FLORIDA POWER CORPORATION
CRYSTAL RIVER FACILITY
VOLUME 2 OF 2

TITLE V AIR OPERATING PERMIT APPLICATION

Submitted to:

Florida Department of Environmental Protection

Prepared by:

KBN Engineering and Applied Sciences, Inc.
Gainesville, Florida

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[x] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[x] This Emissions Unit information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **Fly Ash Storage Silo for Units 1,2**		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [ ] Unknown **008**		
3. Emissions Unit Status Code: **A**	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: **49**
6. Emissions Unit Comment (limit to 500 characters):		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters): **Fabric filter, low temp.**
2. Control Device or Method Code: **18**

B.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:	
2. Long-term Reserve Shutdown Date:	
3. Package Unit: Manufacturer:	Model Number:
4. Generator Nameplate Rating:	MW
5. Incinerator Information: Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:	 °F seconds °F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:			mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr		tons/day
3. Maximum Process or Throughput Rate:		174	tons/hour
4. Maximum Production Rate:			
5. Operating Capacity Comment (limit to 200 characters):			

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:			
	hours/day		days/week
	weeks/yr	8,760	hours/yr

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment CR-E06-D

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: EU6, See CR-FI-E2	
2. Emission Point Type Code: [x] 1 [ ] 2 [ ] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): Fly ash is pneumatically conveyed from unit 1 and 2 electrostatic precipitators	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
5. Discharge Type Code: [ ] D [ ] F [ ] H [ ] P [ ] R [x] V [ ] W	
6. Stack Height:	93 feet
7. Exit Diameter:	1.5 feet
8. Exit Temperature:	77 °F

9. Actual Volumetric Flow Rate:	2,546 acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates: Zone: East (km): North (km):	
14. Emission Point Comment (limit to 200 characters):	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Fly ash / mineral products, bulk materials**	
2. Source Classification Code (SCC): **3-05-102-99**	
3. SCC Units: **Tons Processed**	
4. Maximum Hourly Rate: **174**	5. Maximum Annual Rate: **1,524,240**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	017		EL
PM10	017		NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: PM
2. Total Percent Efficiency of Control: 99.9 %
3. Potential Emissions: 0.59 lb/hour 2.58 tons/year
4. Synthetically Limited? [ ] Yes [x] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: 0.59 lb/hr Reference: Vendor guarantee
7. Emissions Method Code: [x] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): Permit Limit
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

Emissions Unit Information Section 6 of 14

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: **0.59 lb/hr**		
4. Equivalent Allowable Emissions:	**0.59** lb/hour	**2.58** tons/year
5. Method of Compliance (limit to 60 characters): **Annual Compliance Test, EPA Method 9**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Permit limit; BACT determination 2/5/79**		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 2

1.	Visible Emissions Subtype: VE05
2.	Basis for Allowable Opacity: [X] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: 5 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: EPA Method 9
5.	Visible Emissions Comment (limit to 200 characters): Rule 62-297.620(4), F.A.C.

Visible Emissions Limitations: Visible Emissions Limitation 2 of 2

1.	Visible Emissions Subtype: VE99
2.	Basis for Allowable Opacity: [X] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: 100 % Maximum Period of Excess Opacity Allowed: 60 min/hour
4.	Method of Compliance: Best operation practice
5.	Visible Emissions Comment (limit to 200 characters): Excess emissions allowed in Rule 62-210.700(1) for 2 hr in 24 hr.

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [x] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[x] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	[x] C	[ ] E	[ ] Unknown
	SO_2	[ ] C	[ ] E	[ ] Unknown
	NO_2	[ ] C	[ ] E	[ ] Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO_2	0 lb/hour	0	tons/year
	NO_2		0	tons/year
5.	PSD Comment (limit to 200 characters):			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1.	Process Flow Diagram [x] Attached, Document ID: CR-E05-L1 [ ] Not Applicable	[ ] Waiver Requested
2.	Fuel Analysis or Specification [ ] Attached, Document ID: _____ [x] Not Applicable	[ ] Waiver Requested
3.	Detailed Description of Control Equipment [x] Attached, Document ID: CR-E05-L3 [ ] Not Applicable	[ ] Waiver Requested
4.	Description of Stack Sampling Facilities [ ] Attached, Document ID: _____ [x] Not Applicable	[ ] Waiver Requested
5.	Compliance Test Report [ ] Attached, Document ID: _____ [x] Previously Submitted, Date: 15 Sep 1995	[ ] Not Applicable
6.	Procedures for Startup and Shutdown [ ] Attached, Document ID: _____	[x] Not Applicable
7.	Operation and Maintenance Plan [ ] Attached, Document ID: _____	[x] Not Applicable
8.	Supplemental Information for Construction Permit Application [ ] Attached, Document ID: _____	[x] Not Applicable
9.	Other Information Required by Rule or Statute [ ] Attached, Document ID: _____	[x] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10.	Alternative Methods of Operation [ ] Attached, Document ID: _____ [x] Not Applicable
11.	Alternative Modes of Operation (Emissions Trading) [ ] Attached, Document ID: _____ [x] Not Applicable
12.	Identification of Additional Applicable Requirements [x] Attached, Document ID: CR-E05-L12 [ ] Not Applicable
13.	Compliance Assurance Monitoring Plan [x] Attached, Document ID: CR-E01-L13 [ ] Not Applicable
14.	Acid Rain Permit Application (Hard Copy Required) [ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ [ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ [ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ [ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ [x] Not Applicable

ATTACHMENT CR-E06-D

APPLICABLE REQUIREMENTS LISTING

ATTACHMENT CR-E06-D

APPLICABLE REQUIREMENTS LISTING - POWER PLANTS

EMISSION UNIT: EU6: Units 1 and 2 Fly Ash Silo - FPC Crystal River

FDEP Rules:

Stationary Sources-General:

62-210.700(1)	
62-210.700(4)	- Maintenance
62-210.700(6)	

Stationary Sources-Emission Standards:

62-296.320(4)(b)	- General VE

Stationary Sources-Emission Monitoring:

62-297.310(2)(b)	- Operating Rate; reserved for CTs
62-297.310(4)(a)2.	- Applicable Test Procedures;Sampling time
62-297.310(5)	- Determination of Process Variables
62-297.310(7)(a)3.	- Permit Renewal Test Required
62-297.310(7)(a)4.	
62-297.310(7)(a)9.	- FDEP Notification - 15 days
62-297.310(8)	- Test Reports
62-297.620(4)	- Opacity of 5% approved by FDEP in lieu of PM test

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT (Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[x] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[x] This Emissions Unit information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **Fly Ash Transfer from Unit 2a**		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [ ] Unknown **010**		
3. Emissions Unit Status Code: **A**	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: **49**
6. Emissions Unit Comment (limit to 500 characters):		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters): **Fabric filter, low temp**
2. Control Device or Method Code: **17**

B.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:	
2. Long-term Reserve Shutdown Date:	
3. Package Unit: Manufacturer:	Model Number:
4. Generator Nameplate Rating:	MW
5. Incinerator Information: Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:	 °F seconds °F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:	60	tons/hour
5. Operating Capacity Comment (limit to 200 characters):		

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:			
	hours/day		days/week
	weeks/yr	8,760	hours/yr

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment CR-E07-D

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: EU7, See CR-FI-E2	
2. Emission Point Type Code: [x] 1 [ ] 2 [ ] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): See Comment	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
5. Discharge Type Code: [ ] D [ ] F [ ] H [ ] P [ ] R [x] V [ ] W	
6. Stack Height:	8 feet
7. Exit Diameter:	0.8 feet
8. Exit Temperature:	77 °F

9. Actual Volumetric Flow Rate:	2,200 acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates: Zone: East (km): North (km):	
14. Emission Point Comment (limit to 200 characters): **Exit Diameter = 0.833 (rounded to 0.8). Fly ash conveying line, dense phase transfer vessel, and separator used to transfer fly ash from the unit no.2 electrostatic precipitator 2c.**	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Fly ash / mineral products, bulk materials**	
2. Source Classification Code (SCC): **3-05-102-99**	
3. SCC Units: **Tons Processed**	
4. Maximum Hourly Rate: **60**	5. Maximum Annual Rate: **525,600**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	017		EL
PM10	017		NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: PM
2. Total Percent Efficiency of Control: 99.9 %
3. Potential Emissions: 2.2 lb/hour 9.64 tons/year
4. Synthetically Limited? [ ] Yes [x] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: 2.2 lb/hr Reference: Vendor guarantee
7. Emissions Method Code: [x] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): Permit Limit
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

Emissions Unit Information Section 7 of 14

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: **2.2 lb/hr**		
4. Equivalent Allowable Emissions:	**2.2** lb/hour	**9.64** tons/year
5. Method of Compliance (limit to 60 characters): **Annual Compliance Test, EPA Method 9**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Permit limit; BACT determination 2/5/79**		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 2

1.	Visible Emissions Subtype: **VE05**
2.	Basis for Allowable Opacity: [x] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: 5 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: **EPA Method 9**
5.	Visible Emissions Comment (limit to 200 characters): **Rule 62-297.620(4), F.A.C.**

Visible Emissions Limitations: Visible Emissions Limitation 2 of 2

1.	Visible Emissions Subtype: **VE99**
2.	Basis for Allowable Opacity: [x] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: 100 % Maximum Period of Excess Opacity Allowed: 60 min/hour
4.	Method of Compliance: **Best operation practice**
5.	Visible Emissions Comment (limit to 200 characters): **Excess emissions allowed in Rule 62-210.700(1) for 2 hr in 24 hr.**

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [x] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[x] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	[x] C	[ ] E	[ ] Unknown
	SO_2	[ ] C	[ ] E	[ ] Unknown
	NO_2	[ ] C	[ ] E	[ ] Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO_2	0 lb/hour	0	tons/year
	NO_2		0	tons/year
5.	PSD Comment (limit to 200 characters):			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1.	Process Flow Diagram [x] Attached, Document ID: CR-E05-L1 [ ] Not Applicable	[ ] Waiver Requested
2.	Fuel Analysis or Specification [ ] Attached, Document ID: _____ [x] Not Applicable	[ ] Waiver Requested
3.	Detailed Description of Control Equipment [x] Attached, Document ID: CR-E05-L3 [ ] Not Applicable	[ ] Waiver Requested
4.	Description of Stack Sampling Facilities [ ] Attached, Document ID: _____ [x] Not Applicable	[ ] Waiver Requested
5.	Compliance Test Report [ ] Attached, Document ID: _____ [x] Previously Submitted, Date: 15 Sep 1995	[ ] Not Applicable
6.	Procedures for Startup and Shutdown [ ] Attached, Document ID: _____	[x] Not Applicable
7.	Operation and Maintenance Plan [ ] Attached, Document ID: _____	[x] Not Applicable
8.	Supplemental Information for Construction Permit Application [ ] Attached, Document ID: _____	[x] Not Applicable
9.	Other Information Required by Rule or Statute [ ] Attached, Document ID: _____	[x] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10.	Alternative Methods of Operation [ ] Attached, Document ID: _____ [x] Not Applicable
11.	Alternative Modes of Operation (Emissions Trading) [ ] Attached, Document ID: _____ [x] Not Applicable
12.	Identification of Additional Applicable Requirements [x] Attached, Document ID: CR-E05-L12 [ ] Not Applicable
13.	Compliance Assurance Monitoring Plan [x] Attached, Document ID: CR-E01-L13 [ ] Not Applicable
14.	Acid Rain Permit Application (Hard Copy Required) [ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ [ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ [ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ [ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ [x] Not Applicable

ATTACHMENT CR-E07-D

APPLICABLE REQUIREMENTS LISTING

ATTACHMENT CR-E07-D

APPLICABLE REQUIREMENTS LISTING - POWER PLANTS

EMISSION UNIT: EU7: Unit 2 Fly Ash Transfer 2a - FPC Crystal River

FDEP Rules:

Stationary Sources-General:

62-210.700(1)	
62-210.700(4)	- Maintenance
62-210.700(6)	

Stationary Sources-Emission Standards:

62-296.320(4)(b)	- General VE

Stationary Sources-Emission Monitoring:

