice
President - Production and Operations.
I had responsible charge for boiler
overhauls and all environmental matters.
Responsible charge for relicensing hydro
facilities and the preparation and
processing of a new license for Fair-
field Pumped Storage Facility including
all permits and approvals. Responsible
for environmental program and the design
of dams, generating facility, and roads,
railroads, relocations, and all other
modifications to existing hydro facili-
ties required for the new Fairfield
Pumped Storage Facility.

ATTACHMENT I

1967 - 1969

South Carolina Electric and Gas Company, Columbia, South Carolina, Engineer, as Assistant to Vice President - Construction, Operations, and Production, I had the responsibility for evaluation and refitting of electrostatic precipitators to all existing coal fired boilers and testing the electrostatic precipitators. Also design modification and testing sewage handling, cooling ponds, ash ponds and other similar work.

1962 - 1967

South Carolina Electric and Gas Company, Columbia, South Carolina, Chemical Engineer, Central Laboratory. Reported to the Manager of Production and was responsible for water analysis, quality and water treatment programs for all company power plants. Responsible for developing cost estimates for construction and supplying large quantities of water to industrial and other customers. Responsible for all company environmental programs including water and gaseous emissions. Responsible for design and construction of modifications and enlargement of water purification and demineralizer equipment.

1961 - 1962

South Carolina Electric and Gas Company, Columbia, South Carolina, Results Engineer, McMeekin Station. Reported to the Plant Superintendent and had responsible charge of all of the below and responsible for design of modifications to reduce cost and improve efficiency. Responsible for design, construction, purchasing of equipment - apparatus - glassware and chemicals for new central laboratory.

1959 - 1962

South Carolina Electric and Gas Company, Columbia, South Carolina, Results Engineer Trainee. Reported to the Results Engineer and assisted with performance test and calculations relative to operation of power plant which included combustion, boiler, turbine, pumps, and heaters. Assisted with supervision and operation of water plant which included clarifiers, filters, chlorinators, and demineralizers. Assisted with supervision and performed all laboratory tests which included coal, ash, and water chemistry and lub oils test.

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AFFIDAVIT OF WILLIAM R. BAEHR REGARDING CONTENTION A7

William R. Baehr being first duly sworn according to law comes forward and states:

My name is William R. Baehr. I am employed by South Carolina Electric & Gas Company as Health Physicist and Environmental Coordinator. In this position I have reviewed and am familiar with the design provisions and proposed operating procedures of the Summer Station designed to prevent the accidental release of radioactive liquids for the facility and the assumptions and methodology used in the calculation of doses due to such hypothetical releases. I am also familiar with the provisions contained in the facility Emergency Plan for dealing with such hypothetical releases. A copy of a statement of my professional qualifications is attached hereto as Attachment I and incorporated herein by reference.

I have reviewed the NRC Staff Motion for Summary Disposition as it relates to Contention A7, including the relevant Affidavits. The material presented therein is

consistent with the position of the Applicant, South Carolina Electric and Gas Company, as discussed below and as presented in the Final Safety Analysis Report and Environmental Report. Applicant agrees that there are no genuine issues of material fact remaining and that summary disposition should be granted for Contention A7.

Applicant has thoroughly analyzed the possibility of an accidental release of radionuclides in liquids from the V. Summer Nuclear Station and, as discussed below, such hypothesized releases will not affect local or regional water groundwater supplies.¹ This analysis considered the specific design of the Summer Station and potential failure of four types of tanks.² A comparison of the volumes and concentration of the radioisotopes in these four types of tanks revealed that the hypothesized rupture of a waste holdup tank was the limiting case.³

The capacity of the waste holdup tank is 10,000 gallons. For conservatism it was assumed that at the time of the rupture of the tank it was full and had an isotope composition equivalent to the composition of reactor coolant, a conservative assumption. It was assumed that at the time of the accident that the entire tank, underlying foundation and adjoining walls rupture. The liquid in the waste holding tank is assumed to immediately contact the saturated geological material adjacent to the tank.⁴

¹FSAR §2.4.13.3 at p. 2.4-46.

²FSAR §2.4.13.3.1 at p. 2.4-46.

³FSAR §2.4.13.3 at p. 2.4-46.

