

H. S. Owen, Jr.

STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION

ELECTRIC POWER PLANT SITE CERTIFICATION REVIEW

FOR

FLORIDA POWER CORPORATION

CRYSTAL RIVER UNITS 4 AND 5

CASE NO. PA 77-09

PRELIMINARY STAFF ANALYSIS

April 18, 1978

Power Plant Siting Section
Bureau of Permitting
Division of Environmental Permitting
Tallahassee, Florida
32301

State of Florida Department of Environmental Regulation
Electric Power Plant Site Certification Review (Preliminary)
Crystal River Units 4 and 5, Florida Power Corporation
Case No. PA 77-09

I. Introduction

Florida Power Corporation submitted an application for site certification of two 640 megawatt (MW) coal fired units at the existing Crystal River Power Plant complex on December 14, 1977. Florida Power projected a need for Crystal River No. 4 in October 1982 and Crystal River No. 5 in 1984.

On January 30, 1978 Florida Power requested that the Department of Environmental Regulation approve certain construction activities on site as "other land uses" pursuant to Section 17-17.03, F.A.C. The rationale advanced by Florida Power was that in order to complete construction of Unit 4 by October 1982 in an economical manner certain activities needed to begin before certification was issued.

The Department's initial analysis of the utility's request revealed that a portion of the preliminary work was permissible under Section 17-17.03, F.A.C. A hearing was held on March 1, 1978 to consider the request. The Department and all parties at the hearing agreed that a portion of the site could be cleared to harvest marketable timber. Also, an office building, an access road and a parking lot for that office building could be constructed.

Upon receipt of the Hearing Officer's recommended order, Secretary Landers approved the other land uses by written order on March 15, 1978.

The Department maintained that the class II activities requested by Florida Power were elements of construction of a power plant under the provisions of Chapter 403, F.S., Part II and according to the definition of construction contained in Section 17-17.02, F.A.C. Activities such as excavation, placing and compacting hardrock fill, and the injection of grout are construction activities and are therefore subject to the site certification process.

II. Existing Facilities

At the Crystal River Power Plant site are two fossil fired units and one nuclear unit, cooling water intake and discharge canals, barge unloading facilities, coal handling equipment switch yards and related transmission lines.

Crystal River #1 is a 379 MW oil fired unit that will be converted to coal later this year. Crystal River #2 is a 450 MW coal fired unit. Crystal River #3 is an 825 MW nuclear unit. All units utilize a common intake and discharge canal.

III. Proposed Construction

In the first phase of on site activity, the applicant plans to construct an office building, parking lot, and an access road. The office building will initially be used as a construction office. Later the building will be utilized to house administrative and training activities. The first phase of activities will also include harvesting marketable timber from approximately 13 acres. The access road, parking and office facilities will occupy 4.8 acres.

In the second phase of construction activities the applicant wishes to excavate approximately two or more feet of overburden to expose the top of a limestone formation. Based on an examination of the exposed limestone and a core boring collection and analysis program, Florida Power will finalize the design of the foundation for Unit #4. Florida Power then plans to haul in crushed limestone in order to construct a stable foundation pad ~~eight to nine feet above~~ ^{to} grade. As part of the foundation work, Florida Power also proposes to inject grout into the ground to fill up cavities in the limestone. Water from the existing plant water systems or on site ponds will be used to compact the limestone fill.

IV. Department Review

The Department of Environmental Regulation is charged with assessing the environmental impact of a proposed power plant and balancing the need for the facility against the environmental impact. In doing so the Department must consider the views of other state agencies as well as conduct certain studies required by law.

Upon receipt, the application was distributed to the following agencies:

1. Florida Public Service Commission
2. Division of State Planning
3. Southwest Florida Water Management District
4. Department of Natural Resources
5. Game and Fresh Water Fish Commission

6. Department of Transportation
7. Division of Archives, History and Records Management
8. Department of Commerce
9. Department of Community Affairs
10. Withlacoochee Regional Planning Council

The responses of these agencies are summarized in the following section

AGENCY COMMENTS

A. Public Service Commission

On February 28, 1978 the Florida Public Service Commission transmitted thier preliminary report to the Department as required by Section 403.507, F.S. In the summary of their report they stated:

A. SUMMARY

Pursuant to the Florida Power Plant Site Act, Chapter 403 F.S., the Florida Public Service Commission (PSC) is required to provide a preliminary report on the present and future electrical need for the proposed generating facilities to the DER within 60 days of receipt of a complete application for certification. This preliminary report is to be followed by a final report within 5 months of receipt of the complete application (Chapter 403.507 (1) F.S.).

The Florida Department of Environmental Regulation (DER) received Florida Power Corporation's (FPC) application for certification of Crystal River Units No. 4 & 5 on December 14, 1977. In a letter dated December 23, 1977, the DER found the application to be incomplete in some instances. We are of the understanding that the deficiencies to the application were minor and hence the deadlines specified by the Florida Statutes are to be referenced to the December 14, 1977 filing date.

The following constitutes our preliminary report on the electrical need for additional capacity for FPC. In order that the most current information might be utilized, a 15 day extension was requested for this preliminary report. This request was granted and the new deadline for our preliminary report is February 28, 1978.

The primary goal of generation expansion planning is to develop a plan for the construction of generating units which will allow the company to serve future loads at the lowest cost possible. Due to the long

lead times associated with the construction of generating units (i.e. 2-3 years for combustion turbines, 4-6 years for conventional fossil units, and 10-12 years for nuclear units) generation planning and construction cannot react to sudden changes in usage patterns. There is no question that additional capacity is needed on the FPC system and that the very short lead times available until that capacity is needed preclude many otherwise available alternatives. Any alternatives must be practically available in time to meet projected demands. While capacity is needed for FPC, the same is not true of Peninsular Florida, taken as a whole. Accordingly, we strongly recommend that FPC thoroughly explore the matter and demonstrate that the alternative of building one or both of these units is in fact the least expensive option to meet their capacity needs and submit such material in ample time to be considered in formulating our final report.

The PSC considered the lack of capacity in the Florida Power system, customer growth projected peak loads, loss of load probability and reserve margins. The PSC states on page 15 of their report:

"Although this report has thus far concentrated on a single peak demand, consideration of the company's load at other times than the system annual peak is warranted. The following graph illustrates typical load shapes for FPC's summer and winter peak days (1975 data).

While the company's winter peak demand is higher than the forthcoming summer peak demand, the winter peak load shape is of shorter duration. The determination of the need for additional capacity should take into account both the higher-narrower winter peak and near peak demands and the broader summer peak and near peak demands. Because of this dual consideration, an economic trade should be made between high capital cost - more efficient base load generation and lower capital cost but less efficient peaking type units.

As stated in the company's application for certification (Section 1.2), FPC uses a production costing model (PROCOS) to determine the cost of operating the system pursuant to each alternative generation expansion plan. The present worth cost associated with each expansion plan is then compared to determine which plan is expected to result in the lowest system cost. It is not clear what alternative generation expansion plans were reviewed by the company or whether the proposed Crystal River unit additions represent the lowest cost unit additions to meet the company's projected loads."