62-297.310(2)(b)	- Operating Rate
62-297.310(4)(a)2.	- Applicable Test Procedures;Sampling time
62-297.310(5)	- Determination of Process Variables
62-297.310(7)(a)1.	- Renewal
62-297.310(7)(a)3.	- Permit Renewal Test Required
62-297.310(7)(a)4.	
62-297.310(7)(a)9.	- FDEP Notification - 15 days
62-297.310(8)	- Test Reports
62-297.620(4)	- Opacity of 5% approved by FDEP in lieu of PM test

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[x] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[x] This Emissions Unit information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): Fly Ash Transfer From Unit 2b		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [ ] Unknown 009		
3. Emissions Unit Status Code: A	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: 49
6. Emissions Unit Comment (limit to 500 characters):		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters): **Fabric filter, low temp**
2. Control Device or Method Code: **18**

B.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:	
2. Long-term Reserve Shutdown Date:	
3. Package Unit: Manufacturer:	Model Number:
4. Generator Nameplate Rating:	MW
5. Incinerator Information: Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:	 °F seconds °F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:			mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr		tons/day
3. Maximum Process or Throughput Rate:		70	tons/hour
4. Maximum Production Rate:			
5. Operating Capacity Comment (limit to 200 characters):			

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:			
	hours/day		days/week
	weeks/yr	8,760	hours/yr

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment CR-E08-D

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: EU8, See CR-FI-E2
2. Emission Point Type Code: [x] 1 [ ] 2 [ ] 3 [ ] 4
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): See Comment
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:
5. Discharge Type Code: [ ] D [ ] F [ ] H [ ] P [ ] R [x] V [ ] W
6. Stack Height: 8 feet
7. Exit Diameter: 0.8 feet
8. Exit Temperature: 77 °F

9. Actual Volumetric Flow Rate:	2,800 acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates: Zone: East (km): North (km):	
14. Emission Point Comment (limit to 200 characters): **Exit Diameter = 0.833 (rounded to 0.8). Fly ash conveying line, dense phase transfer vessel, and separator used to transfer fly ash from the Unit No.2 electrostatic precipitators 2a and 2b.**	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Fly ash / mineral products, bulk materials**	
2. Source Classification Code (SCC): **3-05-102-99**	
3. SCC Units: **Tons Processed**	
4. Maximum Hourly Rate: **70**	5. Maximum Annual Rate: **613,200**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	017		EL
PM10	017		NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: PM
2. Total Percent Efficiency of Control: 99.9 %
3. Potential Emissions: 2.2 lb/hour 9.64 tons/year
4. Synthetically Limited? [ ] Yes [x] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: 2.2 lb/hr Reference: Vendor guarantee
7. Emissions Method Code: [x] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): Permit Limit
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

Emissions Unit Information Section 8 **of** 14

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: **2.2 lb/hr**		
4. Equivalent Allowable Emissions:	**2.2** lb/hour	**9.64** tons/year
5. Method of Compliance (limit to 60 characters): **Annual Compliance Test, EPA Method 9**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Permit limit; BACT determination 2/5/79**		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 2

1.	Visible Emissions Subtype: VE05
2.	Basis for Allowable Opacity: [x] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: 5 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: EPA Method 9
5.	Visible Emissions Comment (limit to 200 characters): Rule 62-297.620(4), F.A.C.

Visible Emissions Limitations: Visible Emissions Limitation 2 of 2

1.	Visible Emissions Subtype: VE99
2.	Basis for Allowable Opacity: [x] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: 100 % Maximum Period of Excess Opacity Allowed: 60 min/hour
4.	Method of Compliance: Best operation practice
5.	Visible Emissions Comment (limit to 200 characters): Excess emissions allowed in Rule 62-210.700(1) for 2 hr in 24 hr.

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [x] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[x] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	[x] C	[ ] E	[ ] Unknown
	SO_2	[ ] C	[ ] E	[ ] Unknown
	NO_2	[ ] C	[ ] E	[ ] Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO_2	0 lb/hour	0	tons/year
	NO_2		0	tons/year
5.	PSD Comment (limit to 200 characters):			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1.	Process Flow Diagram [X] Attached, Document ID: CR-E05-L1 [ ] Not Applicable	[ ] Waiver Requested
2.	Fuel Analysis or Specification [ ] Attached, Document ID: _____ [X] Not Applicable	[ ] Waiver Requested
3.	Detailed Description of Control Equipment [X] Attached, Document ID: CR-E05-L3 [ ] Not Applicable	[ ] Waiver Requested
4.	Description of Stack Sampling Facilities [ ] Attached, Document ID: _____ [X] Not Applicable	[ ] Waiver Requested
5.	Compliance Test Report [ ] Attached, Document ID: _____ [X] Previously Submitted, Date: 15 Sep 1995	[ ] Not Applicable
6.	Procedures for Startup and Shutdown [ ] Attached, Document ID: _____	[X] Not Applicable
7.	Operation and Maintenance Plan [ ] Attached, Document ID: _____	[X] Not Applicable
8.	Supplemental Information for Construction Permit Application [ ] Attached, Document ID: _____	[X] Not Applicable
9.	Other Information Required by Rule or Statute [ ] Attached, Document ID: _____	[X] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10.	Alternative Methods of Operation [ ] Attached, Document ID: _____ [x] Not Applicable
11.	Alternative Modes of Operation (Emissions Trading) [ ] Attached, Document ID: _____ [x] Not Applicable
12.	Identification of Additional Applicable Requirements [x] Attached, Document ID: CR-E05-L12 [ ] Not Applicable
13.	Compliance Assurance Monitoring Plan [x] Attached, Document ID: CR-E01-L13 [ ] Not Applicable
14.	Acid Rain Permit Application (Hard Copy Required) [ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ [ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ [ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ [ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ [x] Not Applicable

ATTACHMENT CR-E08-D

APPLICABLE REQUIREMENTS LISTING

ATTACHMENT CR-E08-D

APPLICABLE REQUIREMENTS LISTING - POWER PLANTS

EMISSION UNIT: EU8: Unit 2 Fly Ash Transfer 2b - FPC Crystal River

FDEP Rules:

Stationary Sources-General:

62-210.700(1)	
62-210.700(4)	- maintenance
62-210.700(6)	

Stationary Sources-Emission Standards:

62-296.320(4)(b)	- General VE

Stationary Sources-Emission Monitoring:

62-297.310(2)(b)	- Operating Rate
62-297.310(4)(a)2.	- Applicable Test Procedures;Sampling time
62-297.310(5)	- Determination of Process Variables
62-297.310(7)(a)3.	- Permit Renewal Test Required
62-297.310(7)(a)4.	
62-297.310(7)(a)9.	- FDEP Notification - 15 days
62-297.310(8)	- Test Reports
62-297.620(4)	- Opacity of 5% approved by FDEP in lieu of PM test

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[x] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[ ] This Emissions Unit information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[x] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **Bottom Ash Storage Silo from Units 1,2**		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [ ] Unknown **014**		
3. Emissions Unit Status Code: **A**	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: **49**
6. Emissions Unit Comment (limit to 500 characters):		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters): **Fabric Filter, low temp**
2. Control Device or Method Code: **18**

B.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:	
2. Long-term Reserve Shutdown Date:	
3. Package Unit: Manufacturer:	Model Number:
4. Generator Nameplate Rating:	MW
5. Incinerator Information: Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:	 °F seconds °F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:			mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr		tons/day
3. Maximum Process or Throughput Rate:		8	tons/hr/unit
4. Maximum Production Rate:			
5. Operating Capacity Comment (limit to 200 characters): **Total throughput rate from units 1 and 2 is 16 tons per hour.**			

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:			
	hours/day		days/week
	weeks/yr	8,760	hours/yr

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment CR-E09-D

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: See Att. CR-FI-E2
2. Emission Point Type Code: [ ] 1 [ ] 2 [x] 3 [ ] 4
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): See Attachment CR-E09-E14
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:
5. Discharge Type Code: [ ] D [ ] F [ ] H [ ] P [ ] R [x] V [ ] W
6. Stack Height: 5 feet
7. Exit Diameter: 0.8 feet
8. Exit Temperature: 77 °F

9. Actual Volumetric Flow Rate:		acfm
10. Percent Water Vapor:		%
11. Maximum Dry Standard Flow Rate:	2,200	dscfm
12. Nonstack Emission Point Height:		feet
13. Emission Point UTM Coordinates: Zone: East (km): North (km):		
14. Emission Point Comment (limit to 200 characters):		

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Bottom and economizer ash. Mineral products, concrete batching cement unloading.**	
2. Source Classification Code (SCC): **3-05-011-07**	
3. SCC Units: **Tons Processed**	
4. Maximum Hourly Rate: **8**	5. Maximum Annual Rate: **70,080**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): **1. Maximum hourly and annual rates based on one unit. 2. Maximum hourly and annual rates for two units are 16 tons/hr and 140,160 tons/yr respectively.**	

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM	018		EL
PM10	018		NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: PM

2. Total Percent Efficiency of Control: 99.9 %

3. Potential Emissions: 13.03 lb/hour 57.1 tons/year

4. Synthetically Limited? [ ] Yes [X] No

5. Range of Estimated Fugitive/Other Emissions:

   [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr

6. Emission Factor: 3.59 p^0.620*

   Reference: Rule (see comment)

7. Emissions Method Code:

   [ ] 0 [ ] 1 [X] 2 [ ] 3 [ ] 4 [ ] 5

8. Calculation of Emissions (limit to 600 characters):

   lb/hr = 3.59x(8 tons/hr)^0.620 = 13.03; TPY = 13.03 lb/hr x 8,760 hr/yr x 1 ton/2,000 lb

9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

   *p=process rate. Based on the maximum process rate of ash for one unit. Emission Factor based on Rule 62-296.320(4)(a), F.A.C.

Emissions Unit Information Section 9 of 14

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **RULE**		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: **13.03 lb/hr**		
4. Equivalent Allowable Emissions:	**13.03** lb/hour	**57.1** tons/year
5. Method of Compliance (limit to 60 characters): **Annual Compliance Test, EPA Method 9**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Rule 62-296.320(4)(a), F.A.C.**		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 1

1.	Visible Emissions Subtype: VE05
2.	Basis for Allowable Opacity: [X] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: 5 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: EPA Method 9
5.	Visible Emissions Comment (limit to 200 characters): 1. Rule 62-297.620(4), F.A.C. 2. Visible emission test to be done on two filter/separator vacuum blower exhausts and bin vent filter exhaust

Visible Emissions Limitations: Visible Emissions Limitation _____ of _____

1.	Visible Emissions Subtype:
2.	Basis for Allowable Opacity: [ ] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance:
5.	Visible Emissions Comment (limit to 200 characters):

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

[x] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

[ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[x] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	[x] C	[ ] E	[ ] Unknown
	SO_2	[ ] C	[ ] E	[ ] Unknown
	NO_2	[ ] C	[ ] E	[ ] Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO_2	0 lb/hour	0	tons/year
	NO_2		0	tons/year
5.	PSD Comment (limit to 200 characters):			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1.	Process Flow Diagram [X] Attached, Document ID: CR-E09-L1 [ ] Not Applicable	[ ] Waiver Requested
2.	Fuel Analysis or Specification [ ] Attached, Document ID: _____ [X] Not Applicable	[ ] Waiver Requested
3.	Detailed Description of Control Equipment [X] Attached, Document ID: CR-E09-L3 [ ] Not Applicable	[ ] Waiver Requested
4.	Description of Stack Sampling Facilities [ ] Attached, Document ID: _____ [X] Not Applicable	[ ] Waiver Requested
5.	Compliance Test Report [ ] Attached, Document ID: _____ [X] Previously Submitted, Date: _____	[ ] Not Applicable
6.	Procedures for Startup and Shutdown [ ] Attached, Document ID: _____	[X] Not Applicable
7.	Operation and Maintenance Plan [ ] Attached, Document ID: _____	[X] Not Applicable
8.	Supplemental Information for Construction Permit Application [ ] Attached, Document ID: _____	[X] Not Applicable
9.	Other Information Required by Rule or Statute [ ] Attached, Document ID: _____	[X] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10.	Alternative Methods of Operation [ ] Attached, Document ID: _____ [x] Not Applicable
11.	Alternative Modes of Operation (Emissions Trading) [ ] Attached, Document ID: _____ [x] Not Applicable
12.	Identification of Additional Applicable Requirements [x] Attached, Document ID: CR-E09-L12 [ ] Not Applicable
13.	Compliance Assurance Monitoring Plan [x] Attached, Document ID: CR-E01-L13 [ ] Not Applicable
14.	Acid Rain Permit Application (Hard Copy Required) [ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ [ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ [ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ [ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ [x] Not Applicable

ATTACHMENT CR-E09-D

APPLICABLE REQUIREMENTS LISTING

ATTACHMENT CR-E09-D

APPLICABLE REQUIREMENTS LISTING - POWER PLANTS

EMISSION UNIT: EU9: Units 1 and 2 Bottom Ash Silo - FPC Crystal River

FDEP Rules:

Stationary Sources-General:

62-210.700(1)	
62-210.700(4)	- maintenance
62-210.700(6)	

Stationary Sources-Emission Standards:

62-296.320(4)(b)	- General VE

Stationary Sources-Emission Monitoring:

62-297.310(2)(b)	- Operating Rate
62-297.310(4)(a)2.	- Applicable Test Procedures;Sampling time
62-297.310(5)	- Determination of Process Variables
62-297.310(7)(a)3.	- Permit Renewal Test Required
62-297.310(7)(a)4.	
62-297.310(7)(a)9.	- FDEP Notification - 15 days
62-297.310(8)	- Test Reports
62-297.620(4)	- Opacity of 5% approved by FDEP in lieu of PM test

ATTACHMENT CR-E09-E14

EMISSION POINT COMMENT

ATTACHMENT CR-E09-E14
EMISSION POINT COMMENT

Stack and operating data provided for two identical filter/separator vacuum blower outlets.

