

## FLORIDA ELECTRICAL POWER PLANT SITING ACT APPLICABILITY DETERMINATION

### CPV Pierce Power Generating Facility

The meaning of electrical power plant, for the purpose of certification under the act “does not include any steam or solar electrical generating facility of less than 75 megawatts in capacity unless the applicant for such a facility elects to apply for certification under this act.” [403.503(13), F.S.]

“The provisions of the act shall apply to any electrical power plant as defined herein, except that the provisions of this act shall not apply to any electrical power plant or steam generating plant of less than 75 megawatts in capacity .....” [403.506(1), F.S.]

A combined cycle plant consists of two cycles. The first is the gas turbine cycle, also known as the *Brayton Cycle*. The second is the steam turbine or *Rankine Cycle*. [Steam, its Generation and Use, Babcock & Wilcox, 1992]

For combined cycles, the Department considers the Act to apply only when electricity generated from the electrical generator operated on the Rankine cycle equals or exceeds 75 MW and not the separate electrical generator operated on the Brayton cycle.

In past permitting actions, the Department has accepted operational limitations on the gross electrical output from the steam turbine-electrical generator as the measure of capacity. [Okeelanta Cogeneration, Desiec Tiger Bay]

The Department requires a clear description of the manner by which electrical power from the steam turbine-electrical generator will be limited to less than 75 MW.

In its application received by the Department on April 18, 2001, CPV stated the following:

*“The steam turbine generator (STG) output will be limited to less than 75 MW. Control of STG output will be monitored and controlled via an automatic digital control system (DCS) to ensure the 75 MW output limit is not exceeded. A number of control options have been investigated and the most probable are described below.*

*“When ambient temperature is at 59 °F or greater, excess steam generated in the HRSG will be extracted from the HRSG, bypassing the steam turbine, and injected into the CTG. This mode of operation is referred to as power augmentation. Since there is a limit on the quantity of steam that may be injected into the CTG, it may be necessary to further reduce flow to the STG to limit output or to reduce steam turbine output by other means.*

*“Bypass of a portion of heat exchanger surface in the HRSG is an effective method of reducing steam production by reducing the heat recovered from the combustion turbine flue gas. The proposed design will make use of a low temperature economizer bypass to limit steam production by allowing more of the heat generated by the combustion turbine to be discharged to the atmosphere with the flue gas. This will limit STG output.*

*"In many cases, application of both of these control modes will reduce steam output to the turbine to the required quantity. If additional reduction in STG output is required, raising STG discharge pressure by raising the condenser operating temperature will reduce turbine efficiency, reducing electrical output. Output of the STG may be tuned to the desired value by turning cooling tower cells on and off as necessary."*

*"When ambient temperature falls below 59 °F the manufacturer does not recommend injection of steam into the combustion turbine. If the low temperature economizer bypass combined with an increase cooling water temperature does not reduce STG output sufficiently, excess steam may bypass the steam turbine and be sent directly to the condenser."*

*"Output of the STG will be controlled automatically utilizing the methods described above through a DCS designed to ensure that the electrical power produced from steam does not exceed 74.9 MW"*

*The DCS will be programmed by the Engineering Procurement Construction (EPC) engineer to limit the steam turbine output to 74.9 MW. The necessary logic to automatically control steam injection to the gas turbine, cooling tower fan speed, HRSG economizer bypass control, steam bypass control, or reduce gas turbine load will be incorporated in the DCS.*

*The plant operator can manually lower the steam turbine output value but cannot raise the number beyond the programmed set point limit or alter the DCS logic. Depending on the DCS platform purchased, the logic and set point will either be protected by password or keylock. If the logic or set point must be changed after the plant is in commercial operation, only an authorized DCS representative or a qualified DCS engineer can make the modifications. These modifications can be made using the DCS engineering work station, which will be located in the plant control room. A shutdown of the facility is not required since the changes can be made while the plant is on-line".*

The Department accepts CPV's operational description and concludes that the project is not subject to the Florida Electrical Power Plant Siting Act.