On page 23 of their report the PSC states:

"With respect to cost, should the construction of Crystal River Units No. 4 and 5 necessitate the use of low sulfur coal at Crystal River Units No. 1 and 2, as indicated in Section 5.4 of the application for certification, any plan with Crystal River No. 4 and 5 is likely to be suboptimal. It would seem in the best interest of the company, therefore, to fully evaluate other generation alternatives."

The PSC concluded their report with the following conclusions and recommendations:

H. CONCLUSIONS AND RECOMMENDATION

In review of the factors previously discussed, we conclude the following:

- a. Long term summer peak demands are expected to increase at a rate of 3.7% to 6.6% annually for FPC's system. Hence, the company's current 4.9% winter peak demand forecast appears reasonable.
- b. Peak load pricing and load management may or may not reduce FPC's future winter peak demands to the extent that planned generating units can be deferred or cancelled.
- c. FPC's demand forecast and generation expansion plan shows a need for Crystal River Units No. 4 and 5 when only the FPC system is considered.
- d. Planned capacity additions and reserve margins in Peninsular Florida indicate that alternatives may exist in the form of unit power purchases or joint ownership with other utilities which might result in the deferral or cancellation of one or both of the proposed Crystal River units.
- e. The object of long term generation expansion planning is to provide unit additions to serve future load at the lowest cost. It is not known at this time whether construction of Crystal River Units No. 4 and 5, would result in the lowest cost.

Based on the above conclusions, the PSC recommends that the FPC fully explore unit power purchases from other utilities and/or joint

ownership of other generating units before proceeding with the certification and construction of Crystal River Units No. 4 and/or 5. We wish to emphasize that this recommendation could be changed if the demand forecasts and generation expansion plans of other utilities indicate that generating capacity will not be adequate or should FPC reasonably demonstrate that construction and operation of Crystal River Units No. 4 and 5 is the lowest cost option. Hence, we reserve the right at this time to modify or change this preliminary recommendation should significantly new information become available.

B. Division of State Planning

On February 28, 1978, the Division of State Planning transmitted their preliminary report on Florida Power Corporation's application for certification of Crystal River Units 4 and 5. The Division included in its reports comments of several state agencies who had reviewed Florida Power's 1977 Ten Year Site Plan.

The Department of Community Affairs stated:

"Most of the plans submitted for review show a projected energy demand over the next ten years to be much higher than would be expected if using actual demand increase over the last four years. Most of the companies seem to expect energy use trends to resemble those of the first part of the last decade instead of the last five years. In light of current government studies and developing policies, this may not be the case and the estimates should be carefully considered in light of the energy crisis, increased energy cost projections, fuel supply shortages, and future government policy. It appears certain that the government will develop an energy conservation program that includes measures for utilities such as peak load pricing, possible requirements that new plants be coal fired or refuse fired, etc. The federal and state energy programs dealing with alternative energy sources and cost increases will also impact consumer demand and should be considered in projections. The decision to build a new plant that is not needed or a plant using a fuel that has a high cost increase could cost local governments or consumers a lot of money.

For illustrative purposes, data extracted from the reports is compared below for the actual electrical demand increases over the last four years to projected increases for the next ten years."

<u>Company</u>	<u>Average Yearly Demand Increases (1973-1976)</u>	<u>Projected Demand - Average Yearly Increase (1977-1986)</u>
Florida Power Corporation	2.1	7.8

The Southwest Florida Water Management District
submitted the following comments of Florida Power's Ten Year
Site Plan:

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
5060 U.S. Highway 41 South
Brooksville, Florida 33512

Planning & Programming Division

Technical Review/Water Resources Evaluation

Florida Power Corporation Ten Year Power Plant Site Plan

June, 1977

Prepared by: R.E. Nichols
R.E. NICHOLS
Water Resource Planner

Project Description

Title: Florida Power Corporation Ten Year Power Plant Site Plan 1977-1986

Applicant: Florida Power Corporation

Consumptive Use Permit No: None

Location: Northwest Citrus County

Type of Development: Coal/Steam Power Plant

Size: (acreage undetermined) 2-600 MW units

Proposed Water Withdrawals: 20 mgd

I. SUMMARY

The Ten Year Site Plan submitted by the Florida Power Corporation (FPC) appears to be basically unchanged from last year's document, although it is slightly reduced in volume and detail. It is noted that several of the sites (East-Of-Orlando) have been deleted from this year's plan. The sites of main concern to the Southwest Florida Water Management District are Crystal River (preferred site) and the Strip Mine (alternate site).

Both of these sites were discussed in last year's version of the plan, however, one development has occurred which has changed this plan substantially. FPC now has plans to utilize freshwater for cooling the proposed 1982 addition at the Crystal River Site. This single fact changes the District's viewpoint of the Crystal River facility.

II. PROFESSIONAL ANALYSIS

The 1982 addition of the 600 MW coal unit is expected to utilize approximately 20 million gallons per day (mgd) of freshwater from ground water supplies. FPC now has a consulting firm actively investigating the feasibility of withdrawing 20 mgd from some type of linear wellfield located along FPC's transmission line right-of-way. It has yet to be determined how many wells will be required or where they will be located, so an accurate assessment of the withdrawal impact cannot yet be made. However, the consultant has coordinated his activities with the District staff to as large a degree as practical. This cooperation should aid the District in evaluating the results of the groundwater testing program which is being developed.

It is recognized that the use of groundwater is judged to be FPC's most feasible option to supply cooling water which would allow this plant to be completed and become operational by the 1982 target date. It is also realized that no existing user or prospective user will require this quantity of water from this area in the immediate future. However, this general area is currently being investigated to determine its water supply potential to meet future municipal demands outside the immediate area. The withdrawal of 20 mgd by the FPC could limit the quantity of water which could be produced from this area to meet these municipal demands. In all likelihood, this area would not be developed as a water supply source for municipal uses before the "turn of the century", but after this time it could be one of the more viable options.

In discussions with FPC officials, it was learned that the existing once-through saltwater cooling system could not be utilized because the additional thermal load could cause significant damage to the receiving body of water. Investigations have also tentatively revealed that a brackish groundwater withdrawal facility would not be feasible due to the relatively thin zone of diffusion between fresh and saltwater in this area. The use of saltwater cooling towers was also eliminated as an alternative due to the limited operational experience for this type of facility. However, this statement is contradicted in another section of the Ten Year Site Plan.

On page IV-173, with reference to a proposed plant near Port Saint Joe, it is stated "... (water use will be) approximately 20 million gpd for two 600 MW coal-fired units utilizing mechanical cooling towers. Cooling water make-up will be taken from the Gulf of Mexico". This statement leads one to two possible conclusions. Either the water in the Gulf of Mexico in the vicinity of Port Saint Joe is of different quality than the water in the Gulf near Crystal River or that saltwater cooling towers may actually be a viable alternative. It is believed that some sort of explanation would be in order to clarify this situation.

The Strip Mine Site located near Pierce in central Polk County is listed as the alternate site to Crystal River. In this location

as well, approximately 20 mgd of groundwater would be required for the mechanical draft cooling towers. This site is located in the extensive phosphate mining area where large amounts of water have been withdrawn in recent years. Since 1969 the May potentiometric surface of the Floridan Aquifer has declined nearly 40 feet. This area does not need additional withdrawals of 20 mgd and such a practice could cause further deterioration in an already serious situation.