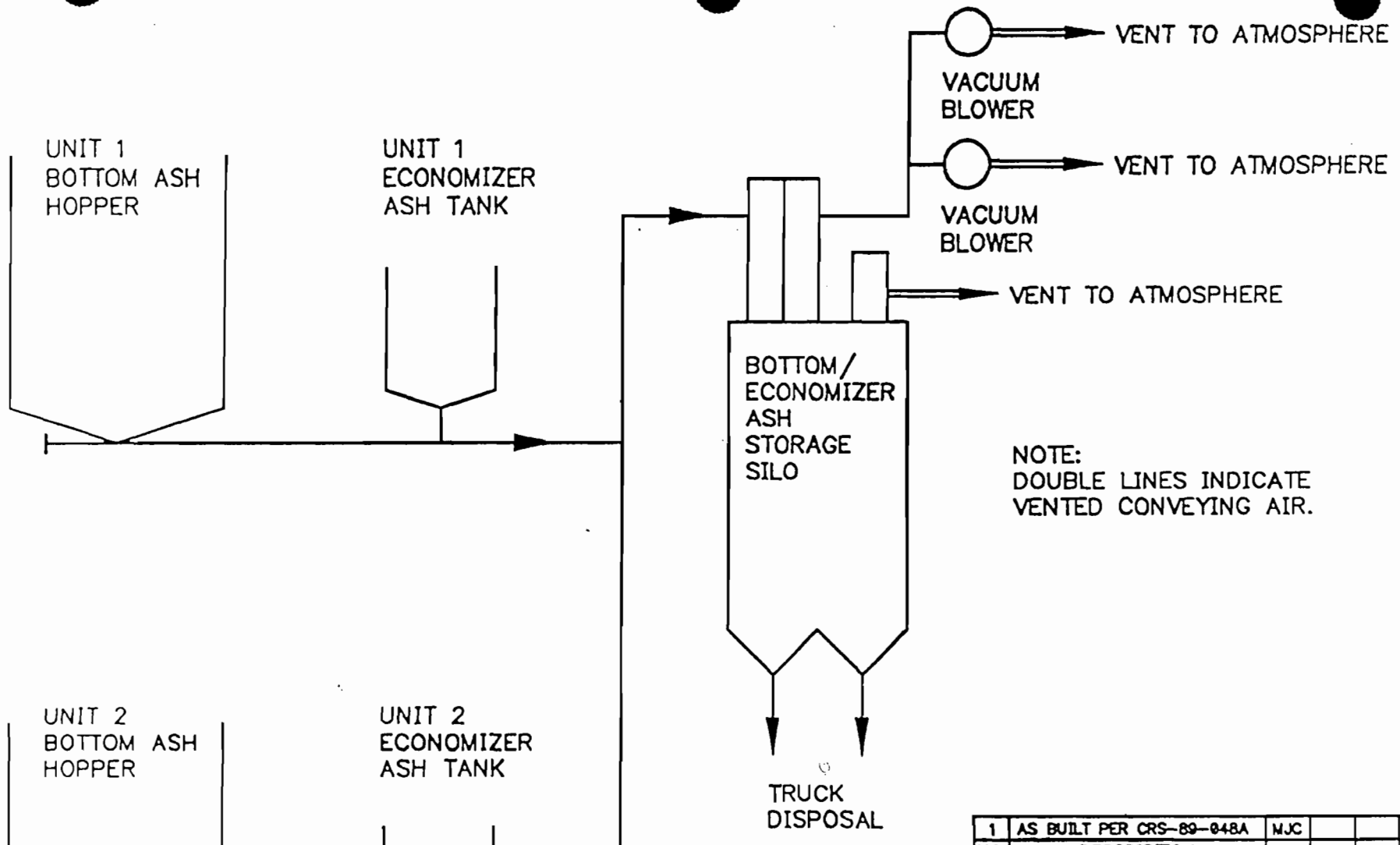
For bin vent filter outlet, the stack height is 78 feet, and the diameter is 0.67 ft. The gas flow rate is 2,400 dscfm at an exit temperature equal to ambient.

Bottom ash handling system designed to collect and store all of the bottom ash and economizer ash from Units 1 and 2. Ash is conveyed by means of dry vacuum system designed to handle ash from both units at same time. Vacuum to transfer ash is produced by separate vacuum blower (total of two) located on silo. Air and ash from each unit passes through a filter/separator baghouse collector (one per unit) with air exhausting through vacuum blowers. The air in silo displaced by incoming ash is vented to atmosphere through additional bag filter identified as bin vent filter.

Actual Exit Diameter = 0.833 feet

ATTACHMENT CR-E09-L1

PROCESS FLOW DIAGRAM



NO.	DESCRIPTION	DRAWN	CHKD	APPR.	DATE
1	AS BUILT PER CRS-89-048A	MJC			

REVISIONS

FLORIDA POWER CORPORATION

ENERGY SUPPLY ENGINEERING SERVICES

CRYSTAL RIVER UNITS 1 & 2
DRY BOTTOM ASH SYSTEM

DRAWN	CHECKED	APPROVED	DATE	SCALE
MJC			7/16/93	NTS

DESCP.	SHEET	DWG.	REV. NO.
		CR-L011-A	1

FILE: CRL011A.DWG

FIGURE 3

ATTACHMENT CR-E09-L3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

UC Service Corporation
2100 Norman Drive West • Waukegan, IL 60085
(708) 473-5900 • FAX: (708) 473-5959

29 July 1993

Florida Power Corporation
P.O. Box 14042
St. Petersburg, FL 33733

Attention: Mr. Wayne Love

Subject: Crystal River Station
Unit No. 2 Bottom Ash System
Magaldi Ash Conveyor (MAC) Retrofit
Florida Power Contract No. S09758
Environmental Permit Data
UCSC Proposal No. 93501

Gentlemen:

Following is the information requested concerning the environmental operating permit for the bottom ash storage silo. This information is based on our proposal dated 16 June 1993.

1. Air flow to the silo:
   - Approximately 2200 cfm for Unit No. 1 and 2200 cfm for Unit No. 2.

2. Product flow to the silo:
   - The vacuum system maximum design point is 8 tph.

3. Estimated effluent from the filter/separator in grains/cu. ft. and total in 24 hrs:
   - Maximum grains/cu. ft. = 0.02
   - Total in 24 hrs
     - Filter/separators = 63,360 grains/24 hr x 2 filter/separator = 126,720 grains/24 hr.
     - Bin vent filter = 69,120 grains/24 hr (Note: This figure assumes future addition of dry unloading spout)

4. Air to cloth ratio:
   - Based on current conveying design point of 2200 cfm.
     - Filter/separator = 4.5 to 1 maximum
     - Bin vent filter = 4.5 to 1 maximum.

5. Manufacturer's literature on the filter/separator
   - See United Conveyor Corporation (UCC) Product Data Brochure.

6. Estimated efficiency of the bags as supplied by UCC.
   - Efficiency = 99.9%

7. Type of bag
   - Nomex

Should you have any further questions, please contact me.

Regards,

FOR UC SERVICE CORPORATION

Michael J. Petershack
Systems Improvement Engineer

mbw

Attachment
cc: Dave Parta - UCC
Jim Tonias - UCC

Represented by:

James M. Clontz Associates
P.O. Box 271204
Tampa, FL 33688
813-961-4511

ATTACHMENT CR-E09-L12

IDENTIFICATION OF ADDITIONAL APPLICABLE REQUIREMENTS

ADDITIONAL APPLICABLE REQUIREMENTS

Applicable Requirements as defined in Rule 62-210.200(29) not identified in Section D of this emission unit section are included in this attachment of the application. Any air operation permit issued by the Department (or local program designee) and included in this attachment is provided for information purposes. The specific conditions of the operating permit are not Applicable Requirements as defined in Rule 62-210.200(29) unless implementing a specific Applicable Requirement of the Department's rules (e.g., emission limitations).

Florida Department of
Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619
813-744-6100

Virginia B. Wetherell
Secretary

NOTICE OF PERMIT

In the matter of an
Application for Permit by:

DER File No.: AC09-235915
County: Citrus

Mr. W. Jeffrey Pardue
Manager Environmental Programs
Florida Power Corporation
P.O. Box 14042, MAC H2G
St. Petersburg, FL 33733
_____/

Enclosed is Permit Number AC09-235915 for the construction of a bottom ash and economizer ash handling system for Units 1 and 2 at the Crystal River Plant, issued pursuant to Section 403.087, Florida Statutes.

Any party to this Order (permit) has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this Notice is filed with the Clerk of the Department.

Executed in Tampa, Florida.

Sincerely,

J. Harry Kerns

J. Harry Kerns, P.E.
District Air Engineer

DRZ/
enclosure

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of business on OCT 4 - 1993 to the listed persons.

Clerk Stamp

FILING AND ACKNOWLEDGEMENT FILED, on this date, pursuant to Section 120.52(9), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Vicki Andrews OCT 4 - 1993
(Clerk) (Date)

Florida Department of
Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619
813-744-6100

Virginia B. Wetherell
Secretary

PERMITTEE:
Florida Power Corporation
P.O. Box 14042
St. Petersburg, FL 33733

PERMIT/PROJECT:
Permit No: AC09-235915
County: Citrus
Expiration Date: 06/01/94
Project: Crystal R. Units 1 & 2 Bottom/Economizer Ash Handling System

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-200 through 297, and Chapter 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or on file with the department and made a part hereof and specifically described as follows:

For the construction of a new ash handling system to be used to collect and store all of the bottom ash and economizer ash from both Units 1 and 2 at the Crystal River Plant. The ash will be conveyed from the units to the ash storage silo by means of a dry vacuum system. The capacity of the system is to handle 8 tons/hour of ash from each unit (total of 16 tons/hour from both units combined). The vacuum to transfer the ash from each unit will be produced by a separate vacuum blower (total of two blowers) located on the ash storage silo.

The air and ash from each silo will pass through a filter/separator baghouse collector (one for each unit) with the air exhausting through the vacuum blowers. The air in the storage silo displaced by the incoming ash will be vented to the atmosphere through an additional bag filter identified as the bin vent filter.

The ash stored in the silo will be unloaded to trucks for sale, reuse, or disposal at the on-site ash disposal facility. A pug mill will wet the ash before it is loaded to open trucks, or dry ash will be transferred to enclosed tanker trucks.

Location: Crystal River Plant - West of U.S. 19 NW of Crystal River

UTM: 17-334.2 E 3204.25 N NEDS No: 0004 Point ID No:

Replaces Permit No.: N/A

Specific Conditions:

1. A part of this permit is the attached 15 General Conditions. [Rule 17-4.160, F.A.C.].

2. All applicable rules of the Department and design discharge limitations specified in the application must be adhered to. The permit holder may also need to comply with county, municipal, federal, or other state regulations prior to construction. [Rule 17-4.070(7), F.A.C.].

Operational and Emission Limitations

3. The bottom/economizer ash handling system is permitted for continuous operation (8,760 hours per year). [As requested in the construction application].