⁴FSAR §2.4.13.3.1 at p. 2.4-46a.

Two possible flow paths were analyzed in detail. The method of analysis is fully described in Section 2.4.13.3.2 of the FSAR.

Section 2.4.12.2 of the FSAR discusses groundwater flow paths for such an accident. Even if such a spill were to occur at the same time as the minimum historic flow in the Broad River of 149 CFS was occurring, the peak concentration of Cs¹³⁷, the controlling isotope, would be in order of magnitude less than the maximum permissible concentration of Cs¹³⁷ for unrestricted areas stated in 10 C.F.R. 20.

The analysis of the groundwater spill has conservatively neglected the initial dilution provided by water impounded in Parr Reservoir nor has any credit been taken for additional dilution provided by tributary inflow at downstream locations along the Broad River.⁵

The Applicant has, in Section 2.4.12.1 of the FSAR, analyzed other surface water flow paths, including a path where radioactive material from a postulated accident reached the Monticello Reservoir, an unlikely occurrence due to operational procedures and topographic considerations. Based upon the evaluation of surface water flow paths, the above described scenario, i.e., waste holdup tank spill to the Broad River, is the limiting one.

The Applicant has analyzed under typical conditions the time necessary for a slug of radioactive effluent to travel

⁵FSAR §w.4.12.1 at p. 2.4-35.

to Columbia, South Carolina. The City of Columbia is the nearest downstream surface water user and is located approximately 28 miles below Parr Dam.⁶ The travel time to Columbia has been calculated to be 20 hours. During the assumed drought conditions, the travel time would be greater, approximately 32 hours. Moreover, if the travel time were 20 hours, it would mean that there was greater dilution in the river than for which credit was taken in the accident analysis described above.⁷

Various measures are taken to assure that the planned controlled release of small amounts of radioactive effluents meet all NRC requirements. Initially, liquid effluents from the liquid radioactive waste processing system can only be released through the monitor tank. Prior to releasing the contents of any tank, an analysis of its contents must be made. Moreover, a system of detectors and valves which shut automatically if excessive levels of radioactivity are detected are utilized to prevent the release of radioactive materials above pre-set levels.⁸

The Applicant's emergency plans consider the spill of radioactive effluents into the Broad River.⁹ Contact with the South Carolina Department of Health and Environmental and the City of Columbia water supply authorities indicate

⁶Id. at p. 2.4-34.

⁷FSAR §2.4.12.1 at p. 2.4-35.

⁸FSAR §11.4 at 11.4-1 through 11.4-21 and OLER §3.5.5 at p. 3.5-23 through 3.5-35.

⁹FSAR Appendix 13A (South Carolina Electric & Gas Company V. C. Summer Nuclear Station Radiation Emergency Plan) and FSAR §2.4-12.1 at p. 2.4-34.

that sufficient storage is available to shut the intake gates on the Broad River in Columbia should an unanticipated radioactive release occur until it has had time to pass. Thus the Applicant has sufficient equipment and procedures to anticipate, detect and/or mitigate any accidental release to the Broad River even during low flow conditions.

William R Baehr
William R. Baehr

SWORN to me before me this 1st day of December 1978.

Frank B. White (L.S.)
Notary Public for South Carolina

My commission expires 4 Feb 80.

ATTACHMENT I

NAME: William R. Baehr

POSITION: Health Physicist and Environmental
Coordinator

FORMAL EDUCATION: Georgia Institute of Technology -
School of Nuclear Engineering - Gradu-
ated 6/12/71 M.S. Nuclear Engineering,
Radiological Science Option (AEC Health
Physics Fellowship)

Lenoir Rhyne College - Physics Depart-
ment Graduated 5/19/69 - B.S. Physics

EXPERIENCE:

1977 - Present

South Carolina Electric and Gas Company,
Columbia, South Carolina, as Health
Physicist and Environmental Coordinator,
Nuclear Operations and System Planning
Department. Duties and responsibilities
include: Reviews and makes recommenda-
tions related to Health Physics aspects
of plant design and operations. Provides
technical and staff support for the in-
plant Health Physics group. Reviews and
coordinates activities involving nuclear
project related non-radiological moni-
toring (Meteorological, Biological,
Hydrological, etc.). Designs, imple-
ments, operates and manages all aspects
of the off-site Environmental Surveil-
lance Program and its laboratory and
staff. Coordinates Nuclear Operations'
involvement in licensing efforts in the
areas of Health Physics and Environ-
mental affairs.

