

EXHIBIT R-4

PARR HYDROELECTRIC PROJECT

LAND CLEARING PLAN

Concept

Land areas that will be flooded or otherwise involved as a result of the Parr Hydroelectric Project will be cleared in accordance with four basic concepts, each pertaining to one of the following areas: (1) recreational areas of both the Parr Reservoir and the impoundment known as Monticello Reservoir, (2) the enlarged Parr Reservoir, (3) the new Monticello Reservoir, and (4) areas associated with the project that will not be inundated. To the extent possible, all marketable timber will be removed by the land owner or SCE&G from areas to be inundated. SCE&G will only remove the necessary amounts of timber from high ground areas set aside for recreational purposes or where not required for construction purposes.

LAND CLEARING OF RECREATIONAL AREAS

All currently planned and future recreational site areas that will be covered by water will be cleared and grubbed to varying extents according to the planned use of the individual water area including fishing, boat launching and swimming.

Monticello Sub-Impoundment

The Parr Project has one planned fishing area. This area will be constant level (425) and is part of the Monticello

impoundment. It will be located north of the relocated County Road No. 99. A major portion of the fishing area, which is referred to as the sub-impoundment, will be clear cut from elevation 420 to elevation 425. The timber and undergrowth of shallow inlets and portions of the shore line will remain undisturbed as advised by the State Wildlife Department. Effort will be made to leave natural growth standing around the sub-impoundment perimeter to enhance the natural appearance of the shore, but not to an extent that would interfere with vector control, as recommended by the S. C. State Health Department. Marketable timber products will be removed from the area to be flooded by the land owner or SCE&G depending on accessibility and time. Where trees are cut below the water surface, a five foot water clearance will be maintained over stumps. Where the tops of stumps will be above elevation 420, the up slope side of the stumps will not exceed 6 inches in height. As the sub-impoundment is filled, the major portion of all growth extending above elevation 420 will be topped as advised by the S. C. Wildlife Department.

#### Boat Ramp Area in Monticello Sub-Impoundment

The underwater area for 100 ft. around the sides of the boat launching ramps planned for the sub-impoundment will be cleared and grubbed to a five foot depth.

#### Potential Swimming Area in Monticello Sub-Impoundment

In the sub-impoundment, the potential swimming area and the underwater area for 100 ft. around its sides will be clear

cut and grubbed down to a depth of 15 ft.

#### Boat Ramp Areas in Parr and Monticello Reservoirs

The underwater area for 100 ft. around the sides of boat launching ramps planned for the Monticello impoundment will be cleared and grubbed down to elevation 415, which is five feet below minimum water level. Boat launching facilities planned for the Parr Reservoir will be cleared and grubbed from elevation 266 to elevation 257.1 for 100 ft. on the sides of the ramp.

#### LAND CLEARING OF PARR RESERVOIR

The Parr Reservoir will be clear cut from elevation 257 to elevation 267 to the extent feasible. Some areas of the Parr Reservoir which, if allowed to remain as they are, would create undesirable operating problems, will be cut above 267 as determined by field inspection. The Fairfield tailrace area from Fairfield Powerhouse to Parr Reservoir will be clear cut from elevation 257 back approximately 100 feet horizontally on either side of the tailrace excavation. Additional clearing will be made as determined by field inspection. All permanent islands of the Parr Reservoir will be clear cut from approximately elevation 257 to elevation 267 to the extent feasible.

#### LAND CLEARING OF MONTICELLO RESERVOIR

The Monticello impoundment will be clear cut from elevation 415 to elevation 426. Some areas of the Monticello impoundment will be clear cut above elevation 426 as determined by field

inspection. All up slope stump heights between elevation 415 and 425 will not exceed 6 in. in height.

All foundation area for the Monticello impoundment dams will be clear cut and grubbed. The foundation area for the sub-impoundment dam which will provide the road bed for County Road No. 99 will be cleared and grubbed.

#### AREAS NOT TO BE INUNDATED

Other land areas of the project will be cleared to provide recreational areas, construction space, railroad spurs, access roads and rights of way for transmission lines.

