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STATE OF FLORIDA
DIVISION OF ADMINISTRATIVE HEARINGS

IN RE:)
)
APPLICATION FOR POWER PLANT) DOAH CASE NO. 92-4896EPP
CERTIFICATION OF TECO POLK) OGC CASE NO. 92-1399
COUNTY PROJECT,)
PA 92-32)
_____)

RECOMMENDED ORDER

Pursuant to notice, a certification hearing in this case was held on October 13, 1993, in Bartow, Florida, before the Division of Administrative Hearings, by its designated Hearing Officer, Diane K. Kiesling.

APPEARANCES

The Applicant:	Lawrence N. Curtin Susan L. Stephens Attorneys at Law Holland & Knight Post Office Drawer 810 Tallahassee, Florida 32301
Department of Environmental Protection:	Richard T. Donelan, Jr. Assistant General Counsel Twin Towers Office Building 2600 Blair Stone Road Tallahassee, Florida 32399-2400
Southwest Florida Water Management District:	Martin D. Hernandez Richard S. Tachantz Assistant General Counsels 2379 Broad Street Brooksville, Florida 34609-6899
Polk County:	Mary E. Hanlan Assistant County Attorney Post Office Box 60 Bartow, Florida 33830-0060

STATEMENT OF THE ISSUE

The issue is whether Tampa Electric Company's (TECO) Polk Power Station, a nominal net 260 megawatt integrated coal gasification combined cycle power plant with an ultimate site capacity of a nominal net 1,150 megawatts and its associated facilities should receive certification.

PRELIMINARY STATEMENT

TECO has requested certification of a power plant site in Polk County, Florida, that would have an ultimate capacity of a nominal net 1,150 megawatts (MW), consisting of an integrated coal gasification combined cycle (IGCC) facility, two additional combined cycle units and six simple-cycle combustion turbines fueled primarily by natural gas. The Polk Power Station will initially consist of a nominal net 150/190 MW combustion turbine, a nominal net 70 MW heat recovery steam generator/steam turbine (HRSG), and coal gasification facilities capable of providing a total of nominal net 260 MW of electric generating capacity.

The generating units would be tied into the TECO and Florida transmission network using four new 230-kilovolt (kV) transmission circuits, with two circuits to TECO's existing Mines-Pebbledale 230-kV transmission line and two circuits to TECO's existing Hardee-Pebbledale 230-kV transmission line.

Approximately 4,348 acres would be required for the power station facility.

TECO filed its application for certification of the Polk Power Station on July 30, 1992. The Florida Electrical Power

Plant Siting Act, Chapter 403, Part II, Florida Statutes, requires a formal determination of need by the Florida Public Service Commission (PSC), a land use hearing, and a certification hearing prior to certification of the proposed plant.

On September 5, 1991, TECO filed a Petition for Determination of Need with the PSC. The PSC made a determination on March 2, 1992, that Polk Power Station Unit One was needed.

The land use hearing was held on October 29, 1992, in Bartow, Florida, before Diane K. Kiesling, Hearing Officer, Division of Administrative Hearings. On November 23, 1992, the Hearing Officer entered a Recommended Order recommending that the Governor and Cabinet, sitting as the Siting Board, enter a Final Order finding that the proposed site of the Polk Power Station and associated facilities, including the corridors for the directly associated transmission lines, is consistent and in compliance with existing land use plans and zoning ordinances. On January 26, 1993, the Siting Board adopted the Hearing Officer's Recommended Order in toto.

At the certification hearing on October 13, 1993, TECO called as witnesses Gregory M. Nelson, Jack D. Doolittle, Lee A. Schmoie, Thomas F. Bechtel, William G. Henry, Thomas W. Davis, Bradley S. Pekas, Ivan B. Chou, Anthony N. Arcuri, Robert S. Hearon, Kenneth W. Hardin, and Michael W. Schnell.

Sixty-nine (69) exhibits were admitted in evidence. The Florida Department of Environmental Protection (DEP) offered its

revised Agency Report and revised Conditions of Certification as exhibits 68 and 69. No other parties offered evidence or presented witnesses at the certification hearing.

Two members of the public testified at the public hearing held at 6:00 p.m. on October 13, 1993, in Bartow, Florida. No exhibits were admitted.

The transcript of the final hearing was filed on November 19, 1993. The proposed findings of fact and conclusions of law were timely filed on November 19, 1993. All proposed findings of fact and conclusions of law have been considered. A specific ruling on each proposed finding of fact is made in Appendix A attached hereto and made a part of this Recommended Order. The recommended Conditions of Certification are contained in Appendix B.

FINDINGS OF FACT

A. Procedural Matters

Stipulations

1. TECO entered into the following stipulations with state and local agencies, all of whom are parties to this proceeding, concerning the proposed project's compliance with the respective regulations of these governmental entities. The stipulations speak for themselves and have been filed in this matter, and are incorporated herein by reference.

a. A stipulation has been executed stating that the Polk Power Station and associated facilities, subject to the recommended Conditions of Certification which are attached

hereto as Appendix B, are consistent and in compliance with all applicable, nonprocedural standards of the Southwest Florida Water Management District. The stipulation resolves water consumption and quality issues.

b. A stipulation has been entered with the Florida Department of Community Affairs, resolving issues relating to the placement of transmission lines and structures and requiring consistency with the Conditions of Certification.

c. A stipulation has been entered with the Florida Game and Fresh Water Fish Commission. This stipulation resolves issues relating to the TECO, postreclamation land use plan and affected wildlife and habitats and requires consistency with the Conditions of Certification.

d. A stipulation has been entered with the Florida Department of Transportation (DOT) resolving issues relating to the improvement of affected roadways and traffic monitoring and requiring consistency with the Conditions of Certification.

e. Although the Florida Department of Environmental Protection (DEP) did not enter into a formal stipulation, it did, at the certification hearing, endorse the proposed Conditions of Certification, as revised. In its Agency Report, issued August 13, 1993, and accepted as revised at the hearing, the DEP recommended certification with conditions.

f. Although it did not enter into formal stipulations, Polk County issued a report recommending certification with conditions.

Notices

2. DEP published sufficient notices of the October 13, 1993, certification hearing in the Florida Administrative Weekly, and TECO caused notice to be published in newspapers of general circulation within the counties where the proposed power plant, including the proposed electric transmission line corridors, is proposed to be located.

PSC Need Determination

3. The determination of need for the Polk Power Station Unit One project was made on March 2, 1992, by the Florida Public Service Commission (PSC) in Order No. PSC-92-0002-FOF-EI. This order establishes the need for TECO's Unit One IGCC plant. The PSC also discussed the transmission line corridors associated with the project.

4. In its order, the PSC found that the Polk Power Station Unit One proposal, which is the subject of the site certification application at issue in this case, meets the stated need within the time frame required in the most cost-effective manner and provides adequate, reliable electricity at a reasonable cost. The PSC determination of need has been filed in this matter.

B. Project Description

5. The site for the proposed Polk Power Station consists of 4,348 acres, located 17.4 miles south of the City of Lakeland, 11.2 miles south of the City of Mulberry, 10.8 miles west of Fort Meade, 4.4 miles south of unincorporated Bradley

Junction, and 13 miles southwest of the City of Bartow in southwest Polk County, Florida. The site is bordered by the Hillsborough County line along the western boundary; Fort Green Road on the east; County Road (CR) 630, Bethlehem, and Albritton Roads along the north; and State Road (SR) 674 and several phosphate clay settling ponds on the south. SR 37 bisects the property from the southwest to the northeast. The proposed location for the Polk Power Station is a remote area, and most of the property consists of land mined for phosphate or heavily impacted by phosphate mining activities. The majority of the site has been mined by the IMC-Agrico Company. The main power plant facilities will be located east of SR 37 on approximately 150 acres of unmined but disturbed land. The surrounding mined-out land to the east and south will be developed as a cooling reservoir with earthen berms, constructed from fill from phosphate mine cuts. The 1,511 acres to the west of SR 37 is currently being mined for phosphate matrix and will be reclaimed into wildlife habitat of uplands and wetlands. Some of the remaining land will be reclaimed pursuant to phosphate mining regulations, while other portions will be used as buffer and conservation areas. The main power plant facilities will be located in the central area of the portion of the site east of SR 37. The main power plant facilities will be located more than 2,500 feet away from offsite properties and more than 1.5 miles from residential areas to the west and 2.8 miles from residential areas to the southeast. A vegetated buffer area

will be provided along public roadways surrounding the eastern portion of the site.

