

**STATE OF FLORIDA
DEPARTMENT
OF
ENVIRONMENTAL PROTECTION**



**APPLICATION
INSTRUCTION GUIDE**

**ELECTRICAL POWER PLANT SITES AND ASSOCIATED
FACILITIES
ELECTRICAL TRANSMISSION LINES**

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A. INTRODUCTION, GENERAL INFORMATION, INFORMATION REQUIREMENTS

1.1. Introduction

This guideline has been prepared by the Department of Environmental Protection (DEP) to assist utilities in the preparation of an application for electrical power plant site certification and electrical transmission line certification, and to aid affected state agencies, local governments, and interested persons in the review of an application.

This guide is divided into four sections: A. general information and information requirements which apply to both electrical power plants and electrical transmission lines, B. specific requirements which apply to electrical power plants, C. specific requirements which apply to electrical transmission lines, and D. Appendices.

1.2 General Information

1.2.1 Format

This guide outlines the prescribed format for the submission of complete applications. The applicant may use a format other than that outlined in this guide, as allowed by Rules 62-17.051(1)(b), and 62-17.540(1), F.A.C. If a different format is used, however, each section must contain a reference as to which segment of the DEP format will be addressed therein. A master cross-reference sheet must be included as well.

1.2.2 Coordination

Preparation of the application should be coordinated with affected agencies identified in Section 403.507(2)(a). The purpose of such coordination would be to determine the scope, quantity, and level of information each agency desires to be included in the application, to reach agreement on the methods to be used in providing such information, and to define the nature of supporting documents to be included in the application. Under Rule 62-17.041, F.A.C., an applicant may file a Notice of Intent to file an application.

1.2.3 Review

The State's procedures for reviewing and processing submitted electrical power plant and transmission line applications are outlined in Sections 403.501 through 403.539, F.S., and the Department of Environmental Protection's companion rule Chapter 62-17, Parts I and II, F.A.C.

1.2.4 State-Owned Lands

Certification by itself does not convey title or grant easements for any property, state-owned or otherwise. Therefore, where the applicant desires to use or cross state-owned lands or other lands owned by governmental agencies, the appropriate government agencies must be

contacted at the earliest possible date regarding the use of public properties. If state lands will be impacted by the application, a list of state owned lands will be included.

1.2.5 Ultimate Capacity Certification

The applicant may seek certification for an electrical power plant site with an ultimate generating capacity to be obtained by incremental additions of generating units until an ultimate build-out is reached. If ultimate capacity is being applied for, the application should define the ultimate capacity being applied for and include a list of phases of supplemental applications and mega wattage. In this case, the conditions upon which such a certification may be issued will be made part of the certification.

1.2.6 Appendices

Appendices are covered in Section D, Chapter 10, at the end of this guideline. Include copies of all existing permits or applications for all related permits as an appendix. In addition, place all technical descriptions of data gathering procedures and monitoring plans in an appendix. Include specific details or raw data of any monitoring programs as an appendix. Refer in the text of the application to items placed in an appendix.

1.3 Information Requirements

1.3.1 Applicant Identification

Provide the following basic information in order to identify the applicant:

- a. Applicant's Official Name
- b. Address of Applicant
- c. Address of Official Headquarters
- d. Business Entity (corporation, partnership, co-operative)
- e. Name and Title of Chief Executive Officer
- f. Name, Address, and Phone Number of Official Representative responsible for obtaining certification
- g. Site Location: For an electrical power plant: County; Nearest Incorporated City; Latitude and Longitude; Universal Transverse Mercators (UTM) - Northerly and Easterly; Section, Township, and Range. For a linear facility such as an electrical transmission line: corridor or right of way, show the location as counties crossed, termination points, substations, compressor stations, length of linear facility.
- h. Information on capacity of a proposed electrical power plant or addition: Name Plate Generating Capacity, Capacity of Proposed Additions, and Ultimate Site Capacity (where applicable).
- i. Information on any power plant-associated facility development (natural gas lines; water lines; reclaimed water lines; roads; transmission line type, voltage, number of circuits).
- j. Any additional information that will help identify the applicant.

1.3.2 Information Sources

Information obtained from state, federal, local and regional governmental agencies, educational institutions, publications, and qualified consultants may be used when completing the application.

Published information used by the applicant as supporting data must be concisely summarized and documented by reference to the original data sources. Commonly available information and material shall be cited in the application and its content described briefly. The applicant shall indicate where the referenced material may be obtained.

If documents or data are not publicly available, provide either extensive quotations or reference to accessible sources. Upon a written request by any party, the applicant shall make available for inspection or copying any materials used that are unavailable through public sources.

Use concise descriptive or narrative text, as well as, tables, maps, charts, graphs, etc., where possible. Data may be summarized to reflect maximums, minimums, and averages. Document each subject and treat it in sufficient depth to permit the reviewer to readily evaluate the extent of the environmental impact. Use line drawings, photographs, and architectural and engineering concepts where they contribute to the clarity and brevity of the application. Cross-referencing is strongly recommended.

Clearly identify information derived from the applicant's field measurements when these are used to verify the applicability of similar studies found in the literature. Include as appendices or supplements any reports of work (e.g. ecological surveys) supported by the applicant that are of significant value in assessing the environmental impact of the facility. Document and discuss any deviation from department standard procedures by the authors of these reports.

1.3.3 Updates to the Application

Updates to the application shall show the old language and the new. The applicant may use any method that clearly indicates how the language has been changed. In the case of an updated map or aerial photograph, the submittal should be marked "revised", the date of the map or photograph marked on it, and the date of the submittal indicated. In all cases, the newly submitted information must be in a format (e.g., paper size, quality, hole-punching) that can be readily inserted and collated into the original application. Electronic copies of updates must be additionally provided.

1.3.4 Worst Case Analysis

The applicant may choose to submit a "worst case analysis" in lieu of any data required by this procedure. In such cases agency review will proceed on the worst case basis presented.

1.3.5 Data Gathering and Monitoring

If the applicant or his consultant gathers monitoring data regarding air and water quality, noise conditions, solid wastes or other environmental impacts, the methods used for this purpose shall be those duly adopted, published, or otherwise approved by the DEP. Otherwise, data collection procedures must be discussed with the appropriate DEP staff to obtain mutual understanding and approval. The applicant and the Department shall agree in writing to any monitoring or data gathering program prior to implementation.

The description of the programs for monitoring shall include a thorough discussion of the methodology used, to include number of sampling stations and their locations, sampling frequency, procedures (including calibration and checks with standards), and instrumentation for both collection and analysis. Information must be provided on instrument accuracy, sensitivity and, especially, the reliability of highly automated systems.

Construction monitoring proposals must be submitted as part of the original application filing, but shall not constitute the basis for a finding of incompleteness. Any changes to the originally proposed monitoring shall not constitute major amendments of the application. The monitoring program for an electrical power plant operational period may be submitted to the department no later than six months and preferably one year before the plant start-up target date.

Where monitoring programs to be conducted during the certification application review process or after certification is issued will be the same as preapplication monitoring, provide a statement to this effect. Where site preparation or facility construction may alter previously measured or observed environmental conditions, describe any program for monitoring the modified condition.

1.3.6 Maps and Drawings

Maps and drawings should be 8 1/2 x 11 inches in size or folded to that size for ease of distribution. If the map or drawing is much larger than this size, it should be printed as several sheets with match lines on each. This requirement does not apply to standard USGS quadrangles or blue-line aeriels. The applicant may, at its discretion, submit a sufficient number of copies to cover the number of notices and copies that would otherwise be made by the Siting Coordination Office that contain paper larger than 8 1/2 x 11 inches in size. Drawings should be to scale and the scale indicated on them. Use graphic patterns rather than colors to indicate various features, since maps and drawings are frequently reproduced for interested persons or conditions of certification, and the colors do not reproduce. The applicant may, at its discretion, provide the Siting Coordination Office with color copies of maps, sufficient for its use. Unless otherwise specified, all maps shall use a scale of at least 1:24,000. The applicant shall verify that data contained in any maps, drawings, and aerial photographs (e.g., land use/vegetation overlays on to U.S.G.S. base maps) are representative of the area and current within 6 months of filing. If data representative of the area and current within 6 months of filing is not available, the applicant shall verify that data contained in any maps, drawings, or aerial photographs, is the most current data publicly available. If the applicant is aware of a significant difference between the available aeriels and land use/land cover maps, and current land use/land cover of an area, the applicant shall explain that difference in detail. Aerial photographs must be legible reproductions.

Provide one copy each of the following to the Siting Coordination Office to be used to facilitate notices and for copying:

- a. Paper copies in no greater than 8 1/2" x 11" size, using match lines as necessary, of each map or drawing which depicts the locale of the main power plant site plus the various associated facilities, using the scale designated for such locale identifier maps.
- b. Electronic copies, using .pdf format, of the same size as scale maps specified above.

Each section below includes details of specific maps or drawings required for that section.

1.3.7 Variances

Variances from environmental standards may be sought for certain results of power plant or transmission line construction or operation.

In each applicable section, list each anticipated variance from applicable state and local standards which will be sought as part of the state certification proceedings for an operation-related impact. Cite the code section number for the standard for which the variance is sought. For informational purposes, list any variances being separately sought from federal standards or guidelines in any federal permit application for this project. State the nature of the variance, the reasons for seeking a variance, anticipated renewal periods, and the facts that show a variance should be granted. Provide the information required by section 403.201, F.S., including a statement identifying the nature of the quality control information, on all sampling data submitted and where it may be obtained by the department. The justification for granting a variance shall include an analysis of all alternatives considered, including costs, reasons for their rejection, and any other information which would clearly demonstrate that the variance should be granted.

B. ELECTRICAL POWER PLANTS

2.0 Need for the Proposed Facility

When applicable, electric utilities shall provide to the Department the estimated schedule for obtaining an affirmative Need Determination from the Public Service Commission.

Unless this information has previously been presented to the PSC, Cogeneration Facility and Resource Recovery Facility (RRF) owners should discuss the need for their facilities in three major areas: (1) internal benefits to the Cogeneration or RRF owner such as access to lower cost electricity, energy savings, use of excess steam, energy efficiency, or revenues generated by lower cost products; (2) benefits to the county, region, and state, such as oil replacement, conservation of land or water (including water reuse), or protection of water quality; and (3) an assessment of the impact of the proposed facility on the reliability, generation planning, unit dispatching and generation costs of the power-purchasing utility, as coordinated with the affected utilities.