#### DEBRIS DISPOSAL FROM CLEARING

All trees and brush resulting from the clean cutting operations and all accessible materials resulting from harvest and clearing operations in areas not clean cut will be windrowed and burned in accordance with Regulation No. 2A of the South Carolina Pollution Control Authority (SCPCA).

Inaccessible areas containing large amounts of forest debris will be burned in small plots by controlled forest fire. The area of the plots will be as specified by the South Carolina Pollution Control Authority and burning will be in accordance with Regulation No. 2A of the SCPCA. Some trash and debris may also be buried in a manner approved by the SCPCA.

The Parr Reservoir will be filled and large floating debris will be removed from the reservoir, allowed to dry and burned in accordance with SCPCA Regulation No. 2A.

The Monticello impoundment will be filled approximately

to elevation 412. All remaining trees extending to elevation 415 will be topped from barges. The tops and other large floating debris will be removed from the impoundment and burned in accordance with SCPCA Regulation 2A.

When the Parr Reservoir, Monticello impoundment, and Monticello sub-impoundment are full, SCE&G will establish a routine patrol of the shore line and will remove all dying trees, large floating debris and other hazards to aquatic activities. This debris will be disposed of by burning in an appropriate location in accordance with SCPCA Regulation 2A.

All debris from areas not inundated, such as the construction site and landscaped areas, will be collected and burned in accordance with SCPCA Regulation 2A.

#### EFFECTS OF CLEARING

SCE&G does not foresee an undesirable effect to the down river section of Broad River as a result of this clearing operation. At present large trees and debris frequently pass down the river during floods.

Small wooded debris, leaves and other small forest growth will pass through Parr Powerhouse or over the lowered bascule gates immediately prior to and during the filling of the system. The duration of any visible effects is not expected to be more than three months after filling is completed.

Consultation with the U. S. Army Corps of Engineers has revealed that the inundated forest material and leeching of mineral

water has not produced objectionable side effects on municipalities who utilize new, flooded and uncleared forest areas for potable water supplies.

Some oxygen depletion of the impounded waters of Monticello and Parr Reservoirs will occur as the remaining vegetation decays, but no problem is anticipated as evidenced by the excellent survival of aquatic life in other similarly constructed impoundments.

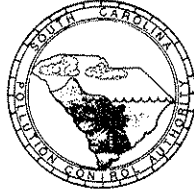
#### VECTOR CONTROL

A vector control program will be implemented. As a result of the clearing operation, both Parr and Monticello Reservoirs will be clear cut around the periphery of the impoundments between maximum and minimum water levels so that no timber or brush is exposed. Standing trees will be topped five feet below minimum water level, except for some areas in the fishing subimpoundment, and some areas in Parr Reservoir where the water is not five feet deep. Periodic patrols will be established to remove floatage. Steps will be taken to eliminate stagnant pool formation due to incomplete drainage during draw down of the reservoirs. Areas around the shoreline which contain partially submerged underbrush will be eliminated. Fluctuations of the reservoirs due to operation of the pumped storage facility would also control mosquito breeding and larvae production. Periodic inspections will be made around the perimeter of the reservoirs after they are filled to determine the effectiveness of the control procedures. If the need for spraying is indicated, SCE&G will consult with the South Carolina

State Health Department and implement a spraying program to assure that no objectionable vector problems occur.

SCE&G has been, and will continue to be, in contact with the South Carolina State Health Department concerning the problem of vector control (See following correspondence).

# South Carolina Pollution Control Authority



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AREA CODE 803  
TELEPHONE: 758-2915

June 6, 1972

Mr. W. E. Moore  
South Carolina Electric  
and Gas Company  
P. O. Box 764  
Columbia, South Carolina 29202

Re: Parr Hydroelectric Project 1894  
Status Water Quality Certification

Dear Mr. Moore:

In our recent conversations, you requested that this office examine requirement "D" on page four as described in correspondence to your Company from the Washington, D. C. office of the Federal Power Commission dated May 4, 1972, and advise you accordingly.

In accordance with the Water Quality Improvement Act of 1970 (84 stat. 91) and in compliance with the Water Quality Standards for the State of South Carolina, the South Carolina Electric and Gas Company must obtain, prior to construction, a "Permit to Construct" from this office. In addition, South Carolina Electric and Gas Company must obtain, prior to operation, a "Water Quality Certificate" from this office that certifies the operation of the project will not contravene established State water quality standards.