 6/22

A. A. Linero, P.E. Administrator  
New Source Review Section

 6/27/01

Hamilton Oven, P.E. Administrator  
Power Plant Siting Office

**Responses to Florida DEP Comments on CPV Pierce Power Generating Facility**  
**DEP File No. 1050349-001-AC (PSD-FL-319)**

*The Florida Department of Environmental Protection (DEP) notified CPV via certified mail, dated May 18, 2001, of two additional information requests needed for application completeness. The requested items, numbered 1. and 2., are restated below for completeness. CPV's response to each request is provided herein.*

1. Comment: *The Additional Impact Analyses requirements of rule 62-212-400(5)(e), F.A.C., are not complete. These requirements are also applicable to the PSD Class II area in the vicinity of the proposed project. Please complete these requirements.*

Response:

Although "Additional Impacts" were not specifically categorized in the application document (CPV-PI), most elements generally addressed as part of these analyses were covered in various sections of the application, i.e., Class I impact analyses, including visibility. For purposes of completeness, a comprehensive evaluation of "Additional Impacts" is provided below:

The quoted rule requirements are as follows:

- 62-212.400(5)(e)    Additional Impact Analyses.
1.    The owner or operator of the proposed facility or modification shall provide the Department with analyses of:
    - a.    The impairment to visibility and soils, and to vegetation having a significant commercial or recreational value, that would occur as a result of the facility or modification and associated commercial, residential, industrial and other growth;
    - b.    The air quality impact projected for the area as a result of general commercial, residential, industrial and other growth associated with the facility or modification; and
    - c.    The impairment to visibility, if any, which would occur in any Federal Class I area within 100 kilometers of the facility or modification, with the exception of the Bradwell Bay National Wilderness Area, as a result of emissions from the facility or modification. (Federal Class I areas are designated in Rule 62-204.360(3)(b), F.A.C.)
  2.    The analyses required under Rule 62-212.400(5)(e)1., F.A.C., shall be carried out using EPA-approved methods, if available.
  3.    The Department may require the owner or operator of a proposed facility or modification subject to the provisions of Rule 62-212.400(5)(e)1.c., F.A.C., to include as part of the required analysis such visibility monitoring data as are available from Federal or State visibility monitoring programs in the affected Class I area. If such data are not available or are demonstrated to be inadequate for a visibility analysis, the Department may require the applicant to collect up to one year of preconstruction visibility monitoring data and such postconstruction visibility monitoring data as are necessary to analyze the effect that emissions from the facility or modification may have, or are having, on visibility in the affected Class I area.

CPV has performed air quality analyses for the applicable Class I and Class II areas and provided results in the permit application document CPV-PI, submitted on April 18, 2001. Those results indicate that air quality impacts and impacts on Air Quality Related Values (AQRVs) due to emissions from the proposed Facility will be below all applicable Prevention of Significant Deterioration (PSD) Significant Impact Levels (SILs) or de-minimus thresholds and therefore no additional analyses were required. Additionally, existing ambient air quality in the project area is well below (i.e., much better than) any applicable standard, therefore the predicted insignificant contribution from the proposed facility will not cause or contribute to contravention of any standard designed to protect public health and welfare. The following analyses are based on these results and conclusions regarding potential impacts.

## Additional Impact Analyses:

### Visibility

Visibility impairment is any perceptible change in visibility (visual range, contrast, atmospheric color, etc.) from that which would have existed under natural conditions. For PSD sources, the principal visibility impacts of concern are impacts on the conditions within the nearest PSD Class I area. The proposed Project is greater than 100 km from the closest Class I area, Chassahowitzka National Wilderness Refuge (NWR), however air quality and regional haze analyses were performed as agreed with the Federal Land Manager (FLM). Results of the analyses were included in the application document and were reviewed by U.S. Fish and Wildlife Service (USFWS) staff, a copy of their comments was attached to the notification letter. Based on those insignificant impact results, the USFWS staff concluded that "The current project has low potential to adversely affect air quality or air quality related values at Chassahowitzka". Locally, there are no known scenic vistas, sensitive natural or other areas, i.e., major airports, that would have impaired visibility due to the insignificant impacts from the proposed facility.

### Vegetation and Soils

As noted above, Florida and PSD regulations require analysis of air quality impacts on sensitive vegetation types with significant commercial or recreational value, or sensitive types of soil. Evaluation of impacts on sensitive vegetation is generally performed by comparison of predicted Project impacts with screening levels presented in the EPA document *A Screening Procedure for the Impacts of Air Pollution Sources on Plants, Soils and Animals* (EPA, 1980). These procedures specify that predicted concentrations used for the analysis account for Project impacts added to ambient background concentrations.