6. Four 230-kV electric transmission circuits will be needed to connect the Polk Power Station with existing transmission lines. Two of these circuits will run northeast from an onsite Polk Power Station Substation to interconnect with TECO's existing Hardee-Pebbledale transmission line, which lies adjacent to the site along Fort Green Road. The corridor for these circuits will be located within site boundaries. The other two circuits will run west from the onsite substation to SR 37, then north along SR 37 approximately 5 miles to interconnect with TECO's existing Mines-Pebbledale transmission line, in a new transmission line corridor.

7. TECO proposes to construct and operate a nominal net 1,150 MW power plant, consisting of an IGCC facility, two additional combined cycle (CC) units, and six simple-cycle combustion turbines (CTs) fueled primarily by natural gas. The Polk Power Station will initially consist of a nominal net 150/190 MW combustion turbine (CT), a nominal net 70 MW HRSG, and coal gasification facilities, providing a total capacity of nominal net 260 MW of electric generating capacity. The coal gasification facilities will produce synthesis gas (syngas), which will be used to fuel the IGCC unit, with No. 2 fuel oil as the backup. Later facilities will consist of two nominal net 220 MW CC generating units and six stand-alone nominal net 75 MW CTs fueled primarily by natural gas, with low sulfur No. 2 fuel oil as a backup.

8. The Polk Power Station IGCC unit will consist of the following major systems: coal grinding and slurry preparation systems; an air separation unit; a gasification and syngas coding system; slag handling and storage facilities; syngas scrubbing and cooling systems; a gasification process black water handling, grey water handling, and brine concentration system; an acid gas removal unit; a hot gas cleanup (HGCU) system; sulfuric acid by-product handling and storage facilities; and the power block.

9. Associated facilities will consist of the following: auxiliary boiler; access roadways and a rail spur; coal delivery, handling and storage facilities; natural gas and fuel oil delivery and storage facilities; propane unloading facilities; process, service, and potable water supply facilities; domestic and industrial wastewater treatment systems; cooling reservoir and discharge facilities; by-product slag and sulfuric acid handling temporary storage and shipping facilities; stormwater collection and management systems; a substation and associated electric transmission line facilities; and a wildlife management/corridor area.

10. Under an agreement with the Department of Energy (DOE), TECO will demonstrate the IGCC facility with a hot gas cleanup (HGCU) system for a two-year period to determine cost and performance of the HGCU system, as well as the overall integration of the coal gasification and combined cycle technologies. The demonstration project will be undertaken

pursuant to the DOE's Clean Coal Technology Demonstration Program. The IGCC facilities will include an oxygen-blown, entrained-flow gasification system to produce syngas for the CT. The demonstration is expected to show that such facilities can achieve significant reductions of sulfur dioxide and nitrogen oxide emissions when compared to existing coal technologies. In an IGCC, coal is ground up and mixed with water, creating slurry, and then pumped into the gasifier, where it is mixed with high-purity oxygen, creating syngas. As the syngas exits the gasifier, it is cooled by syngas coolers, generating high pressure steam. The steam then flows to the combined cycle unit to generate electricity. The coal ash is water-cooled and exits from the bottom of the unit as slag, a by-product of the unit. The slag will later be sold for use in other industries. The syngas, after cooling, still contains particulates and sulfur compounds, which must first be removed in the gas cleanup system to meet environmental and CT fuel requirements. In a conventional IGCC system, the syngas is cooled prior to sulfur removal and then reheated prior to firing in the CT, a process known as cold gas cleanup (CGCU). As part of the demonstration project with the DOE, TECO will utilize a HGCU system, which cleans the syngas without first cooling it. HGCU systems are more efficient than CGCU systems. The Polk Power Station will utilize both HGCU and CGCU systems. The sulfuric acid resulting from sulfur removal will also be sold for use in other industries. IGCC facilities are among the cleanest and most efficient of the emerging clean coal technologies.

11. Roadway access to the main power facilities will be provided by two entrances on SR 37 and an entrance from Fort Green Road. All entrance roads will include appropriate improvements as necessary at the intersections with existing roadways. All entrance roads will have security gates to control access. A railroad spur will be constructed for the existing CSX Railroad line, which runs along the east side of Fort Green Road to the main power plant area for the delivery of construction materials, coal, large equipment, and other materials.

12. At the Polk Power Station, TECO will provide its own electricity, potable water, domestic and industrial wastewater treatment services, and brine storage services. Solid waste disposal services will be provided by licensed waste carriers/contractors serving the region.

13. TECO will be responsible for project management at the Polk Power Station and plans to incorporate security measures at the site, such as fencing, security gates at the entrances, and staffing. TECO expects a full-time staff for plant operations of approximately 130 workers for the initial IGCC unit and 210 workers at full buildout, to be drawn from the surrounding counties. The employees will undergo in-depth power plant training and safety programs sponsored by TECO.

C. Description of Electrical Transmission Line Corridors

14. Four 230-kV electric transmission circuits will be needed to connect the Polk Power Station with the TECO and

Florida transmission grid. Two of the circuits will run northeast from the onsite Polk Power Station Substation to interconnect with TECO's existing Hardee Power Station-Pebbledale 230 kV transmission line, adjacent to the Polk Power Station site along Fort Green Road. The corridor for these two circuits will be located within the site boundaries. The other two circuits will run west from the onsite substation to SR 37, then north along SR 37 approximately 5 miles to interconnect with TECO's existing Mines-Pebbledale 230-kV transmission line at a point to the west of the community of Bradley Junction. These two circuits will be located within a new 5.2-mile corridor adjacent to SR 37, ranging in width from 0.5 to 1.0 mile. To the extent feasible, TECO will avoid guyed transmission line structures in any residential areas and will locate the linear facilities within existing utility rights-of-way and away from residences, schools, and places of employment.

D. Proposed Design, Construction and Maintenance of Polk Power Station Site

15. Several geotechnical investigations have been performed at the Polk Power Station site, consisting of soil borings and installation of groundwater monitoring wells, as well as a power block and sink hole investigation. The site area where the power block is to be located is primarily undifferentiated surficial sand deposits ranging in thickness from 15 to 28 feet. Below this layer is the Peace River formation of the Hawthorn Group, comprised primarily of clayey

sand and sandy clay and ranging in thickness from 16 to 40 feet. Below this layer is the Arcadian formation of the Hawthorn Group, approximately 225 feet thick and comprised of phosphate, limestone, sand, and clay. The formation is considered well-compacted and suitable for supporting structures. There does not appear to be any substantial risk of sinkhole collapse affecting the power plant complex. The power block facilities will be located above the 100-year floodplain and will not be subject to flooding. The Polk Power Station site is a geotechnically suitable location.