This office has investigated the operation of your thermal model of this project at Alden Research Laboratories and from the results of preliminary tests see no cause why the discharge from the Monticello impoundment cannot be certified in compliance with the Water Quality Standards of South Carolina. However, our final decision will be based on formal request from SCE&G for a "Permit to Construct" and the accompanying associated engineering report.



Mr. W. E. Moore  
SCE&G Company  
June 6, 1972  
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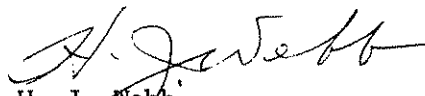
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After review and investigation of preliminary information by this office, it does not appear that Monticello Impoundment can be classified for recreational use by the public due to the large percentage of the surface area being utilized for waste heat disposal resulting from the nuclear plant operation. Unless a significant reduction in the waste heat disposal area of this body of water can be demonstrated by SCE&G Company, this office must consider classifying the area as a waste disposal facility.

This office has noted that SCE&G Company plans to construct a boat launching ramp for the public on the East shore of the Monticello Impoundment. Please be advised that the encouragement of public use of the waters of this impoundment will not be consistent with the anticipated impoundment classification (waste heat disposal facility). If such occurs, this office will be compelled to class the water area of this impoundment as Class A waters.

This office finds no problem with public use of the water included in the sub-impoundment area adjacent to the Monticello Impoundment or with the Parr Reservoir.

Yours very truly,



H. J. Webb  
Executive Director

HJW/dkw

# South Carolina State Board of Health

J. MARION SIMS BUILDING

COLUMBIA 29201

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**E. KENNETH AYCOCK, M.D., M.P.H.**  
SECRETARY AND STATE HEALTH OFFICER

June 14, 1972

Mr. E. H. Crews, Jr.  
Vice-President  
Construction, Production Engineering  
S. C. Electric & Gas Company  
P. O. Box 764  
Columbia, South Carolina 29202

Dear Mr. Crews:

Thank you for the opportunity to review your Exhibit R-4, Parr Hydroelectric Project Land Clearing Plan. I have reviewed the plan with specific reference to the proposed swimming and recreational areas, and in particular with reference to the vector control aspects of the large impoundment.

If public swimming areas are contemplated they must be designed, constructed, and operated as outlined in the regulations issued by the S. C. State Board of Health. I feel confident that you would want to investigate this aspect of your plan. Enclosed please find copies of subject regulations for your information. Let me emphasize that the law applies only to supervised swimming areas.

Also enclosed are Rules and Regulations Relating to Mosquito Production on Impounded Waters. The construction and design of the facility should do much to alleviate and control the noxious aquatic insects normal to these environs. That is, the daily fluctuation in level, plus good brush control at the perimeter should control mosquito breeding. Your attention is called to Section 3 of subject regulations. The only areas which may need special attention, such as larviciding, would be the small dendritic areas of the fishing impoundment, and possibly some of the shoreline impoundments in the lower lake which are committed to waterfowl habitat. Mosquito problems in these lower areas would be largely controlled if flooded only in late fall and winter, and allowed to connect with the lake during other seasons. These areas need be graded and ditched so as not to hold water standing in potholes during

Mr. E. H. Crews, Jr.  
June 14, 1972

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the summer. (Section 3d)

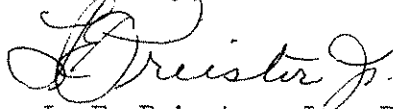
The plans for brush clearing around public access roads and facilities should be rigorously adhered to and carried out, as it will tend to isolate any tick problems to the wildlife herd. The impact of the impoundments on the total tick population would be difficult to assess but it is felt that since the proposed project will result in a habitat totally unsuited for this animal development that no detrimental effect would be forthcoming.

Vector surveys will be conducted on these areas by State personnel as the area develops and appropriate recommendations will be made -- as is done with all other impounded waters of South Carolina. Control efforts as necessary must be implemented. S. C. Electric and Gas will be required to carry out the control procedures to alleviate and obviate vector propagation in this facility if and when a problem should arise.