III. COMMENTARY

Both the Crystal River and Strip Mine Site plans continue the trend of increasing freshwater cooling water requirements which has become widespread in recent years. If this trend continues, or increases, the State of Florida will find itself in a severe water-supply situation. There is enough freshwater in Florida to meet our present and projected water demands if the resource is managed wisely. One of the Planning Principles in the District's Water Use Plan - Draft II - 1977, makes the following point: "Where feasible, encourage the use of water of the lowest acceptable quality for the purpose intended." The District does not believe that power plants must utilize potable water supplies for cooling purposes. Such a practice only lessens the amount of freshwater which is available for other uses. The District does not question the fact that 20 mgd of freshwater could be produced from either of these sites. We do, however, have serious reservations that this is the most beneficial use of this resource and is in the best interest of the people of the District. We have been criticized by the local population for even considering the feasibility of transferring water from this area to others. However, FPC's plans would essentially accomplish this same transfer, although in a slightly altered form. Water would be consumed to produce electricity which would not be required in the immediate vicinity, and would be transferred to other areas, resulting in a loss of resources to this area.

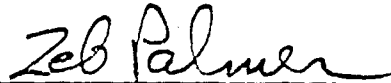
IV. RECOMMENDATION

It is recommended that FPC actively investigate every other cooling water source before freshwater is considered. If freshwater must be used because of stringent thermal discharge regulations, water of the lowest quality should be used (not potable supplies). There are areas within the District where a power plant could be situated to utilize secondary or advanced waste treated sewage effluent. If potable freshwater must be utilized, it should be done in a place where the present and future demands are miniscule. In certain areas, the present water demand may be extremely small and a power plant would not interfere with existing users. If the water demand was projected to increase significantly in those areas, perhaps an agreement could be made whereupon the power company could use the freshwater for the life of the plant (30-35 years), after which time the power company would relinquish their right to use that water. This water would then become available for agricultural, industrial, and municipal uses.

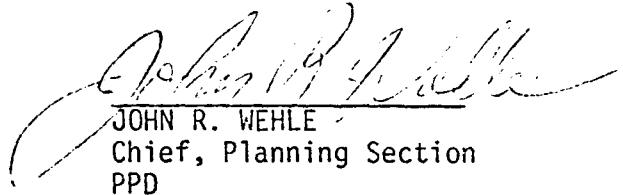
At this time the District must classify the proposed power plants

as "unsuitable" due to their use of freshwater. In the Ten Year Site Plans submitted this year, approximately 172 mgd of freshwater would be utilized within the boundaries of the Southwest Florida Water Management District alone.

Reviewed by:



C.E. "ZEB" PALMER
Director, Planning &
Programming Division



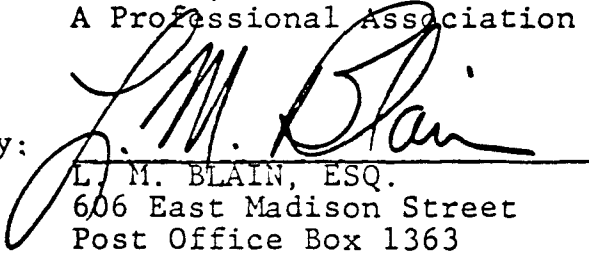
JOHN R. WEHLE
Chief, Planning Section
PPD

REN:rsb

uses. The use of freshwater for cooling purposes at an electrical power generating plant is not a reasonable beneficial use of the water when abundant quantities of saltwater are available.

DATED this 28 day of February, 1978.

GIBBONS, TUCKER, McEWEN,
SMITH, COFER & TAUB
A Professional Association

By: 

L. M. BLAIN, ESQ.
606 East Madison Street
Post Office Box 1363
Tampa, Florida 33601
PH: 813/228-7841
Attorneys for Southwest
Florida Water Management District.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and exact copy of the foregoing was furnished by U. S. Mail to: H. A. EVERTZ, III, ESQ., P. O. Box 14042, St. Petersburg, Florida 33733 and WADE L. HOPPING, ESQ., P. O. Box 5617, Tallahassee, Florida 32301, Attorneys for Florida Power Corporation; SHERI SMALLWOOD, ESQ., Department of Environmental Regulation, 2562 Executive Center Circle East, Montgomery Building, Tallahassee, Florida 32301, Attorney for Department of Environmental Regulation; DAVID GLUCKMAN, ESQ., 5305 Isabelle Drive, Tallahassee, Florida 32301, Attorney for Florida Audubon Society; BARRETT JOHNSON, ESQ., R. A. Gray Building, Tallahassee, Florida 32304, Attorney for Public Service Commission; HENRY DEAN, ESQ., 660 Apalachee Parkway, Tallahassee, Florida 32304, Attorney for Division of State Planning; and DAVID GLUCKMAN, ESQ., 5305 Isabelle Drive, Tallahassee, Florida 32301, Attorney for Florida Lung Association, on this _____ day of _____, 1978.

L. M. BLAIN, ESQ.

D. Department of Natural Resources

On January 19, 1978 the Department of Natural Resources submitted the following comments:

"Pursuant to your letter request of December 14, 1977 the Site Certification Application submitted by Florida Power Corporation for Crystal River Units No. 4 & 5 has been reviewed by the Department of Natural Resources staff.

Based on staff review of the Site Certification Application, it is our opinion that placement of the proposed facility (Crystal River Units No. 4 & 5) at the Crystal River Site should ensure that the plant construction and operation will cause minimal adverse effects on human health, the environment, the land use pattern, and the ecology of state waters and associated aquatic life in the general area affected by the project. In general, our staff supports the location of the facility site as requested by Florida Power Corporation.

"Use of existing transmission facilities currently used by Crystal River Units 1, 2 & 3 is a definite plus for the proposed facility site. Since the only transmission lines necessary for the proposed units are the interconnects which must be constructed to existing lines leaving the site and since the entire route of these lines passess over areas to be cleared, filled and graded for site development, no additional impacts to terrestrial or aquatic communities are expected as a result of construction.

"In reviewing the archaeological site information presented in the site application, our Division of Recreation and Parks staff noted that there was no mention of the effects that the proposed project would have on our Crystal River State Archaeological Site. This site, which is located on the north side of Crystal River approximately four miles southeast of the proposed facility site, is one of the most spectacular and important pre-Columbian Indian sites in Florida. Naturally, the staff is concerned about what effects, if any, the construction and operation of Units 4 & 5 at the Crystal River Site would have on the Crystal River State Archaeological Site. It is our feeling that the application should contain information concerning anticipated adverse effects that the facility might have on this archaeological site."

E. Game and Fresh Water Fish Commission

On March 13, 1978, the Game and Fresh Water Fish Commission submitted the following comments:

Our Office of Environmental Services has reviewed the referenced site certification application for adverse impacts on fish and wildlife resources and offers the following comments.

This project is in the vicinity of the highly productive and delicately balanced estuarine and coastal systems of the Florida Gulf Coast between the Withlacoochee and Crystal rivers. The certification application adequately covers most of the negative impacts of constructing and operating two coal burning units on the fish and wildlife resources of the region. Impacts include the direct loss of 130 acres of valuable hardwood hammock habitat; a groundwater withdrawal that may reduce freshwater wetlands habitat; water quality problems associated with wastewater discharges and runoff; and potential reduction in quality of surrounding habitats resulting from decreased air quality.