4. The maximum rate of transfer of ash from Units 1 and 2 to the ash storage silo shall not exceed 8 tons per hour per unit. [Construction application as amended September 23, 1993].

5. The maximum allowable emission rate of particulate matter from the bottom/economizer ash handling system for a maximum process transfer rate of 8 tons/hour/unit is 13.03 pounds per hour as set by the Process Weight Table contained within Rule 17-296.310(1), F.A.C. At lesser process rates the allowable emission rates can be determined from the appropriate equation. This limitation represents total combined particulate emissions from the two filter/separator exhausts and the bin vent filter exhaust. [Rule 17-296.310(1), F.A.C.].

6. Due to the expense and complexity of conducting a stack test on minor sources of particulate matter, and because this ash handling system is equipped with baghouse control devices, the Department, pursuant to the authority granted under Rule 17-297.620(4), F.A.C., hereby establishes a visible emission limitation not to exceed an opacity of 5% in lieu of a particulate stack test. This limitation applies to emissions from the two filter/separator exhausts and to the bin vent filter exhaust. [Rule 17-297.620(4), F.A.C.].

7. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provisions in Rule 17-296.310(3)(c), F.A.C. These provisions are applicable to any source, including but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrial related activities such as loading, unloading, storing and handling. When transporting ash from the storage silo, the ash shall either be unloaded dry into enclosed tanker trucks, or processed through a pug mill to wet the ash prior to unloading to open trucks. [Rule 17-296.310(3)(b), F.A.C.].

Specific Conditions:

Testing Requirements

8. The bottom/economizer ash handling system shall be tested for visible emissions within 30 days after it is placed in operation. A test report shall be submitted to the Air Program of the Southwest District Office of the Department within 45 days of testing, in conjunction with a Certificate of Completion of Construction. [Rules 17-297.340(1)(a), and 17-297.450, F.A.C.].

9. Compliance with the visible emission limitation of Specific Condition No. 6 shall be determined using EPA Method 9 contained in 40 CFR 60, Appendix A and adopted by reference in Rule 17-297.401, F.A.C. The minimum requirements for stationary point source emission test procedures and reporting shall be in accordance with Rule 17-297, F.A.C. and 40 CFR 60 Appendix A.
[Rule 17-297.330, F.A.C.].

10. The visible emissions test shall be conducted by a certified observer and be a minimum of thirty (30) minutes in duration. Separate VE tests shall be conducted on each of the filter/separator exhausts and the bin vent filter exhaust (total of three (3) emission points to be tested). The test observation period shall include the period during which the highest opacity can reasonably be expected to occur.
[Rule 17-297.330(1)(b), F.A.C.].

11. The initial VE tests shall be conducted while transferring ash from Unit No. 1 to the ash storage silo. Additional visible emissions testing will be conducted annually, and within 30 days of the ash handling system beginning to also handle ash from Unit No. 2 (scheduled for December 1995). This special visible emissions test (and all subsequent annual testing) shall be conducted with both Units 1 and 2 transferring ash to the storage silo at the same time.
[Rule 17-4.070(3), F.A.C.].

12. Testing of emissions must be conducted within 90-100% of the maximum permitted ash transfer rate of 8 tons per hour per unit. A compliance test submitted at an operating rate less than 90% of maximum permitted rate will automatically constitute an amended permit at the lesser rate plus 10% until another test showing compliance at a higher rate (not to exceed 8 tons per hour per unit) is submitted. A statement of the approximate ash transfer rate during the test shall be submitted with each test report. Failure to submit the process transfer rate and or operation under conditions that are not representative of normal operations may invalidate the test and fail to provide reasonable assurance of compliance.
[Rule 17-4.070(3), F.A.C.].

Specific Conditions:

13. The permittee shall notify the Air Program of the Southwest District Office of the Department at least 15 days prior to the date on which each formal compliance test is to begin of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted. [Rule 17-297.340(1)(i), F.A.C.].

Permits

14. The permittee, may, for good cause, request that this construction permit be extended. Such a request shall be submitted to the Air Program of the Southwest District Office of the Department at least 60 days prior to the expiration date of the permit.
[Rule 17-4.090, F.A.C.].

15. Two applications for an operating permit shall be submitted to the Air Program of the Southwest District Office of the Department within 45 days of initial testing or at least 60 days prior to the expiration date of this permit, whichever occurs first. To properly apply for an operation permit, the applicant shall submit the following:

A. the appropriate application form (Certificate of Completion of Construction) noting any deviations from the construction permit application;
B. the compliance test report as required by Specific Condition No. 8 of this permit,

[Rules 17-4.070(3) and 17-297.340(1)(a), F.A.C.].

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

for Richard D. Garrity, Ph.D.
Director of District Management
Southwest District

ATTACHMENT - GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, State, or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in this permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, are required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:

(a) Have access to and copy any records that must be kept under conditions of the permit;

(b) Inspect the facility, equipment, practices, or operations regulated or required under this permit;

(c) Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

(a) A description of and cause of noncompliance; and

(b) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Rule 17-4.120 and 17-730.300, Florida Administrative Code, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

( ) Determination of Best Available Control Technology (BACT)

( ) Determination of Prevention of Significant Deterioration (PSD)

( ) Certification of compliance with State Water Quality Standards (Section 401, PL 92-500)

( ) Compliance with New Source Performance Standard

14. The permittee shall comply with the following:

(a) Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

(b) The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

(c) Records of monitoring information shall include:

1. the date, exact place, and time of sampling or measurements;
2. the person responsible for performing the sampling or measurements;
3. the dates analyses were performed;
4. the person responsible for performing the analyses;
5. the analytical techniques or methods used;
6. the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

Department of
Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

RECEIVED
JUL 25 1994
Environmental Svcs
Department

NOTICE OF PERMIT ISSUANCE

CERTIFIED MAIL
In the Matter of an Application
for permit by:

DER File No.: A009-248541
County: Citrus

Mr. W. J. Pardue, Manager
Environmental Programs
Florida Power Corporation
P.O. Box 14042
St. Petersburg, Florida 33733
_____/

Enclosed is Permit Number A009-248541 to operate the Units 1 and 2 Bottom Ash Handling System at your Crystal River Plant, issued pursuant to Section 403, Florida Statutes. Please read this new permit thoroughly as there are changes from the previous permit.

A person whose substantial interests are affected by this permit may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of receipt of this permit. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under section 120.57 Florida Statutes.

The Petition shall contain the following information;

(a) The name, address, and the telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
(b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
(c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
(d) A statement of the material facts disputed by petitioner;

(e) A statement of facts which petitioner contends warrants reversal or modification of the Department's action or proposed action;
(f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and
(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this permit. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this notice, in the Office of General Counsel at the above address of the Department. Failure to petition within the allotted time frame constitutes a waiver of any rights such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

This permit is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition and conforms to Rule 17-103.070, F.A.C. Upon timely filing of a petition or a request for an extension of time this permit will not be effective until further Order of the Department.

When the Order (Permit) is final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Street Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date the Final Order is filed with the Clerk of the Department.

Executed in Tampa, Florida

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

David R. Zell

David R. Zell
Air Permitting Engineer
Phone (813) 744-6100 Ext. 412

DRZ/
Attachment

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF PERMIT ISSUANCE and all copies were mailed by certified mail before the close of business on JUL 21 1994 to the listed persons.

FILING AND ACKNOWLEDGEMENT FILED, on this date, pursuant to Section 120.52(11), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Clerk JUL 21 1994 Date

Department of
Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619

Virginia B. Wetherell
Secretary

PERMITTEE:
Florida Power Corporation
P.O. Box 14042
St. Petersburg, FL 33733

PERMIT/PROJECT:
Permit No: AO09-248541
County: Citrus
Expiration Date: 07/15/99
Project: Bottom Ash Handling System

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-200 through 297, and Chapter 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or on file with the department and made a part hereof and specifically described as follows:

For the operation of the bottom ash handling system designed to be used to collect and store all of the bottom ash and economizer ash from both Units 1 and 2 at the Crystal River Plant. The ash is conveyed from the units to the ash storage silo by means of a dry vacuum system. The system is designed to handle the ash from both of the units at the same time (approximately 8 tons/hour of ash from each unit for a total of 16 tons/hour from both units combined). The vacuum to transfer the ash from each unit is produced by a separate vacuum blower (total of two blowers) located on the ash storage silo.

The air and ash from each unit passes through a filter/separator baghouse collector (one for each unit) with the air exhausting through the vacuum blowers. The air in the storage silo displaced by the incoming ash is vented to the atmosphere through an additional bag filter identified as the bin vent filter.

The ash stored in the silo is unloaded to trucks for sale, reuse, or disposal at the on-site ash disposal facility. A pug mill wets the ash before it is loaded to open trucks, or dry ash is transferred to enclosed tanker trucks.

Location: Crystal River Plant - West of U.S. 19 NW of Crystal River

UTM: 17-334.2 E 3204.25 N **NEDS No:** 0004 **Point ID No:** 14

Replaces Permit No.: AC09-235915

Specific Conditions:

1. A part of this permit is the attached 15 General Conditions. [Rule 17-4.160, F.A.C.]

2. Issuance of this permit does not relieve the permittee from complying with applicable emission limiting standards or other requirements of Chapters 17-200 through 17-297, or any other requirements under federal, state or local law. [Rule 17-210.300, F.A.C.]

Operational and Emission Limitations

3. The bottom/economizer ash handling system is permitted for continuous operation (8,760 hours per year). [Construction permit AC09-235915]

4. This bottom ash handling system shall be used to handle bottom and economizer ash from Crystal River Units 1 and 2 only (represents a maximum design transfer rate of approximately 16 tons per hour). [Construction permit AC09-235915]

5. The maximum allowable emission rate of particulate matter from the Unit 1 and 2 bottom/economizer ash handling system is 13.03 pounds per hour. (Based upon the limitation set by the Process Weight Table contained within Rule 17-296.310(1), F.A.C. for a maximum process transfer rate of 16 tons/hour.) At process transfer rates less than 16 tons/hour, the allowable emission rates can be determined from the appropriate equation contained within Rule 17-296.310(1), F.A.C.. This limitation represents total combined particulate emissions from the two filter/separator exhausts and the bin vent filter exhaust.
[Construction permit AC09-235915 and Rule 17-296.310(1), F.A.C.]

6. Due to the expense and complexity of conducting a stack test on minor sources of particulate matter, and because this ash handling system is equipped with baghouse control devices, the Department, pursuant to the authority granted under Rule 17-297.620(4), F.A.C., hereby establishes a visible emission limitation not to exceed an opacity of 5% in lieu of a particulate stack test. This limitation applies to emissions from the two filter/separator exhausts and to the bin vent filter exhaust.
[Rule 17-297.620(4), F.A.C. and construction permit AC09-235915]

Specific Conditions:

7. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provisions in Rule 17-296.310(3)(c), F.A.C. These provisions are applicable to any source, including but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrial related activities such as loading, unloading, storing and handling. When transporting ash from the storage silo, the ash shall either be unloaded dry into enclosed tanker trucks, or processed through a pug mill to wet the ash prior to unloading to open trucks.
[Rule 17-296.310(3)(b), F.A.C.]

Testing Requirements

8. The bottom/economizer ash handling system shall be tested for visible emissions annually on or during the 60 day period prior to the date of March 22 of each year. A test report shall be submitted to the Air Compliance Section of the Southwest District Office of the Department within 45 days of testing.
[Rules 17-297.340(1)(a), and 17-297.450, F.A.C.]

9. Compliance with the visible emission limitation of Specific Condition No. 6 shall be determined using EPA Method 9 contained in 40 CFR 60, Appendix A and adopted by reference in Rule 17-297.401, F.A.C. The minimum requirements for stationary point source emission test procedures and reporting shall be in accordance with Rule 17-297, F.A.C. and 40 CFR 60 Appendix A.
[Rule 17-297.330, F.A.C.]

10. The visible emissions test shall be conducted by a certified observer and be a minimum of thirty (30) minutes in duration. Separate VE tests shall be conducted on each of the filter/separator exhausts and the bin vent filter exhaust (total of three (3) emission points to be tested). The test observation period shall include the period during which the highest opacity can reasonably be expected to occur.
[Rule 17-297.330(1)(b), F.A.C.]