3.0 Site and Vicinity Characterization

This Chapter covers the basic information on those physical, biological, and sociological characteristics of the area environment that might be affected by the construction and operation of a power plant and its associated structures on the proposed site. Within this chapter, references to 'associated structures' or 'associated facilities' does not include associated transmission lines, which are addressed in Chapter 9 of this application guide.

The requirements and format of this section may be applied to any other linear project which is associated with a power plant.

3.1 Site and Associated Facilities Delineation

If the power plant unit is to be built on a previously uncertified site as an addition or repowering, provide the information required under 62-17.205(2) F.A.C., which indicates what portions of the facility will be addressed under certification and what will remain addressed under existing permits.

On topographical maps of 1:24,000 scale minimum, show the perimeter of the site and associated facilities, and identify adjacent properties. Indicate total site acreage that is proposed to be certified. Show that part of the site to be occupied or altered by the plant and associated facilities. Indicate other existing and proposed uses of the site to be certified, both before and after construction of the new plant and associated facilities, and the acreage devoted to those uses. Indicate whether any portion of the site to be certified is within the 100-year flood zone.

3.2 Social and Political Environment

3.2.1 Governmental Jurisdictions

Provide maps at 1:126,720 scale indicating the general extent as well as the boundaries of towns and cities within a 5-mile radius of the proposed plant and associated facilities location.

Identify all of the following local, regional, state or federal areas within a 5-mile radius of the plant or associated facilities' location: National parks, forests, seashores, wildlife refuges, wilderness areas, memorials, monuments, marine sanctuaries, estuarine sanctuaries; RARE (Roadless Area Review and Evaluation) areas, national wild & scenic rivers, critical habitat of endangered species, state parks, forests, game management areas, areas of critical state concern, conservation and recreation lands, Save Our Rivers lands, state archaeological landmarks or landmark zones, aquatic preserves, outstanding Florida waters, Florida springs, Florida wild & scenic rivers, county parks or special management areas established by law; Indian Reservations and military lands. Also, where the information is readily available, identify major private landholdings for which the primary purpose is environmental protection (e.g., the Nature Conservancy's Corkscrew Swamp).

Using a 1:24000 scale map, indicate the same for an area of one-mile surrounding the plant and clustered associated facilities (to provide greater detail).

3.2.2 Zoning and Land Use Plans

Identify local government comprehensive plans adopted pursuant to Chapter 163, F.S. for the jurisdictional area in which the plant and associated facilities are proposed. Indicate on a map how and where the plant and associated facilities will interact with the comprehensive plan land use categories. Briefly evaluate the project in terms of consistency with the Local Government Comprehensive Plans, if adopted.

As required by FAC Rule 62-17.121(1), submit four copies of a compilation of information specifying the procedures taken to insure compliance of the site, including associated facilities, with existing land use plans and zoning ordinances. Such compilation must include copies of the applicable portions of the ordinances, regulations, and land use plans involved.

3.2.3 Demography and Ongoing Land Use

Indicate on a map the existing populations (using appropriate governmental projections) of the towns and cities shown on Section 3.2.1's 5-mile map, or identify them on a separate tabulation.

Using Level II categories of the Florida Land Use and Cover Classification System, map at a scale of 1:63,360 the existing land use for an area extending five miles from the plant and one mile from any associated facility not covered in Chapter 9. Verify the continued validity of data more than 6 months old at the time of filing. Provide more detailed information along with Section 3.3.5's vegetation identification.

Indicate the nature and extent of projected land uses and any recent trends such as abnormal changes (sudden increases or decreases) in population or industrial patterns in the vicinity. Describe nearby activities that may be affected by the plant construction and operation in greater detail than more distant activities.

3.2.4 Leases, Easements, Title, Agency Works

Identify any leases, easements or titles which would ordinarily be obtained from any governmental agency (please see 1.2.4 pertaining to State-owned Lands). Identify all proposed locations where the utility has traditionally been required to request road, pipeline or waterworks crossing approvals from State or County governments. Also identify rights-of-way (ROW) which will be crossed and any changes which may be necessary in those ROW features (e.g. roads or canals) to accommodate traverse by plant-related features (e.g., coal conveyors, cogeneration steam pipes, etc.). Long linear features such as rail spurs or transmission lines are addressed in Chapter 9.

3.2.5 Regional Scenic, Cultural and Natural Landmarks

Describe the areas identified in Section 3.2.1 located within five miles of the site and associated facilities which are valued as landmarks for their natural, scenic, or cultural significance that may be affected by the plant and its emissions. Include a brief discussion of the inherent significance, if any, of the site or adjacent areas.

3.2.6 Archaeological and Historic Sites

Indicate whether or not the site or associated facilities have any archaeologically or historically significant sites or areas considered to be potentially significant archaeologically or historically, above or below water, as identified by the Department of State, Division of Historical Resources (DHR). Significance will be determined in terms of the criteria presented in 36 C.F.R. 63 "Determinations of Eligibility for Inclusion in the National Register of Historic Places". Describe the methods used in making archaeological and historical studies of the site. Methods must be acceptable to the DHR. Submit copies of reports resulting from such surveys to DHR.

3.2.7 Social and Economic Characteristics and Public Services

Provide a brief background discussion on the following topics as they relate to the area where the main plant and associated facilities will be located:

3.2.7.1 Social and Economic Characteristics: Labor force, employment by occupation, employment by industrial sector, baseline employment projections, general income characteristics, source of income, average wage and salary income by sector, baseline income projections, housing, existing housing stock, building activity, and housing costs.

3.2.7.2 Area Public Service and Utilities: Education, transportation, medical facilities, fire fighting facilities, police protection, recreation facilities, electricity and gas, water supply facilities, domestic wastewater treatment facilities, and solid waste disposal.

3.3 Physical and Biological Environment

Provide the information listed in the following sections. For those facilities located within the jurisdiction of a water management district which has specific review criteria required by rule, any data required by that rule but not iterated below must also be submitted. Preapplication consultation with the water management district is recommended.

3.3.1 Geology and Hydrology

Describe the major geological aspects of the site and associated facility areas as outlined below, including a description of the geological and soil studies designed to determine the suitability of the site. Include identification of the sampling pattern and the justification for its selection, the sampling method, preanalysis treatment, and analytic techniques in this description. Briefly summarize previously published geological and soil studies, when these are

used. The level of detail for this section should be appropriate to the plant design. For example, if no holding or cooling ponds, ash ponds, FGD sludge or coal piles, etc, are to be created, then some of the information outlined may be omitted.

3.3.1.1 Geologic Description of the Site and Area

Provide a general geological description of the site and adjacent area. This may be in the form of a description of a stratigraphic section taken from available publications. Include formation names, lithologic descriptions, thickness information and average depth below land surface.

3.3.1.2 Detailed Site Lithologic Description

The following information may be developed from exploratory boreholes installed on site (holes can be used for initial groundwater monitoring wells if so desired):

Geologic borehole logs (a continuous lithologic description from land surface through the top of the rock) detailing the depth to and elevation of the top of each lithologic unit, the thickness of each lithologic unit, the grain size analysis of each lithology, the porosity for each lithology, vertical and horizontal hydraulic conductivities for each lithology, and cation exchange capacity for clayey material. Describe site soils according to their soil classifications.

Include data summarizing the driller's logs of the boreholes. Submit two copies of actual logs. These should provide information on the location and approximate elevation; the size and depth of the hole, date drilled, driller's name, method of drilling, drilling rate or effort, loss of circulation with estimated percentage of loss and reason for loss, ground water level, method of sampling, depth at which samples were taken, and method of hole abandonment if applicable, including volume of materials required to fill the hole.

Provide geologic cross sections through the site (developed from geologic boreholes). These cross sections should indicate the continuity of the lithologic units throughout the site.

3.3.1.3 Geologic Maps

For appropriate portions of the site (e.g., where structures, ponds, or storage areas are proposed or where spills are likely to occur) indicate the top of significant geologic units and isopachs of significant geologic units; provide a fracture trace analysis. Highlight soils or geologic features which could be used to attenuate contaminants from leachate or runoff.

3.3.1.4 Bearing Strength

For proposed sites at which bearing strength may be an issue, provide a foundation suitability assessment. For sites where no such assessment is provided, briefly explain why bearing strength is not considered significant.

3.3.2 Subsurface Hydrology

As outlined below, describe the physical, chemical and hydrological characteristics (and their seasonal variations) of subsurface waters that will be affected by plant effluents or that will be affected by the construction or operation of the proposed plant and associated facilities.

3.3.2.1 Subsurface Hydrologic Data for the Site

Describe the shallow water table aquifer with a water table contour map; maximum and minimum recorded water table elevations; vertical and horizontal gradients; estimated rate of groundwater flow; directions of groundwater flow; the aquifer's relationship to local geology, background water quality; and aquifer characteristics including specific yield, hydraulic conductivity, thickness, and water quality classifications.

Characterize other potentially impacted aquifers by providing potentiometric surface maps to the nearest foot for wet and dry seasons. Also discuss gradient; estimated rate of groundwater flow; estimated direction of groundwater flow; estimated yearly recharge from overlying hydrogeologic units; aquifer characteristics including thickness, transmissivity and storage capacity; utilization for water supply; discharge features associated with the aquifer; and background water quality.

Characterize the confining unit's hydrologic characteristics including thickness, vertical hydraulic conductivity, storage capacity, hydraulic head at the top and bottom of the confining unit, and leakage rate. Also describe the continuity of the unit throughout the site and general area.

3.3.2.2 Karst Hydrogeology

Where karst features potentially affect the hydrology of the site, the following approach is recommended:

Perform a detailed fracture trace analysis using black and white and infrared aerial photography and topographic maps. Locate and map all apparent sink features in the general area. Ground-truth and map linear features delineated by the analysis. Perform a reconnaissance survey using geophysical techniques, with special emphasis placed on features identified by the fracture trace analysis. Where applicable, ground penetrating radar and/or other electromagnetic methods may be used. On the basis of the initial geophysical reconnaissance and the fracture trace analysis, employ one or more geophysical methods to specifically locate test borings to verify anomalous geophysical features.

