Mailing Address
Alabama Power Company
600 North 18th Street
Post Office Box 2641
Birmingham, Alabama 35291
Telephone 205 783-6090

R. P. McDonald
Senior Vice President
Flintridge Building

Alabama Power
the southern electric system

October 19, 1984

NRC Docket Nos. 50-348
50-364

Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attention: Mr. Harold R. Denton, Director

Joseph M. Farley Nuclear Plant - Units 1 and 2
Pollution Control Bond In Furtherance Certificate

Gentlemen:

Alabama Power Company wishes to participate in the issuance of pollution control revenue bonds in order to help finance certain facilities which are in furtherance of abating or controlling atmospheric pollutants or contaminants or water pollutants.

In order to meet I.R.S. requirements of such tax-exempt pollution control revenue bonds, Alabama Power Company requests that the Commission issue an "In Furtherance" Certificate of which a draft copy is attached. In order to meet the required bond issuance schedule, such certificate is needed by November 19, 1984.

Your assistance in this matter is greatly appreciated.

Very truly yours,

RB McDonald

R. P. McDonald

RPM/RWS:grs-D42
Attachment
cc: Mr. L. B. Long
Mr. J. P. O'Reilly
Mr. E. A. Reeves
Mr. W. H. Bradford

A001
1/1

CERTIFICATE
JOSEPH M. FARLEY NUCLEAR PLANT
UNITS 1 & 2

POLLUTION CONTROL FACILITIES

The Nuclear Regulatory Commission (the NRC) hereby certifies as follows:

(a) that it has examined Exhibit A attached hereto which is entitled "General Description of the Facilities" and which describes certain facilities which have been constructed, or are under construction or are to be constructed at the Joseph M. Farley Nuclear Plant, a nuclear electric power generating plant located in Houston County, Alabama, which plant is wholly owned by Alabama Power Company.

(b) that such facilities, as designed, are in furtherance of the purpose of abating or controlling atmospheric pollutants or contaminants or water pollutants resulting from the generation of electricity at the Joseph M. Farley Nuclear Plant.

For the Nuclear Regulatory Commission

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Dated at Washington, D. C.
this _____ day of _____

EXHIBIT A

Joseph M. Farley Nuclear Plant Pollution Control Revenue Bonds

General Description of the Qualifying Facilities

The facilities consist of the following systems at the Plant and, in each case, include related machinery, equipment and related facilities:

Sewage Treatment Plant. The sewage treatment plant collects, transports, treats, and clarifies wastewater prior to discharge to the river. The system includes a sewage lift station, surge tank, package sewage treatment plants, chlorine contact chamber, sumps, pumps, piping, valves, controls and instrumentation.

Turbine Building Oil Drain. The turbine building oil drain system for each unit at the plant collects for processing and disposal, waste from normally nonradioactive areas where oil may be present. If the wastes have any radioactive contamination it will be sent to the Liquid Radwaste System for processing. Each system includes drains, sumps, and oil/water separators.

Gaseous Radwaste Systems. The gaseous radwaste system for each unit at the plant collects and processes potentially radioactive gases generated within the unit. High activity gas containing primarily hydrogen and nitrogen is collected and stored in an oxygen-free environment to guard against a rapid hydrogen/oxygen reaction and to permit decay of short-lived isotopes prior to release to the environment. Each system includes a surge tank, prefilters, waste gas compressors and decay tanks, a discharge filter and flow control valve and related radiation monitoring equipment.

Solid Radwaste Systems. The solid radwaste system for each unit at the Plant collects and chemically processes radioactive waste consisting of trash, spent ion exchange resins, waste evaporator concentrates, chemical drain tank effluents, crud tank effluents, used filter cartridges, and contaminated steam generator blowdown demineralizer resins. Wastes are solidified in the waste solidification system and stored in a shielded storage location prior to shipment off site. Each system includes a waste feed tank, chemical handling and storage equipment, portable cement handling and storage equipment and mixers, balers, waste compactor and related machinery and equipment. Each system provides for capping, decontamination, swiping and placement of solidified waste containers in a shielded storage location in the unit. The waste compactor compresses the 55 gallon drums to approximately one-fifth their original size. Each system also includes related radiation monitoring equipment.

Liquid Radwaste Systems. The liquid radwaste system for each unit at the Plant collects and stores for processing and processes radioactive or potentially radioactive waste fluids from various areas of each unit. Such waste fluids are processed by filtration, absorption, ion exchange and evaporation. Water is recovered for reuse in the reactor plant system and to minimize the quantity of liquid wastes which must be solidified for off site disposal. Each system also includes related radiation monitoring equipment.