11. Until such time as Unit 1 is connected to the bottom ash handling system, the annual VE compliance tests shall be conducted while transferring ash from Unit 2 to the ash storage silo. Within 30 days after the ash handling system begins to also handle ash from Unit 1, an additional visible emissions compliance test (and all subsequent annual compliance testing) shall be conducted with both Units 1 and 2 transferring ash to the storage silo at the same time.
[Rule 17-4.070(3), F.A.C. and construction permit AC09-235915]

Specific Conditions:

12. Testing of emissions must be conducted while operating the steam generating unit(s) at 90-100% of full load and in the sootblowing mode. A statement of the unit loads and operating modes (i.e. sootblowing) during the test shall be submitted with all test reports. Failure to submit the unit operation information and/or operation under conditions that are not representative of normal operations may invalidate the test and fail to provide reasonable assurance of compliance.
[Rule 17-4.070(3), F.A.C.]

13. The permittee shall notify the Air Compliance Section of the Southwest District Office of the Department at least 15 days prior to the date on which each formal compliance test is to begin of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted.
[Rule 17-297.340(1)(i), F.A.C.]

Permits

14. At least two applications to renew this operating permit shall be submitted to the Air Program of the Southwest District Office of the Department no later than May 16, 1999 (60 days prior to the expiration date of this permit).
[Rule 17-4.090(1), F.A.C.]

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

For Richard D. Garrity, Ph.D.
Director of District Management
Southwest District

ATTACHMENT - GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

GENERAL CONDITIONS:

a. Have access to and copy any records that must be kept under the conditions of the permit;

b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and

c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

a. a description of and cause of non-compliance; and

b. the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.73 and 403.111, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

GENERAL CONDITIONS:

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

( ) Determination of Best Available Control Technology (BACT)
( ) Determination of Prevention of Significant Deterioration (PSD)
( ) Compliance with New Source Performance Standards (NSPS)

14. The permittee shall comply with the following:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[x] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[ ] This Emissions Unit information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[x] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **Cooling Tower, Units 1,2,3**		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [ ] Unknown **013**		
3. Emissions Unit Status Code: **A**	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: **49**
6. Emissions Unit Comment (limit to 500 characters):		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters): **high efficiency drift eliminators**
2. Control Device or Method Code: **99**

B.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:	
2. Long-term Reserve Shutdown Date:	
3. Package Unit: Manufacturer:	Model Number:
4. Generator Nameplate Rating:	MW
5. Incinerator Information: Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:	 °F seconds °F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:			mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr		tons/day
3. Maximum Process or Throughput Rate:		735,000	gal/min*
4. Maximum Production Rate:			
5. Operating Capacity Comment (limit to 200 characters): *seawater flow. Maximum throughput for all four towers (36 cells) based on 20,417 gallons/minute/cell			

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:			
	hours/day		days/week
	weeks/yr	4,320	hours/yr

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment CR-E10-D

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: EU10, See CR-FI-E2	
2. Emission Point Type Code: [ ] 1 [ ] 2 [x] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): See Attachment CR-E10-E14	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
5. Discharge Type Code: [ ] D [ ] F [ ] H [ ] P [ ] R [x] V [ ] W	
6. Stack Height:	53 feet
7. Exit Diameter:	34.5 feet
8. Exit Temperature:	77 °F

9. Actual Volumetric Flow Rate:	**1,140,000** acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates: Zone: East (km): North (km):	
14. Emission Point Comment (limit to 200 characters): **See Attachment CR-E10-E14**	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Seawater/Machinery, miscellaneous, not classified**	
2. Source Classification Code (SCC): **3-12-999-99**	
3. SCC Units: **Tons Processed**	
4. Maximum Hourly Rate: **183,897**	5. Maximum Annual Rate: **794,435,040**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): **Based on 735,000 gal/min, seawater density of 8.34 lb/gal**	

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			EL
PM10			EL

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: PM

2. Total Percent Efficiency of Control: 99.8 %

3. Potential Emissions: 428 lb/hour 925 tons/year

4. Synthetically Limited? [x] Yes [ ] No

5. Range of Estimated Fugitive/Other Emissions:

   [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr

6. Emission Factor: 0.004 %Drift rt

   Reference: Permit

7. Emissions Method Code:

   [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5

8. Calculation of Emissions (limit to 600 characters):

   lb/hr = 735,000 gal/min (tower flow rate) x 8.34 lb/gal (water density) x 60 min/hr x 29,100 ppm (total dissolved solids) x 0.004 %(drift rate) = 428 lb/hr; TPY = 428 lb/hr x 4,320 hr/yr x 1 ton/2,000 lb = 925 TPY

9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

   Potential emissions for total of 36 cells. Each cell is estimated to emit 11.89 lb/hr. Operation limited to 4,320 hr.

Emissions Unit Information Section 10 **of** 14

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	**428** lb/hour	**925** tons/year
5. Method of Compliance (limit to 60 characters): **Compliance Test, EPA Method 5 every 5 years**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **1. Permit limit; BACT determination. 2. Total emissions from 36 cells; each cell estimated to emit 11.89 lb/hr.**		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: PM10

2. Total Percent Efficiency of Control: %

3. Potential Emissions: 214 lb/hour 462 tons/year

4. Synthetically Limited? [x] Yes [ ] No

5. Range of Estimated Fugitive/Other Emissions:

   [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr

6. Emission Factor: 0.004 %Drift rt

   Reference: Permit

7. Emissions Method Code:

   [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5

8. Calculation of Emissions (limit to 600 characters):

   Approximately 50% of PM emission rate.

9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

   Potential emissions for total of 36 cells. Each cell is estimated to emit 5.94 lb/hr. Operation limited to 4,320 hr.

Emissions Unit Information Section 10 of 14

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	**214** lb/hour	**462** tons/year
5. Method of Compliance (limit to 60 characters): **Compliance Test, EPA Method 5 every 5 years**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **1. Permit limit; BACT determination. 2. Total emissions from 36 cells; each cell estimated to emit 5.94 lb/hr.**		

B.

1. Basis for Allowable Emissions Code: **OTHER**		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: **462 tons/yr**		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters): **Annual Compliance Test, EPA Method 5**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **1. Permit limit; BACT determination. 2. Total emissions from all 36 cells.**		

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation _____ of _____

1.	Visible Emissions Subtype:
2.	Basis for Allowable Opacity: [ ] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance:
5.	Visible Emissions Comment (limit to 200 characters):

Visible Emissions Limitations: Visible Emissions Limitation _____ of _____

1.	Visible Emissions Subtype:
2.	Basis for Allowable Opacity: [ ] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance:
5.	Visible Emissions Comment (limit to 200 characters):

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [x] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[x] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	[x] C	[ ] E	[ ] Unknown
	SO_2	[ ] C	[ ] E	[ ] Unknown
	NO_2	[ ] C	[ ] E	[ ] Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO_2	0 lb/hour	0	tons/year
	NO_2		0	tons/year
5.	PSD Comment (limit to 200 characters):			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1.	Process Flow Diagram [X] Attached, Document ID: CR-E10-L1 [ ] Not Applicable	[ ] Waiver Requested
2.	Fuel Analysis or Specification [ ] Attached, Document ID: _____ [X] Not Applicable	[ ] Waiver Requested
3.	Detailed Description of Control Equipment [X] Attached, Document ID: CR-E10-L3 [ ] Not Applicable	[ ] Waiver Requested
4.	Description of Stack Sampling Facilities [X] Attached, Document ID: CR-E10-L4 [ ] Not Applicable	[ ] Waiver Requested
5.	Compliance Test Report [ ] Attached, Document ID: _____ [X] Previously Submitted, Date: 14 Jun 1993	[ ] Not Applicable
6.	Procedures for Startup and Shutdown [ ] Attached, Document ID: _____	[X] Not Applicable
7.	Operation and Maintenance Plan [ ] Attached, Document ID: _____	[X] Not Applicable
8.	Supplemental Information for Construction Permit Application [ ] Attached, Document ID: _____	[X] Not Applicable
9.	Other Information Required by Rule or Statute [ ] Attached, Document ID: _____	[X] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10.	Alternative Methods of Operation [ ] Attached, Document ID: _____ [x] Not Applicable
11.	Alternative Modes of Operation (Emissions Trading) [ ] Attached, Document ID: _____ [x] Not Applicable
12.	Identification of Additional Applicable Requirements [x] Attached, Document ID: CR-E10-L12 [ ] Not Applicable
13.	Compliance Assurance Monitoring Plan [x] Attached, Document ID: CR-E01-L13 [ ] Not Applicable
14.	Acid Rain Permit Application (Hard Copy Required) [ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ [ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ [ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ [ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ [x] Not Applicable

ATTACHMENT CR-E10-D

APPLICABLE REQUIREMENTS LISTING

ATTACHMENT CR-E10-D

APPLICABLE REQUIREMENTS LISTING - POWER PLANTS

EMISSION UNIT: EU 10: Cooling Towers for Units 1, 2 and 3 - FPC Crystal River

FDEP Rules:

Stationary Sources-General:

62-210.700(1)	- Malfunction
62-210.700(4)	- poor maintenance
62-210.700(6)	- notification

Stationary Sources-Emission Standards:
Note: General VE in Rule 62-296.320(4)(b) does not apply since VE determinations exclude uncombined water and an appropriate VE test canot be performed.

Stationary Sources-Emission Monitoring (where stack test is required):
Note: Cooling Towers are non-traditional sources and tests facilities must be temporary in nature. The temporary facilities would meet the intent of the following rules as allowed by the source.

62-297.310(1)	- Test Runs-Mass Emission
62-297.310(2)(b)	- Operating Rate; other than CTs
62-297.310(3)	- Calculation of Emission
62-297.310(4)(a)	- Applicable Test Procedures;Sampling time
62-297.310(4)(b)	- Sample Volume
62-297.310(4)(c)	- Required Flow Rate Range-PM/H2SO4/F
62-297.310(4)(d)	- Calibration
62-297.310(4)(e)	- EPA Method 5-only
62-297.310(5)	- Determination of Process Variables
62-297.310(6)(b)	- Temporary Test Facilities
62-297.310(6)(c)	- Sampling Ports
62-297.310(6)(d)	- Work Platforms
62-297.310(6)(e)	- Access
62-297.310(6)(f)	- Electrical Power
62-297.310(6)(g)	- Equipment Support
62-297.310(7)(a)2.	- FFSG excess emissions
62-297.310(7)(a)3.	- Permit Renewal Test Required
62-297.310(7)(a)4.	
62-297.310(7)(a)9.	- FDEP Notification - 15 days
62-297.310(8)	- Test Reports