Of special concern is the effect this facility will have on endangered or threatened species. The Gulf of Mexico between the Crystal and Withlacoochee rivers is one of the favored wintering habitats of the endangered manatee. Increased barge traffic in the vicinity associated with the transport of coal to the plant may result in increased injury or mortality to the remaining populations. Adverse impacts to indigo snake and gopher tortoise populations are also expected as a result of direct habitat loss.

In commenting on past ten-year site plans submitted by Florida Power Corporation, the Florida Game and Fresh Water Fish Commission has recommended locating new power plants at the sites of existing facilities or in other disturbed areas as opposed to undeveloped areas. The Crystal River site, the phosphate region and, to a lesser extent, Lake Jessup have all been suggested for this use. We continue to believe that the impacts for the Crystal River site are significantly less than those that would occur from the construction of a facility at an undisturbed location, particularly a coastal location. We do feel, however, that even less impact can be expected from the use of a seriously disturbed site such as a mined phosphate area. For this reason we would prefer that further consideration be given to a phosphate site and that the impacts on fish and wildlife for each site be compared.

If other factors weigh heavily in favor of the currently proposed site, we recommend that additional property be acquired and the plant site be moved east to reduce the direct loss of hammock. Coastal and mesic hammocks are an extremely finite resource and every effort should be made to protect them.

We also recommend that Florida Power Corporation be required to initiate mitigation efforts to offset the direct loss of habitat. Existing transmission line corridors, for instance, have been discussed as locations for habitat management oriented toward species such as the indigo snake and gopher tortoise. We would be glad to review such proposed mitigation efforts and assist in their planning if necessary.

F. Division of Archives, History, and Records Management

On January 23, 1978, the Division of Archives, History, and Records Management transmitted the following comments:

In accordance with the procedures contained in 36 C.F.R., Part 800 ("Procedures for the Protection of Historic and Cultural Properties"), we have reviewed the above referenced project for possible impact to archaeological and historical sites or properties listed, or eligible for listing, in the National Register of Historic Places. The authorities for these procedures are the National Historic Preservation Act of 1966 (Public Law 89-665) as amended by P.L. 91-243, P.L. 93-54, P.L. 94-422, and P.L. 94-458, and Presidential Executive Order 11593 ("Protection and Enhancement of the Cultural Environment").

A review of the Florida Master Site File indicates that four archaeological sites, 8Cil05, 8Cil08-110, are recorded for the project area. These four sites were recorded as a result of "An Archaeological Survey of the Florida Power Corporation Crystal River Tract, Citrus County, Florida," performed in 1973 by Karl Steinen and Joe Hutto working for this agency. A review of that report indicates that these four sites are not eligible for listing in the National Register of Historic Places, or otherwise of national, State, or local significance. Furthermore, it is highly unlikely that any significant, unrecorded sites will exist in the remaining proposed project areas.

G. Department of Commerce

On January 6, 1978, the Department of Commerce, by telephone, reported to the Department of Environmental Regulation that they had "no comments" on the application.

Department of Community Affairs

On February 8, 1978, the Department of Community Affairs submitted the following comments on the application:

Staff review has been made of the Florida Power Corporation Site certification application for the Crystal River plant. We would have no adverse comments.

The Federal Insurance Administration (FIA) has not developed a Flood Hazard Boundary Map for Citrus County. However, the U.S. Geological Survey did develop a Flood-Prone Area Map for the FIA. The map indicates that all of the area proposed for the plant would be flooded by the Base Flood (100-year Flood). As Citrus County is participating in the National Flood Insurance Program, we would point out that the County should be requiring that all public utilities and facilities be located and constructed to minimize or eliminate flood damages.

The Florida Power Corporation has indicated that contact has been made with the U.S. Geological Survey concerning flood elevations for the Base Flood. We would assume that the plant would be constructed in compliance with the County's regulations.

H. Withlacoochee Regional Planning Council

On February 17, 1978, the regional planning council transmitted the following comments to the Department:

The staff of the Withlacoochee Regional Planning Council has reviewed the proposed Crystal River Units 4 and 5 for consistency with regional land use plans. Our comments are limited to the regional land use plan and thus will not address locally adopted land use plans or zoning.

A "Preliminary Regional Land Use Plan" has been endorsed (November 3, 1977) by the Board of the Withlacoochee Regional Planning Council. Selected goals and policies from this plan which are relevant to the proposed power plant additions include:

Goal/Policy:

- To promote, provide for, and enhance the desirability of industrial areas in order to broaden and strengthen the economic base of the region.
- To encourage the development of land in a manner that will minimize adverse effects on land, air, and water resources.
- Industrial land uses should be located with access to major transportation facilities (highways, airports, and railroads) and other support facilities such as water and sewer.
- Industrial and other economic base land allotments should be reserved in large-scale developments and growing municipalities in order to disperse job opportunities throughout the region.
- Industrial uses should be separated from residential or other incompatible uses.

It is the opinion of our staff that the proposed generating facilities would be compatible with the above-referenced goal and policies.

The WRPC staff has also prepared a Regional Coastal Zone Management Plan, which has not been endorsed or adopted by our Board at this time. In this draft document, the Management Recommendations section states: "Industries not dependent upon waterfront locations should be placed inland." Since the Florida Power Corporation depends in part upon fuel from barges, and barge transportation is energy and cost efficient, it appears that the location of additional generating facilities in this location is compatible with the quoted policy.

The draft Coastal Zone Management Plan also contains an element entitled "Geographical Area of Particular Concern, Crystal River Power Plant." This document is now two years old, and has not been endorsed or adopted by the WRPC Board.

It was concluded in the report that only inland sites for power plants should be utilized. However, the report went on to point out that:

"If it is absolutely necessary that coastal areas be utilized as power plant sites, the "open cycle method" of cooling water as used in the existing Crystal River plant can be acceptable when deep open coast, offshore ocean discharge sites are utilized."

The intent of the above study recommendation can be met providing the applicant utilizes an alternate cooling method acceptable to Citrus County and appropriate agencies. Therefore, the expansion construction (units 4 and 5) appears to be consistent with regional land use plans providing adequate environmental safeguards are met. We appreciate the opportunity for our staff to comment on this project.

I. Environmental Protection Agency

On March 3, 1978 the Department received the following letter from the U.S. Environmental Protection Agency:

Dear Mr. Owen:

I understand that your office will be holding a variance meeting for Florida Power Corporation on March 1, 1978. On Friday, February 10, 1978, EPA EIS Branch staff members toured the proposed pre-construction clearance area. Although we recognize that the decision to grant a variance is totally the State's, EPA feels that granting such a variance is premature.

The Southwest Florida Water Management District has stated opposition to the consumptive use of fresh water for power plant cooling purposes at the Crystal River Site. Florida Power Corporation has stated opposition to saltwater cooling towers on the basis that they represent an unproven technology. EPA has stated that once-through saltwater cooling would not be permitted. Therefore, it appears that FPC does not have a viable option for a cooling water supply intake, and discharge at the Crystal River Site. This issue should be resolved before such a variance is approved since it is possible that FPC may be precluded from operating a new facility at this site due to this issue.

Site clearing and construction should not be allowed until the viability of using this site is better determined through resolution of this major issue.