16. There will be five basic phases of construction of the Polk Power Station site: site development, installation of underground utilities, foundation construction, erection of mechanical equipment systems, and construction of the various buildings. A soil erosion and surface water management plan has been developed to control stormwater runoff during construction. Control measures will be implemented to minimize silt and sediment transport, including the use of sediment basins, silt fences, hay bales, stormwater detention, temporary rip-rap, and vegetative cover. All water used for dewatering operations during the construction phase shall be collected and retained onsite in detention ponds or the cooling reservoir. The surface water management plan to be employed during construction will comply with all applicable requirements.

17. Standards pertaining to safety of employees or other workers will be followed during construction of the Polk Power

Station, including applicable regulations of the federal Occupational Safety and Health Administration and statutory requirements of the Florida Workers' Compensation Act. The safety standards specified by the Industrial Safety Section of the Florida Department of Commerce will also be followed. As a result, a safe working environment will be present.

18. General wastes associated with the Polk Power Station will include such things as industrial wastewater treatment sludge, brine solids, sanitary wastewater treatment sludge, general solid waste, and other wastes. Hazardous waste may be generated, such as spent catalyst, solvents, and refractory brick. Items such as wastewater treatment sludge and other solid wastes will be disposed of offsite at a licensed landfill. Brine from the site will be disposed of onsite in a lined landfill. Sulfuric acid and slag from the IGCC facility will be temporarily stored onsite before sale as by-products. Hazardous waste will either be sent back to the equipment manufacturer for recycling or will be disposed of offsite at a licensed facility. All domestic and industrial wastewater associated with the facility shall be treated in the appropriate treatment facility and then discharged into the cooling reservoir.

Cooling Water Reservoir

19. The cooling water reservoir is designed to provide adequate cooling for the Polk Power Station as it increases to its ultimate site capacity of nominal net 1,150 MW. TECO will construct a 727-acre cooling reservoir out of mined-out lands to

the south and east of the main power plant facilities. The total area for the reservoir system will be approximately 860 acres. TECO will construct a below-grade basin with interior and exterior berms to maximize atmospheric cooling. The berms will be grassed to prevent erosion, and both sides of the interior and exterior berms will be 4-foot horizontal to 1-foot vertical in slope. The reservoir will include intake and discharge structures to supply cooling water to the condensers for the CC units and the IGCC unit. A discharge system will be constructed to allow blowdown of cooling water from the reservoir to maintain water quality in the cooling system. The reservoir system will also include a 10-foot wide rectangular weir for emergency discharge of excess stormwater during extreme storm events. A 200-foot wide emergency spillway will also be provided.

20. The primary source of water to maintain the reservoir will be the Floridan aquifer. Additional sources of makeup water will be rainfall, runoff, surficial groundwater inflow, treated process water, and treated wastewater.

E. Impacts of the Polk Power Station Site Upon the Public and the Environment

Existing Land Uses

21. From a land use perspective, the Polk Power Station site is an appropriate location. Vegetation will serve as visual buffers. Construction of the cooling reservoir will entail reclamation of mined phosphate land, resulting in a

beneficial land use change. TECO shall conduct other reclamation and restoration activities within the Polk Power Station site in accordance with the reclamation and restoration requirements of the phosphate mining reclamation rules and approved conceptual plans and reclamation programs. The power plant site will be located in a generally unpopulated area surrounded with compatible phosphate and agricultural land uses. Existing land uses should not be impacted significantly. The nearest residential area is more than 1.5 miles to the west, with one home located approximately 1.5 miles to the east. There is a sufficient labor pool in the surrounding counties to provide an ample workforce for construction and operation of the plant. The increase in employment and tax base revenue would benefit the area without burdening local governments with additional infrastructure services. The site also contains adequate highway and rail access. Traffic generated by construction and operation will primarily affect the use of SR 37 and Fort Green Road. Increased traffic due to construction will be temporary in nature. The temporary increase will not adversely affect the level of service of existing roadways. There will be three access roads constructed in connection with the Polk Power Station. TECO will construct certain geometric improvements at intersections of the access roads and existing roadways to facilitate the flow of traffic. The project will have an overall positive impact in terms of new employment opportunities, payrolls, increased taxes, and increased tax revenues.

Air Quality

22. During construction, fugitive emissions such as dust will be controlled through water application and installation of a first course of asphalt to road bases.

23. The principal air emissions from the Polk Power Station will consist of sulfur dioxides, sulfuric acid mist, nitrogen oxides, volatile organic compounds, carbon monoxide, particulate matter and trace heavy metals. The Polk Power Station will use the Best Available Control Technology (BACT) to limit both stack and fugitive emissions. After implementation of BACT, no significant ambient air quality impacts are expected to occur, and all applicable specific emission limiting standards will be met.

24. Best Available Control Technology (BACT) is defined as an emission limitation based on the maximum degree of emission reduction achievable, as determined by the permitting authority on a case-by-case basis, taking into account environmental, energy, and economic impacts.

25. A detailed analysis was performed to determine BACT for the Polk Power Station. Different techniques will be used to control air emissions from the IGCC facility for each pollutant and for two fuel types: syngas, the primary fuel, and backup distillate fuel oil. The control techniques evaluated in the BACT analysis were then translated into tons-per-year and pounds-per-hour limitations for certain pollutants. These limitations are contained in the recommended Conditions of Certification attached hereto as Appendix B.

a. For emissions of particulate matter and trace heavy metals from combustion sources, BACT control technology for the IGCC facility will be the use of low ash and low sulfur fuel and efficient combustion for both syngas and backup fuel oil.

b. For noncombustion sources, particulate matter will be controlled by a variety of techniques constituting BACT. These will include the enclosure of coal transfer points, the use of fabric filter dust collectors, the application of water and chemical dust suppressants, the use of crusting agents on the inactive coal pile, and the paving of facility roadways.

c. For emissions of volatile organic compounds (VOCs) and carbon monoxide, BACT control technology for the IGCC facility will be the use of advanced combustion equipment and efficient combustion for both syngas and backup fuel oil.

d. For emissions of sulfur dioxide and sulfuric acid mist, BACT control technology for the IGCC facility will be conventional cold gas cleanup and hot gas cleanup technology. In cold gas cleanup, sulfur compounds are removed from raw syngas using a promoted amine solution. These sulfur compounds are then sent to a sulfuric acid plant where they are converted to sulfuric acid. The exhaust from the acid plant is sent to a thermal oxidizer to oxidize any residual sulfur compounds to sulfur dioxide. In hot gas cleanup, the raw syngas is reacted with zinc titanate to remove the sulfur species. At that point, the sulfur compounds will be processed in the same manner as

cold gas cleanup. The resulting clean syngas will contain no more than 0.07 weight percent sulfur. During the two-year demonstration period, emissions of sulfur dioxide will not exceed 0.247 pounds per million British Thermal Units (BTUs) of heat input to the coal gasifier. Following the two-year period, sulfur dioxide emissions will not exceed 0.17 pounds per million BTUs of heat input to the coal gasifier. During the use of distillate fuel oil, emissions of sulfur dioxide and sulfuric acid mist will be controlled by using low sulfur oil. The content of the oil will not exceed 0.05 weight percent sulfur.

e. For nitrogen oxides, BACT control technology for the IGCC combustion turbine will be the injection of nitrogen when burning syngas, and the injection of water when burning distillate fuel oil. This reduces peak combustion temperatures and reduces the formation of nitrogen oxides. During the demonstration period, nitrogen oxide emissions will not exceed 81 parts per million by volume, corrected to 15 percent oxygen. Testing of nitrogen oxide emissions will be performed during a twelve to eighteen-month period after the two-year demonstration period. During that testing period, nitrogen oxide emissions will not exceed 25 parts per million by volume, corrected to 15 percent oxygen. One month after the end of the testing period, TECO will submit a nitrogen oxides BACT analysis to DEP for its review. The DEP will then make a BACT determination for nitrogen oxides and adjust the nitrogen oxide emissions limitations as appropriate. Nitrogen oxides will be controlled

in the auxiliary boiler and the thermal oxidizer by low nitrogen oxide burners. During the use of distillate fuel oil, nitrogen oxide emissions will be controlled by water injection to reduce emissions to no more than 42 parts per million by volume, corrected to 15 percent oxygen.