ATTACHMENT CR-E10-E14

EMISSION POINT COMMENT

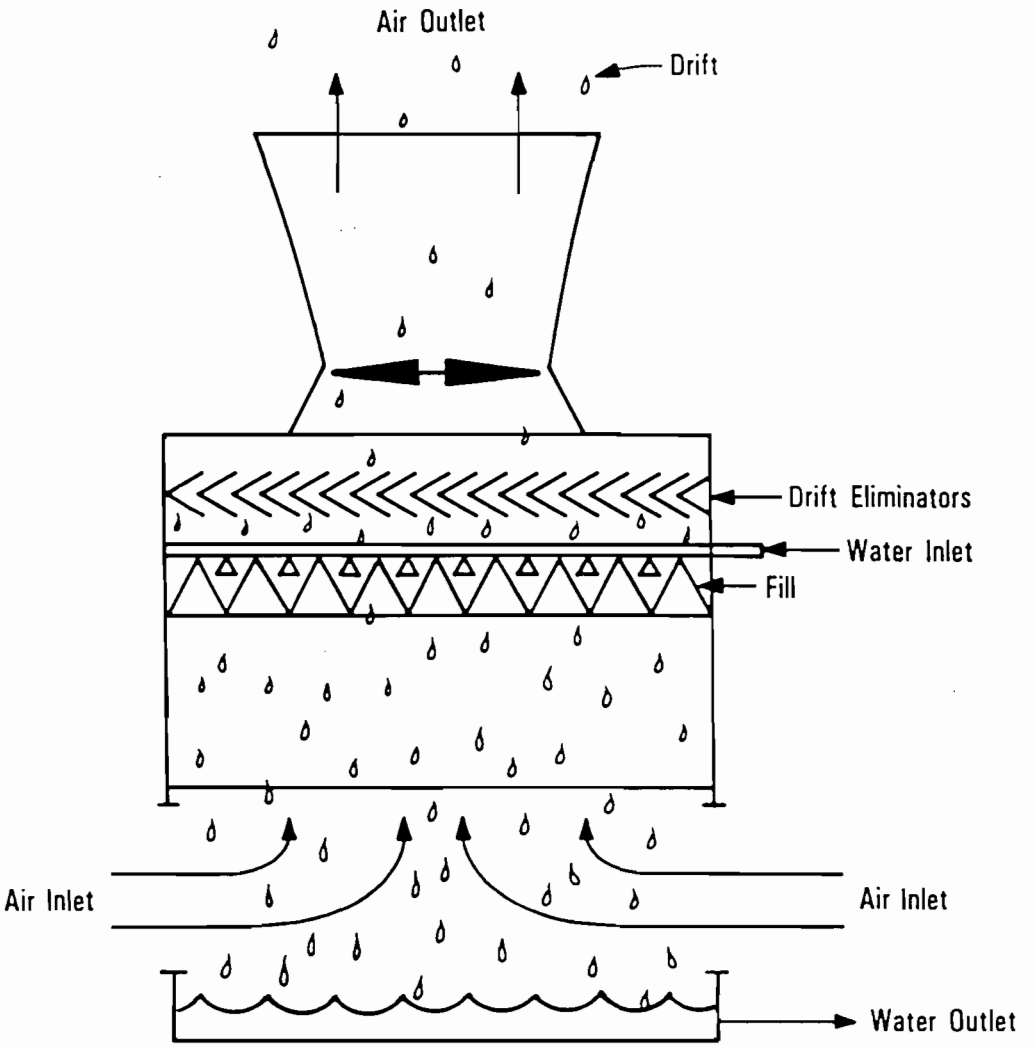
ATTACHMENT CR-E10-E14
EMISSION POINT COMMENT

Stack and operating data based on fan data. Four mechanical draft helper cooling towers, consisting of 9 cells (stacks) per tower (for a total of 36 cells) for Units 1, 2, and 3 used to reduce plant discharge water temperature. Sea (salt) water is sprayed through the towers where the fan induced air flow causes evaporative cooling. Water vapor, saltwater droplets (drift), and salt particles are emitted. Saltwater drift emissions are controlled by high efficiency drift eliminators.

ATTACHMENT CR-E10-L1

PROCESS FLOW DIAGRAM

Induced Draft



MECHANICAL DRAFT COUNTERFLOW

ATTACHMENT CR-E10-L3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

Attachment CR-E10-L3
Detailed Description of Control Equipment

The drift eliminator system for the Helper Cooling Towers for Units 1, 2, and 3 is located directly above and supported on the water distribution pipes. The drift eliminator is based on the impingement type using polyvinylchloride (PVC) blades. The blades change the air flow direction two times within the cooling tower before the air is discharged out of the tower. The water droplets, which separate from the air flow within the drift eliminator, collect and fall back to the fill surface. The drift eliminator system is guaranteed to limit the maximum drift loss to 0.0005% of the design flow.

ATTACHMENT CR-E10-L4

DESCRIPTION OF STACK SAMPLING FACILITIES

Attachment CR-E10-L4
Description of Stack Sampling Facilities

The sampling facilities for the Helper Cooling Towers for Units 1, 2, and 3 include two precast concrete stairways with handrails. These stairways are spaced 180 degrees apart and provide access from ground level to the top of the flume walkways. Within the tower, a network of precast concrete walkways are provided. These walkways are located on top of the five main water distribution flumes and between the flumes. These facilities are adequately designed to provide for proper test port locations to collect particulate matter (PM) emissions as required by the air construction permit. A schematic of the test facility and plan view of test locations are shown in the attachments.

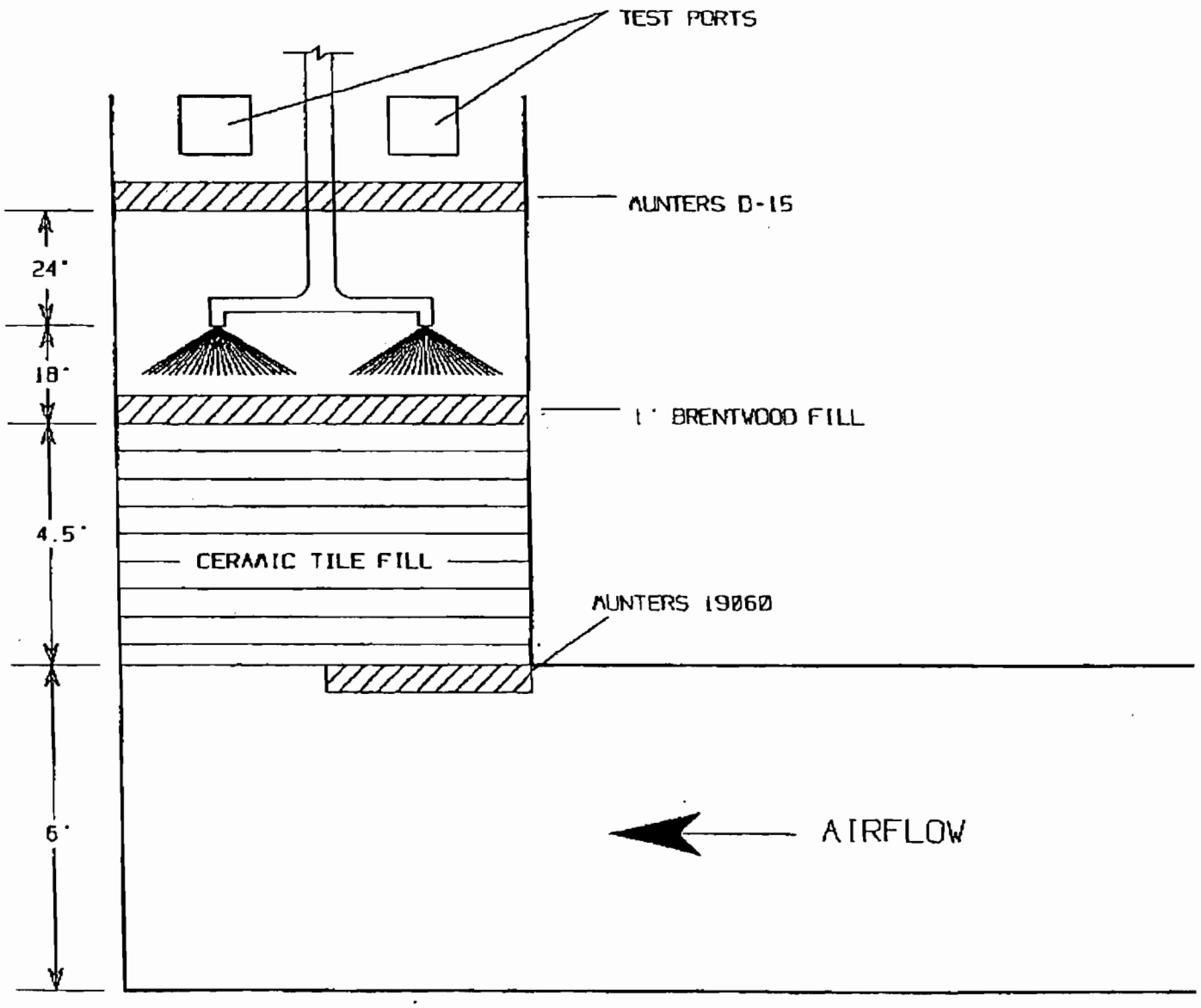
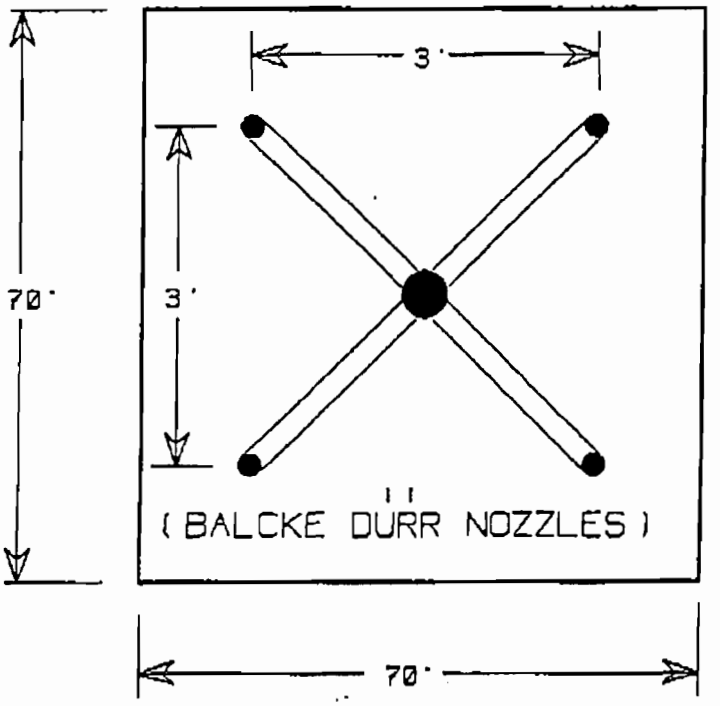


FIGURE 3.1

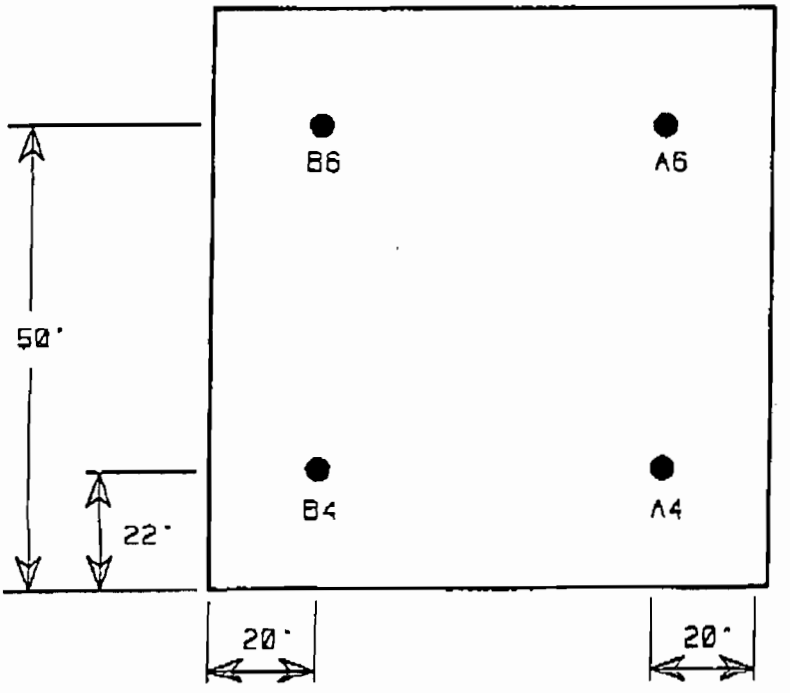
SCHEMATIC OF CERAMIC TEST FACILITY

FIGURE 3.2

PLAN VIEW OF NOZZLE ARRAY & TEST LOCATIONS



NOZZLE ARRAY



TEST POINT LOCATIONS

ATTACHMENT CR-E10-L12

IDENTIFICATION OF ADDITIONAL APPLICABLE REQUIREMENTS

ADDITIONAL APPLICABLE REQUIREMENTS

Applicable Requirements as defined in Rule 62-210.200(29) not identified in Section D of this emission unit section are included in this attachment of the application. Any air operation permit issued by the Department (or local program designee) and included in this attachment is provided for information purposes. The specific conditions of the operating permit are not Applicable Requirements as defined in Rule 62-210.200(29) unless implementing a specific Applicable Requirement of the Department's rules (e.g., emission limitations).

Florida Department of
Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619
813-744-6100

Virginia B. Wetherell
Secretary

RECEIVED
OCT 22 1993
Environmental Svcs
Department

NOTICE OF PERMIT ISSUANCE

CERTIFIED MAIL

In the Matter of an Application
for permit by:

DER File No.: AO09-236827
County: Citrus

Mr. W. J. Pardue, Manager,
Environmental Affairs
Florida Power Corporation
P.O. Box 14042
St. Petersburg, Florida 33733
_____/

Enclosed is Permit Number AO09-236827 to operate the four helper cooling towers at your Crystal River Plant, issued pursuant to Section 403, Florida Statutes. Please read this new permit thoroughly as there are changes from the previous permit.