Sincerely,

/s/ John C. White

John C. White
Regional Administrator

JH 2/21/78

CRK
2/21/78

V. Departmental Studies

The Department of Environmental Regulation is required by Section 403.507(2) to study the following items:

- a. Cooling system requirements
- b. Construction and operational safeguards
- c. Proximity to transportation systems
- d. Soil and foundation conditions
- e. Impact on suitable present and projected water supplies for this and other competing uses
- f. Impact on surrounding land uses
- g. Accessibility to transmission corridors
- h. Environmental impacts

Chapter 17-17, Florida Administrative Code also requires the Department to consider the following additional items:

- i. Impact on air quality and water quality
- j. Site specific studies
- k. Impact on public lands and submerged lands
- l. Impact on terrestrial and aquatic plant and animal life
- m. Impact on known archaeological sites and historic preservation areas.

The Department's studies are not yet complete. The Department will not complete its studies until some time after mid June when the applicant submits outstanding reports on cooling water alternatives.

In the succeeding sections the Department will comment on those areas which are of specific interest to the partial certification of the requested preliminary construction activities.

A. Cooling System Requirements

Two 640 MW power plant units require a cooling system capable of removing approximately seven billion BTU per hour. Florida Power Corporation proposes to remove excess heat from the unit's condensers by use of a natural draft cooling tower. The applicant has proposed to use 12 to 20 million gallons per day (MGD) of fresh water from a linear well field drawing from the Florida Aquifer. The well field would be located along an existing FPC transmission line east of U. S. 19. Water from the well field would be pumped through approximately 5 miles of pipe to the new units. Twelve million gallons of water per day would be used to replace blowdown, evaporated water and cooling tower drift during normal operation. During hot weather and times of maximum generating conditions, up to 20 MGD could be used.

B. Construction and Operational Safeguards

Due to the number of solution cavities in the underlying limestone formation sufficient core borings must be completed before heavy equipment is brought on site construction procedures must include runoff control facilities and practices to avoid contamination of state waters. The construction site should be isolated from the general public by appropriate means. Removed overburden should be stored in a recoverable manner for use in revegetating areas at a later time should it become necessary.

To avoid construction of an improperly designed sewage treatment plant, design criteria and plant design information should be furnished the Department in the manner specified in DER FORM PERM 14-1.

Operational safeguards are not pertinent to this preliminary construction phase.

C. Proximity to Transportation Systems

The Crystal River Power Plant complex is accessible to barge traffic from the Gulf of Mexico through the existing intake canal. Highway U. S. 19 borders the site on the east. A spur of the Seaboard Coastline Railroad serves the site. A short road will be necessary to connect the proposed site to the existing road network.

D. Soil and Foundation Conditions

The Crystal River Site is a flat coastal plain area with a thin layer of sand lying over a solution cavity riddled limestone formation. The area is characterized by sinkholes and flowing springs.

Special techniques were used to stabilize the soils underlying the existing units at the site. The requested site work involves a program similar to that used at the site of Unit 3. By removing the topsoil, the applicant will be able to evaluate the condition of the limestone formation. The soil boring program will help locate solution cavities near the surface. The compaction of limestone fill material will provide a stable foundation mat to raise the plant above a predicted hurricane flood level. The injection of grout into ^{Voids}~~roads~~ in the underlying limestone formation will not only stabilize and strengthen the underlying formation, but it will also stop the passage of water through the area immediately under the plant. The blocking of the water flow should reduce the likelihood of formation of future solution cavities which could lead to the collapse or settlement of the foundation and the plant.

2. Water Quality Impacts

The only water quality impacts arising from the preliminary construction would come from the runoff of water used in compacting the limestone fill and from storm water runoff. It is the Department's understanding that runoff will be retained on site. If this is done there will be no contamination of surface waters. There is a slight possibility of increasing the turbidity of ground water if runoff is allowed to enter sinkholes.

J. Site Specific Studies

Site specific studies to evaluate Lake Rousseau and the Floridan Aquifer for a source of cooling water are not complete. There are also ongoing studies to evaluate the impacts of Units 1, 2, and 3 on the marine environment from entrainment, impingement and thermal discharge.

K. Impact on Public Lands, and Submerged Lands

The proposed preliminary construction will have no impact on public lands or submerged lands as long as runoff is controlled. It would appear that any swamps or "pothole" areas impacted would not fit the definition of submerged lands.

L. Impact on Endangered or Threatened Species

The preliminary construction could cause an adverse impact on the gopher tortoise and the Eastern Indigo Snake due to loss of habitat and destruction of burrows.

Due to the nature of the geologic formation under this area there will always be a chance of a sinkhole forming under the plant or its related facilities. So far, the foundation design of the existing units seems to be working satisfactorily. The risk of collapse therefore seems reasonably small.

E. Impact on Suitable Present and Projected Water Supplies for This and Other Competing Uses.

The proposed construction of the office complex, access roads, parking lot and foundation for Unit 4 will utilize a comparatively small amount of water. The construction of the office complex will utilize approximately 200,000 gallons of water. The compaction of the foundation pad for Unit 4 will require the use of approximately 600,000 gallons of water.

The use of 800,000 gallons of water over a several month period should not have an adverse impact on present or future water supplies in the area.

The projected use of 20 MGD for cooling water makeups would probably not interfere with current uses of water in the area. The projected use of up to 20 million gallons of water per day as makeup for the cooling towers is projected as interfering with future domestic water supplies for coastal cities. Based on the reports submitted by Southwest Florida Water Management District, it would appear that use of large quantities of fresh water for cooling is not a desirable alternative.

The data to analyze the impacts of withdrawing large quantities of water from the Floridan Aquifer is not yet available. Even if sufficient water is available to supply competing domestic uses and to supply cooling water for the plant, the data necessary to predict the possibility of salt water intrusion vertically or

laterally is unavailable at this time. Due to salt water intrusion problems along Florida's coast line in other areas, large withdrawals of water close to the coast must be reviewed carefully. For that reason, the water management district has adopted a policy forbidding drilling of large wells within ten miles of the coast. Florida Power's proposed well field is within ten miles of the coast.

F. Impact on Surrounding Land Uses

The use of a portion of the existing Crystal River Plant complex for the purpose of constructing an office building, associated roads and parking, and constructing a foundation for a new power plant should not adversely impact surrounding land uses. The existing site is large. The land to the north of the site is used for forestry and cattle grazing. Populated areas are several miles from the site. The preliminary construction should have no adverse impacts on surrounding land uses.

G. Accessibility to Transmission Corridors

The proposed Units 4 and 5 would utilize the existing transmission corridors that leave the site. Other than a short connecting link on site, no new transmission lines are associated with Units 4 and 5.

The short connecting link should not have a significant adverse impact on the environment since a majority of the area has already been cleared.

H. Environmental Impacts

The proposed preliminary construction activity would have the following impacts:

1. There would be a loss of 13 acres of vegetation and habitat.

2. Birds mammals and reptiles living in the lost habitat would be forced to relocate thereby putting pressure on surrounding population. ultimately some individual specimens would be lost.
3. Any potholes or swampy areas that were impacted by filling, water withdrawal or storage of runoff would be adversely affected. Vegetation and aquatic species would be removed or damaged.
4. The injection of grout within an eight acre area to a depth of 40 to 50 feet would act as a dam against the seaward flow of fresh water. Encroachment of saltwater inland may occur. Lack of fresh water flow near the surface may affect some vegetation immediately west of the grouted area. The loss of coastal hydric hammock is not deemed acceptable by the Florida Game and Fresh Water Fish Commission.