26. For the stand-alone combined cycle (CC) and simple cycle combustion turbines (CT), BACT control technology was determined for each type of pollutant and for two fuel types: natural gas and backup distillate fuel oil.

a. For emissions of particulate matter and trace heavy metals, BACT control technology for the CC and CT units will be the use of low ash and low sulfur fuels and efficient combustion for both natural gas and distillate backup fuel oil.

b. For emissions of carbon monoxide and volatile organic compounds, BACT control technology for the CC and CT units will be the use of advanced combustion equipment and efficient combustion for both natural gas and distillate backup fuel oil.

c. For emissions of sulfur dioxide and sulfuric acid mist, BACT control technology for the CC and CT units will be the use of low sulfur fuels. Natural gas will contain less than 10 grains of sulfur per standard cubic foot. Backup distillate fuel oil will contain less than 0.05 weight percent sulfur.

d. For emissions of nitrogen oxides, BACT control technology for the CC and CT units will be the use of dry low nitrogen oxide burners using natural gas. Nitrogen oxide

emissions will be reduced to no more than 9 parts per million by volume, corrected to 15 percent oxygen. When backup distillate fuel oil is used, water will be injected into the combustion turbines, reducing nitrogen oxide emissions to no more than 42 parts per million by volume, corrected to 15 percent oxygen.

27. United States Environmental Protection Agency (EPA) and DEP-approved dispersion modeling was performed to assess air quality and to determine what ambient air quality impacts can be expected in connection with the Polk Power Station. Information utilized in modeling included emission rates and stack parameters, dimensions of nearby building structures, and meteorological data. The model output consisted of concentration predictions at user-selected locations or receptor points. Existing background concentrations were then added to those model predictions for comparison to the ambient air quality standards. Modeling was performed in three phases. The first phase employed the EPA SCREEN dispersion model for each pollutant to determine the operating scenarios for the Polk Power Station that would cause the highest impacts. The second phase used the Industrial Source Complex (ISC2) dispersion model to determine the impact of all Polk Power Station emission sources. The ISC2 short-term model was used to determine 1, 3, 8 and 24-hour average concentrations. The ISC2 long-term model was used to develop quarterly and annual impact predictions. ISC2 modeling was performed for the worst-case operating scenarios identified in the first phase, using five years of

meteorological data. The purpose of the second phase was to determine which pollutants would exceed defined significance levels. The third phase used the ISC2 dispersion models for all air pollutants found to exceed these significance levels. The purpose of the third phase was to determine overall impacts of both onsite and offsite emission sources. These impacts were then added to background levels for comparison to the ambient air quality standards. The impacts at the nearest class I area, the Chassahowitzka National Wilderness area, which is located about 120 kilometers northwest of the Polk Power Station, were determined using the ISC2 models in conjunction with a long-range transport dispersion model called MESOPUFF II. All but five of the pollutants to be emitted by the Polk Power Station will be subject to air quality assessment and Prevention of Significant Deterioration (PSD) review. Only three of the pollutants, sulfur dioxide, nitrogen oxides, and particulate matter, will exceed defined significance levels.

28. The results of the air quality modeling demonstrate that the maximum possible impacts, both onsite and offsite, of sulfur dioxide, nitrogen oxides, and particulate matter are less than the applicable ambient air quality standard for each averaging time.

29. The Prevention of Significant Deterioration (PSD) increments limit the impacts from new emissions of certain pollutants in particular areas where air quality standards have been attained. Modeling was performed to determine the impacts

on both PSD class I and class II increments, for all Polk Power Station and offsite sources. The Polk Power Station will be located within a class II area. The nearest class I area is the Chassahowitzka National Wilderness area, which is located about 120 kilometers northwest of the Polk Power Station. Three pollutants, sulfur dioxide, nitrogen oxides, and particulate matter, will exceed defined significance levels.

a. The maximum total impacts of sulfur dioxide, nitrogen oxides, and particulate matter at the PSD class I area will be below allowable PSD class I increments.

b. The maximum total impacts of sulfur dioxide, nitrogen oxides, and particulate matter at the PSD class II area will be below allowable PSD class II increments.

30. In connection with the PSD requirements, TECO performed an analysis of the impacts of air emissions on soils, vegetation, visibility, and growth-related air quality impacts. No impacts on soils are anticipated to occur. All impacts to vegetation are lower than the dosages known to cause vegetative injury. There will be no visibility impairment near the Polk Power Station itself, or at the nearest class I area. Thus, there will be no significant growth-related air quality impacts.

31. The Polk Power Station emissions will not adversely affect ambient air quality and will not cause or contribute to an exceedance of any ambient air quality standard, nor will they cause or contribute to an exceedance of any PSD class I or II increment.

32. The impacts for a number of toxic air pollutants were assessed in accordance with DEP's policy on assessing air toxins. The DEP no-threat levels for toxic air pollutants are intended to protect public health within a conservative margin of safety. The maximum total impacts will be below the applicable no-threat levels for sulfuric acid mist, fluorides, mercury, beryllium and arsenic.

33. All of the emission exhaust stacks at the Polk Power Station will meet good engineering practice stack height, pursuant to Rule 17-210.550, Florida Administrative Code.

Noise

34. During construction of the Polk Power Station, noises will be those associated with earth moving, foundation work, erection of steel, pouring of concrete, and pile driving. The nearest residence subject to potential impact from construction noise is approximately 8,250 feet away. Construction noise will have only minor and temporary impacts on surrounding residences. During the final construction stage, steam line cleaning or steam blowout will produce noticeable noise levels. Cleaning the steam lines requires three to ten blows of one to fifteen minutes over a two to five day time period. Noise levels during high pressure steam cleaning will range from 80 to 85 decibels. The local community will be notified in advance of a loud steam cleaning episode. At full buildout, a 24-hour noise level of 51 decibels is expected at the nearest residential area. Short-term noise levels during flaring operations and coal train

activities will be somewhat higher. A vegetated buffer will be established to reduce noise. The predicted noise impacts for the Polk Power Station will comply with EPA recommended decibel levels. The noise levels in the area surrounding the site are not expected to increase significantly due to the Polk Power Station.

Surface Water Quality and Quantity

35. The Polk Power Station will not use surface water from natural water bodies for plant operation purposes. Makeup for cooling will be withdrawn from the upper Floridan aquifer and discharged into the cooling reservoir to compensate for evaporative losses. A maximum of approximately 3.1 million-gallons-per-day (MGD) will be discharged to maintain water quality in the cooling pond and to hydrate the area. This discharge will be to a reclaimed lake on the eastern edge of the site which discharges to Little Payne Creek. The discharge will be limited to a maximum of approximately 1 MGD until further studies are completed by TECO and submitted to the Governing Board of the Southwest Florida Water Management District for further action. The project should have no adverse hydrologic impacts on surface waters.