Most of the designated vegetation screening levels are equivalent to or exceed NAAQS and/or PSD increments, so that demonstrated compliance with NAAQS and PSD increments assures compliance with sensitive vegetation screening levels. The exception to the foregoing is the 3-hour sensitive vegetation screening level for sulfur dioxide (SO<sub>2</sub>), which is 786 µg/m<sup>3</sup>. Additionally, there is a 1-hour screening level for SO<sub>2</sub> (918 µg/m<sup>3</sup>) for which there is no NAAQS equivalent. Predicted project impact levels have been demonstrated by dispersion modeling to be insignificant, well below the applicable air quality standards, and well below the vegetation sensitivity thresholds.

## **Growth**

The work force expected for the Project will range from 100 to 200 jobs during various phases of construction. It is expected that a significant regional construction force is already available to build the Project. Therefore, it is expected that new housing, commercial and industrial construction will not be necessary to support the Project during the two-year construction schedule.

The Project will also require approximately 20 to 25 permanent positions. Individuals that already live in the region will perform a number of these jobs. For any new personnel moving to the area, no new housing requirements are expected. Further, due to the small number of new individuals expected to move into the area to support the Project and existence of some commercial activity in the area, new commercial construction will not be necessary to support the Project's permanent work force. In addition, no significant level of industrial related support will be necessary for the Project, thus industrial growth is not expected.

Thus, no new significant emissions from secondary growth during Project construction and operation are anticipated.

## **Class I Areas**

As noted above, the Project will not have a significant impact on the closest Class I area. This has been recognized after review of the permit application and acknowledged in the USFWS staff comments to this permit application stating that the proposed project has a "... low potential to adversely affect..." the nearest Class I area, Chassahowitzka NWR. These results are due to the relatively small emission rates associated with the clean fuels, e.g., natural gas and low sulfur distillate oil, proposed for this Project and the long distance to the Class I area of more than 100 kilometers.

## **Conclusion:**

The proposed Facility has been designed to utilize state-of-science technology to produce electrical power as cleanly and efficiently as currently achievable and therefore emissions from the proposed Project will not significantly impact local and regional air quality. In fact, predicted ambient impacts of air quality concentrations and other air quality related values due to Project emissions are expected to be below PSD significance threshold levels. Therefore, existing ambient air quality levels prescribed by the NAAQS, which were established to protect public health and welfare, including flora, fauna, and property, will not be significantly affected and there is no reason to suspect that any adverse effects on local soils or vegetation will occur. Additionally, it has been demonstrated that the proposed project will have low potential to adversely impact the nearest Class I area.

2. Comment: *Attached are comments from the U.S. Fish and Wildlife Service. Please address the comment on the NOx BACT.*

Response:

The applicable section of the U.S. Fish and Wildlife Service (USFWS) comment letter referenced in the above comment reads as follows:

“We believe that based on the two permits specifying NOx limits on similar sources at or below 2.5 ppm, CPV should further evaluate the costs of reducing NOx below 3.5 ppm.”

The USFWS discussion in the same comment letter also states the following:

“CPV is proposing to use selective catalytic reduction (SCR) to control NOx emissions to 3.5 ppm while burning gas and 10 ppm while burning oil. We agree that this represents best available control technology.”

In response to the above requests, TRC has evaluated the associated costs of reducing NOx emissions from the combustion turbine (CT) to below 3.5 ppm. Additional information was obtained from the same SCR vendor that provided the initial cost estimate for the control equipment. Based on the cost estimates provided to reduce NOx concentrations to various levels, TRC has calculated the cost effectiveness per ton of NOx removed. A supporting calculation table is attached hereto. The result of the calculation is summarized below.

- Controlling emissions from the CT to 2.5 ppm has an associated cost of \$3,556 per ton of NOx removed.

This value reflects increased costs for capital equipment, ammonia consumption, catalyst replacement and disposal, as well as pressure derate considerations.

It is important to note that the proposed BACT limit of 3.5 ppm is intended to be a permit limit not to be exceeded. It is expected that the actual emissions from the CT will always be below this level and most often it will operate at emissions levels well below 3.5 ppm. A permitted emission limit of 3.5 ppm represents the lowest level permitted to date in the State of Florida or adjoining states. It is recognized that in other regions there are currently permitted facilities with NOx limits below 3.5 ppm, however none of these permitted facilities have demonstrated continuous long-term compliance with the lower limits.