The environmental and social impact of the cooling water system appears to be the most significant impact of the power plant. The water management district has strong reservations about the use of fresh water for cooling. The Department, the U. S. Environmental Protection Agency, and the National Marine Fisheries Service have strong reservations about the use of once through cooling based on the measured impacts including entrainment, impingement and thermal discharge, of Units 1 and 2 at the site. Florida Power appears to have reservations about the use of salt water cooling towers. It would therefore appear that the size or number of new units to be constructed on this site will be limited by a lack of cooling water.

I. Impact on Air Quality and Water Quality

1. Impact on air quality

The proposed preliminary construction could affect air quality by providing fugitive dust from grading excavation and vehicular traffic. If vegetation is burned after removal, the smoke will also degrade air quality. These impacts will be slight and to a great extent on the site itself.

The Department has not completed its evaluation of the operational impacts of Units 4 and 5. The analysis performed by EPA is included as a partial assessment.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30308

MAR 30 1978

Mr. William S. O'Brien, Director
Licensing and Environmental Affairs
Florida Power Corporation
3201 34th Street, S
St. Petersburg, Florida 33711

Dear Mr. O'Brien:

Review of your November 30, 1977, application for two coal-fired steam electric generating units, has been completed. On the basis of this review, we have determined that the conditioned operation of the proposed plant at the specified location will not violate the Class I or Class II air quality increments specified in the EPA regulations for Prevention of Significant Deterioration (PSD). Furthermore, we have determined that this plant will meet the federal regulatory requirement under PSD that Best Available Control Technology (BACT) be used to limit emissions of sulfur dioxide and particulate matter.

A request for public comment regarding the preliminary determination on the above application was published on January 26, 1978. No comments were received during the public comment period. Authority to Construct a Stationary Source is hereby issued for the facility described above, subject to the attached conditions. This Authority to Construct is based solely on the requirements of 40 CFR 52.21, the Federal regulations governing significant deterioration of air quality. It does not apply to NPDES or other permits issued by this agency or permits issued by other agencies. Additionally, construction covered by this Authority to Construct must be initiated by December 1, 1978.

Please be advised that a violation of any condition issued as part of this approval, as well as any construction which proceeds in material variance with information submitted in your application, will be subject to enforcement action.

Authority to Construct will take effect on the date of this letter. The complete analysis which justifies this approval has been fully documented for future reference, if necessary. Any questions concerning this approval may be directed to Ray Cunningham, Chief, Air Strategy Development Section (404/881-3286).

Sincerely yours,

John A. White, Deputy
John C. White
Regional Administrator

Attachment

This Approval to Construct would be issued this date Feb. 27, 1978, but for the order entered in Environmental Defense Fund versus Environmental Protection Agency, No. 78-281 (D.D.C). (entered on February , 1978.)

John A. White

CONDITIONS TO APPROVAL

1. Related to particulate emissions from the boilers:

- a. The applicant must submit to EPA, within five working days after it becomes available, copies of all technical data pertaining to the selected control device(s), including formal bids from the vendors awarded the contracts, guaranteed efficiency or emission rate(s), and all design parameters. A list of any additional required information will be sent to the applicant upon receipt of this submittal. Although the type of control device which is described in general in the application has been determined by EPA to be adequate, EPA must review the specific specifications for the control device selected by the company to verify the selected control equipment will enable applicable emission limits to be met by the new units. EPA may, upon review of these data, disapprove the application if EPA determines the selected control device is inadequate to meet the emission limits specified in this conditional approval. EPA shall notify the applicant of EPA's determination under this condition within twenty working days after receipt of all necessary information from the applicant. In the event EPA disapproves the application pursuant to this condition, EPA will state its reasons in writing, identifying the criteria applied and the factors considered.
- b. The source must meet an emission limit, as measured under part 3 (below) as follows:
 - i. Particulate matter emitted to the atmosphere from the boiler shall not exceed 0.18 gram per million calories heat input (0.10 pound per million BTU heat input).

- ii. Opacity of emissions from the boilers shall not exceed 20 percent except for one six minute period per hour during which the opacity may not exceed 27 percent. (Use Reference Method 9, Appendix A in 40 CFR 60.)

These emission limitations are identical to those required by Federal New Source Performance Standards, 40 CFR 60.

2. Related to sulfur dioxide emissions from the boilers:

The source must meet an emission limit, as measured under part 3 (below) as follows:

Sulfur dioxide emitted to the atmosphere from each boiler shall not exceed 2.2 grams per million calories heat input (1.2 pounds per million BTU heat input).

This emission limitation is identical to that required by Federal New Source Performance Standards, 40 CFR 60.

3. Stack Testing:

- a. Within 60 days after achieving the maximum capacity at which the facility will be operated, but no later than 180 days after initial startup, the owner or operator shall conduct performance tests and furnish EPA a written report of the results of such performance tests.
- b. Performance tests shall be conducted and data reduced in accordance with methods and procedures specified by EPA. Reference Methods 1-5 as published in Appendix A of 40 CFR 60 will be used for particulate tests. Reference Method 6 will be used for SO₂ tests.
- c. Performance tests shall be conducted under such conditions as EPA shall specify based on representative performance of the facility. The owner or operator shall make available to EPA such records as may be necessary to determine the conditions of the performance tests.
- d. The owner or operator shall provide 30 days prior notice of the performance tests to afford EPA the opportunity to have an observer present.

- e. The owner or operator shall provide or cause to be provided, performance testing facilities as follows:
- i. Sampling ports adequate for test methods applicable to the facility.
 - ii. Safe sampling platform(s).
 - iii. Safe access to sampling platform(s).
 - iv. Utilities for sampling and testing equipment.
- f. Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified by EPA. For the purpose of determining compliance with an emission limitation, the arithmetic mean of results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner or operator's control, compliance may, upon the approval of EPA, be determined using the arithmetic mean of the other two runs.

4. Coal Characteristics and Contracts

Before approval can be granted by EPA for purchase of a control device under condition 1.a. above, characteristics of the coal to be fired must be known. Therefore, before these approvals are granted, the applicant must submit to EPA copies of coal contracts which should include the expected sulfur content, ash content, and heat content of the coal to be fired. These data will be used by EPA in its evaluation of the adequacy of the control devices. Also, the applicant must demonstrate the ability to acquire a low sulfur coal supply of sufficient length to enable the installation of sulfur removal equipment if the supplies of low sulfur coal should not become available or be discontinued. Therefore, the coal

contracts must be for a period of at least three (3) years from the date of start-up of the boiler.

5. As an alternative to the submittal of contracts for purchase of coal under condition 4 above, the applicant may submit the following information:

- (a) The name of the coal supplier;
- (b) The sulfur content, ash content, and heat content of the coal as specified in the purchase contract;
- (c) The location of the coal deposits covered by the contract (including mine name and seam);
- (d) The date by which the first delivery of coal will be made;
- (e) The duration of the contract; and
- (f) An opinion of counsel for the applicant that the contract(s) are legally binding.