3.3.3 Site Water Budget and Area Uses

Using the most representative data for the site, provide information on rainfall, including both average yearly and monthly averages; average monthly temperature; estimated yearly evapotranspiration; estimated yearly evaporation; estimated yearly runoff; estimated peak runoff; and estimated yearly groundwater recharge. Give sources for the data.

Discuss the nature and amounts of present major water uses such as community water supplies, agricultural irrigation, reservoirs, recreation and transportation. Also, to the extent the necessary information is available from public records, discuss the sources (surface water or aquifer) of these waters within a five mile radius of the main plant site. Show the major impacted sources including withdrawal points. Include the source of information concerning the surrounding major water users, i.e. water management district permits, U.S.G.S. surveys, etc., on a map. Identify the location of all potable water wells currently in use within one mile of the site, and where such information is readily available, provide more detailed information on size, depth, casing (including depth and type), average withdrawal rates, construction details, and water use. In the case of difficulties in obtaining private well information, the applicant should consult with the Department and the appropriate water management district as to sufficient alternative information.

3.3.4 Surficial Hydrology

3.3.4.1 Hydrologic Characterization

Describe the physical, chemical, and hydrological characteristics, including seasonal variations, of surface waters that will be affected by plant effluents or stormwater or that will be affected by the construction or operation of the proposed plant and associated facilities. Include the water classification designated in Chapter 62-302, Surface Water Quality Standards, and 62-520, Ground Water Classes, Standards, and Exemptions, F.A.C. Include a general description of significant tributaries (those shown on USGS 7.5 and 15 minute quadrangle maps) affected by the site including associated facilities, and the pattern and gradients of drainage in the area. Information on water characteristics should include measurements, to the extent possible, made on or in close proximity to the site.

Discuss the maxima, averages and minima of important parameters of those surface waters which may be affected by construction or operation of the plant. Include where applicable: flow rate, velocity, water table elevation above mean sea level, chemical characteristics, temperature, circulation patterns, mixing characteristics, river and lake levels, tides, floods, currents, wave action and flushing times, and volumes of flows in and out of lake systems.

Indicate how volumes and areas of surface waters change with expected seasonal and other water level fluctuations. When a stream or other water body would be used by the plant, provide the available mean, low, and high flow values. Establish vertical and areal variations for the area affected by the site. When using historical data, cover a ten-year period or the period of record if less than ten years of normal, high and low flow hydrological conditions.

3.3.4.2 Measurement Programs

Describe the programs and methods for measuring background physical and chemical parameters of surface waters which will be affected during construction and/or operation of the facility. Present the sampling program in sufficient detail to demonstrate its adequacy with respect both to spatial coverage (surface area and depth) and to temporal coverage

(durations and sampling frequency), and to give due consideration to seasonal effect. Also describe any computational models used in predicting effects. Indicate how models were verified and calibrated.

3.3.5 Vegetation/Land Use

Provide a 1:12000 scale land use and vegetation map of the site itself and associated facilities. Identify all land uses and vegetation communities that are five acres or greater in size. Use at least Level III data categories of the Florida Land Use and Cover Classification System to classify each land use and vegetation type. In the application text, identify for the main site the dominant or indicator species found in the canopy, subcanopy, and ground cover of each plant community, and identify the quality or condition of each plant community (i.e., recently clear cut, ditched and drained, virgin, sparsely stocked with timber, etc.). The applicant shall verify the continued validity of data more than 12 months old at the time of filing.

3.3.6 Ecology

Identify the important flora and fauna within five miles of the site and associated clustered facilities that may reasonably be expected to be affected by the proposed facility. "Important" species of plants and animals include (1) species listed as endangered or threatened by the U.S. Fish and Wildlife Service, (2) species listed by the Florida Fish and Wildlife Conservation Commission in F.A.C. Rule 39-27 as endangered, threatened or species of special concern, (3) species listed as game, furbearers, or freshwater game fish in F.A.C. Rule 39-1, and (4) species which are indicators of, endemic to, or are otherwise unique to specific plant communities and habitat types. Items 1 through 3 above will vary significantly from site to site, therefore, the applicant should establish with DEP and FFWCC staff the species to be studied.

Discuss the abundance of all important species found on-site and evaluate the value of on-site habitats to all important species found on-site. Identify all sources of information used in the discussion, and list all available published material dealing with area ecology.

3.3.6.1 Species-Environmental Relationships

In the discussion of species-environmental relationships, include (1) descriptions of area usage (e.g., habitat, breeding, etc.); (2) life histories of important regional animals and aquatic organisms, their normal seasonal population fluctuations and their habitat requirements (e.g., thermal tolerances) when available; (3) and identification of food chains and other interspecies relationships when these contribute to predictions or evaluation of the impact of the plant on the regional biota. In cataloging the local organisms, identify major species of terrestrial and aquatic organisms and discuss the abundance of the important organisms. Include species that migrate through the area or use it for breeding grounds in this discussion.

3.3.6.2 Pre-Existing Stresses

When appropriate, identify known, pre-existing environmental stresses from sources such as pollutants, as well as other ecological conditions suggestive of such stresses. In addition, identify the status of ecological succession and the histories of any infestations, epidemics or catastrophes (caused by natural or man-induced phenomena) that have had a significant impact on regional biota.

3.3.6.3 Measurement Programs

Describe the programs used to determine the ecological characteristics presented above. Those portions of the program concerned with determining the presence and abundance of important aquatic and amphibious species should be detailed in terms of frequency, pattern and duration of observation. Indicate how taxonomic determinations were made and validated. Discuss the reference collection of voucher specimens or other means whereby consistent identification is assured.

Describe the methods used and to be used for observing natural variations in ecological parameters. If these methods will involve indicator organisms, present their criteria for selection. For aquatic species, gather this information according to the methods in U.S. EPA's manual entitled "Biological Field and Laboratory Methods for Measuring the Quality of Surface Waters and Effluents," as revised, or by other techniques acceptable to the Department. Identify sources of information. Note and describe studies in progress. Specific details or raw data from any of these programs may be included as an appendix.

3.3.7 Noise

Describe the ambient sound levels at the main plant site and associated facilities. Describe the methods used in making noise surveys. Address the additional effect from any existing or proposed nearby sources of noise.

3.3.8 Other Environmental Features

For certain sites, some information about the plant or associated facilities environs, which may be necessary in order to reflect the value of the site and site environs, may not clearly fall within the scope of the preceding topics. Include such additional information here. The need for additional information may require pre- and post-submittal conferences with the department staff.

4.0 *The Plant and Directly Associated Facilities*

The operating plant and directly associated facilities, including all linear facilities except electrical transmission lines, are to be described in this chapter. The best estimate of the character and magnitude of the plant discharges and plant-related systems should be described in as much detail as possible.

4.1 *Background*

Discuss how unit size affected the choice of other site equipment, e.g., FGD systems, cooling technology, etc. Cross-referencing to Chapter 8 is encouraged.

4.2 *Site Layout*

The actual or conceptual building layout and plant perimeter should be illustrated and related to the site map presented in Section 3.1. Show the proposed plant profile in proportion to the surroundings by line drawings or other illustrative techniques. Clearly indicate the location and elevation of release points for liquid and gaseous waste.

4.3 *Fuel*

Discuss the proposed fuel use characteristics of the plant including (1) the types of fuel to be used, (2) quantities, (3) transportation, (4) storage, and (5) fuel quality, e.g., ash, Btu, and sulfur content. Include a discussion of the ability to use alternative or supplemental fuel types, e.g., refuse derived fuel to supplement coal. Include a condensed description of the major considerations which led to the selection of the proposed fuel (e.g., high-sulfur vs. low-sulfur coal, the short- and long-term availability of the chosen fuels, limitations on the use of specific fuels at the proposed site, maximum allowable fuel sulfur content, availability of large volumes of alternative fuels, required transportation networks, etc.).

If coal is to be stored on site or at the associated facility and the geological or hydrological conditions are not suitable for coal pile placement without improvement, discuss the use of natural or manmade liners for the pile. Outline design parameters for leachate and runoff control.

4.4 *Air Emissions and Controls*

4.4.1 *Air Emissions Units*

Describe fully all proposed new or modified emissions units at the site. Any planned unit retirements whose reductions in emissions are being proposed to offset the proposed emissions must be disclosed at this time.

4.4.2 Air Emission Controls

Summarize all proposed control technologies and methods for each emissions unit to achieve compliance with applicable regulations. Furthermore, a complete analysis and proposal regarding the capture and sequestration of CO₂ should be included. It is the intent of the Siting Board 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.

4.4.3 Control Technology

Provide a summary of the submitted control technology being proposed for each applicable pollutant. The relevant portions of the separately submitted PSD application may suffice.

4.4.4 Design Data for Control Equipment

Provide current design parameter tables and flow charts for the proposed air pollutant control equipment. In the tables, include information and assumptions related to equipment design calculations, such as fuel properties, boiler data, excess air, chemical properties and flue gas data (temperature, flow rate, dew point, particulate loading and alkalinity). In the flow charts, indicate the arrangement of the control equipment, boiler and air heater, chemical preparation and control systems, pumps and fans, stack(s), and settling ponds, etc.

4.4.5 Design Philosophy

Describe the design philosophy for the proposed control equipment, such as ESP, SCR and FGD systems. Discuss any plans developed to design the plant to achieve DEP's "Environmental Stewardship" goals and criteria.

4.5 Plant Water Use

Present a quantitative water-use diagram and water-budget for average and peak water use of the plant, showing estimated quantities of water flows to and from the various plant water systems, including the heat dissipation system, sanitary wastewater system, potable water systems, pollution control systems and process water system. Indicate the sources, quantity, and quality of water for each input. Sections 373.250 and 403.064, Florida Statutes (F.S.), establish the encouragement and promotion of water reuse as formal state objectives, and state that water reuse is in the public interest. Reclaimed water use at power plants is allowed by Part VII of Chapter 62-610, Florida Administrative Code (F.A.C.), and reclaimed water is used at several power plants throughout the state. Whenever feasible and appropriate, reclaimed water should be used to meet water use needs at the plant.

Show total consumptive use of water by the plant, including a comparison of preconstruction to post-construction evaporation, diversion, blowdown and seepage quantities from the plant for maximum power operation and average anticipated power operation. Describe flows occurring during plant shutdown or abandonment separately.