**Table - Response to Comments: CPV Pierce**  
**SCR to achieve 2.5 ppm NOx**

<b>COST COMPONENT</b>	<b>COST (\$)</b>
<b>DIRECT COSTS</b>	
<i>Purchased Equipment Costs</i>	
SCR Catalyst System	1,187,500
Sales Tax (6% of equipment costs)	71,250
Freight (4% of equipment costs)	47,500
<i>Subtotal-Purchased Equipment Costs (PEC)</i>	1,306,250
<b>TOTAL DIRECT COSTS (TDC)</b>	1,306,250
<b>INDIRECT INSTALLATION COSTS</b>	
Engineering Costs (5% of PEC)	65,313
Contingency (3%)	39,188
Construction, Contractor, Startup, Testing (18%)	235,125
<b>TOTAL CAPITAL INVESTMENT (TCI)</b>	<b>1,645,875</b>
<b>DIRECT ANNUAL COSTS</b>	
Maintenance Materials and Labor (2% of TCI)	32,918
Ammonia Cost	29,151
Incremental Electrical Cost	
Catalyst Pressure Derate	216,810
1.5 inch H2O pressure drop	
275 kw/inch H2O pressure drop	
100% capacity factor	
0.06 \$/kW-hr	
Deminimus Water Injection During Fuel Oil Firing	
Catalyst Replacment (based on total SCR catalyst replacement cost every 3 years)	297,220
Catalyst Disposal (Amortized Over 3 Year Period)	14,289
<b>TOTAL ANNUAL DIRECT COSTS</b>	590,388
<b>INDIRECT ANNUAL COSTS</b>	
Overhead (60% of maintenance materials and labor)	19,751
Property Tax (1% of TCI)	16,459
Insurance (1% of TCI)	16,459
Administration (2% of TCI)	32,918
<b>TOTAL INDIRECT ANNUAL COSTS</b>	85,586
<b>TOTAL ANNUAL INVESTMENT</b>	<b>675,974</b>
<b>CAPITAL RECOVERY FACTOR, CFR = <math>(i * (1+i)^n) / ((1+i)^n - 1)</math></b> Equipment Life (years) = 10 Interest Rate (%) = 7	
Capital Recovery Factor	0.1424
<b>CAPITAL RECOVERY COSTS</b>	
<b>TOTAL CAPITAL REQUIREMENT</b>	<b>1,645,875</b>
<b>TOTAL ANNUAL CAPITAL REQUIREMENT</b>	<b>234,336</b>
<b>TOTAL ANNUALIZED COST</b> (Total annual O&M cost and annualized capital cost)	<b>910,309</b>
<b>BASELINE POTENTIAL NOx EMISSIONS (TPY) FROM TURBINE</b> (emissions based on 100% load at 72°F, 6,040 hrs no PA, 2,000 hr w/PA, 720 hr oil)	
Uncontrolled	358.0
Controlled	102.0
<b>ANNUAL TONS OF NOx REMOVED</b>	<b>256.0</b>
<b>COST-EFFECTIVENESS</b> <b>ENVIRONMENTAL BASIS</b> (\$ per ton of NOx removed)	<b>3,556</b>

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**OF COUNSEL:  
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CATHY M. SELLERS**

June 18, 2001

VIA HAND DELIVERY

**RECEIVED**

**JUN 18 2001**

**BUREAU OF AIR REGULATION**

Mr. Alvaro A. Linero  
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New Source Review Section  
Bureau of Air Regulation  
Department of Environmental Protection  
2600 Blairstone Road  
Tallahassee, FL 32399-2400

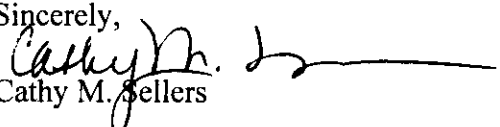
Re: CPV Pierce, Ltd., DEP File No. 1050349-001-AC(PSD-FL-319)  
Response to Request for Additional Information dated May 18, 2001

Dear Mr. Linero:

On behalf of CPV Pierce, Ltd., please find attached the Applicant's response to the Department's Request for Additional Information dated May 18, 2001, addressing the Class II and NOx cost effectiveness analyses.

We look forward to continuing to work with the Department toward the issuance of the permit in this matter. Please contact me if you have any questions.

Sincerely,

  
Cathy M. Sellers

cc: Gary Lambert, CPV Pierce, Ltd.  
Patricia DiOrio, CPV Pierce, Ltd.