6. Reporting:

Beginning one month after final conditional construction approval from EPA and ending when submittals required under parts 1.a. and 4. have been evaluated and approved by EPA, the applicant shall submit to EPA a quarterly status report briefly outlining progress made on engineering design and purchase of major pieces of equipment (including control equipment). All reports and information required to be submitted under this part of the PSD review and approval shall be submitted to Mr. Asa B. Foster, Director, Air and Hazardous Materials Division, EPA Region IV, 345 Courtland Street, N.E., Atlanta, Georgia 30308.

7. Emission Control Systems:

Prior to operation of the source, the owner or operator shall submit to EPA a standardized plan or procedure that will allow the company to monitor emission control equipment efficiency and enable the company to return malfunctioning equipment to proper operation as expeditiously as possible.

8. Stack Parameters:

This approval is based on the stack parameters submitted by the Florida Power Corporation on November 30, 1977, Section VI - Stack and Pollutant Emissions Data, EPA Air Pollutant Emissions Report.

9. Related to particulate emissions from the coal handling facilities:

a. The applicant shall not cause to be discharged into the atmosphere from any coal processing or conveying equipment, coal storage system or coal transfer and loading system processing coal, visible emissions which exhibit 20 percent opacity.

b. The applicant must submit to EPA, within five (5) working days after it becomes available, copies of technical data pertaining to the selected particulate emissions control device for the coal handling facility.

These data should include, but not be limited to, a copy of the formal bid from the successful bidder, guaranteed efficiency and emission rates, and major design parameters such as air/cloth ratio and flow rate. EPA may, upon review of these data, disapprove the application if EPA determines the selected control device to be inadequate to meet the visible emission limit specified in 9(a) above.

10. On the date of issuance of EPA's approval to construct Units #4 and #5, the allowable SO₂ emission limits for Units #1 and #2 shall be restricted to no more than 5.00 lb per million BTU heat input on a daily basis, and 4.5 lb/10⁶ BTU on a monthly. Forty-five days after the issuance of this approval, and in the future, as may be requested by EPA, the Company shall certify to the Regional Administration, compliance with these emission limits. Chemical fuel analysis shall be deemed appropriate for this certification.

11. Six months prior to start-up of Unit #4, both Units #1 and #2 will meet the emission limit of 2.9 lb SO₂/mm Btu. This emission limit will be demonstrated by the owner or operator by conducting performance tests and furnishing EPA a written report of the results of such performance tests. Conditions 3.b through f. apply to stack tests required under this part.
12. Six months prior to start-up of Unit #5, both Units #1 and #2 will meet the emission limit of 2.1 lb SO₂/mm Btu. This emission limit will be demonstrated by the owner or operator by conducting performance tests and furnishing EPA a written report of the results of such performance tests. Conditions 3.b. through f. also apply to stack tests required under this part.
13. The company will maintain and operate existing Units #1 and #2 with the applicable particulate emission limit of 0.1 lb/mmBtu heat input during the SO₂ emission reduction program established under conditions 11 and 12 above. Failure to maintain compliance during this period and thereafter will subject the company to appropriate enforcement action.

Conclusions

The Department concludes the following:

1. The Public Service Commission has raised doubts that the proposed units may not be needed by October 1982 and that the proposed units may not be the most economical
2. There may be no suitable cooling water source that can be used without causing serious adverse environmental or social impacts.
3. The Environmental Protection Agency has concluded that Florida Power Corporation may not have a viable option for cooling water supply intake and discharge at the site. EPA feels that this issue should be resolved prior to issuing a partial certification.
4. Due to the lack of demonstrated need for the plant, and due to the uncertainty about the cooling water source, there is not a reasonable assurance that the site will be ultimately certified.
5. There is not sufficient information to allow conformance to Section 403.502(2) which requires striking a reasonable balance between the need for the facility and the environmental impact resulting from construction and operation of the facility, including air and water quality, fish and wildlife, and the water resources and other natural resources of the state.

6. The injection of grout into the ground will be an unalterable irretrievable impact that cannot be restored.

7. The air quality impact of the preliminary construction will be temporary and slight.

8. Construction of the foundation mat for Unit 4 will cause a loss of habitat suitable for the gopher tortoise* and the Eastern indigo snake** which are on or nominated for the endangered species list.

*(which is on the State threatened species list and is being proposed by the FG&FWFC for inclusion onto the federal threatened species list)

** (which is on the federal threatened species list).

Recommendations

1. The Department of Environmental Regulation recommends that the pre-certification construction activities proposed by the applicant be denied certification.
2. If the pre-certification construction activities are certified, then the conditions of certification attached and incorporated herein should apply.

State of Florida Department of Environmental Regulation
Florida Power Corporation
Crystal River Units 4 and 5
Case No. PA 77-09
CONDITIONS OF CERTIFICATION - Pre-Certification Activities (Class II)

GENERAL

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State of Florida Department of Environmental Regulation
Florida Power Corporation
Crystal River Units 4 and 5
Case No. 77-09
CONDITIONS OF CERTIFICATION

GENERAL

1. Change in Discharge

All discharges or emissions authorized herein shall be consistent with the terms and conditions of this certification. The discharge of any pollutant not identified in the application, or more frequent than, or at a level in excess of that authorized herein, shall constitute a violation of the certification. Any anticipated facility expansions, production increases, or process modifications which may result in new, different or increased discharges of pollutants, change in fuel, or expansion in steam generating capacity must be reported by submission of a new application.

2. Non-Compliance Notification

If, for any reason, the permittee does not comply with or may be unable to comply with any limitation specified in this certification, the permittee shall notify the Southwest District Manager of the Department by telephone during the working day that said noncompliance occurs and shall confirm this in writing within seventy-two (72) hours of becoming aware of such conditions, and shall supply the following information:

- 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 to achieve compliance with the terms and conditions of this certification.

4. Adverse Impact

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

5. Right of Entry

The permittee shall allow the Secretary of the Florida Department of Environmental Regulation and/or authorized representatives, upon the presentation of credentials:

- a. To enter upon the permittee's premises where an pollution sources are located or in which records are required to be kept under the terms and conditions of this permit, and
- b. To have access to and copy any records required to be kept under the conditions of this certification; and
- c. To inspect any monitoring equipment or monitoring method required in this certification and to sample any discharge or pollutants.

6. Revocation or Suspension

This certification may be suspended or revoked pursuant to Section 403.512, Chapter 403, Florida Statutes, or for violations of any General or Special Condition.

7. Civil and Criminal Liability

This certification does not relieve the permittee from civil or criminal penalties for noncompliance with any conditions of this certification, applicable rules or regulations of the Department or Chapter 403, Florida Statutes, or regulations thereunder.

Subject to Section 403.511, Florida Statutes, this certification shall not preclude the institution of any legal action or relieve the permittee from any responsibilities, or penalties established pursuant to any other applicable State Statutes, or regulations.

8. Property Rights

The issuance of this certification does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to public or private property or any invasion of personal rights nor any infringement of Federal, State or local laws or regulations. The applicant will obtain title, lease or right of use from the State of Florida, to any sovereign submerged lands occupied by intake or discharge structures.