1973 - 1977

South Carolina Electric and Gas Company,
Columbia, South Carolina, as Health
Physicist-Staff, Production Engineering
Department. Duties and responsibilities
included: Responsible for the engineering
review of Health Physics related design
parameters for V. C. Summer Nuclear
Station. Responsible for the conduct
and coordination of the Biological,
Hydrological, Meteorological and Micro-
seismic Monitoring Programs. Coordinated
the preparation of the Operating License
Environmental Report and those sections
of the FSAR related to Health Physics

ATTACHMENT I

and environmental concerns. Responsible for the design, implementation, and operation of the Environmental Surveillance Program.

1971 - 1973

Georgia Department of Human Resources, Radiological Health Unit, Atlanta, Georgia as a Radiation Safety Officer. Duties and responsibilities included: Evaluation and licensure of Georgia users of Radioactive Materials. Inspection of Licensees, Maintenance and Calibration of radiation detection instruments. Emergency Response. Formulation of initial state Radiological Emergency Plan. Planning, development, and initial implementation of the state's Environmental Surveillance Program (including design, laboratory set up, selection of equipment and methods, etc.).

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Station))

CERTIFICATE OF SERVICE

I hereby certify that copies of "Applicant's Answer to NRC Staff Motion for Summary Disposition," dated December 4, 1978, in the captioned matter, have been served upon the following by deposit in the United States mail this 4th day of December, 1978:

Ivan W. Smith, Esq.
Chairman, Atomic Safety and
Licensing Board
U. S. Nuclear Regulatory
Commission
Washington, D. C. 20555

Dr. Frank F. Hooper
Member, University of
Michigan
Camp Filibert Roth
Iron River, Michigan 49335

Mr. Gustave A. Linenberger
Member, Atomic Safety and
Licensing Board Panel
U. S. Nuclear Regulatory
Commission
Washington, D. C. 20555

Chairman, Atomic Safety and
Licensing Appeal Board Panel
U. S. Nuclear Regulatory
Commission
Washington, D. C. 20555

Chairman, Atomic Safety and
Licensing Board Panel
U. S. Nuclear Regulatory
Commission
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Mr. Chase R. Stephens
Docketing and Service Section
Office of the Secretary
U. S. Nuclear Regulatory
Commission
Washington, D. C. 20555

Richard P. Wilson, Esq.
Assistant Attorney General
S.C. Attorney General's Office
P. O. Box 11549
Columbia, S.C. 29211



Mark J. Wetterhahn



SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Pollution Control Act of South Carolina (S. C. Code 63-195 et seq, as amended) and with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq; the "Act"),

South Carolina Electric & Gas Company
P.O. Box 764
Columbia, S.C. 29202

is authorized to discharge from a facility located at

Virgil C. Summer Nuclear Station
Parr, South Carolina

to receiving waters named

Broad River

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, and III hereof.

This permit shall become effective on **JUL 21 1976**

This permit and the authorization to discharge shall expire at midnight, **JUL 21 1981**

Signed this **JUN 21 1976**

E. K. Aycock M.D.
E. Kenneth Aycock, M.D., M.P.H.
Commissioner

Charles R. Jones P.E.
Bureau of Surface Water and Stream
Quality Control

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on effective date and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 001 - Once through cooling water.

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristics</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	<u>Monthly Avg.</u>	<u>Instantaneous Maximum</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow-m ³ /Day (MGD)	N/A	N/A	Continuous	Recorder or Pump Logs
Discharge Temperature °C(°F)	N/A	45(113)	Continuous	Recorder
Intake Temperature °C(°F)	N/A	N/A	Continuous	Recorder
Plume Temperature °C(°F)	32.2(90)	N/A	1/quarter	Multiple Gra
Plume Temperature Rise °C(°F)	1.66(3.0)	N/A	1/quarter	Multiple Grabs
Plume Surface Area (Acres)	N/A	6700	1/quarter	Calculations
Surface Temperatures <u>1/</u>	-	-	Continuous	Recorders

1/ The points of surface temperature monitoring shall be 1) at the intake structure of the Fairfield Pumped Storage Facility in the most practicable and representative point at a depth of one foot and 2) on the south side of S.C Highway #99 dam as close to the dam as practicable at a depth of one foot (this point shall represent the ambient temperature). A more appropriate location for ambient temperature may be approved if data shows the validity of such a change. A monthly average surface temperature as high as 32.2°C(90°F) may be discharged from Monticello Reservoir, however, this surface temperature shall not be greater than 1.66°C(3.0°F) above ambient temperature on a monthly average basis. Surface temperatures shall be considered only during the generating mode of the Fairfield Pumped Storage Facility.