For those facilities located within the jurisdiction of a water management district which has specific review criteria required by rule, submit any data required by that rule which is not iterated below. Preapplication consultation with the water management district is recommended.

4.5.1 Heat Dissipation System

4.5.1.1 System Design

Describe the type of heat dissipation system to be used in the proposed plant. Include where applicable, estimates of: quantity of heat dissipated; quantity of water withdrawn; consumptive use; design size and location of cooling system; blowdown volume and physical characteristics of towers and ponds; temperature changes and hold-up times in the cooling ponds; rate of evaporation of water from towers or ponds; conceptual information on dams or dikes where a cooling reservoir will be created (including cross-sections, plan views, plot-plans, and seepage rates); conceptual design and location of water intake structures, including water depth, flow and velocity, screens, number and capacity of pumps at intake structures; maximum predicted discharge temperature at POD; and, travel time from condenser inlet to POD.

4.5.1.2 Source of Cooling Water

Identify the source and quality of the proposed cooling water. The temperature range of the cooling water supply (including monthly changes and stratification) is described in Section 2.5.

Describe the minimum water quality characteristics the cooling water source must possess in order to operate the proposed heat dissipation system.

4.5.1.3 Dilution System

Describe any dilution system including: proposed point of addition and flow rate of any diluent added to the cooling water stream; details of outfall design, including discharge flow and velocity and the depth and location of the discharge structure in the receiving water; seasonal variation in operation; and intake design details, if a separate intake for dilution water is used.

4.5.1.4 Blowdown, Screened Organisms, and Trash Disposal

Describe proposed systems and procedures for removal and disposal of blowdown from the heat dissipation system, organisms collected on intake screens, and trash collected at the intake structures.

4.5.1.5 Injection Wells

If injection wells are to be used for disposal of cooling system and/or boiler blowdown or any other type of waste, provide well construction diagrams. Include information on the casing depths, well bore diameters, grouting, etc., for the injection well and monitoring

wells. Show the location of the monitoring wells and describe the drilling and testing programs. List the materials or chemicals and the estimated quantities of each to be injected. A detailed geological description of the disposal site together with information about the aquifer, its quality, quantity, etc., must be provided in Section 2.3.1 and referenced here.

4.5.2 Domestic/Sanitary Wastewater

Describe system flows and the types, volumes, and concentrations of pollutants discharged. Describe the treatment and disposal systems.

4.5.3 Potable Water Systems

Describe the potable water systems (including their proposed flows), indicating any wastes which may be generated from purification or softening operations. Describe the treatment and disposal systems.

4.5.4 Process Water Systems

Describe the process water system. Include the types, volumes, and concentrations of any pollutants discharged. Describe the treatment and disposal systems.

4.6 Chemical and Biocide Waste

Provide flow diagrams for the chemical waste system, and describe chemical additives (including corrosion inhibitors and chemical and biological anti-fouling agents). Describe waste streams or discharges from chemical processing, water treatment or waste piles that may enter the local environment as a result of plant operation. Include a conceptual description of the means by which effluents will be treated, controlled and discharged.

4.7 Solid and Hazardous Wastes

4.7.1 Solid Wastes

Describe the anticipated quantities and types of solid waste, including ash and FGD waste, if any, which will result from plant operation. Describe the methods of disposal of these wastes and how the requirements of Chapters 62-701 and 62-702, F.A.C., where applicable, will be achieved for the waste disposal areas. The storage of wastes before disposal or beneficial reuse should be described.

Provide a copy of the operations plan for the plant's solid waste facilities.

4.7.1.1 Prohibitions

In accordance with Rule 62-701.300(2), F.A.C., describe how the waste storage and disposal areas will comply with all applicable prohibitions.

4.7.1.2 Waste Containment Design

Provide a detailed description of any liner system design for disposal of ash or FGD waste, if generated, and explain how it will either comply with the construction requirements of Rule 62-701.400, F.A.C. or otherwise provide reasonable assurance that ground water standards will not be violated. The liner system must be installed using appropriate Construction Quality Assurance as described in Rule 62-701.400, F.A.C.

4.7.1.3 Leachate Control

Describe how surface impoundments and storage tanks used to store leachate removed from solid waste management areas will be constructed. If leachate will be used in the power plant units or disposed of off-site, explain this procedure and how this use or disposal will not result in uncontrolled releases of leachate to the environment.

4.7.1.4 Surface Water Control

Describe how the stormwater management system will be constructed to meet the requirements of Rule 62-701.400(9), F.A.C. Explain procedures that will be used to avoid the mixing of stormwater with leachate from the waste management areas.

4.7.1.5 Geotechnical Investigation

Provide a geotechnical investigation of the waste disposal site which meets the requirements of Rule 62-701.410(2), F.A.C. Include a foundation analysis documenting the ability of the foundation to support the additional forces of the landfill and evaluate the stability of the planned waste disposal areas.

4.7.1.6 Water Quality Monitoring Plan

Provide a water quality monitoring plan for the waste disposal area which meets the requirements of Rule 62-701.510, F.A.C. Describe how ground water and surface water, which has the potential to be impacted by the disposal area, will be monitored. Describe the procedures for monitoring leachate quality from the disposal area.

4.7.1.7 Closure Plan and Long-Term Care

Provide a description of the planned closure procedures and design for the solid waste disposal areas which meets the requirements of Rule 62-701.600, 62-701.610, and 62-701.620, F.A.C. Include a description of the final cover design and the proposed method for maintaining the final cover.

4.7.1.8 Financial Assurance

In accordance with Rule 62-701.630, F.A.C., describe how the financial assurance requirements will be met for the disposal areas.

4.7.2 Hazardous Wastes

Where hazardous wastes as determined by F.A.C. Rule 62-730 will be generated, treated, stored or disposed on site, explain how the policies and requirements of F.A.C. Rule 62-730 will be met.

4.8 On-Site Drainage System

Describe the proposed on-site drainage system indicating the location of storage ponds, potential spoil areas and potential discharge points for stormwater runoff from construction and operation, as well as the receiving ground and surface waters. Identify the design storm for which the drainage system has been designed. Provide the information required by F.A.C. Rule 62-25 and applicable water management district rules which have been used in the design of the facilities.

4.9 Heavy Equipment and Materials

Describe how heavy equipment such as large cranes, plant components such as boilers, or voluminous material such as limestone for the FGD system will be transported to the site, unloaded, stored, and moved around the site. Discuss the location of storage areas, laydown areas and the pollution control features of each area. Discuss the adequacy of roads, railways, waterways and bridges for allowing shipment of heavy materials and equipment to the site.

4.10 Associated Linear Facilities

Linear facilities which are directly associated with an electrical power plant and are included in the power plant's certification most commonly include electrical transmission lines, natural gas transmission lines, access roads, rail lines, cooling water pipelines, drinking water pipelines and wastewater pipelines. These may be wholly contained on the power plant site or may extend off-site for some distance.

Discuss each type of associated linear facility, using the same format and providing the same information as outlined in Chapter 9, where applicable.

4.11 Emergency Disaster Preparedness Plans

Describe emergency disaster preparedness plans for the site for natural events such as hurricanes.

5.0 *Environmental Effects of Site Preparation, and Plant and Associated Facilities Construction*

This chapter discusses the expected environmental effects of site preparation and construction of the plant and associated facilities. Present the effects in terms of their physical impact on the resources and populations described in Chapter 3 and in terms of compliance with the non-procedural standards of any affected agency.

The applicant's discussion of environmental effects must make clear which of these effects are considered unavoidable and irreversible. Those effects which represent an irretrievable commitment of resources must receive detailed consideration in Section 5.4. In the context of this discussion, "irretrievable commitment of resources" alludes to natural resources and means a permanent impairment of these resources, e.g., loss of wildlife habitat; impairment of nesting, breeding or nursery areas; interference with migratory routes; damage to archaeological or historic sites; and, loss of valuable natural areas, as well as the expenditure of directly utilized resources. Measures to reduce or eliminate any impacts should be discussed where appropriate under each category in Sections 5.1 through 5.9.

In each section indicate the specific environmental effects, if any, which the applicant proposes to monitor during plant construction. Where site preparation and/or facility construction may alter a previously measured or observed environmental condition, describe the program for monitoring the modified condition.

5.1 *Land Impact*

5.1.1 *General Construction Impacts*

Provide information on the amount of land which will be disrupted by construction and whether explosives will be used, including a discussion of frequency of use. Discuss the effects of construction activities and provide a description of how these activities may disturb the existing terrain.

5.1.2 *Roads*

Provide information concerning any use of state of Florida right-of-way or transportation facilities, as required by the Department of Transportation's Utilities Accommodation Guide, Chapter 14-46, F.A.C. Provide information concerning access to state transportation facilities as required by Chapters 14-96 and 14-97, F.A.C. Access includes not only service roads but also proposed modifications to the state facility such as median cuts, acceleration and deceleration lanes, improved design, signalization, and others.

To determine the impact of construction and operation of the power plant and associated facilities on state transportation facilities, the Department of Transportation needs the following information:

- a. Estimated number of construction workers.

- b. Estimated number of facility employees.
- c. Estimated number of trips and the trip routes associated with both the construction workers and employees.
- d. Proposed use or modification of state facilities and right-of-way, with detailed maps and drawings.
- e. Identification of any facility designs or operations which could impact transportation, including aviation and the dispersion of emissions or drainage into state facilities, such as roadside swales.
- f. Identification of any operations or construction activities which may impact modal transportation, including the use of overweight or overdimensional vehicles, rail, and shipping.

5.1.3 Flood Zones

If structures are to be placed on any portion of the site within the 100-year flood zone, describe how compliance with local flood program regulations will be achieved.

5.1.4 Topography and Soils

Describe any construction-related alteration of site topography or soils which might affect runoff, percolation rates, subsidence, sink hole formation, bearing strength, soil stability, aesthetics, or view.