36. A surface water management plan has been prepared for the Polk Power Station in accordance with Southwest Florida Water Management District (SWFWMD) and DEP surface water requirements. The plan describes the Polk Power Station facility site plan, the premining and postreclamation drainage

pattern, the premining and postreclamation land use plan, the water management plan design, a calculation of the stormwater hydrograph for a design storm, and evaluation of the hydrologic impacts of the project.

a. The surface water management plan will control water management during construction of the Polk Power Station. Sediment control and erosion prevention measures will be implemented during construction to minimize impacts. Those measures will include vegetation cover, silt fences, hay bales, temporary rip-rap, sedimentation basins, and stormwater detention during construction.

b. The surface water management system has been designed to comply with SWFWMD, DEP, and EPA regulations for reclamation, surface water, stormwater management, and stormwater discharges associated with industrial activities, and with state and federal surface water standards. The onsite master drainage plan is designed to detain at least the first inch of stormwater runoff resulting from a 25-year, 24-hour storm event from areas on the plant site associated with industrial activity for appropriate water quality treatment. The drainage system will also provide sufficient storage and detention capacity for water quantity control, so that the postreclamation peak runoff rate will not exceed the premining peak discharge for a 25-year, 24-hour storm event in each of the three affected watersheds: the South Prong Alafia River basin, the Payne Creek basin, and the Little Payne Creek basin.

Detention and storage capacity will be provided by the proposed stormwater detention basins and reclaimed wetland areas. The proposed project development will restore the drainage basin boundaries and onsite basin acreage to approximately premining conditions.

37. For the South Prong Alafia River watershed, the mined area to the west of SR 37 will be regraded and planted with vegetation in accordance with DEP's mined-land reclamation requirements. The onsite reclamation plan for this area will create approximately 216 acres of wetland areas. The runoff from the reclaimed upland forest and pasture will not be associated with industrial activity and will sheet flow into two separate wetland areas prior to offsite discharge. The stormwater runoff from the wetlands in the eastern area of the watershed will be routed to a tributary of the river via a vegetated swale. The stormwater runoff from the western area will be routed to another tributary of the river through a fixed hydraulic structure to maintain the proper hydroperiod for the wetland.

38. For the Payne Creek basin, mined areas will be reclaimed to approximately 242 acres of wetlands and upland forest. The runoff from the forest will sheet flow into the wetlands prior to offsite discharge. The wetlands areas will control flooding and provide for water quality treatment. Runoff from the wetlands will drain southward along SR 674 through culverts to Payne Creek.

39. The power block and associated facilities, including the cooling reservoir, of Polk Power Station will be located within the Little Payne Creek basin. Other mined-out areas of this basin will be reclaimed pursuant to DEP mined-land reclamation requirements. Stormwater runoff associated with industrial activity will be collected and routed to the overall industrial wastewater treatment (IWT) system. Runoff associated with industrial activities from fuel oil storage and unloading areas, transformer areas, and oil-bearing equipment area drains routed to the oily sewer will be collected, treated in an oil/water separation system, and directed to the equalization basin. Runoff from the switchyard area will be directed to the cooling reservoir. Runoff from the coal pile, IWT sludge pile, and slag storage areas will be collected in retention basins to allow settling of the suspended solids and then routed to the IWT system. Runoff from the active brine solids storage cells will be collected in a runoff tank and routed to the brine concentrator for treatment. Some of the treated wastewater will be used for dust suppression in the coal handling system; the remainder will be discharged into the cooling reservoir for reuse in the cooling system. In addition to recirculating cooling water and the IWT effluent, the cooling reservoir will receive other process waters. Blowdown from the reservoir will be discharged to a reclaimed lake along the eastern edge of the reservoir via a control structure (Outfall 001). Two detention basins will be constructed to collect stormwater runoff from

other plant site areas. The basins will provide water quality and quantity treatment as required by SWFWMD. A 0.2-acre detention basin located south of the power block and adjacent to the northern berm of the reservoir will receive runoff from the administration building, parking lot, and a small area in the immediate vicinity of the building. The discharge from this basin will be drained via a control structure into a reclaimed wetland located east of SR 37 and west of the cooling reservoir. A 26-acre detention basin will be constructed to the north of the power block to receive stormwater runoff from an upland facility area and will discharge into another wetland area. The runoff from the detention basins and other site areas to the west of the power block and to the east of SR 37 will also be drained into a wetland area. The discharge from this wetland will be routed north and then east via swales and Outfall 002 into an old mine-cut lake. Discharge from this lake will be drained southward into an existing reclaimed lake located on the eastern edge of the cooling reservoir. Blowdown from the reservoir will also be routed here. The blowdown and runoff discharged from the reclaimed lake will be routed offsite through a swale and will drain into an existing ditch running along Fort Green Road and then into Little Payne Creek.

40. The surface water management plan will comply with all applicable surface water requirements for controlling surface water discharges.

41. An analysis of surface water impacts from the Polk Power Station, including a heat budget model, a hydrologic

model, a water quality model, and a mass balance-based water quality model, was conducted to determine impacts on the three affected watersheds. Expert testimony admitted at the hearing demonstrated that all surface water discharges will comply with all applicable surface water quality criteria. The water quality in the reservoir and the quality of its discharges are predicted to meet all applicable Class III surface water quality standards. Thermal impacts of reservoir blowdown should be insignificant. The Polk Power Station project will not have significant adverse impacts on either surface water quantity or quality.

Groundwater Quality and Quantity

42. The main consumptive groundwater use impact from the Polk Power Station will be the withdrawal of potable, process, and makeup water for the cooling reservoir from the upper Floridan aquifer. The major source of makeup water for the cooling reservoir will be the upper Floridan aquifer. Four production wells will be required for full buildout of the plant. Prior to withdrawals in excess of 3.14 MGD Annual Average Daily and 5.8 MGD Peak Month Daily at first phase and 4.3 MGD Annual Average Daily and 7.6 MGD Peak Month Daily at full plant buildout, TECO must submit a detailed study on the treatment and reuse of blowdown water. The maximum permitted withdrawal in support of 260 MW nominal net generating capacity is 5.24 MGD Annual Average Daily and 7.4 MGD Peak Month Daily. The predicted withdrawal rate at full buildout is expected to be

approximately 6.4 MGD Annual Average Daily and 9.22 MGD Peak Month Daily. Most of this withdrawal will be used as makeup water for the cooling reservoir, some will be used for industrial process service water, and a small fraction will be for potable water uses. Studies were undertaken in connection with the use of groundwater for the Polk Power Station. Based on these studies, withdrawals from the upper Floridan aquifer will have no significant adverse impacts on groundwater quantity in regard to adjacent legal water users, wetlands, surface water bodies, or saline water migration. The consumptive use proposed for the Polk Power Station site will comply with applicable SWFWMD rules.

43. There will be no direct discharges to groundwater from the Polk Power Station site. An indirect discharge from the reservoir into the surficial aquifer will occur due to seepage, because the normal operating water level in the reservoir will be higher than the surficial aquifer water level. Studies were undertaken concerning these indirect discharges to evaluate the impacts on groundwater. The reservoir water quality is predicted to meet all applicable groundwater quality standards, except for antimony, iron, and color. No variance for iron or color is required under DEP rules. Antimony is not expected to exceed the standard beyond the 100-foot zone of discharge. No health hazards are predicted to exist due to iron and color. Therefore, seepage from the reservoir to the surficial aquifer is not predicted to have a significant adverse

impact on the surficial aquifer. Based on plans proposed to manage and address potential accidental spills, no significant impacts to the surficial aquifer are anticipated.

Site Biology and Wildlife

44. The construction and operation of the Polk Power Station site will have minimal impacts on wildlife. Approximately 94 percent of the site has been or will be disturbed by phosphate mining activities. Due to the highly disturbed condition of the site, few listed, threatened, or endangered plant, animal, or bird species are expected to occur. Transmission line corridors will be located along existing linear facilities and for the most part will occur along mined property. Surveys were undertaken to determine the plants, animals, and birds and their habitats that are present or likely to occur on the site. According to those surveys, there are no important regional populations of animal or plant species solely dependent on onsite habitats. Additionally, the 1,511 acres to the west of SR 37 will be reclaimed into wildlife habitat and wetlands. The construction, operation, and maintenance of the Polk Power Station and associated facilities should not adversely impact any significant vegetation, wildlife, wetlands, or endangered species populations.