Eighteen months after commercial operation, the permittee shall develop monthly receiving water temperature distributions for normal and critical hydrological (flow, reservoir elevation, tidal stage, etc. as applicable) and meteorological conditions at maximum plant output. Isotherm plots, both plan and cross-sectional and tabulations of a down to the 1°C excess temperature in no more than 2°C increments (a minimum of three values) shall be provided. Zones of passage shall be defined. Measurement methods, modeling techniques, assumptions and calculations shall be included.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): Discharge temperature shall be monitored at the outlet corresponding to an individual unit prior to mixing with other waste streams, intake temperatures shall be taken at the plant intake, plume temperatures within the thermal plume, and surface temperatures as described above.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning effective date and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 002 - Service Water Pond

Such discharges shall be limited and monitored by the permittee as specified below:

Discharge may occur from service water pond through the condenser cooling water intake structure. This occurs only when the circulating cooling water pumps are taken out of service.

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	<u>Daily Avg.</u>	<u>Daily Max.</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow-m ³ /Day (MGD)	N/A	N/A	Per Occurrence	Instantaneous
Temperature	N/A	N/A	Per Occurrence	Grab

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning effective date and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) - 003 - Rad Waste

Such discharges shall be limited and monitored by the permittee as specified below:

Compliance with the requirements of the United States Nuclear Regulatory Commission will be deemed to constitute compliance with this permit. Permittee shall submit to the South Carolina Department of Health and Environmental Control and Environmental Protection Agency, Region IV, copies of all environmental monitoring reports submitted to the NRC. Such reports may be submitted with other monitoring reports required by this permit.

In the event that low volume or metal cleaning wastes as defined in 40 CFR Part 423 are discharged through this serial number, treatment and monitoring shall be provided to assure that discharges are in compliance with requirements of Part 423.12 (See serial 006, 007, and 008).

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning effective date and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 004*- Steam Generator Blowdown

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	<u>Daily Avg.</u>	<u>Daily Max.</u>	<u>Measurement Frequency</u>	<u>Sample</u>
Flow-m ³ /Day (MGD)	N/A	N/A	1/month	Instantan
Oil and Grease (mg/l)	15	20	1/month	Grab
Total Suspended Solids (mg/l)	30	100	1/month	Grab
Copper, Total (mg/l)	1.0	1.0	1/month	Grab
Iron, Total (mg/l)	1.0	1.0	1/month	Grab

There shall be no discharge of floating solids or visible foam in other than trace requirements.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): discharge from the steam generator blowdown treatment facility prior to mixing with any other waste stream.

*Serial number assigned for identification and monitoring purposes.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning effective date and lasting through expiration date the permittee is authorized to discharge from outfall(s) serial number(s) 005**- Sanitary treatment plant discharge

Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations					Monitoring Requirements	
	Concentration (mg/l)			Other Units (Specify)		Measurement Frequency	Sample Type
	Monthly Avg	Weekly Avg	Daily Max	Monthly Geometric Mean*	Daily Max		
Flow-m ³ /Day (MGD)	N/A	N/A	N/A	N/A	N/A	2/month	Instantaneous
BOD ₅ (mg/l)	30	45	60	N/A	N/A	2/month	Composite
TSS (mg/l)	30	45	60	N/A	N/A	2/month	Composite
Fecal Coliform Bacteria	N/A	N/A	N/A	200/100 ml	400/100 ml	2/month	Grab

The pH shall not be less than 6.0 standard units nor greater 9.0 than standard units and shall be monitored twice per month by grab.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at the sewage treatment plant discharge prior to mixing with any other waste stream.