*J. Neun*  
*C. Halladay*  
G:\Competitive Power Ventures\CPV Pierce\Cover Letter to CPV Pierce RA1 for PSD Application.wpd

*B. Thomas, SWD*  
*D. Wadley, EPA*  
*G. Beatty, NPS*



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## **Conclusion:**

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2. Comment: *Attached are comments from the U.S. Fish and Wildlife Service. Please address the comment on the NOx BACT.*

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**Table - Response to Comments: CPV Pierce**  
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<b>TOTAL ANNUAL INVESTMENT</b>	<b>675,974</b>
<b>CAPITAL RECOVERY FACTOR, CFR</b> $= (i * (1+i)^n) / ((1+i)^n - 1)$	
Equipment Life (years) = 10	
Interest Rate (%) = 7	
Capital Recovery Factor	0.1424
<b>CAPITAL RECOVERY COSTS</b>	
<b>TOTAL CAPITAL REQUIREMENT</b>	<b>1,645,875</b>
<b>TOTAL ANNUAL CAPITAL REQUIREMENT</b>	<b>234,336</b>
<b>TOTAL ANNUALIZED COST</b> (Total annual O&M cost and annualized capital cost)	<b>910,309</b>
<b>BASELINE POTENTIAL NOx EMISSIONS (TPY) FROM TURBINE</b> (emissions based on 100% load at 72°F, 6,040 hrs no PA, 2,000 hr w/PA, 720 hr oil)	
Uncontrolled	358.0
Controlled	102.0
<b>ANNUAL TONS OF NOx REMOVED</b>	<b>256.0</b>
<b>COST-EFFECTIVENESS</b>	
<b>ENVIRONMENTAL BASIS</b> (\$ per ton of NOx removed)	<b>3,556</b>

## Memorandum

## Florida Department of Environmental Protection

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TO: Clair H. Fancy

THRU: A.A. Linero *AAL* 6/22

FROM: Teresa Heron

DATE: June 21, 2001

SUBJECT: CPV Gulfcoast Power Generating Facility  
245 MW Combined Cycle Plant  
DEP File No. 1050349-001-AC (PSD-FL-319)

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Attached is the draft public notice package for construction of a 245 MW Combined Cycle Plant at the CPV Pierce Power Generating facility in Polk County.

The basic unit is a nominal 170-megawatt General Electric 7FA gas and oil-fired combustion turbine-generator. The project includes an un-fired HRSG that will raise sufficient steam to produce another 74.9 MW via a steam-driven electrical generator. A selective catalytic reduction system including ammonia storage is included.

A 1.0 million gallon storage tank will be constructed for the back-up distillate fuel that will be used for no more than 720 hours per year.

Nitrogen Oxides (NO<sub>x</sub>) emissions from the gas turbine will be controlled by SCR to 2.5 ppmvd (gas) and 10 ppmvd (oil). The ammonia limit is proposed at 5 ppmvd by agreement with the applicant. This will reduce formation of ammoniated particulate species.

Emissions of carbon monoxide, volatile organic compounds, sulfur dioxide, sulfuric acid mist, and particulate matter (PM/PM<sub>10</sub>) will be very low because of the inherently clean pipeline quality natural gas, limited fuel oil use and the design of the GE unit.

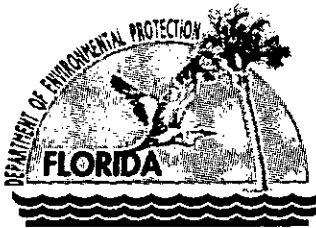
It is my opinion that the project will actually emit less than the thresholds for PSD applicability. However the CO emissions estimates reflect the GE guarantees and not the very low values achieved in the field.

The applicant submitted information describing the measures that insure the steam generator will produce less than 75 MW.

The project was deemed complete on June 18 upon receipt of some qualitative descriptions of impacts on AQRVs in the Class II area. The proposed issue date of June 25 is Day 7.  
I recommend your signature and approval of this Intent to Issue.

AAL/th

Attachments



Jeb Bush  
Governor

# Department of Environmental Protection

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

David B. Struhs  
Secretary

## P.E. Certification Statement

### Permittee:

DEP File No. 1050349-001-AC (PSD-FL-319)

CPV Pierce Power Generating Facility  
Polk County

### Project type:


Project is construction of a nominal 245-megawatt combined cycle power plant with a 170 MW GE7FA combustion turbine-electrical generator, a heat recovery steam generator, a separate steam turbine-electrical generator, a 175-foot stack, a mechanical cooling tower with a Zero Liquids Discharge System, a 1 million gallon fuel oil tank and ancillary equipment. The unit will operate maximum of 8,760 hours per year of which 2000 hours per year per unit may be in the power augmentation mode and 720 hours per year on No. 2 distillate fuel oil.