Pursuant to Section 1 of the referenced Rules and Regulations for Mosquito Control, a permit to impound water is required. By copy of this letter I am directing the Bureau of Environmental Sanitation, Division of Vector Control, to proceed to review and collect the necessary information to issue a construction permit and make the necessary inspections to insure compliance with the regulations.

Strict adherence to the construction details so that control of mosquitoes is largely accomplished by natural ecologic and cultural factors is imperative in this drainage basin. Use of pesticidal materials is not desirable because of the proximity to a municipal water supply and necessity for discharge into this watercourse.

Sincerely,



L. E. Priester, Jr., Ph.D.  
Deputy State Health Officer for  
Environmental Health

LEP/sc

Enclosures

cc: Mr. Carl Fox  
Chief, Bureau of Environmental  
Sanitation  
Vector Control Program  
S. C. State Board of Health

RULES AND REGULATIONS  
RELATING TO CONTROL  
OF MOSQUITO PRODUCTION  
ON IMPOUNDED WATERS

STATE OF SOUTH CAROLINA

CONTROL OF MOSQUITO PRODUCTION  
ON IMPOUNDED WATERS

RULES AND REGULATIONS

(Filed Secretary of State's office May 19, 1950)

In order to safeguard the public health, and to prevent the incidence of insect-borne diseases, under and by virtue of authority vested in it by the Legislature of South Carolina in § 32-8, S.C. Code of 1952, the South Carolina State Board of Health by and through the Executive Committee, at a meeting held in Columbia, South Carolina, by Resolutions duly passed, adopted the following rules and regulations, and does hereby promulgate and publish the same which shall govern the impounding of waters or damming of water courses in the State of South Carolina. These rules and regulations amend and supplement rules and regulations adopted October 2, 1924 and promulgated October 31, 1924; which rules and regulations are repealed by said Resolutions and the following adopted in their stead:

Section 1. Permit to impound water required.

Any person, firm, corporation, association, county, municipality, or other political subdivision, and any state or federal government, agency, department, or authority of the same who shall propose or desire to construct an impoundment of 1/10 acre or more in area for any purpose whatever or who shall propose or desire to raise the elevation of a previously existing pond or other body of water, shall, prior to the initiation of any construction activities make application to and obtain from the State Board of Health a construction permit for the impounding of such water.

Section 2. Application for permit shall be in writing.

Such application for a construction permit shall be made in writing in the name of the person, firm, corporation, association, county, municipality, or other political subdivision, and any state or federal government, agency, department, or authority of the same making application, and shall be accompanied by a description of the proposed project, its purpose, and its exact location, an accurate plat of the area to be affected showing particularly the maximum and minimum water elevations, and a copy of detailed specifications for clearing the proposed reservoir.

Section 3. Construction permit shall be issued.

A construction permit for the inauguration of initial construction shall be issued by the State Board of Health subject to the following rules and regulations, or modifications thereof approved by the Executive Committee of the State Board of Health.

Section 3a. All brush, trees, etc., to be permanently submerged may be left.

In the area to be occupied by the reservoir, its branches, bights, and indentations, all brush, trees, and undergrowth below the minimum low-water elevation shall be cut off not more than 18" above the normal ground elevation and shall be removed or burned or otherwise disposed of in a manner satisfactory to the Executive Committee of the State Board of Health, Provided, that, on the approval of the Executive Committee of the State Board of Health grass, vegetation, brush, trees, stumps, and similar materials, which will be permanently and completely submerged at time of minimum low water, may be left in their original positions.

Section 3b. All brush, trees, etc., that would pierce surface of water shall be removed.

In the area to be occupied by the reservoir, its branches, bights, and indentations, all brush, trees, logs, undergrowth, stumps, and other objects below the minimum low water elevation, which if not removed would pierce the water surface at minimum low water elevation or float on the surface of the impounded water soon after the impounding of the water and all of the above material that is lying on the ground or remaining in the original or new positions which might cause collections of floatage and thus constitute conditions favorable to the protection of larvae of mosquitoes, shall be removed or burned or otherwise disposed of in a manner satisfactory to the Executive Committee of the State Board of Health prior to the impounding of water.