*For purposes of calculating the geometric mean, a value of 1/100 ml shall be assigned to each determination which yields a value less than 1/100 ml. The monthly geometric mean limitation is not applicable if only one sample is taken during the month.

**Serial number assigned for identification and monitoring purposes.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning effective date and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 006* and 007*- Low Volume Waste Sources

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	<u>Daily Avg.</u>	<u>Daily Max.</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow-m ³ /Day (MGD)	N/A	N/A	1/week	Instant
Oil and Grease (mg/l)	15	20	1/week	Grab
Total Suspended Solids (mg/l)	30	100	1/week	Grab

Low volume waste sources shall mean taken collectively as if from one source, waste water from all sources except those for which specific limitations are otherwise required in this permit, including, but not limited to waste waters from wet scrubber air pollution control systems, ion exchange water treatment systems, water treatment evaporator blowdown, laboratory and sampling streams, floor drainage, cooling tower basin cleaning wastes and blowdown from recirculating house service water systems.

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once per week by grab.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): discharge from the low volume wastewater treatment facility(s) prior to mixing with any other waste stream.

*Discharge 006 is defined as the combined effluent from the treatment systems handling the non-nuclear plant drains and the water treatment sludges. Discharge 007 is defined as the effluent from the treatment system handling ion exchange regenerant water. Serial number for identification and monitoring purposes.

Page 7
Permit No. SC0030856

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning effective date and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 008*- Metal Cleaning Wastes

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>		<u>Monitoring Requirements</u>	
	<u>Daily Avg.</u>	<u>Daily Max.</u>	<u>Measurement Frequency</u>	<u>1/</u>
Flow-m ³ /Day (MGD)	N/A	N/A	1/day	Instant
Oil and Grease (mg/l)	15	20	1/week	Grab
Total Suspended Solids (mg/l)	30	100	1/week	8 Hr.
Copper, Total (mg/l)	1.0	1.0	1/week	8 Hr.
Iron, Total (mg/l)	1.0	1.0	1/week	8 Hr.

Metal cleaning wastes shall mean any cleaning compounds, rinse waters, or any other waterborne residues derived from cleaning any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning and air preheater cleaning.

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored continuously or at a lesser frequency commensurate with treatment system instituted.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): discharge from the metal cleaning wastes treatment facility(s) prior to mixing with any other waste stream.

*Discharge occurs only during chemical cleaning activities. Serial number assigned for identification and monitoring purposes.

1/ In the event of batch treatment monitoring shall be adequate to characterize the discharge.

It is recommended that the applicant control the discharges of high - phosphate wastes (such as those experienced during pre-operational clean-out of piping and equipment) to 1.0 mg/l phosphate in order to maintain acceptable nutrient loads on Monticello Reservoir.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning 1/ and lasting through expiration the permittee is authorized to discharge from outfall(s) serial number(s) 009* - Point source(s) runoff from construction

Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>	<u>Monitoring Requirements</u>	
	Instantaneous Maximum	Measurement Frequency	Sample Type
Flow-m ³ /Day (MGD)	N/A	1/week	Grab
Total Suspended Solids (mg/l)	50 <u>2/</u>	1/week	Grab

Construction runoff shall include rainfall runoff discharged to navigable waters through any discernible, confined and/or discrete conveyance from any construction activity and any earth surface disturbed by such activity from the inception of any construction until construction is complete and disturbed earth is returned to a vegetative or other cover commensurate with the intended land use.

NOTE: Monitoring of point source construction runoff and any point source site runoff shall commence on the effective date of this permit.

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored once per week by grab 2/.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): point(s) of discharge from treatment system prior to mixing with other waste streams.

1/ July 1, 1977 or on start of construction of waste treatment facilities required by this permit, whichever is earlier.

2/ Applicable to any flow up to the flow resulting from a 24-hour rainfall event with a probable recurrence interval of once in ten years. If an impoundment is utilized by permittee, it shall be capable of containing a 10-year, 24-hour rainfall event.

*Serial number assigned for identification and monitoring purposes.