FPC
accept all
but last

9. Severability

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

10. Definitions

The meaning of terms used herein shall be governed by the definitions contained in Chapter 403, Florida Statutes, and any regulations adopted pursuant thereto. In the event of any dispute over the meaning of a term used in these general or special conditions which is not defined in such statutes or regulations, such dispute shall be resolved by reference to the most relevant definitions contained in any other state or federal statute or regulation or, in the alternative by the use of the commonly accepted meaning as determined by the Department.

11. Review of Site Certification

The certification shall be final unless revised, revoked or suspended pursuant to law. At least every five years from the date of issuance of this certification or any National Pollutant Discharge Elimination System Permit issued pursuant to the Federal Water Pollution Control Act Amendments of 1972, for the plant units, the Department shall review all monitoring data that has been submitted to it during the preceding five-year period for the purposes of determining the extent of the permittee's compliance with the conditions of this certification and the environmental impact of this facility. The Department shall submit the results of its review and recommendations to the permittee. This review will be repeated at least every five years thereafter.

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and
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last
sentence

12. Modification of Conditions

The conditions of this certification may be modified in the following manner:

- a. The Board hereby delegates to the Secretary the authority to modify, after notice and opportunity for hearing, any conditions pertaining to monitoring or sampling.
- b. All other modifications shall be made in accordance with Section 403.516, F.S.

State of Florida Department of Environmental Regulation
Florida Power Corporation
Crystal River Units 4 & 5
Case No. PA 77-09

CONDITIONS OF CERTIFICATION - Pre-Certification Activities (Class II)

SPECIAL

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State of Florida Department of Environmental Regulation
Florida Power Corporation
Crystal River Units 4 and 5
Case No. PA 77-09
CONDITIONS OF CERTIFICATION

SPECIAL

I. Water Discharges

Any discharges into any waters of the State during construction of Unit No. 4 and the office building complex shall be in accordance with all applicable provisions of Chapter 17-3, Florida Administrative Code and 40 CFR, 423, Effluent Guidelines and Standards for Steam Electric Power Generating Point Source Category.

doesn't apply

II. Control Measures During Construction

A. Stormwater Runoff

During construction and ~~plant operation~~, necessary measures shall be used to settle, filter, treat or absorb silt containing or pollutant laden stormwater runoff to insure against spillage or discharge of excavated material that may cause turbidity in excess of 50 Jackson Turbidity Units above background in waters of the State, nor shall the runoff contain suspended solids in excess of 50 mg/l.

delete

Control measures may consist of, but not be limited to, sediment traps, barriers, berms and vegetation plantings. Exposed or disturbed soil shall be protected and stabilized as soon as possible to minimize silt and sediment laden runoff. The pH shall be kept within the range of 6.0 to 8.5.

B. Sanitary Wastes

Disposal of sanitary wastes from construction toilet facilities shall be in accordance with applicable regulations of the appropriate local health agency.

C. Environmental Control Program

An environmental control program shall be established under the supervision of a qualified person to assure that all construction activities conform to good environmental practices and the applicable conditions of certification.

If unexpected harmful effects or evidence of irreversible environmental damage are detected during construction, the

permittee shall notify the appropriate district office of the Department by telephone during the working day that the effect or damage occurs and shall confirm this in writing within seventy-two (72) hours of becoming aware of such conditions, and shall provide in writing an analysis of the problem and a plan to eliminate or significantly reduce the harmful effects or damage.

III. Solid Waste

Solid Wastes resulting from construction or operation shall be disposed of in accordance with the applicable regulations of Chapter 17-7, FAC.

Only open burning in connection with land clearing shall be in accordance with Chapter 17-5, FAC. Prior to each act of burning, the Division of Forestry shall be contacted to determine if satisfactory conditions exist for burning.

IV. Sewage Treatment Plant

Prior to construction of any sewage treatment plant, the applicant shall submit four completed copies of DER Form Perm 14-1 and such other technical design data on the sewage treatment plant, as necessary to substantiate the adequacy of the design, to the Department for review and approval.

*Submitted
to District
Office
Revised
early May*

V. Wetland Areas

The applicant shall not perform work on public lands, submerged lands or otherwise do construction work to affect waters of the State. In the construction of access roads, office buildings, parking lots and foundation areas, the applicant shall avoid wetland areas to the greatest extent practical.

*Does not
apply*

VI. Site Restoration

If the final certification for Units 4 and 5 is denied, the foundation area shall be restored to a pine flatwoods habitat by removing excess limestone to below surface grade, scarifying the limestone, replacing remaining limestone with natural soils to grade, and by replanting slash pines as recommended by the Florida District Forester.

*For an
direction
Forester
possibly leave
limestone above
grade level*

*cedar,
or other
indigenous
species*

VII. Construction

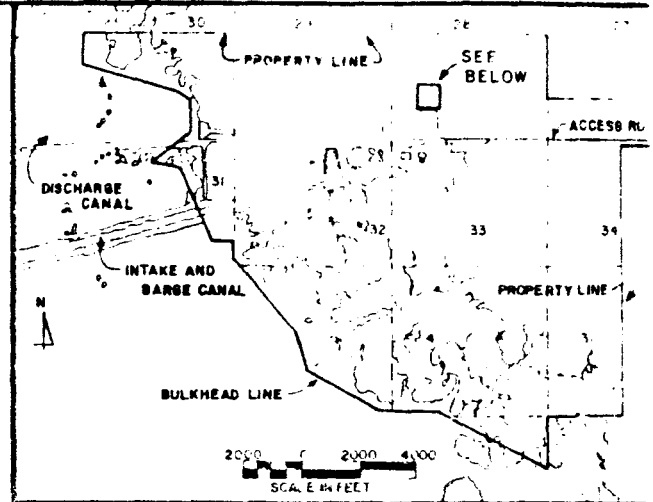
FPC is authorized to remove overburden material and fill, grade, and inject grout in the area of Unit 4 foundation. Such areas shall not exceed 8.02 acres as shown on attached exhibit "A".

VIII. Effect of Certification

This certification shall not be deemed to create any rights in FPC other than those rights expressly set forth in condition VII, nor shall this certification be constructed to vest any rights in FPC with respect to the final disposition of the certification application. The parties to this proceeding are not to be deemed to have waived their rights to assert any arguments which that party may have with respect to the ultimate approval or denial of the certification application; however, the pre-certification activities will not be used by any party in any fashion whatsoever to improve its position regarding certification in the pending proceedings.

This certification is without prejudice to the authority of the Florida Public Service Commission with respect to rates, service, accounts, valuation, estimates or determinations of cost, or any other matter whatsoever now pending or which may come before the Commission.

SYSTEM ENGINEERING DEPARTMENT



SEC. 28 9 33, TWP-17S & R16E

N 1685,090.0

1050'

1850'

29

28

32

33

UNIT NO. 4

SHADED AREA IS PROPOSED INITIAL CLEARING (14 ACRES)

E 276,500.0

FLORIDA POWER OFFICE

SUBSTATION

SEWAGE TREATMENT PLANT

EXISTING TRANSMISSION CORRIDOR

SCALE 5/16" = 100'

REVISIONS

NO	DATE

LOCATION MAP AND CLEARING DIAGRAM
FLORIDA POWER CORPORATION
CRYSTAL RIVER UNIT NO.4

EXHIBIT A

DRAWN BY D.R.H.
DATE 1-5-78
CHECKED
APPROVED
SCALE
DWG. NO. CR 4-LI-A