Section 3c. All brush, trees, etc., between minimum and maximum water level shall be removed.

In the area to be occupied by the reservoir, its branches, bights and indentations, all brush, trees, and undergrowth between the minimum and maximum operating water elevations shall be cut off not more than 6" above the normal ground elevation and shall be removed or completely burned prior to the impounding of water to prevent the collection and anchorage of any floatage, rafts, and similar materials.

Section 3d. Depressions shall be drained.

All depressions which will be filled with water from the reservoir, its branches, bights, or indentations at time of maximum water elevation, in which water will be retained at lower

stages of water level, thus forming separate pools, shall be connected with the normal body of the reservoir or any of its branches, bights, or indentations by a ditch or culvert which will permit complete drainage, or shall be controlled by the regular periodic use of approved larvicides as permitted and directed by the Executive Committee of the State Board of Health.

Section 3e. Laborers housed on premises during construction shall be protected from mosquitoes.

All laborers employed in the construction of the dam and the impounding of the water and appurtenant work, and housed in camps, barracks, or other communal houses, shall be protected from mosquitoes in a manner satisfactory to the Executive Committee of the State Board of Health.

Section 4. Inspections shall be made during construction.

A construction permit for the impounding of water having been granted by the Executive Committee of the State Board of Health, and construction work on the project begun, a representative or representatives of the State Board of Health shall make inspections of the project from time to time and as requested by the permit holder; and the Executive Committee of the State Board of Health shall approve that portion of the work as is outlined in Section 3 of the regulations which has been satisfactorily completed. As the said representative of the State Board of Health determines that the construction permit holder has complied with the provisions of Subsections 3a and 3b of these regulations and as it shall appear that the construction permit holder is complying with the provisions of Subsection 3c of these regulations



the permit holder may thereupon proceed as authorized by approval from the Executive Committee of the State Board of Health, with the impounding of water to a level specified by said Executive Committee of the State Board of Health, and, when it shall appear that the permit holder has complied with the provisions of Subsections 3a, 3b, 3c, and 3d of these regulations to the satisfaction of the Executive Committee of the State Board of Health, said Executive Committee of the State Board of Health shall certify such fact to the permit holder in writing and the permit holder may thereupon proceed with the impounding of water to maximum operating water elevation.

Section 5. Maintenance permit issued on compliance with regulations.

The Executive Committee of the State Board of Health shall thereupon issue a maintenance permit for the maintenance of an impounding project by said applicant, the validity of such permit being contingent upon the observance of the following regulations:

Section 5a. Floatage shall be removed and larvicides shall be applied.

During the mosquito producing season the permit holder shall regularly and frequently remove all floatage and floating debris in the reservoir, its branches, bights, and indentations which are producing mosquitoes, and shall during mosquito producing season apply such larvicides as are approved by and in a manner satisfactory to the Executive Committee of the State Board of Health to all mosquito producing areas of the reservoir or parts of the impounded waters.

Section 5b. Shoreline shall be maintained.

The shoreline of the reservoir, its branches, bights and indentations shall be maintained clear of all brush and undergrowth.

Section 5c. Aquatic and semi-aquatic vegetation shall be prevented.

Prompt and proper measures shall be taken to prevent the growth of cattails, bulrushes, alligator weed and other aquatic and semi-aquatic vegetation which offer protection for mosquito larvae.

Section 5d. Conditions detrimental to public health shall be corrected.

After the water has been impounded the Executive Committee of the State Board of Health through its representative shall make such inspections of the impounded waters and adjacent areas as are deemed essential; and any conditions found on the impounded water project that are, or may be detrimental to, the public health, shall be corrected by the permit holder in a manner satisfactory to the Executive Committee of the State Board of Health.

Section 5e. Regulations shall govern change in water elevation.

These regulations shall govern any change in water elevation and as soon as any proposed changes affecting the maximum operating elevation are contemplated, the Executive Committee of the State Board of Health shall be notified in writing.

Section 6. Penalty for violation.

Failure to comply with the provision of any Section or Subsection of these regulations, after notice thereof, constitutes a violation

thereof, and shall constitute, according to § 32-17 Code of 1952,  
a misdemeanor, punishable as provided in that Section.