B. SCHEDULE OF COMPLIANCE

1. The permittee shall achieve compliance with the effluent limitations specified for discharges in accordance with the following schedule:
 - a. Start biological study 316(b) - (Intake) 60 days after commercial operation of Nuclear Unit I.
 - b. Biological report 316(b) - 18 months after commercial operation of the Nuclear Unit I.
 - c. Start thermal plume analysis - 60 days after commercial operation of Nuclear Unit I.
 - d. Thermal effects monitoring
 - (1) Implement Study - commercial generating date of Fairfield Pump Storage Unit I.
 - (2) Final preoperational report - 90 days after commercial operation of Nuclear Unit 1.
 - (3) Final Report (to include both pre and post operational findings) - 2 years after commercial operation of Nuclear Unit 1.
 - (4) Interim reports shall be submitted to the South Carolina Department of Health and Environmental Control and U.S. Environmental Protection Agency every six months after the study is implemented for a period continuing until two years after commercial operation of Nuclear Unit 1.

2. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirement.

C. MONITORING AND REPORTING

1. *Representative Sampling*

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

2. *Reporting*

Monitoring results obtained during the previous 3 months shall be summarized for each month and reported on a Discharge Monitoring Report Form (EPA No. 3320-1), postmarked no later than the 28th day of the month following the completed reporting period. The first report is due on October 28, 1976. Duplicate signed copies of these, and all other reports required herein shall be submitted to the Regional Administrator and the State at the following addresses:

Environmental Protection Agency
Water Enforcement Branch
1421 Peachtree Street, N.E.
Atlanta, Georgia 30309

South Carolina Department of Health and
Environmental Control
Attention: NPDES Permits Section
2600 Bull Street
Columbia, S.C. 29201

3. *Definitions*

- a. The "daily average" discharge means the total discharge by weight during a calendar month divided by the number of days in the month that the production or commercial facility was operating. Where less than daily sampling is required by this permit, the daily average discharge shall be determined by the summation of all the measured daily discharges by weight divided by the number of days during the calendar month when the measurements were made.
- b. The "daily maximum" discharge means the total discharge by weight during any calendar day.

4. *Test Procedures*

Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304(g) of the Act, under which such procedures may be required.

5. *Recording of Results*

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

- a. The exact place, date, and time of sampling;
- b. The dates the analyses were performed;
- c. The person(s) who performed the analyses;

- d. The analytical techniques or methods used; and
- e. The results of all required analyses.

6. *Additional Monitoring by Permittee*

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report Form (EPA No. 3320-1). Such increased frequency shall also be indicated.

7. *Records Retention*

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Department of Health and Environmental Control.

A. MANAGEMENT REQUIREMENTS

1. *Change in Discharge*

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, production increases, or process modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new NPDES application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the permit issuing authority of such changes. Following such notice, the permit may be modified to specify and limit any pollutants not previously limited.

2. *Noncompliance Notification*

If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, the permittee shall provide the Department of Health and Environmental Control with the following information, in writing, within five (5) days of becoming aware of such condition:

- a. A description of the discharge and cause of noncompliance; and
- b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

3. *Facilities Operation*

The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee.

4. *Adverse Impact*

The permittee shall take all reasonable steps to minimize any adverse impact to navigable waters resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

5. *Bypassing*

Any diversion from or bypass of facilities necessary to maintain compliance with the terms and conditions of this permit is prohibited, except (i) where unavoidable to prevent loss of life or severe property damage, or (ii) where excessive storm drainage or runoff would damage any facilities necessary for compliance with the effluent limitations and prohibitions of this permit. The permittee shall promptly notify the Department of Health and Environmental Control in writing of each such diversion or bypass.

6. *Removed Substances*

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

7. *Power Failures*

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall either:

a. In accordance with the Schedule of Compliance contained in Part I, provide an alternative power source sufficient to operate the wastewater control facilities;

or, if such alternative power source is not in existence, and no date for its implementation appears in Part I,

b. Halt, reduce or otherwise control production and/or all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.

B. RESPONSIBILITIES

1. *Right of Entry*

The permittee shall allow the Commissioner of the Department of Health and Environmental Control, the Regional Administrator, and/or their authorized representatives, upon the presentation of credentials:

a. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

2. *Transfer of Ownership of Control*

In the event of any change in control or ownership of facilities from which the authorized discharges emanate, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Department of Health and Environmental Control.