The proposed continuous (24-hour) BACT NO<sub>x</sub> limits are 2.5 ppmvd @15% O<sub>2</sub> when operating on natural gas and 10 ppmvd @15% O<sub>2</sub> when burning fuel oil. Other pollutants, including particulate matter (PM/PM<sub>10</sub>), carbon monoxide, volatile organic compounds, sulfur dioxide, and sulfuric acid mist will be controlled by good combustion and use of clean fuels.


Projected impacts from the proposed project are all less than the applicable significant impact limits (SILs) corresponding to the nearby Class II areas and the Class I Chassahowitzka National Wildlife Area. The project will not cause or contribute to a violation of any National Ambient Air Quality Standard or Increment. The Fish and Wildlife Service had no adverse comments regarding this project. They did, however recommend a lower BACT emission limit for NO<sub>x</sub> than initially proposed.

Based on information submitted by CPV, it was determined that the project is not subject to Sections 403.501-518, F.S., Florida Power Plant Siting Act.

***I HEREBY CERTIFY*** that the engineering features described in the above referenced application and subject to the proposed permit conditions provide reasonable assurance of compliance with applicable provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 62-4 and 62-204 through 62-297. However, I have not evaluated and I do not certify aspects of the proposal outside of my area of expertise (including but not limited to the electrical, mechanical, structural, hydrological, and geological features).

 6/21  
A A. Linero, P.E. Date  
Registration Number: 26032

Department of Environmental Protection  
Bureau of Air Regulation  
New Source Review Section  
111 South Magnolia Drive, Suite 4  
Tallahassee, Florida 32301  
Phone (850) 921-9523  
Fax (850) 922-6979

 6/21  
SECRETARY

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- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

## 1. Article Addressed to:

Mr. Gary Lambert  
Executive Vice President  
CPV Pierce, Ltd.  
35 Braintree Hill Office Park  
Suite 107  
Braintree, MA 02184

## 2. Article Number (Copy from service label)

7000 0600 0026 4129 9358

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly)

S. LeBlanc

B. Date of Delivery

C. Signature

X

S. LeBlanc

☐ Agent☐ Addressee

D. Is delivery address different from item 1?

☐ Yes

If YES, enter delivery address below:

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MAY 21 2001

3. Service Type

☒ Certified Mail☐ Express Mail☐ Registered☐ Return Receipt for Merchandise☐ Insured Mail☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

PS Form 3811, July 1999

Domestic Return Receipt

102595-99-M-1789

**U.S. Postal Service****CERTIFIED MAIL RECEIPT**

(Domestic Mail Only; No Insurance Coverage Provided)

Mr. Gary Lambert, Executive VP

Postage \$

Certified Fee

Return Receipt Fee  
(Endorsement Required)Restricted Delivery Fee  
(Endorsement Required)

Total Postage &amp; Fees \$

Postmark  
Here

Recipient's Name (Please Print Clearly; to be completed by mailer)

CPV Pierce, Ltd.

Street, Apt. No. or PO Box No.

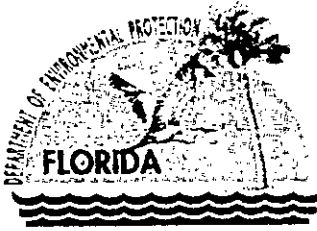
35 Braintree Hill Office Park, Ste. 107

City, State, Zip  
Braintree, MA 02184

PS Form 3800, February 2000

See Reverse for Instructions





# Department of Environmental Protection

Jeb Bush  
Governor

Twin Towers Office Building  
2600 Blair Stone Road  
Tallahassee, Florida 32399-2400

David B. Struhs  
Secretary

May 18, 2001

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Gary Lambert  
Executive Vice President  
CPV Pierce, Ltd

35 Braintree Hill Office Park, Suite 107  
Braintree, Massachusetts 02184

Re: DEP File No. 1050349-001-AC (PSD-FL-319)  
Proposed Nominal 245 MW Combined Cycle Power Plant

Dear Mr. Lambert:

On April 18, 2001 the Department received your application and complete fee for an air construction permit for a nominal 245 megawatts (MW) combined cycle power plant in Pierce, Polk County, Florida. The application is incomplete. In order to continue processing your application, the Department will need the additional information requested below. Should your response to any of the below items require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

The Additional Impact Analyses requirements of Rule 62-212.400(5)(e), F.A.C., are not complete. These requirements are also applicable to the PSD Class II area in the vicinity of the proposed project. Please complete these requirements.