Archaeological and Historical Resources

45. There are presently no areas within the boundaries of the Polk Power Station site nominated to or declared eligible for the National Register of Historic Places or the National

Registry of Natural Landmarks. No federal, state, regional, or local scenic, cultural, or natural landmarks are located within the site. A site survey revealed no archaeological or historic finds. Should any historical or archaeological site be found, activities will be halted, a certified archaeologist will evaluate the site, and the Division of Historical Resources will be notified immediately.

Public Lands

46. No public lands will be affected by construction, operation, or maintenance of the Polk Power Station.

Socioeconomic

47. The Polk Power Station will result in a beneficial economic impact to the affected areas of Polk, Hillsborough, Manatee, and Hardee Counties. The project will generate significant sales and property tax revenues. The construction and operation of the power plant will result in great employment opportunities for the region. The payroll generated for the employees will also have a significant positive effect on the local economy. Most of the construction and operational workers for the Polk Power Station will likely commute from their existing homes, due to the large labor pool available in west-central Florida. As a result, there will be minimal increases in demand on local infrastructure, such as hospitals, schools, utilities, and fire and police protection. Furthermore, the facility will have its own water treatment and wastewater treatment units. During the two-year construction period, the

average workforce will number approximately 650 persons and peak at approximately 1,400 workers. The operation of the initial IGCC unit will require approximately 130 employees, while the plant at full buildout is expected to employ about 210 people.

Proposed Design, Construction, and Maintenance of Proposed Electrical Transmission Lines

48. There will be two transmission corridors associated with the Polk Power Station. The eastern corridor is contained entirely within the site boundaries and interconnects with the Hardee-Pebbledale transmission line along Fort Green Road. This corridor was selected to minimize the overall length of the transmission lines, as well as potential environmental impacts in the area. The northern transmission corridor will be 5.2 miles in length, heading west out of the site and then north approximately 5 miles to interconnect with the Mines-Pebbledale transmission line. Studies were undertaken to determine the best route for the corridor between SR 37 and the Hillsborough/Polk County line. Placement of the corridor along SR 37 best utilizes existing rights-of-way, minimizes environmental impacts, and minimizes impacts to residential areas.

49. The proposed eastern corridor is approximately 1.0 mile in length and 400 feet wide. The proposed northern corridor is 400 feet wide as it heads west from the switchyard. Along SR 37, the corridor is 0.5 mile wide and is centered along

SR 37 until immediately south of unincorporated Bradley Junction. The corridor is then widened to 1.0 mile until it interconnects with the Mines-Pebbledale line. The corridor is widened at this point to minimize impacts to environmental features and residences.

50. A right-of-way is the area within the proposed corridor in which a transmission line is constructed, operated, and maintained. It must be a minimum of 80 feet wide. The actual right-of-way for the northern corridor has not yet been selected and will be selected based on criteria such as construction and maintenance feasibility, environmental impacts, economics, and compatibility with nearby land uses. DEP may require relocation of the proposed right-of-way within the certified corridor. To the extent feasible, the proposed linear facilities will be constructed within existing utility rights-of-way and away from residences, schools, and places of employment.

51. A transmission line is a series of poles with insulators supporting three conductors and a shield wire. The conductors are used to transport electric power in bulk from one location to another. The proposed transmission lines would have a voltage level of 230 kV. The conductors would carry the current, an overhead ground wire would protect against lightning, the insulators would keep the current from jumping to the structure, and the structures themselves would support the conductors.

52. The support structure will be a galvanized tubular steel pole, approximately 110 feet in height. Where feasible, H-frame or guyed transmission line structures shall be avoided in residential areas to reduce visual impact. Transmission line structures will be located approximately 500 feet apart.

53. Transmission line access roads will only be constructed when soil conditions are such that the vehicles necessary for construction and maintenance of the transmission lines could not be adequately supported. The access roads will have a minimum width of 20 feet. In many cases, the road will consist only of clearing vegetation. In other cases, the road will be elevated with fill dirt.

54. Transmission line structure pads will be constructed for erection of support structures where soil conditions are not suitable for support. A minimum pad width of 50 feet is anticipated.

55. The transmission lines will be constructed in several phases. A centerline within the approved corridor will be selected and the boundaries of the right-of-way delineated. After right-of-way easements are acquired, the right-of-way will be surveyed, and a clearing crew will trim the trees and shrubs as necessary to construct, operate and maintain the transmission line. Next, the structure, road, and pad locations will be delineated. The contractor will build the roads and structure pads where needed. The support structures would then be erected. Finally, the insulators, conductors, and shield wire

would be hung from the structures. The final phase would be overall cleanup of the right-of-way. Construction will require approximately six to eight months for connection to the Mines-Pebbledale line and two months for connection to the Hardee-Pebbledale line.

56. TECO will meet or exceed all minimum design requirements of the National Electric Safety Code, conditions of the Florida Department of Transportation (DOT) Utility Accommodation Guide, and applicable local government rules. All materials will meet applicable standards. The transmission lines will be designed to withstand the highest anticipated winds in the area. Any structures in floodprone areas will be properly guyed and anchored.

57. The transmission lines will comply with DEP Chapter 17-814, Florida Administrative Code, for maximum electric and magnetic field values.

58. Vegetation would be maintained at reasonable heights. The transmission lines will be inspected periodically and serviced as necessary.

59. To the extent that the transmission line work requires any dredging and filling of jurisdictional wetlands, dredge and fill plans must be submitted to the appropriate state and local agencies for review. Any roads and pads will be fully compacted to minimize erosion. Culverts will be installed as needed to minimize interruption of water flow.

G. Impacts of the Electrical Transmission Lines Upon the Public and the Environment Impacts on the Public

60. Based on the overall length of the proposed transmission line corridors and various studies performed, the corridors are appropriate locations for future transmission lines. The eastern corridor is located entirely within the Polk Power Station site. Wherever possible, the northern corridor follows existing linear facilities, traverses mine property, and avoids residences and populated areas. The corridors are in compliance with applicable local government land use plans and zoning ordinances. Visual impacts will be minimized where feasible. The proposed transmission lines will comply with good engineering practice for the design of such structures, including applicable codes, standards and guidelines. The transmission lines will comply with electric and magnetic field values specified in DEP rules, although corona discharge from the northern circuits may create some audible noise and radio and television reception interference. Therefore, to the extent feasible, TECO will locate the transmission lines away from populated areas.

Impacts on the Environment

61. Impacts on the environment will be minimal, based on the overall length of the corridors, their location, and the mitigation requirements of the Conditions of Certification. Since most of the natural communities within the corridors and immediately adjacent areas have been altered by mining or road

construction, the construction and maintenance of the transmission lines are not expected to have a significant impact on vegetation, wildlife, or aquatic life.

a. Any dredging and filling required in jurisdictional wetlands must first be approved by the permitting agencies, and appropriate mitigation will be required. If a structure will be located in wetlands, TECO shall compact or otherwise stabilize any fill material placed around the transmission structures to reduce erosion, turbidity, nutrient loading and sedimentation in the receiving waters. TECO will use only restrictive land-clearing practices to remove vegetation in wetlands during construction and maintenance. Only registered herbicides may be used. The 610 acres of wetlands created or enhanced by the project will provide adequate mitigation to offset any wetlands losses. Mitigation may also be required in the future to offset any wetlands loss or habitat degradation.

b. Since most of the proposed corridors will traverse land either adjacent to SR 37 or over mining areas, loss of tree canopy and other vegetation will be minimized. The maintenance of the cleared right-of-way will promote development of a grassy/brushy ecosystem. No listed plant or animal species were observed in the northern corridor. No significant loss of habitat or biological species is expected to occur.