Radwaste Areas of the Auxiliary Building. The radwaste area in the auxiliary building houses the systems used for the processing of liquid, solid, gaseous, and borated radioactive wastes generated in each unit and is functionally related and subordinate to such systems.

Filtration Systems. The filtration equipment associated with the turbine building, fuel nandling area, and radwaste area ventilation systems and the containment purge system for each unit at the plant collects and removes contaminants from gases prior to discharge to the environment. Each system includes high efficiency particulate air filter banks and charcoal adsorbers and related mechanical equipment.

Closed Loop Cooling Systems. The closed loop cooling systems include the main condenser circulating cooling water system and the nuclear service cooling water system. These systems remove heat from equipment used in the plant and ensure tnat thermal discharges from the site are minimized. Heated water is recirculated through cooling towers where it is cooled and returned for use as equipment cooling water.

Turbine Building Water Drains. The turbine building waste water disposal system collects drains which could be chemically or oily contaminated for proper disposal. The water drainage subsystem collects floor and equipment drains from the various floors and areas in the turbine building and directs this flow through the base slab piping to the building sump catch basin. Waste water drainage from the auxiliary steam generator system in the auxiliary building also feeds into the sump catch basin via the base slab piping.

Steam Generator Blowdown Processing System. The Steam Generator Blowdown Processing System functions to eliminate harmful concentrations of chemical deposits from accumulating in the steam generators. The effluents from the secondary side of the steam generators are normally dispersed to the environment following dilution with the service water and cooling tower blowdown water. If a leak should develop in a steam generator, system effluent would be processed through a series of demineralizers and recycled to the main condenser or released directly to the environment.

The processing portion of the system which is being claimed for bonding consists of a pair of series-connected cation demineralizers, a pair of series-connected mixed-bed demineralizers, a filter, and instrumentation that provides process-related information used to assess system performance.

Borated Water Waste Treatment. Two systems at the Farley Nuclear Plant work together to recycle reactor grade water and boron chemicals, thus minimizing the release of low level radioactive water to the environment.

The Boron Recycle System (BRS) receives and recycles reactor coolant effluent for reuse of the boric acid and makeup water. The system decontaminates the effluent by means of demineralization and gas stripping and uses evaporation to separate and recover the boric acid and makeup water. The Boron Thermal Regeneration System (BTRS) varies Reactor Coolant System (RCS) boron concentration during reactor power changes. The boron concentration changes are accomplished automatically by the BTRS by passing reactor coolant water through temperature dependent ion exchangers in order to store or release boron to the RCS.

Storage and release of boron is determined by the temperature of the fluid entering the ion exchangers. A group of heat exchangers and chiller units is used to provide the desired fluid temperature at the ion exchange inlet for either storage or release of boron.

Yard Drainage System. The yard drainage system collects and conveys site run-off and roof drainage into the settling pond to allow sediment to settle out prior to release to the river. The system includes piping, catch basins, drainage, final grading and associated equipment.

Water Treatment Plant Waste Settling Pond. Waste water from the water treatment plant clarifier backwash, waste neutralization tank, and pressure filter drains are routed to the waste settling pond in an 18" high density polyethylene gravity drain line. The waste settling pond allows all coagulant material from the clarifier backwash to settle out of the waste water before the water is released to the wetlands southeast of the main power block. Also, should either acidic or basic waste water enter the pond, the pond dilutes it to the point that all water leaving the pond has a virtually neutral pH.

The Water Treatment Plant with Regeneration Waste and Water Treatment Systems. The water treatment and neutralization system is designed to process the necessary acid and caustic ingredients for demineralization. In order to effect this process the following euqipment and systems are required: one waste neutralizing tank, two sump pumps, one lot of control valves, and an air blower. The waste water and demineralizer effluent are collected in the waste neutralization sump and then pumped into the waste neutralization tank for regeneration.

Landfill Area. A 33-acre portion of the site has been dedicated for the permanent disposal of nonradioactive, nonputrid trash and construction debris. The cost to prepare the land to provide a controlled disposal site for trash and debris is an added cost for pollution control purposes.

Spent Fuel Pool Re-racking. When the plant was designed, it was assumed that spent fuel assemblies would be stored for short periods of time onsite prior to shipment for reprocessing. As there are currently no reprocessing facilities in operation or permanent disposal sites available, and none planned in the near future, all spent fuel assemblies must be stored onsite. Thus the existing pool was re-racked to increase its capacity to store spent fuel for the remaining life of the plant using high density racks with neutron absorbing material.