5.2 *Impact on Surface Water Bodies and Uses*

5.2.1 Impact Assessment

Describe the impact of site preparation and construction activities on surface waters (lakes, streams, oceans, etc.). Discuss the overall plan for use (recreation, reservoir, etc.) of water bodies that may be affected by plant construction. Activities that might affect water use include the construction of cofferdams or storm sewers, dredging operations, borrow pits, placement of fill material in the water, and the creation of shoreline facilities involving bulkheads, piers, jetties, basins or other structures enabling ingress or egress from the plant by water. Examples of other pertinent activities are construction of intake and discharge structures for cooling water or other purposes, straightening or deepening a water channel, and operations affecting water levels (flooding), construction, etc. Describe the effects of these activities on navigation, fish and wildlife resources, water quality, water supply, and aesthetics. Where it is proposed to create a cooling water lake, describe the effects on the local ecology, including the loss of flora and loss or gain of habitat for migratory and resident fish and wildlife in the area the lake will occupy. Where applicable, describe any program for the establishment, development or control of aquatic plant and animal life. This discussion may reference any available data based on studies of similarly sited artificial lakes. If excavations are made for cooling ponds or canals, describe the type and volume of material to be removed and the method and site of its ultimate disposal.

Where any structures will be placed, or other construction done for the site or associated facilities in waters of the state, (e.g. roads built across watercourses requiring trestles or culverts and filling, intake and discharge structures in rivers or bays, cooling ponds encompassing

marshes or swamps, ditch realignments, etc.) submit as an appendix the Joint Application for: Environmental Resource Permit (Part IV, Chapter 373, F.S.)/Authorization to Use State Owned Submerged Lands/Federal Dredge and Fill Permit, and Supplements A through E, excluding Attachments I through VI, July 4, 1995, DEP Form 62-343.900(1), F.A.C., or as subsequently amended, to facilitate coordination of Federal and State permits. Address dredging or filling information for long narrow linear features such as transmission line access roads or rail spurs in Chapter 9.

5.2.2 Measuring and Monitoring Programs

Describe the programs and methods for measuring the physical and chemical parameters and assessing ecological relationships of waters which will be affected during construction and/or operation of the facility for those water quality criteria contained in F.A.C. Rule 62-302. Present the sampling program in sufficient detail to demonstrate its adequacy with respect to both spatial coverage (surface area and depth), and temporal coverage (durations and sampling frequency), giving due consideration to seasonal effects.

In addition to describing the programs for obtaining the data, describe any computational models used in predicting effects. Indicate how models will be verified and calibrated.

5.3 Groundwater Impacts

5.3.1 Impact Assessment

Describe the potential effect which site preparation and facility construction will have on the chemical and/or physical condition of local groundwaters (i.e. during dewatering operations).

5.3.2 Measuring and Monitoring Programs

Describe the program leading to the assessment of effects, including use of models.

5.4 Ecological Impacts

5.4.1 Impact Assessment

Describe construction-related impacts on fish and wildlife, important species and their habitats. Discuss the potential impacts of construction on animal species diversity and composition, acres of each habitat type lost or altered, species displaced, new habitat created, changes in primary productivity (both aquatic and terrestrial), soil compaction, and potential for regrowth.

5.4.2 Measuring and Monitoring Programs

Describe the program used to monitor the ecological characteristics presented in Section 2.3.6. Describe any proposed changes in the program for assessing effects on the aquatic or terrestrial biota resulting from site preparation and plant construction.

5.5 *Air Impact*

Describe methods to control fugitive emissions (dust, smoke, etc.) generated during construction. Identify any proposed construction-related monitoring programs.

5.6 *Solid Wastes*

Describe the anticipated type and quantities of solid waste that will result from plant construction. Describe the methods and locations of disposal.

5.7 *Impact on Human Populations*

Indicate the proximity of human populations to the construction area and identify undesirable impacts on their environment arising from noise and from inconveniences due to the movement of men, material, and machines. Include activities impacting on housing, transportation, and educational facilities for local residents, workers and their families. Provide a schedule of the estimated work force to be involved in site preparation and plant construction.

5.8 *Impact on Landmarks and Sensitive Areas*

Describe any expected construction-related environmental impact on those areas identified in 2.2.5, including changes in accessibility.

5.9 *Impact on Archaeological and Historic Sites*

Discuss construction impacts on archaeological and historic sites deemed significant in 2.2.6, including those significant sites recommended for preservation. Describe what action is being proposed to mitigate these impacts. Discuss the procedure used to identify, catalogue, and preserve unforeseen discoveries of archaeological sites until their significance can be determined, as well as the procedure for monitoring construction activities.

5.10 *Special Features*

Describe and discuss all special features such as unusual products, raw materials, garbage disposal services, incinerator effluents and residues produced during construction, which may have an influence on the environment and ecological systems of the plant site and the adjacent areas.

5.11 *Benefits from Construction*

Discuss any effects of site preparation and plant construction activities which may be beneficial to the region.

6.0 *Effects of Plant Operation*

This chapter describes (1) the operational interaction of the plant and associated facilities with the environment, and (2) the applicant's plans and programs for monitoring the environmental impacts resulting from plant operation. Discuss the effect of plant operation in the context of the non-procedural standards of any affected agency. The applicant is not required to repeat the material presented in previous chapters, but to reference previously presented material. Describe effects of plant operation on the environment in detail. In the discussion of environmental effects, clearly distinguish effects that are considered unavoidable but are either temporary or subject to later amelioration from effects regarded as unavoidable and irreversible. Describe mitigation efforts and effects, where applicable.

Quantify and systematically present the impacts of operation of the facility. Make clear the source of each impact and the population or resource affected. Estimate impacts due to failure of control devices. In the discussion of each impact, make clear whether the supporting evidence is based on theoretical, laboratory, on site, or field studies undertaken on this or previous occasions.

Discuss the relationship between local effects lasting for the operational life of the proposed facility and effects which persist beyond the life of the plant.

6.1 *Effects of the Operation of the Heat Dissipation System*

If a demonstration is made pursuant to Section 316(a) or (b) of the Clean Water Act, the information presented in this demonstration may be substituted for the information required below in this section with appropriate cross-referencing.

Complete sections below as applicable.

6.1.1 *Temperature Effect on Receiving Body of Water*

Describe the effect that the heated effluent will have on the temperature of the receiving body of water with respect to space and time. Describe changes in temperature caused by drawing water from one depth and discharging it at another, including seasonal effects and the predicted temperature changes in the receiving body of water as a whole. Compare the proposed discharge with the thermal standards or limitations applicable to the receiving body of water (including maximum permissible temperature, maximum temperature, and maximum permissible temperature increase above ambient). If mixing zones are requested, describe their size and location.

6.1.2 *Effects on Aquatic Life*

Describe the effects of released heat on marine or freshwater life. Give the basis for any prediction of effects. If models are used, describe them in a subsection of this section. In this discussion, appropriate references should be made to the baseline ecological data presented in Section 3.3.6. Relate expected thermal effects to the optimum and tolerance temperature ranges

for important aquatic species (as defined in Section 3.3.6) and the food chain which supports them. In the evaluation, consider aquatic habitat potentially affected by operation of the plant, especially by decreased quantities of freshwater. Identify probable hazards of the cooling water intake and discharge structures to fish species and food base organisms. Discuss plans for minimizing the hazards of impingement and entrainment. Discuss diversion techniques around the intake and discharge structures in light of the information obtained from ecological studies on fish populations, size, and habitats. Indicate whether any of the species affected are, or are thought to be, in the food chain of important species.

Discuss the possible impacts of unit shut-down on aquatic life, in particular, manatees, with special attention given to the influence of the season on the potential effect. Describe procedures for mitigating thermal shock to organisms.

Discuss the possible effects of passage through the condenser on plankton populations and the resultant implications for important species and functional groups.

6.1.3 Biological Effects of Modified Circulation

Discuss the plant's effect on the natural circulation of water bodies used as a source of cooling water and the potential biological effects of this modification of circulation. In the discussion, consider such factors as the alteration of dissolved oxygen and nutrient content and distribution in receiving waters, as well as the anticipated effects of scouring, erosion, and deposition of suspended sediments. Discuss seasonal effects of any increased or decreased volumes of water in the receiving body of water.

6.1.4 Effects of Off-stream Cooling

Discuss any expected effects of heat dissipation facilities such as cooling towers, lakes, spray ponds, or diffusers on the local environment and on agriculture, housing, highway safety, airports, or other installations with respect to meteorological phenomena, including fog, and cooling tower blowdown and drift. If fog occurs, present the estimated hours per year, distances, directions, and transportation arteries (including navigable waters) potentially affected. Discuss measures, if any, to mitigate such effects. Consider possible synergistic effects that might result from mixing of fog or drift with other plant emissions in the atmosphere. Discuss environmental effects of chemicals discharged in cooling tower drift in Section 6.2 rather than in this section. Where recycled domestic wastewater is to be utilized as a non-contact cooling water, discuss the biological and health impacts from the aerosolization of bacteria and viruses.

6.1.5 Measurement Program

Describe the programs and methods for measuring the physical and chemical parameters of waters which will be affected during operation of the facility. Present the sampling program in sufficient detail to demonstrate its adequacy with respect both to spatial coverage (surface area and depth) and temporal coverage (durations and sampling frequency). Give due consideration to seasonal effects.

Provide details on mathematical calculations used in predicting thermal plume configurations in an appendix to the application. Identify all models used, and describe any mathematical models used in predictions, and how such models were verified and calibrated.

Describe the program used to assess the ecological characteristics of aquatic systems presented in Section 3.3.6. Any variation from the preconstruction program that is to be used during the operational phases of the project should be described.

6.2 *Effects of Chemical and Biocide Discharges*

6.2.1 Industrial Wastewater Discharges

Show how compliance with applicable state discharge regulations and water quality standards for industrial wastewaters including chemical wastes, biocides, and oil and grease will be achieved. Compare the concentrations of these wastes at the points of discharge with natural ambient concentrations without the discharge and with applicable water quality standards. Identify and discuss the acute and chronic toxicity of effluent constituents on aquatic biota, including any long-term accumulation in sediments and biomagnification through the food chain. Compare concentrations with the LC₅₀ of the affected biota. Discuss dilution and mixing of discharges into the receiving water, and provide estimates of concentrations at various distances from the point of discharge. Include a detailed description of the method of calculation. Describe and display on a map the estimated area enclosed by contour lines of equal concentration and a contour line corresponding to water quality standard values in the receiving body of water. An appropriate substitute methodology may be utilized where ambient water quality does not meet applicable standards.

Discuss variations of the estimated waste discharges showing predicted changes in conditions of the receiving body of water (e.g. stream flow), and use contour maps showing concentrations and areas affected to display the effect of the variations.