3. *Availability of Reports*

Except for data determined to be confidential under Section 308 of the Act, all reports prepared in accordance with the terms of this permit shall be available for public

inspection at the offices of the Department of Health and Environmental Control and the Regional Administrator. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act.

4. *Permit Modification*

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

- a. Violation of any terms or conditions of this permit;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

5. *Toxic Pollutants*

Notwithstanding Part II, B-4 above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified.

6. *Civil and Criminal Liability*

Except as provided in permit conditions on "Bypassing" (Part II, A-5) and "Power Failures" (Part II, A-7), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

7. *Oil and Hazardous Substance Liability*

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Act.

8. *State Laws*

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Act.

9. *Property Rights*

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

10. *Severability*

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

PART III

OTHER REQUIREMENTS

- A. In the event that waste streams from various sources are combined for treatment or discharge, the quantity of each pollutant or pollutant property attributable to each controlled waste source shall not exceed the specified limitation for that waste source.
- B. If the permittee, after monitoring for at least six months, determines that he is consistently meeting the effluent limits contained herein, the permittee may request of the S. C. D. H. E. C. that the monitoring requirements be reduced to a lesser frequency or be eliminated.
- C. There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.
- D. The company shall notify the S. C. D. H. E. C. in writing not later than sixty (60) days prior to instituting use of any additional biocide or chemical used in cooling systems, which may be toxic to aquatic life other than those previously reported to the Environmental Protection Agency. Such notification shall include:
 1. Name and general composition of biocide or chemical
 2. Quantities to be used
 3. Frequencies of use
 4. Proposed discharge concentration
 5. EPA registration number if applicable.

- E. In accordance with Section 316(b) of the Act, by * , the permittee shall design; submit specific details for review, modification and approval by the South Carolina Department of Health and Environmental Control; and implement an approved program to monitor nekton and shellfish impinged on plant intake structures and fish eggs and larvae and other organisms entrained by the cooling water system. Such study shall be in conformance with "Basic Guide to the Design of 316 Demonstrations, Region IV EPA (August 7, 1974)."

During this study period the permittee is encouraged to experiment with systems, methods or procedures to minimize impingement and entrainment effects. By ** , the permittee shall submit a summary report to the South Carolina Department of Health and Environmental Control as to the effects of the present cooling water intake with regard to Section 316(b) of the Act. If significant impingement and entrainment is occurring, this report shall include:

1. An evaluation of facility or procedure modifications if necessary, to minimize the environmental impact of the cooling water intake.
2. An evaluation of methods to return viable nekton and shellfish collected on the intake screens to ambient temperature water at a point outside the influence of the plant intake and discharge, and
3. Proposed facilities or modifications with attendant implementation schedule(s) for implementing 1 and/or 2 above.

Should any required biological study results indicate the possible need for off-stream cooling or other modifications to the present cooling water system, the above discussion shall include an evaluation of the effects on impingement and entrainment of such system modifications.

At the conclusion of this study period, subject to opportunity for review and hearing, the permittee shall implement procedures and or facility construction associated with the intake structure(s).

- F. By commercial generating date of Fairfield Pump Storage Unit #1, the permittee shall design; submit specific details for review, modification and approval; and implement approved studies to monitor the projected thermal effects provided in Water Quality Demonstration dated April 7, 1975. This monitoring program shall include pre-operational and post-operational effects of the thermal discharge on Monticello Reservoir.
- G. Intake screen wash system water may be discharged without limitations or monitoring requirements.
- H. For the purpose of this permit, the monthly average, other than for fecal coliform bacteria, is the arithmetic mean of all the composite samples collected in a one-month period. The monthly average for fecal coliform bacteria is the geometric mean of samples collected in a one-month period.
- I. For the purpose of this permit, the weekly average, other than for fecal coliform bacteria, is the arithmetic mean of all the composite samples collected during a one-week period. The weekly average for fecal coliform bacteria is the geometric mean of samples collected in a one-week period.
- J. For the purpose of this permit, a calendar day shall be defined as any continuous 24 hour period.
- K. Nekton shall be defined as free swimming aquatic animals whether of freshwater or marine origin.

*60 days after commercial operation of Nuclear Unit #1.

L. During periods of cold water temperature conditions conducive to cold shock, operation of the plant, in so far as practicable, shall be such as to assure that cold kill of fish will not occur.