A person whose substantial interests are affected by this permit may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400, within 14 days of receipt of this permit. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under section 120.57 Florida Statutes.

The Petition shall contain the following information;

(a) The name, address, and the telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;
(b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
(c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
(d) A statement of the material facts disputed by petitioner, if any;

(e) A statement of facts which petitioner contends warrants reversal or modification of the Department's action or proposed action;
(f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and
(g) A statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this permit. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this notice, in the Office of General Counsel at the above address of the Department. Failure to petition within the allotted time frame constitutes a waiver of any rights such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

This permit is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above paragraphs or unless a request for extension of time in which to file a petition is filed within the time specified for filing a petition and conforms to Rule 17-103.070, F.A.C. Upon timely filing of a petition or a request for an extension of time this permit will not be effective until further Order of the Department.

When the Order (Permit) is final, any party to the Order has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Street Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date the Final Order is filed with the Clerk of the Department.

Executed in Tampa, Florida

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

David R. Zell

David R. Zell
Air Permitting Engineer
Phone (813) 744-6100 Ext. 412

DRZ/
Attachment

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this NOTICE OF PERMIT ISSUANCE and all copies were mailed by certified mail before the close of business on OCT 20 1993 to the listed persons.

FILING AND ACKNOWLEDGEMENT FILED, on this date, pursuant to Section 120.52(11), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Marilyn Quispe OCT 20 1993
Clerk Date

Florida Department of
Environmental Protection

Lawton Chiles
Governor

Southwest District
3804 Coconut Palm Drive
Tampa, Florida 33619
813-744-6100

Virginia B. Wetherell
Secretary

PERMITTEE:
Florida Power Corporation
P.O. Box 14042
St. Petersburg, FL 33733

PERMIT/PROJECT:
Permit No: AO09-236827
County: Citrus
Expiration Date: 10/01/98
Project: Crystal River Helper Cooling Towers (4)

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-200 through 297, and Chapter 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or on file with the department and made a part hereof and specifically described as follows:

For the operation of four (4) mechanical draft helper cooling towers for Units 1, 2, and 3, consisting of nine (9) cells (stacks) per tower (for a total of 36 cells), used to reduce the plant discharge water temperature. Sea (salt) water is sprayed through the towers, where the fan induced air flow causes evaporative cooling. Water vapor, saltwater droplets (drift), and salt particles are emitted from the towers. The design air flow rate is 1.461×10^6 acfm from each cell. The total saltwater flow capacity for all four towers combined is 735,000 gallons per minute (based on 20,417 gallons per minute per cell).

Saltwater drift emissions are controlled by high efficiency drift eliminators where the air stream is forced to change direction several times prior to entering the plenum of the induced draft cooling tower fan stacks, thereby knocking out and coalescing the droplets and causing them to drain back into the tower.

Location: Crystal River Plant - West of U.S. 19 NW of Crystal River

UTM: 17-333.8 E 3204.5 N **NEDS No:** 0004 **Point ID No:** 13

Replaces Permit No.: AC09-162067 (PSD-FL-139)

Specific Conditions:

1. A part of this permit is the attached 15 General Conditions. [Rule 17-4.160, F.A.C.].

2. All applicable rules of the Department and design discharge limitations specified in the application must be adhered to. The permit holder may also need to comply with county, municipal, federal, or other state regulations prior to construction. [Rule 17-4.070(7), F.A.C.].

Operational and Emission Limitations

3. The operating hours for each helper cooling tower pump shall not exceed 4,320 hours per year. [Construction permit AC09-162037].

4. Emissions of particulate matter from each cell (stack) shall not exceed 11.89 pounds per hour (corresponds to a total from all 36 cells of a maximum of 925 tons per year). [Note: The above limitation is based upon a 0.004% drift rate (ratio of drift to saltwater circulation rate). PM_{10} emissions are estimated as 50% of the total particulate emissions.]
[Construction permit AC09-162037].

5. Each cooling tower pump shall be equipped with a "Run-hour" meter to track pump operating hours. Pump flow rates (gallons/minute) shall be determined from the manufacturer's certified pump curves (or any other equivalent method approved by the Department.
[Construction permit AC09-162037 and Rule 17-4.070(3), F.A.C.].

6. The drift eliminators shall be installed and operated such that minimum bypass occurs. Regular maintenance shall be scheduled and performed to insure that the drift eliminators function properly.
[Construction permit AC09-162037 and Rule 17-4.070(3), F.A.C.].

Testing Requirements

7. Compliance testing for particulate matter shall be conducted on, or during the 60 day period prior to, June 30, 1998. A test report shall be submitted to the Air Program of the Southwest District Office of the Department within 45 days of the completion of testing. [Note: This once every five years test requirement is based upon the results of the June 1993 testing which showed that the actual emission rate was only 8% of the allowable emission rate. Should future stack testing show that actual emissions are greater than 80% of the allowable rate, then compliance testing will be required every 30 months.]
[Construction permit AC09-162037 and Rule 17-297 F.A.C.].

Specific Conditions:

8. The permittee shall notify the Air Program of the Southwest District Office of the Department at least 15 days prior to the date on which each formal compliance test is to begin of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted. [Rule 17-297.340(1)(i), F.A.C.].

9. Compliance with the particulate matter emission limitation of Specific Condition No. 4 shall be determined using EPA Method 5 contained in 40 CFR 60, Appendix A and adopted by reference in Rule 17-297.401, F.A.C., or any other equivalent method approved by the Department pursuant to Rule 17-297.620, F.A.C. (Exceptions and Approval of Alternate Procedures and Requirements). Specifically, when using EPA Method 5, a distilled water rinse shall be used in place of acetone, and the impinger catch shall be excluded from the emission calculations. The minimum requirements for stationary point source emission test procedures and reporting shall be in accordance with Rule 17-297, F.A.C. and 40 CFR 60 Appendix A. [Construction permit AC09-162037 and Rule 17-297.330, F.A.C.].

10. Testing of emissions must be conducted on one cell (stack) on each of the four cooling towers while they are being operated at 90-100% of capacity as defined by salt water flow rate. The cell to be tested on each tower shall be selected by the Department. A compliance test submitted at an operating rate less than 90% of permitted capacity will automatically constitute an amended permit at the lesser rate plus 10% until another test showing compliance at a higher rate (not to exceed the tower capacity) is submitted. A statement of the estimated salt water flow rate (using the manufacturers certified pump curves, or other method approved by the Department) and estimated air flow rate (acfm) during the compliance test shall be submitted with the test report. Failure to submit the operating rates, or operation under conditions that are not representative of normal operations, may invalidate the test and fail to provide reasonable assurance of compliance. [Construction permit AC09-162037 and Rule 17-4.070(3), F.A.C.].

Recordkeeping requirements

11. In order to document compliance with the operating hour limitations of Specific Condition No. 3, the permittee shall maintain records of hours of operation of each cooling tower pump based upon the "Run-hour" meters. The records shall include a summary of the hours of operation for each pump for each calendar month. These records shall be recorded in a permanent form suitable for inspection by the Department upon request, and shall be retained for at least a two year period.
[[Construction permit AC09-162037 and Rule 17-4.070(3), F.A.C.].

Specific Conditions:

Reporting Requirements

12. The permittee shall submit to the Air Program of the Southwest District Office of the Department each calendar year on or before March 1, completed DER Form 17-213.900(4), "Annual Operating Report for Air Pollutant Emitting Facility," for the preceding calendar year. [Rule 17-210.370(2), F.A.C.].

Permits

13. Four applications to renew this operating permit shall be submitted to the Southwest District Office of the Department no later than August 1, 1998 (60 days prior to the expiration date of this permit).
[Rule 17-4.090(1), F.A.C.].

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION

For Richard D. Garrity, Ph.D.
Director of District Management
Southwest District

AC JHK

Florida Department of
Environmental Protection

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

Lawton Chiles
Governor

Virginia B. Wetherell
Secretary

RECEIVED
AUG 27 1993
Environmental Svcs
Department

August 18, 1993

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Jeffrey Pardue, C.E.P., Manager-Environmental Programs
Florida Power Corporation
Post Office Box 14042
St. Petersburg, Florida 33733

Dear Mr. Pardue:

The Department received your request for extension of the construction permit referenced below. The permit is amended as shown.

Permit No. AC09-162037, PSD-FL-139 - Crystal River Cooling Towers

Current Expiration Date: October 1, 1993
New Expiration Date: December 1, 1993

This letter shall become an attachment to this permit.

A person whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must contain the information set forth below and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant and the parties listed below must be filed within 14 days of receipt of this intent. Petitions filed by other persons must be filed within 14 days of publication of the public notice or within 14 days of their receipt of this intent, whichever first occurs. Petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

The Petition shall contain the following information:

(a) The name, address, and telephone number of each petitioner, the applicant's name and address, the Department Permit File Number and the county in which the project is proposed;

(b) A statement of how and when each petitioner received notice of the Department's action or proposed action;
(c) A statement of how each petitioner's substantial interests are affected by the Department's action or proposed action;
(d) A statement of the material facts disputed by Petitioner, if any;
(e) A statement of facts which petitioner contends warrant reversal or modification of the Department's action or proposed action;
(f) A statement of which rules or statutes petitioner contends require reversal or modification of the Department's action or proposed action; and
(g) A statement of the relief sought by petitioner, stating precisely the action wants the Department to take with respect to the Department's action or proposed action.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's action may be different from the position taken by it in this intent. Persons whose substantial interests will be affected by any decision of the Department with regard to the application have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 14 days of receipt of this intent in the Office of General Counsel at the above address of the Department. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a party to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

Sincerely,

Howard L. Rhodes

Howard L. Rhodes
Director
Division of Air Resources Management

HLR/JR/bb

cc: B. Thomas SWD
J. Harper, EPA
J. Bunyak, NPS

Florida Power
CORPORATION

June 28, 1990

Mr. Dale Twachtmann
Secretary, DER
c/o Office General Council
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Mr. Twachtmann:

Re: Crystal River Units 1, 2, 3 - Intent to Issue, AC 09-162037, PSD-FL-139

Florida Power Corporation (FPC) received the subject Notice of Intent on May 9, 1990. The permit has been reviewed by FPC and its consultants. Comments have been submitted to the DER, and there do not appear to be any outstanding issues. However, since the DER has not been able to obtain EPA comments and issue the permit in final form, FPC requests the Florida Department of Environmental Regulation extend the period time in which FPC can petition for an administrative hearing pursuant to Section 120.57 F.S. This has been discussed with Mr. Mirza Baig who stated that the Department has no objections. Specifically, FPC requests an extension of time until July 15, 1990.

Please contact Mr. W. Jeffrey Pardue (813) 866-4387 if you have any questions.

Sincerely,

Patsy Yeates Baynard
Director
Environment and Licensing Affairs

mrj/WJP7.Twachtmann.Ltr

cc: Mr. C. H. Fancy

Florida Department of Environmental Regulation
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400
Bob Martinez, Governor Dale Twachtmann, Secretary John Shearer, Assistant Secretary

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF PERMIT

Ms. Patsy Y. Baynard
Environmental & Licensing Affairs
Florida Power Corporation
Post Office Box 14042
St. Petersburg, Florida 33233

August 29, 1990

Enclosed is construction permit No. AC 09-162037 and PSD-FL-139 to construct four helper cooling towers, with 9 cells (stacks) per tower, for units 1, 2, and 3 at the Crystal River Plant in Citrus County, Florida. This permit is issued pursuant to Section 403, Florida Statutes.

Any party to this permit has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this permit is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

Copy furnished to:

B. Thomas, SW Dist.
G. L. Christensen, P.E.

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of buisness on 8-30-90.

FILING AND ACKNOWLEDGEMENT FILED, on this date, pursuant to §120.52(9), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Kim Faber 8-30-90

Clerk Date

Final Determination

Florida Power Corporation
Crystal River, Citrus County, Florida

Four Helper Cooling Towers for Units 1, 2, and 3

Permit Numbers: AC 09-162037
PSD-FL-139

Florida Department of Environmental Regulation
Division of Air Resources Management
Bureau of Air Regulation

August 15, 1990

Final Determination

The Technical Evaluation and Preliminary Determination for the permit to construct four "Helper Cooling Towers" for Units 1, 2, and 3 at Florida Power Corporation's Crystal River Plant in Citrus County, Florida, was distributed on August 4, 1989. The Notice of Intent to Issue was published in the Citrus County Chronicle on May 16, 1990. Copies of the evaluation were available for public inspection at the Department's Southwest District office in Tampa and Bureau of Air Regulation office in Tallahassee.