6.2.2 Cooling Tower Blowdown

In this section, discuss the effects of chemicals in cooling tower blowdown on the environment. Provide estimates of concentrations at various distances. With regard to any non-procedural standards of an affected agency, identify and discuss any anticipated chemical or biocide contamination of the receiving body of water.

Where use of treated domestic wastewater is proposed as cooling water, discuss disposal of this wastewater effluent, should the power plant be unable to accept the volumes agreed to due to emergency situations. Also, provide documentation of the wasteload allocation for the disposal of domestic effluent and cooling tower blowdown containing such effluent discharged into surface waters having a wasteload allocation.

Where use of treated domestic wastewater is proposed, discuss cooling tower drift and the criteria covered by Chapter 62-610, F.A.C. for distance, treatment level, etc.

6.2.3 Measurement Programs

Where applicable, provide the same information required by subsection 6.1.5.

6.3 Impacts on Water Supplies

6.3.1 Surface Water

Discuss plant-caused changes in hydrologic or water quality conditions due to diversion, interception, or additions to surface water flow. Discuss proposed surface water withdrawals, consumptive use, water use rates in relation to other existing and proposed consumptive uses, and the hydrologic interactions of each. Whenever feasible and appropriate, reclaimed water should be used to meet water use needs at the plant.

6.3.2 Groundwater

Characterize all waste streams such as cooling water, boiler blowdown, reverse osmosis concentrates, or any other waste stream generated by industrial processes for all appropriate water quality parameters

Describe waste disposal systems and assessment of geology and hydrogeology within each disposal system with a precise determination of ground water flow direction within the aquifer systems of concern. Describe any appropriate ground water monitoring within each disposal system for all appropriate parameters based on characterization of each waste stream/effluent and determination of ground water flow direction.

Evaluate ground water mounding conditions within each disposal system using appropriate ground water flow models, especially off-site impacts, if any. Use of contaminant models may be necessary, if warranted by site-specific operation and hydro-geological conditions.

Describe any hydrologic models used to assess the impacts of plant pollutants on the groundwater resources. Consultation with the DEP Groundwater staff is highly recommended. Soils or geologic features which could be used to attenuate contaminants from waste leachate or runoff should be highlighted.

Describe what impact there will be on water table elevations, direction of groundwater flow, and site stability. Should the facility contaminate the groundwater, estimate the distance contaminants could travel before being discharged to surface waters or diluted, diffused, or adsorbed to achieve groundwater quality criteria. Plot drawdown contours for the area within a five mile radius of plant water supply wells.

6.3.3 Drinking Water

Identify the quality, quantity and hydrological changes due to the plant water use, either by withdrawal or discharge to a drinking water source and discuss their impacts. In water-short areas, discuss water reuse and recycling systems. Discuss the effects of discharges into drinking

water sources. In either tabular or graphic form, show expected impacts on all significant potable water supply wells. Provide a potable well inventory within a one-half mile radius from each waste disposal system.

6.3.4 Leachate and Runoff

Provide an assessment similar to that outlined in 6.2.1 of the effects of leachate and runoff from coal and materials storage piles, ash and wastewater ponds, flue gas desulfurization (FGD) storage areas or ponds on ground or surface water quality, and on terrestrial and aquatic environments. Identify how compliance with applicable State and Federal regulations will be achieved. Provide calculation methods or printouts of computer models utilized in predicting seepage plumes in an appendix to the application.

6.3.5 Measurement Programs

Where applicable, provide the same information required in section 6.1.5.

6.4 *Solid/Hazardous Waste Disposal Impacts*

6.4.1 Solid Waste

Discuss impacts other than those covered above in 6.2 or 6.3 created by the disposal of solid wastes on site (e.g., an alteration of topography and stratigraphy due to mounding of fixed FGD sludge). Discuss benefits to be gained from recycling solid wastes.

Describe impacts, if any, on directly affected off-site land-filling operations (e.g. consumption of landfill space, using fixed FGD sludge as cover material for landfills, etc.).

6.4.2 Hazardous Waste

Discuss the impacts resulting from on-site hazardous waste disposal or handling facilities (e.g., off-site space consumption, etc.).

6.5 *Sanitary and Other Waste Discharges*

Discuss the expected effects of sanitary wastes or any other discharge system in the same manner as in Section 6.2.1.

6.6 *Air Quality Impacts*

6.6.1 Impact Assessment

Describe whether the proposed facility or modification will cause or contribute to a violation of the state ambient air quality standard.

Discuss the findings of the impacts of the project on state air quality standards. Indicate what safeguards are in place to assure the Department of the welfare and protection of citizens. For informational purposes, include a copy of the separate PSD permit application submittal for this project.

6.6.2 Monitoring Programs

Describe any measurement program that is proposed to be conducted by the applicant to monitor local meteorology, ambient air quality, or visibility after the plant begins operations. If significant changes in the program used for gathering background data are proposed, those changes should be well explained. The program, including quality assurance procedures, will be reviewed by the Department for consistency with all applicable provisions of Department Rules.

Describe the proposed stack monitoring equipment that will be used, such as continuous monitors, for listed air pollutants. DEP Form 62-210.900(1), "Application for Air Permit - Title V Source," may be used to satisfy this requirement.

6.7 Noise

Describe anticipated noise levels at the facility perimeter during operation using the DBA scale. Discuss compliance with applicable noise regulations, impacts of the noise on surrounding biota and populations, and abatement plans.

6.8 Changes in Non-Aquatic Species Populations

Discuss long-term changes in populations of important non-aquatic species (including wetland) that are expected to result from plant operation. The discussion should emphasize changes in diversity, relative abundance, species composition, distribution, dominance, gradient distribution, etc.

6.9 Other Plant Operation Effects

Discuss any environmental effects of plant operation that do not clearly fall under any single topic of Section 6.1 to 6.8 (e.g., additional vehicular traffic on vicinity roads, the need for additional roads and highways, interaction of the plant with other existing or projected neighboring plants).

6.10 Archaeological Sites

Describe the procedure for monitoring postconstruction activities to identify, catalogue, or preserve any unforeseen discoveries of archaeological significance, as well as to insure the continued preservation of those significant sites for which preservation has been agreed to be the applicant's preferred action.

6.11 Resources Committed

Discuss any irreversible and irretrievable commitments of state or local resources due to plant operation from the viewpoint of both relative impacts and long-term net effects.

7.0 *Economic and Social Effects Of Plant Construction and Operation*

The purpose of this chapter is to present the applicant's assessment of the economic and social effects of the proposed facility, with emphasis on effects not directly concerned with the use of electricity. Projections of cost and benefits must include the assumptions upon which they are based.

7.1 *Economic and Social Benefits*

Discuss potential benefits of the plant, such as the use of reclaimed water, sale of steam or other products or services. If claimed, estimate the likelihood of achieving such benefits.

Discuss economic and social benefits which may affect various local governmental agencies within whose jurisdiction the plant is to be located. Examples may include:

- a. Tax revenues to be received by local and state governments.
- b. Temporary and permanent new jobs created and payroll amounts.
- c. Enhancement of recreational or environmental values by making available for public use any parks, artificially created cooling lakes, marinas, wildlife management areas, etc.
- d. Creation or improvement of local roads, waterways or other local transportation facilities.
- e. Increased knowledge of the environment as a consequence of the ecological research and environmental monitoring activities associated with plant operation and technological improvements from the applicant's research program.
- f. Creation of a source of heated discharge which may be used for beneficial purposes (e.g., in aquaculture, in improving commercial and sport fishing, or in industrial, residential, or commercial heating).
- g. Provision of public education or meeting facilities (e.g., a visitors' center).

In each instance where a particular benefit is discussed, indicate, to the extent practical, who is likely to be affected and for how long. In the case of aesthetic impacts that are difficult to quantify, provide its best estimate of the benefits.

7.2 *Economic and Social Costs*

Provide a detailed assessment of the anticipated economic and social costs resulting from the proposed power plant and its operation and any special measures to be taken to alleviate adverse impacts. Supply, as applicable, an evaluation, supporting data and rationale regarding external social and economic costs as noted below. Describe the estimated economic and social impact and any special measures to be taken to alleviate adverse impacts.

7.2.1 *Temporary External Costs*

Temporary external costs may include: shortages of housing; inflationary rentals or prices; congestion of local streets and highways; noise; temporary aesthetic disturbances; overloading of water supply and domestic wastewater treatment facilities; crowding of local schools, hospitals or other public facilities; overtaking of community services; and the disruption of peoples' lives or the local community caused by acquisition of land for the proposed site. Allocate the costs between continuing and temporary construction period costs.

7.2.2 Long Term External Costs

Discuss any long term external costs of the facility. A list of examples might include, but not be limited to: impairment of recreational values; deterioration of aesthetic and scenic values; restrictions on access to areas of scenic, historic, cultural, natural, or archeological value; removal of land from present or contemplated alternative uses; creation of locally adverse meteorological conditions and noise; reduction of regional products due to displacement of persons from the land proposed for the site; lost income from reductions in recreation, tourism, commercial fishing, and real estate values in areas adjacent to the proposed facility; increased costs to local government for services required by the permanently employed workers and their families.

8.0 *Site and Plant Design Alternatives*

When federal approval of a proposed facility for purposes of the National Environmental Policy Act is deemed to be a major federal action significantly affecting the quality of the human environment, this chapter may be used to present the analysis of alternatives required by that Act. Completion of this chapter is optional and failure to complete it shall not be grounds under State law for a finding that an application for certification is incomplete.

In opting to complete this chapter, an applicant may choose to show how the proposed site and plant design were determined through consideration of alternative sites and designs and the economic and environmental assessments of each. The following format is suggested:

8.1 *Alternative Sites*

Discuss the practical alternative sites considered in the applicant's latest ten-year site plan to the Public Service Commission or any other alternative site not reflected therein. Discuss any alternative locations for associated facilities, as well. Compare the features, and explain why these alternatives were not proposed for certification.

8.2 *Proposed Site Design Alternatives*

Discuss alternative plant designs as outlined in the following sections. Emphasize those alternative plant systems that appear promising in terms of environmental protection. Different designs for systems that are essentially identical with respect to environmental effects should be considered only if their overall costs are appreciably different. Include alternatives that meet the applicable local, state, and federal standards. Include an analysis of which alternatives are better environmental solutions taking into account impacts on air quality, aesthetics, the relative amounts of energy required for operation and maintenance, etc. State why each alternative was rejected.