Attached are comments from the U.S. Fish and Wildlife Service. Please address the comment on the NOx BACT.

Rule 62-4.050(3), F.A.C. requires that all applications for a Department permit must be certified by a professional engineer registered in the State of Florida. This requirement also applies to responses to Department requests for additional information of an engineering nature. Permit applicants are advised that Rule 62-4.055(1), F.A.C. now requires applicants to respond to requests for information within 90 days. If there are any questions, please call me at 850/921-9519. Matters regarding modeling issues should be directed to Cleve Holladay (meteorologist) at 850/921-8986 and e-mail [cleve.holladay@dep.state.fl.us](mailto:cleve.holladay@dep.state.fl.us). Matters regarding the technical information may be directed to Teresa Heron at 850/921-9529 and e-mail [teresa.heron@dep.state.fl.us](mailto:teresa.heron@dep.state.fl.us)

Sincerely,

A. A. Linero, P.E. Administrator  
New Source Review Section

AAL/ch

cc: Gregg Worley, EPA  
John Bunyak, NPS  
Bill Thomas, SWD  
Scott Sumner, P.E., TRC

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## U.S. FISH & WILDLIFE SERVICE AIR QUALITY BRANCH

P.O. BOX 25287, Denver, CO 80225-0287

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Date: May 16, 2001

Telephone: (303) 969-2617

Fax: (303) 969-2822

To: Al Linero

Patty Adams

Cleve Holladay

From: Ellen Porter

Subject: CPV Pierce, Ltd. PSD-FL-319

We have reviewed the Prevention of Significant Deterioration Application for CPV Pierce, Ltd.'s proposed combined-cycle 245 MW power generation facility in Polk County. The facility is located 108 km south of Chassahowitzka Wilderness, a Class I air quality area administered by the U.S. Fish and Wildlife Service. Emissions increases include 125 tons per year (tpy) of nitrogen oxides (NO<sub>x</sub>), 76 tpy of sulfur dioxide, and 100 tpy of PM-10.

CPV is proposing to use selective catalytic reduction (SCR) to control NO<sub>x</sub> emissions to 3.5 ppm while burning gas and 10 ppm while burning oil. We agree that this represents best available control technology. However, we have found other similar sources that have permits for lower NO<sub>x</sub> emissions using SCR during combined cycle operation. There are two sources with permitted levels of 2.5 ppm NO<sub>x</sub> or lower, Westbrook Power in Maine and the Goldendale facility in Washington. While these sources are not yet operating, the New Source Review Workshop Manual states "a commercially available control option will be presumed applicable if it has been or is soon to be deployed (e. g., is specified in a permit) on the same or a similar source type."<sup>1</sup> CPV could reduce annual emissions of NO<sub>x</sub> by approximately 35 tons by employing an emissions limit of 2.5 ppm NO<sub>x</sub>. We believe that based on the two permits specifying NO<sub>x</sub> limits on similar sources at or below 2.5 ppm, CPV should further evaluate the costs of reducing NO<sub>x</sub> below 3.5 ppm.

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<sup>1</sup> New Source Review Workshop Manual, EPA, 1990, p. B.18.

CPV evaluated potential impacts to Class I increments. Predicted impacts were below the significant impact levels for nitrogen dioxide, sulfur dioxide, and PM-10. CPV also evaluated its potential contribution to haze at Chassahowitzka. Their analysis, using CALPUFF Lite according to the recommendations of IWAQM Phase 2, predicted a 3% change in light extinction, less than the 5% screening level recommended by FWS. CPV correctly used a circular ring of receptors as described in the IWAQM Phase 2 document (For its Gulfcoast project, CPV incorrectly placed all receptors within Chassahowitzka.)

The current project has low potential to adversely affect air quality or air quality related values at Chassahowitzka. As noted above, lower NO<sub>x</sub> limits may be appropriate.

Thank you for giving us the opportunity to comment on this project.