H. Mine Reclamation

62. The prevalent land use on the 4,348-acre site is currently phosphate strip mining; the property is owned by

American Cyanamid and the IMC-Agrico Company. TECO intends to purchase all lands within the proposed Polk Power Station site immediately upon final approval of the site certification application. Approximately 94 percent of the proposed site has been or will be mined and/or disturbed through phosphate mining operations. Approximately 523 acres of this are considered non-mandatory lands that do not require reclamation. The remaining acres are subject to the mandatory mining reclamation requirements of Chapter 16C-16, Florida Administrative Code. A 248-acre parcel is currently undergoing reclamation activities. TECO's proposed changes to the reclamation activities for this parcel are not considered significant and do not require a modification to the existing conceptual reclamation plan approved pursuant to Chapter 16C-16, Florida Administrative Code. Current mining operations are being conducted on the remaining 3,573 acres and will continue into 1994. The proposed Polk Power Station site significantly alters the waste disposal and reclamation plans for this area. On November 17, 1992, the Governor and Cabinet approved a variance to delay reclamation time schedules consistent with the site certification process.

63. The reclamation plan that has been proposed for the Polk Power Station site will incorporate and modify the existing reclamation programs for the site; it will direct stormwater flow to the appropriate receiving stream sub-basins and form an integrated wildlife habitat network which will enhance the future aesthetic value of the facility. The system east of SR

37 which forms the Little Payne Creek headwaters will consist of a series of interconnected wetlands which direct flow in a clockwise movement around the plant site. All non-contact stormwater from the plant site area will be captured and will receive natural biological treatment in this system. The wetlands will be predominantly herbaceous, with forested transitional zones to provide habitat diversity and high wildlife values. West of SR 37, the Payne Creek and Alafia River sub-basins will retain identity for hydrologic reasons, but will be combined with the forested and herbaceous wetland corridor traversing the 1,511-acre area from the west to the northeast. An integrated network of herbaceous and forested wetlands will transition into upland mixed forest and some shrub and brushlands. During highwater periods, flow will be initiated offsite from three locations, consistent with premining conditions: from the northwest and northeast corners into the South Prong Alafia River and from the southeast corner into Payne Creek. No power plant-related activity will be conducted on this portion of the site, and access will be limited consistent with wildlife habitat management practices. A wildlife management plan will be implemented with Florida Game and Fresh Water Fish Commission guidance to optimize wildlife utilization. TECO has agreed to control the invasion of nuisance species and to increase the density, acreage, and diversity of various trees, shrubs, and grasses beyond existing rule requirements.

64. The reclamation proposed for the Polk Power Station will comply with DEP requirements and in fact goes well beyond most of the acceptable minimum standards. The only exception pertains to the 25/20 Lake Rule, which will not be met by the cooling reservoir design. The 25/20 Rule specifies the percentage of wetland transitional zone and shallow water areas to be incorporated into the reclamation of water bodies, in order to provide wetland habitat and breeding areas. This design is not compatible with the purposes of a cooling reservoir. A formal variance request has been made in this regard, to reduce the 20 percent shallow water requirement of the rule; the variance is reasonable because the reservoir is not intended to be a fish breeding area. TECO has provided offsets from the wetland zone requirements by increasing the number of acres of wetlands to be constructed adjacent to the reservoir. The Bureau of Mining Reclamation has recommended certification with conditions.

I. DEP Site Certification Review

65. The DEP has conducted studies and made evaluations relating to general site-suitability concerns, necessary construction and operational safeguards, and facility-specific concerns relating to air quality, water availability, cooling system requirements, wastewater control, solid and hazardous waste control, stormwater management, noise impact, impact on historic and archaeological sites, and mine reclamation

requirements. The DEP has found that the facility's proposed design offers reasonable assurances that DEP standards will be met. The DEP has recommended certification of the Polk Power Station plant for up to 260 MW initial capacity, subject to the recommended Conditions of Certification. The ultimate site capacity of nominal net 1,150 MW is potentially certifiable upon a future demonstration of need by the PSC and compliance with applicable regulations in effect at that time.

CONCLUSIONS OF LAW

66. The Division of Administrative hearings has jurisdiction over the parties to, and the subject matter of, these proceedings. Subsections 120.57(1) and 403.508(3), Florida Statutes. This proceeding was held pursuant to the Florida Electrical Power Plant Siting Act (PPSA), Chapter 403, Part II, Florida Statutes, and Chapter 17-17, Florida Administrative Code, and at the request of the parties for good cause shown, certain otherwise applicable time limits have been altered pursuant to the provisions of Section 403.5095, Florida Statutes.

67. Section 403.502, Florida Statutes, sets forth the legislative intent in adopting and providing for the implementation of the PPSA, as follows:

the Legislature finds that the present and predicted growth in electric power demands in this state requires the development of a procedure for the selection and utilization of sites for electrical generating facilities and the identification of a state position with respect to each proposed site.

The Legislature recognizes that the selection of sites and the routing of associated transmission lines will have a significant impact upon the welfare of the population, the location and growth of industry, and the use of the natural resources of the state. . . . It is the policy of this state that, while recognizing the pressing need for increased power generation facilities, the state shall ensure through available and reasonable methods that the location and operation of electrical power plants will produce minimal adverse effects on human health, the environment, the ecology of the land and its wildlife, and the ecology of state waters and their aquatic life and will not unduly conflict with the goals established by the applicable local comprehensive plans. It is the intent to seek courses of action that will fully balance the increasing demands for electrical power plant location and operation with the broad interests of the public. Such action will be based upon these premises:

- (1) To assure the citizens of Florida that operation safeguards are technically sufficient for their welfare and protection.
- (2) To effect 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.
- (3) To meet the need for electrical energy as established pursuant to s. 403.519.

68. Section 403.519, Florida Statutes, requires the PSC to determine the need for an electrical power plant subject to the PPSA, taking into account such things as reliability and integrity of the system, the need for adequate electricity at a reasonable cost, and the cost-effectiveness of the proposed plant.

69. Notice of this proceeding was provided to all persons and parties entitled thereto, as well as to the general public. All necessary and required governmental entities were parties to this proceeding, and all required reports and studies were completed and presented to the Florida Department of Environmental Protection (DEP), including: a) reports from the Florida Department of Community Affairs concerning the compatibility of the proposed facility with the State Comprehensive Plan, pursuant to Subsection 403.507(2)(a)1, Florida Statutes; b) the Florida Public Service Commission's (PSC) report as to the present and future need for electrical generating capacity to be supplied by the proposed plant, pursuant to Subsection 403.507(2)(a)2, Florida Statutes; c) the report of the Southwest Florida Water Management District as to the impact of the proposed facility on water resources, pursuant to Subsection 403.507(2)(a)3, Florida Statutes; d) the report of the Florida Department of Transportation (DOT) as to the impact of the proposed facility on area transportation, pursuant to Subsection 403.507(2)(a)8, Florida Statutes; e) the report of the Florida Game and Fresh Water Fish Commission as to the impact of the facility on area wildlife and habitats, pursuant to Subsection 403.507(2)(a)6, Florida Statutes; and f) the report of Polk County as to the consistency of the proposed plant with applicable local ordinances, regulations, standards, and criteria, pursuant to Subsection 403.507(2)(a)4, Florida Statutes. DEP also conducted or required TECO to conduct

additional studies and completed its report and recommendations with respect thereto.