Discuss the environmental effects of alternatives. A chart may be used to present the following data and to allow comparison of alternatives. To the extent practicable, the magnitude of each effect should be quantified. Where quantification is not possible, express qualitative evaluations in terms of comparison to the effects of the system chosen for the proposed design. Specify not only magnitude of the environmental effect but also the relative effect, i.e., the fraction of the population or resource that is affected.

Present the money costs of the proposed systems and alternatives on an incremental basis. This means that the costs of the proposed system should appear as zeroes in appropriate columns of summary tables and costs of the other alternative systems should appear as cost differences, with any negative values enclosed in parentheses. Show the environmental costs as total costs, whether money or not. If an environmental effect is considered beneficial, or more beneficial than the chosen system, enclose the entry in parenthesis.

Describe the process by which the trade-offs were weighed and balanced in arriving at the proposed design.

8.2.1 Cooling System (exclusive of intake and discharge)

Identify and describe alternatives to the proposed cooling system design. Prepare and tabulate estimates of environmental effects. Where cooling towers are discussed, include variations in drift, blowdown and optional control ranges that might minimize the impacts on the receiving air, water, or land with respect to time or space. If (1) the applicant has submitted an application for a once-through cooling system and has requested a thermal mixing zone or, (2) in cases where the proposed system in the application does not comply with state or federal thermal effluent limitations under Sections 301 and 306 of Public Law 92-500 as amended and no disposition of any request for a variance under Section 316(a) is expected until after issuance of certification, clearly identify and provide supporting analysis for the most feasible alternative cooling system that would be selected in the event the request for a variance or mixing zone is denied.

8.2.2 Biological Fouling Control

Describe the alternative methods and effects of controlling biological fouling in the circulating system. When biocides are the preferred control method, describe alternatives to the use of biocides for control of fouling organisms, including both mechanical and chemical methods where such alternatives may be expected to have less severe environmental effects than the proposed system. The information provided should be similar to that specified below for chemical effluent treatment. Prepare and tabulate estimates on environmental effects, including those on: native species typical of the affected habitats, species of special status, mortality rates, morbidity rates and associated reproductive failure, enhanced potential for habitat exploitation by non-native species, abundance of benthic organisms in receiving body, etc.

8.2.3 Intake System

Identify and describe alternatives to the proposed intake system design. Prepare and tabulate estimates of environmental effects. Reference alternatives to any requirements for intake systems imposed under the provisions of Section 316(b) of Public Law 92-500, as amended.

8.2.4 Discharge System

Identify and describe alternatives to the proposed discharge system design. Prepare and tabulate estimates of environmental effects. Include appropriate graphic illustrations of visible plumes or hydraulic mixing zones (air or water as applicable).

8.2.5 Chemical Waste Treatment

Evaluate alternative chemical systems that meet state and federal effluent guidelines and standards but involve differing external environmental impacts associated with ultimate waste disposal of end products. Discuss management of corrosion and resulting corrosion products released with cooling tower blowdown. Include specification of both maximum and average concentrations and dilution sources (if a discharge is not continuous, specify the discharge schedule). Document any toxicity to affected biota. Define the impacts on entrained organisms

at their points of exposure, as well as impacts beyond the point of discharge. Prepare and tabulate estimates of environmental effects.

8.2.6 Sanitary Waste System

Identify alternative sanitary waste systems which meet state and federal guidelines for sanitary waste treatment and discuss these with regard to the environmental implications of both waste products and chemical additives for waste treatment. Consider and tabulate estimates of environmental impacts on receiving land, water, and air to the extent that measurable effects can be identified.

8.2.7 Solid Waste Disposal Systems

8.2.7.1 Flue Gas Desulfurization/Ash Wastes

Discuss alternative methods of large volume solid waste disposal such as combining FGD sludge with ash to form fixed sludge, production of gypsum, or any other innovative waste disposal techniques.

8.2.7.2 Other Solid Wastes

Discuss alternative methods for the disposal of other plant solid wastes, such as brine encapsulation, off-site disposal, incineration etc.

8.2.8 Multiple Uses

Discuss any potential multiple uses of the power plant such as a waste disposal facility for refuse or as an incinerator for hazardous/toxic wastes. Identify the potential sources for such materials in the plant region. Discuss their effectiveness as substitute fuels, i.e., BTU output for any multiple use which appears likely to be implemented, and discuss the effects of waste utilization on plant air and water emissions, plant handling practices, and necessary, new or different end product disposal technologies.

8.2.9 Other Systems

Discuss any plant system, other than those specified above, that is associated with an adverse environmental effect. Identify practical and feasible alternatives that may reduce or eliminate this environmental effect.

C. ELECTRICAL TRANSMISSION LINES

This section is designed to address the unique information requirements of electrical transmission lines, which have corridors that upon certification shrink to right of ways. Electrical transmission lines have their own siting act – the Transmission Line Siting Act, § 403.52 - 403.539, F.S. Electrical transmission lines may be separate projects, or may be associated with electrical power plants which are being certified under the Power Plant Siting Act.

The requirements and format of this section may be applied to any other linear project which is associated with a power plant.

9.1 Maps

Maps provided for this section should conform to the standards of section 1.3.6. Unless otherwise specified, all maps shall use a scale of at least 1:24,000, and requested data shall be provided for the area within the corridor and the area extending one-quarter mile on either side of the corridor. The Department may require that more detailed scale maps be provided to depict route areas within 500 feet of developed residential or commercial areas or those special protection areas itemized in 3.2.1.

9.2 Project Description

Describe the location of the proposed transmission line, identifying the starting and ending points and cross-referencing to the information provided in the application to the Public Service Commission for the Need Determination proceedings. Clearly indicate the termination points for the transmission line, including substations, power plants, transmission networks or rights-of-way and differentiate between those proposed versus those existing. Indicate whether the PSC has determined the need for a proposed substation in a particular area.

Describe the proposed transmission line design and include basic design parameters such as voltage, capacity under normal and emergency conditions, approximate spans, and electrical clearances. Illustrate the typical types of transmission structures proposed for this project, and provide a profile of such structures and conductors.

9.3 Corridor

9.3.1 Corridor Selection

Provide a detailed discussion of the planning approach and discuss the reasons for selecting the proposed alignment of the transmission line corridor (e.g., "the corridor bears west at mile #33 in order to avoid encountering a TV tower between a wetland area and residential

area in mile #34"). This could be done as a table keyed to the route delineation maps, or indicated on the maps themselves.

Identify major alternative corridors which were considered. If proposed (rather than existing) substations are used as defining points for corridor location, describe the reasons the substations have been proposed for their specific locations, and the degree of flexibility of those locations should corridor siting in that area become a problem. Describe the reasons for discarding alternative corridors in favor of the one proposed.

9.3.2 Corridor Description

Discuss the width of the corridor requested, the typical right-of-way width to be located within the corridor, and the number and size of transmission lines proposed to be located on that right-of-way. Depict the proposed corridor on a 1:126,720 scale route identification map which generally indicates the full length of the corridor(s) relative to major geographic features. These maps should also depict any other 115 KV or larger lines already in place within 5 miles of each proposed corridor.

9.3.3 Alternate Corridors

Alternate corridor routes for the transmission line may be proposed by any party to an electrical transmission line siting proceeding. If more than one transmission line corridor is proposed for certification, the party proposing the alternate corridors shall provide the information requested in this application for each proposed corridor. Information for all of the proposed corridors may be combined in the same tables, maps, charts, graphs, written text, etc., but shall clearly identify which is the primary corridor versus secondary corridors.

9.3.4 Access Roads

Estimate the number, length, width, and general location of new access and service roads or bridges reasonably expected to be required. Generally describe the type of access roads that will be required, and potential impacts to the environment and public.

9.3.5 Cost Projections

Provide a general cost estimate or an estimated cost range for each corridor proposed or the transmission portion of the plant project, broken down into per-mile averages and overall project costs for: land acquisition, ROW preparation, road construction and fill costs; tower costs for varying degrees of angle, tower erection and conductor stringing.

9.3.6 Social and Political Environment of the Corridor Area

9.3.6.1 Governmental Jurisdictions

Provide maps of at least 1:126,720 scale indicating the general extent as well as the boundaries of towns and cities crossed by the corridor. Identify those areas listed in Section 3.2.1 within one-half mile of the corridor.

9.3.6.2 Zoning and Land Use Plans

Provide the same information as required for power plants in Section 3.2.2.

9.3.6.3 Easements, Title, Agency Works

Provide the same information as required for power plants in Section 3.2.4.

9.3.6.4 Vicinity Scenic, Cultural, and Natural Landmarks

Provide the same information as required for power plants in Section 3.2.5.

9.3.6.5 Archaeological and Historic Sites

Provide the same information as required for power plants in Section 3.2.6.

9.3.7 Biological and Physical Environment of the Corridor Area

9.3.7.1 Land Use/Vegetation

Indicate land uses on a map of 1:24000 scale or greater for the area of each corridor and extending one-half mile from each edge of the corridor. On the same map, indicate all types of vegetation occupying areas five acres or more for the area of the corridor and for an area extending one-half mile from either edge of the corridor where vegetational information is readily available; where the applicant must develop its own vegetation maps, an area extending one-quarter mile will be accepted. Use at least Level II categories of the "Florida Land Use and Cover Classification System" to depict land use, and Level III categories for vegetation.

9.3.7.2 Affected Waters and Wetlands

Characterize any surface water bodies or wetlands which are crossed by the corridor. Include a general description of significant drainage features or drainage patterns (such as sheetflow) which may be affected by the ROW and access roads. Indicate the water classification designated in F.A.C. Rule 62-302.400.

9.3.7.3 Ecology

For an area within one-quarter mile of the corridor edge, provide the same information for transmission corridors as is required by Section 3.3.6. Map known occurrences of endangered or threatened species or their critical habitat features (e.g., bald eagle nests) for the corridor and 1500 feet beyond either edge of the corridor, preferably on the land use/vegetation maps.

9.3.7.4 Other Environmental Features

Provide the same information for transmission corridors as required for power plants in Section 3.3.9.

9.4 *Effects of Right-of-Way Preparation and Transmission Line Construction*

9.4.1 Construction Techniques

Provide detailed information concerning typical construction techniques for the towers, foundations, road construction, and types of equipment to be used on this project. Discuss potential erosion problems which might be caused by construction, and indicate any mitigative measures that are proposed.

9.4.2 Environmental Resource Permit (ERP)

Where roadways or structures are to be constructed in, on or over Waters of the State, fill out and append for each water traversed or combinations thereof the *Joint Application for: Environmental Resource Permit (Part IV, Chapter 373, F.S.)/Authorization to Use State Owned Submerged Lands/Federal Dredge and Fill Permit, and Supplements A through E, excluding Attachments I through VI, July 4, 1995, DEP Form 62-343.900(1), F.A.C., or as subsequently amended, with the exception that the names and addresses of adjoining property owners need not be furnished unless that owner is the Trustees of the Internal Improvement Trust Fund.*

Information which will be necessary for the ERP and which must be submitted for this section will include the following:

- a. Specifications showing location of each transmission tower and any roadways to be constructed, expanded, or improved in, on or over Waters of the State.
- b. Plan view and cross section of any roadway construction, expansion or improvement, with elevations marked.
- c. A centerline profile of at least 1:500 scale of existing topographic features with a two-foot contour interval along any roadway construction, expansion, or improvement.
- d. Cross-sections of each water body at those points to be crossed by roadways.
- e. Specifications showing size and type of water control structure (pipe, culvert, etc.) to be placed, with proposed elevations marked.
- f. Specifications showing design capacity of all water control structures to be employed.
- g. Drainage area and flow calculations for any proposed culverts.
- h. Drawings of the foundation work for any structures erected in Waters of the State.

When the information in a – h above cannot be submitted as part of the original application, indicate a date when it is expected that the required information will be submitted and provide the following interim information:

- i. Discuss the impact of ROW preparation and construction activities on affected waters, and identify which watercourses or wetlands the applicant believes construction will occur in or affect.
- j. Describe proposed activities such as the construction of cofferdams, dredging operations, borrow pits, the placement of culverts or fill material, etc., which will affect water flow (including sheetflow) in the individual water bodies under consideration. It is recognized that certain activities may be necessary in one part of the corridor and not another, but the intent of this requirement is to ascertain such facts.
- k. Describe the effect of these activities on navigation, water quality and water quantity. If borrow pits are to be created, provide drawings showing the size and depth, and discuss the likelihood of the pit filling with groundwater to become a Water of the State.
- l. Discuss any proposed ground or surface water impacts or withdrawals such as dewatering, temporary realignment of streams during construction, new connections to waters of the State, etc.

m. For each water body or crossing, provide estimates of cubic yardage of filling or dredging which may be necessary and the number and expected size of culverts. If filling is anticipated for road beds, structure pads, etc., provide a typical cross section and plan view. Indicate in which waters keyhole filling can be used in lieu of continuous fill.

If the information in a – h above is to be submitted as part of a post-certification review in accordance with the conditions of certification, the Department and the applicant may stipulate to a time period for the department to evaluate the information (including a state ownership verification, hydrologic assessment, biological assessment, and water quality assurance verification) submitted for post-certification review. If the department does not object within the stipulated time period, the utility may begin construction pursuant to the conditions of certification and the subsequently submitted details. This is not a separate permit requirement of the department.

9.4.3 Solid Wastes

Describe the anticipated type and quantities of solid waste that will result from ROW preparation and transmission line construction. Describe the methods and locations of disposal.

9.4.4 Changes to Vegetation, Wildlife, and Aquatic Life

Discuss any permanent changes that will be induced in the physical and biological processes of plants, aquatic life, or wildlife, particularly endangered or threatened species, that will result from changes in hydrology or ground cover, or from the construction itself. These changes may include loss or increase of wildlife habitat, impairment or improvement of nesting, breeding or nursery areas, interference with migratory routes, etc. Indicate any measures designed to minimize adverse effects.

9.4.5 Impact on Human Populations

Identify impacts on proximate human populations arising from construction noise or inconveniences due to the movement of personnel, materials, or machines.

9.4.6 Impact on Regional Scenic, Cultural, and Natural Landmarks

Discuss construction impacts on those landmarks as required for power plants in Section 3.2.1.

9.4.7 Impact on Archaeological and Historic Sites

Discuss construction impacts on archaeological and historic sites deemed significant as defined in 3.2.6., including those significant sites recommended for preservation. Describe what action is being proposed to mitigate these impacts. Discuss the procedure used to identify, catalogue and preserve unforeseen discoveries of archaeological sites until their significance can be determined, as well as to insure the postconstruction preservation of those significant sites for which preservation has been agreed to by the applicant.

9.5 *Postconstruction Impacts and Effects of Maintenance*

9.5.1 Maintenance Techniques

Discuss maintenance techniques which may be used along the ROW: whether burning will be used, how often, and if fire lanes will be necessary; whether herbicides will be used, and if so, the types, volumes, concentrations and frequency of use; whether techniques will be used to control the vegetative species composition within the ROW to enhance its use by local fauna; and, the effects of maintenance techniques on plant life and wildlife habitat.

9.5.2 Multiple Uses

Describe what kind of multiple uses, if any, (e.g. truck or citrus farming) will be allowed in utility owned or controlled ROW's.

9.5.3 Changes in Species Populations

Discuss changes in the population of important species (as defined in section 3.3.6) which may be caused by the maintenance of the ROW with the view of determining whether these changes represent long-term net increases or decreases in the size of the populations. If a change is expected, then provide the reasoning for the expectation.

9.5.4 Effects of Public Access

If access roads increase the exposure of previously undisturbed areas to the public, discuss the potential effect of this increased exposure on wildlife. Describe possible controls to reduce these impacts.

9.5.5 Other Postconstruction Effects

Discuss the potential for adverse or beneficial effects from the operation of the transmission line. Describe the electromagnetic fields generated by the lines and their strengths and extent. Discuss the potential for annoyance from electromagnetic fields, acoustic and electrical noise including shadowing and reradiation, induced or conducted currents as they may affect health, the environment, and communication systems along the line route. State whether, and generally describe how, compliance with the applicable sections of the National Electric Safety Code will be achieved. Summarize the manner in which compliance protects public safety. Submit to the Department a completed DEP Form 62-814.900. The information on that form shall be of sufficient detail to show compliance with the standards of Rule 62-814.450, F.A.C., and shall be certified by an engineer practicing in Florida and regulated by Chapter 471, Florida Statutes. If the Bonneville Power Administration (BPA) Corona and Field Effects Program was utilized, provide all ExEMF data files electronically.

9.6 *Associated Linear Facilities*

For each type of associated linear facility, provide a separate section to this chapter (e.g. 9.6 for rail lines, 9.7 for cooling water pipelines, etc.) Use the same format outlined in Chapter 9, and provide the same information where applicable.

D. APPENDICES

The following documents shall be submitted as appendices to the State Site Certification application if (1) the activities or facilities about which these documents pertain must be approved or licensed prior to the operation or construction of the facility undergoing State Certification review, or (2) those activities will be done or facilities will be used jointly with the project undergoing State Certification review, or (3) they are more appropriate as appendices rather than as part of the main application due to their scope. The number of copies of each appendix to be submitted should be established with the Department prior to application filing.

10.1 Coordination

Provide a list of individuals within federal, state, regional, and local government agencies who were contacted to provide input to this project.

10.2 Federal Permit Applications or Approvals

Provide copies of the following Federal permit approvals or applications (if not delegated to the State at the time of application).

10.2.1 316 Demonstrations

Provide copies of any demonstrations made pursuant to Section 316(a) or (b) of the Clean Water Act.

10.2.2 NPDES Applications/Permits

Provide copies of the most recent version of any applications or existing permits for a National Pollutant Discharge Elimination System permit.

10.2.3 Hazardous Waste Disposal Applications/Permits

Provide copies of any applications or existing permits for a Federal Hazardous Waste Disposal permit pursuant to the Resource Recovery and Conservation Act.

10.2.4 Section 10 or 404 Applications/Permits

Provide copies of any applications or existing permits for Section 10 or 404 permits pursuant to the Rivers and Harbors Act and Clean Water Act.

10.2.5 Prevention of Significant Deterioration Permit Application

Provide copies of any Prevention of Significant Deterioration permit applications pursuant to the Clean Air Act. Submittal of DEP Form 62-210.900(1), "Application for Air Permit - Title V Source," including all relevant supplemental information, fulfills this requirement.

10.2.6 Air Operation Permit

Provide copies of any applications for an Air Operation Permit issued under the provisions of Title V of the Clean Air Act. Submittal of DEP Form 62-210.900(1), "Application

for Air Permit - Title V Source," including all relevant supplemental information, fulfills this requirement.

10.2.7 Coastal Zone Management Certifications

For facilities to be located in coastal counties, all applications for those federal approvals listed in 380.23(3)(c), F.S., must be accompanied by the applicant's certification of the project's consistency with the Florida Coastal Zone Management Program, if available. The applicant is required to provide the state with a copy of the certification (cf. 15 CFR Part 930, Subpart D).

10.3 Zoning Descriptions

If not provided in Chapter 2, or separately pursuant to F.A.C. Rule 62-17.121, submit a copy of the zoning ordinance descriptions for all zoning categories occurring at the site and associated facilities.

10.4 Environmental Resource Permit

Provide a copy of the Joint Application for: Environmental Resource Permit (Part IV, Chapter 373, F.S.)/Authorization to Use State Owned Submerged Lands/Federal Dredge and Fill Permit, and Supplements A through E, excluding Attachments I through VI, July 4, 1995, DEP Form 62-343.900(1), F.A.C.

10.5 Land Use Plan Descriptions

If not provided in Chapter 2, or separately pursuant to F.A.C. Rule 62-17.12, submit a copy of the land use plan descriptions for all land use plan categories occurring at the site and associated facilities.

10.6 Existing State Permits

Submit a copy of all active State construction or operation permits in effect for the site, plant, and associated facilities, if these were not provided with the Notice of Intent. (Note: this will not be necessary for supplemental application submissions for a power plant site previously certified for Ultimate Megawattage.)

10.7 Monitoring Programs

Specific details or raw data from monitoring/measuring programs may be listed here. Number the appendix, or boldly indicate in it, which section of the application it supplements.