70. Based upon a preponderance of competent substantial evidence presented at the certification hearing, it is concluded that TECO has met its burden of proving that its application is entitled to certification for the location, construction, operation, and maintenance of the Polk Power Station, its associated facilities, and directly associated transmission lines, subject to the Conditions of Certification found at Appendix B. If constructed, maintained, and operated in accordance with the recommended conditions, the project will produce minimal adverse impacts on human health, the environment, the ecology of the land and its wildlife, and the ecology of state waters and their aquatic life. Certification is consistent with the legislative purpose of providing abundant, low-cost electrical energy and a reasonable balance between those minimal environmental impacts which will occur. In addition, the location, construction, operation, and maintenance of the Polk Power Station, associated facilities, and directly associated transmission lines are consistent with the State Comprehensive Plan, Chapter 187, Florida Statutes.

71. The location, construction, and maintenance of the Polk Power Station, cooling reservoir, and associated facilities will produce minimal adverse effects upon the public and the environment. The plant area will be located in a remote area that has been, or will be, mined for phosphate. The plant will

offer economic and employment benefits to the affected area and will not impact the limited habitat for wildlife and vegetation within the plant site or impact the water resources within the area if constructed, operated, and maintained in conformance with the recommended conditions. The proposed placement of the associated transmission lines will produce minimal adverse impacts upon the public and the environment. One corridor is located entirely within the proposed site boundaries, and the other corridor is short and substantially follows existing linear facilities, which have already impacted the public and the environment; such impacts will not be increased by this placement. Where there are no existing linear facilities to follow, the northern corridor runs along mining property or in sparsely populated areas. Where the corridor contacts existing residential development, it is widened to lessen impacts on the public. The eventual right-of-way chosen in the northern corridor will avoid residences, schools, and places of employment where possible.

72. The area to the west of State Road 37 will be reclaimed into wetlands and wildlife habitat. Any dredging and filling in wetlands necessitated by the associated transmission lines will be appropriately minimized and mitigated. Thus, the proposed Polk Power Station plant, associated facilities, and directly associated transmission lines will have minimal adverse effect on the public, the environment, and wildlife.

73. This certification constitutes permission for TECO to use, connect to, and cross over the works and properties of the


DOT and all local governments which are parties to this proceeding, subject to the Conditions of Certification. Additionally, this certification constitutes the grant of an easement for the northern transmission line to cross the South Prong of the Alafia River within the approved corridor, provided that no transmission line structures are placed upon state lands in the area.

74. The impacts of the Polk Power Station project on air and water quality, wetlands, vegetation, wildlife, and electromagnetic field effects are well below acceptable maximums established by regulatory agencies having jurisdiction over this project. The location of this project is appropriate and in compliance with applicable regulatory requirements. This project appropriately addresses the PSC's need determination and provides a reasonable balance between that need and the environmental impacts of the project.

RECOMMENDATION

Based upon the foregoing findings of fact and conclusions of law, it is recommended that the Governor and Cabinet, sitting as the Siting Board, enter a Final Order granting certification for the location, construction, operation, and maintenance of the Polk Power Station, its associated facilities, and directly associated transmission lines, subject to the Conditions of Certification contained in Appendix B.

DONE AND ENTERED this 30th day of November, 1993, in Tallahassee, Florida.


DIANE K. KIESLING, Hearing Officer
Division of Administrative Hearings
The DeSoto Building
1230 Apalachee Parkway
Tallahassee, Florida 32399-1550
(904) 488-9675

Filed with the Clerk of the Division
of Administrative Hearings this 30th
day of November, 1993.

COPIES FURNISHED:

Lawrence N. Curtin
Attorney at Law
Holland & Knight
Post Office Drawer 810
Tallahassee, FL 32302
Representing Applicant

Richard Donelan
Assistant General Counsel
Department of Environmental
Regulation
2600 Blair Stone Road
Tallahassee, FL 32399-2400
Representing DER

Hamilton S. Oven, Jr.
Office of Siting Coordination
Division of Air Resources Mgmt.
Department of Environmental
Regulation
2600 Blair Stone Road
Tallahassee, FL 323 99-2400

Lucky T. Osho
Karen Brodeen
Assistant General Counsels
Department of Community Affairs
2740 Centerview Drive
Tallahassee, FL 32399-2100
Representing DCA

Michael Palecki, Chief
Bureau of Electric & Gas
Florida Public Service Commission
101 East Gaines Street
Tallahassee, FL 32399-0850
Representing PSC

M. B. Adelson, Assistant General Counsel
Department of Natural Resources
3900 Commonwealth Blvd.
Tallahassee, FL 32399-3000
Representing DNR

William H. Roberts
Assistant General Counsel
Department of Transportation
605 Suwanee Street, M.S. 58
Tallahassee, FL 32399-0491
Representing DOT

James Antista, General Counsel
Florida Game and Fresh Water
Fish Commission
Bryant Building
620 South Meridian Street
Tallahassee, FL 32399-1600
Representing GFWFC

Martin D. Hernandez
Richard Tschantz
Assistant General Counsels
Southwest Florida Water
Management District
2379 Broad Street
Brooksville, FL 34609-6899
Representing SWFWMD

Julia Greene, Executive Director
Tampa Bay Regional Planning
Council
9455 Koger Boulevard
St. Petersburg, FL 33702
Representing Tampa Bay Regional Planning
Council

R. Douglas Leonard, Executive Director
Central Florida Regional Planning Council
490 East Davidson
Post Office Box 2089
Bartow, FL 33830
Representing CFRPC

John J. Dingfelder
Attorney at Law
Hillsborough County
Post Office Box 1110
Tampa, FL 33601-1110
Representing Hillsborough County

Mark Carpanini
Attorney at Law
Office of County Attorney
Post Office Box 60
Bartow, FL 33830-0060
Representing Polk County

Sara M. Fotopulos
Chief Counsel
Environmental Protection Commission
of Hillsborough County
1900 Ninth Avenue
Tampa, FL 33605
Representing EPCHC

Honorable Lawton Chiles
Governor
State of Florida
The Capitol
Tallahassee, FL 32399

Honorable Robert A. Butterworth
Attorney General
State of Florida
The Capitol
Tallahassee, FL 32399-1050

Honorable Bob Crawford
Commissioner of Agriculture
State of Florida
The Capitol
Tallahassee, FL 32399-0810

Honorable Betty Castor
Commissioner of Education
State of Florida
The Capitol
Tallahassee, FL 32399

Honorable Jim Smith
Secretary of State
State of Florida
The Capitol, PL-02
Tallahassee, FL 32399-0250

Honorable Tom Gallagher
Treasurer and Insurance
Commissioner
State of Florida
The Capitol
Tallahassee, FL 32399-0300

Honorable Gerald A. Lewis
Comptroller
State of Florida
The Capitol, Plaza Level
Tallahassee, FL 32399-0350

Case No. 92-4896EPP

NOTICE OF RIGHT TO SUBMIT EXCEPTIONS

All parties have the right to submit written exceptions to this Recommended Order. All agencies allow each party at least 10 days in which to submit written exceptions. Some agencies allow a larger period within which to submit written exceptions. You should contact the agency that will issue the final order in this case concerning agency rules on the deadline for filing exceptions to this Recommended Order. Any exceptions to this Recommended Order should be filed with the agency that will issue the final order in this case.

APPENDIX A TO THE RECOMMENDED ORDER
IN CASE NO. 92-4896EPP

The following constitutes my specific rulings pursuant to Section 120.59(2), Florida Statutes, on the proposed findings of fact submitted by the parties in this case.

Specific Rulings on Proposed Findings of Fact
Submitted by the Applicant

1. Each of the following proposed findings of fact is adopted in substance as modified in the Recommended Order. The number in parentheses is the Finding of Fact which so adopts the proposed finding of fact: 1-65(1-65).

APPENDIX B TO THE RECOMMENDED ORDER
IN CASE NO. 92-4896EPP

RECOMMENDED CONDITIONS OF CERTIFICATION