No comments were received from any concerned citizen on the Department's Intent to Issue the permit. EPA had no comments except to use deionized water for probe wash during a Method 5 particulate stack test. The DER's Tampa District office had no comments.

We received comments from the Florida Power Corporation on many issues which were resolved in a meeting with the Department which resulted in revised specific conditions.

The following changes were made to the Technical Evaluation and Preliminary Determination:

a. Project Description

The applicant has decided to install four cooling towers with 9 cells (stacks) per tower to cool approximately 735,000 gpm of salt water (from all 4 towers) from 102.4°F to 91°F. Each cell (stack) will be equipped with an I.D. fan at a new designed flow rate of 1,461,135 ACFM.

b. Stack Testing

Since the Department has no experience and/or data available on helping cooling tower emissions, an agreement was reached with FPC that a particulate stack test will be conducted once every (30) months if the emissions during the initial compliance test indicates it is above 80% but less than 100% of its allowable limit of 11.89 lbs/hr. Otherwise a stack test will be conducted once every five years if the initial compliance test results show that particulate emissions are below 80% of the 11.89 lbs/hr allowed limit.

c. Specific Conditions

Specific conditions Nos. 1, 2, 4, and 5 were revised to reflect more accurately the operation, maintenance, and test requirements. All other specific conditions remain as issued.

d. Table in Preliminary Determination

FPC submitted revised tables 1, 2, 5, 6, 7, and 8 on July 26, 1990 which reflects the 9 cells per tower configuration.

The final action of the Department is to issue construction permit No. AC 09-162037 and permit No. PSD-FL-139 as proposed in the Technical Evaluation and Preliminary Determination.

Florida Department of Environmental Regulation
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400
Bob Martinez, Governor Dale Twachtmann, Secretary John Shearer, Assistant Secretary

PERMITTEE:

Florida Power Corporation
P. O. Box 14042
St. Petersburg, Fl 33233

Permit Number: AC 09-162037
PSD-FL-139
Expiration Date: Oct. 1, 1993
County: Citrus
Latitude/Longitude: 28°57'35"
82°42'30"
Project: Helper Cooling Towers
For Units 1, 2, and 3

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Chapters 17-2 and 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawings, plans, and other documents attached hereto or on file with the Department and made a part hereof and specifically described as follows:

For the construction of four helper cooling towers for Units 1, 2, and 3, consisting of 9 cells (stacks) per tower, to cool approximately 735,000 gpm (from all 4 pumps) of salt water at about 102.4°F to 91°F. Salt water drift emissions are controlled by high efficiency (99.8%) drift eliminators at a designed air flow of 1,461,135 ACFM from each cell.

The project will be located at the existing Crystal River Plant in Citrus County, Florida. The UTM coordinates of this facility are Zone 17, 333.8 km East and 3204.5 km North.

The source shall be in accordance with the permit application, plans, documents, amendments and drawings, except as otherwise noted in the General and Specific Conditions.

Attachments are listed below:

1. FPC's application package received March 9, 1989.
2. DER's letter dated April 7, 1989.
3. FPC's response received May 30, 1989.
4. FPC's letter received July 10, 1989.
5. EPA's letter to FPC received August 2, 1989.
6. Preliminary Determination dated August 2, 1989.
7. FPC's comments received August 28, 1989.
8. EPA's comments received September 8, 1989.
9. FPC's test proposal received September 15, 1989.
10. FPC's comments received October 23, 1989.
11. FPC's Phase II test report received February 6, 1990.
12. FPC's Phase III test report received March 9, 1990.
13. FPC's letter received March 19, 1990.
14. DER's revised Preliminary Determination dated March 28, 1990.
15. FPC's letter dated May 31, 1990.
16. Black & Veatch's FAX message dated July 25, 1990.
17. Final Determination dated July 26, 1990.

PERMITTEE:

Florida Power Corp.

Permit Number: AC 09-162037
PSD-FL-139

Expiration Date: October 1, 1993

GENERAL CONDITIONS:

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "Permit Conditions" and are binding and enforceable pursuant to Sections 403.161, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgement of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

GENERAL CONDITIONS:

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at a reasonable time, access to the premises, where the permitted activity is located or conducted to:

a. Have access to and copy any records that must be kept under the conditions of the permit;

b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and

c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

a. a description of and cause of non-compliance; and

b. the period of noncompliance, including dates and times; or, if not corrected, the anticipated time the non-compliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the non-compliance.

GENERAL CONDITIONS:

The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 17-4.120 and 17-30.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

(x) Determination of Best Available Control Technology (BACT)
(x) Determination of Prevention of Significant Deterioration (PSD)

14. The permittee shall comply with the following:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

GENERAL CONDITIONS:

b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:

- the date, exact place, and time of sampling or measurements;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used; and
- the results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware that relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

SPECIFIC CONDITIONS:

1. The operating hours for each mechanical draft helper cooling tower pump shall not exceed 4,320 annually (about 6 months per year).

2. The maximum allowable emissions of particulate matter from each cell (stack) is 11.89 #/hour. This is based on a 0.004% drift rate (ratio of drift to the circulation rate) and the following table:

Flow Rate	Total TSP (from all 36 cells)		PM_{10}	
gpm	#/hr	T/yr	#/hr	T/yr
735,000	428	925	214	462

(PM_{10} is approximately 50% of total TSP)

SPECIFIC CONDITIONS:

3. The total TSP and PM_{10} fugitive dust emissions from the sources addressed in the revised technical evaluation are estimated to be 54 TPY and 34 TPY respectively, for inventory purposes. These emissions shall be controlled as detailed in the revised application.

4. Compliance tests, on a randomly selected cell (stack), to be selected by the Department, shall be conducted for each cooling tower while it is operated at 90-100% capacity. Such tests shall be conducted within 120 days of completion of construction while operating at the peak heat load, in accordance with the July 1, 1988 version 40 CFR 60, Appendix A, using EPA Method 5, or any other equivalent method approved by the Department pursuant to F.A.C. Rule 17-2.700(3)-Exceptions and Approval of Alternate Procedures and Requirements. Specifically, when using EPA Method 5, a distilled water rinse shall be used in place of acetone, and the impinger catch shall be excluded from emission calculations. The salt water flow rate during the compliance tests shall be determined using the manufacturer's certified pump curves, or any other equivalent method approved by the Department. If the initial and subsequent compliance test results indicate that the particulate emissions are greater than 80% but less than 100% of its allowable limit of 11.89 lbs/hr per cell (stack), the source will be required to conduct another stack test within thirty (30) months. Whereas, a particulate stack test will be required once every five years if the initial and subsequent compliance test results show that particulate emissions are below 80% of the 11.89 lbs/hr allowed limit. The Department's SW District office and the Bureau of Air Regulation shall be informed as soon as the construction has been completed and a written notification shall be provided at least fifteen (15) days prior to the Thermal Performance and Particulate Compliance tests.

5. Each pump shall be equipped with a "Run-Hour" meter. A log shall be maintained of the hours of operation of each pump supplying salt water to the helper cooling towers. Pump flow rate shall be determined from the manufacturer's certified pump curves, or any other equivalent method approved by the Department.

6. The drift eliminators shall be installed such that minimum bypass occurs. Regular maintenance shall be carried out to keep the drift eliminators functioning properly.

7. The permittee shall comply with all the applicable provisions of Chapters 17-2 and 17-4 of the Florida Administrative Code.

PERMITTEE:

Florida Power Corp.

Permit Number: AC 09-162037
PSD-FL-139

Expiration Date: October 1, 1993

SPECIFIC CONDITIONS:

8. Any changes in the method of operation, equipment, or operating hours shall be submitted to DER's Southwest district office for approval.

9. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to DER's Bureau of Air Regulation prior to 60 days before the expiration of the permit (F.A.C. 17-4.090).

10. An application for an operation permit must be submitted to the Southwest district office at least 90 days prior to the expiration date of this construction permit or within 45 days after completion of compliance testing, whichever occurs first. To properly apply for an operation permit, the applicant shall submit the appropriate application form, fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test reports as required by this permit (F.A.C. 17-4.220).

Issued this 29 day
of August, 1990

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Dale Twachtmann

Dale Twachtmann, Secretary

Best Available Control Technology (BACT) Determination
Helper Cooling Towers
Florida Power Corporation
Citrus County

The applicant proposes to install four helper cooling towers at the Crystal River power plant located eight miles northwest of Crystal River, Florida. The cooling towers will be constructed to maintain the discharge water temperature at the plant site to a level which complies with the facility's National Pollutant Discharge Elimination System (NPDES) permit limitations. Prior difficulties with complying with the NPDES outflow temperature limitation have initiated this requirement by the Environmental Protection Agency (EPA) that the cooling towers be constructed to maintain the proper temperature.

The applicant has indicated the maximum total annual tonnage of regulated air pollutants emitted from the four cooling towers based on 4,320 hours per year operation to be as follows:

Pollutant	Maximum Emissions lbs/hr Per cell	Maximum Emissions tons/yr All 36 cells	PSD Significant Emission Rate tons/yr
Particulate Matter	11.89	925	25
PM_{10}	5.94	214 (estimate)	15

Rule 17-2.500(2)(f)2. of the Florida Administrative Code requires a BACT review for all regulated pollutants emitted from major facilities in an amount equal to or greater than the significant emission rates listed in the previous table.

BACT Determination Requested by the Applicant

The BACT Determination requested by the applicant is given below:

Pollutant	Determination
Particulate Matter (includes PM_{10})	Drift Eliminators (99.8% efficient)

Date of Receipt of a BACT Application

March 9, 1989

Review Group Members

This determination was based upon comments received from the applicant and the Permitting and Standards Section.

BACT Determination Procedure:

In accordance with Florida Administrative Code Chapter 17-2, Air Pollution, this BACT determination will be based on the maximum degree of reduction of each pollutant emitted which the Department, on a case-by-case basis, taking into account energy, environmental and economic impacts, and other costs, determines is achievable through application of production processes and available methods, systems, and techniques. In addition, the regulations state that in making the BACT determination, the Department shall give consideration to:

(a) Any Environmental Protection Agency determination of Best Available Control Technology pursuant to Section 169, and any emission limitation contained in 40 CFR Part 60 (Standards of Performance for New Stationary Sources) or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants).

(b) All scientific, engineering, and technical material and other information available to the Department.

(c) The emission limiting standards or BACT determinations of any other state.

(d) The social and economic impact of the application of such technology.

The EPA currently stresses that BACT should be determined using the "top-down" approach. The first step in this approach is to determine for the emission source in question the most stringent control available for a similar or identical source or source category. If it is shown that this level of control is technically or economically infeasible for the source in question, then the next most stringent level of control is determined and similarly evaluated. This process continues until the BACT level under consideration cannot be eliminated by any substantial or unique technical, environmental, or economic objections.

BACT Analysis

A review of the BACT/LAER Clearinghouse does not indicate that BACT determinations have previously been completed for cooling towers.

Evaporative cooling towers are used to provide waste heat rejection at electric power stations in order to improve efficiency and to lower cooling water discharge temperatures to environmentally safe levels. When brackish or saline water is used for cooling purposes there is typically drift emitted from the cooling tower. Drift is defined as the current of water droplets which are mechanically entrained in the cooling tower exhaust flow. Thus, it has a chemical composition similar to the circulating water in the cooling tower.

The Crystal River power units (1-3) use water obtained from the Gulf of Mexico for cooling purposes. In order to minimize the drift emitted from the towers, drift eliminators capable of controlling drift to 0.004 percent of the circulating water have been proposed.

Drift eliminators operate on the principle of centrifugal separation by causing the cooling tower exhaust stream to pass through curved ducts, with the heavy water droplets becoming trapped on the duct walls. Although vendors have guaranteed tower drift rates as low as 0.001 percent, consideration must be given to the test methods that support these guarantees.

There are several test methods that have been used or have been proposed for use to quantify drift rates. These methods are listed as follows:

1) Sensitized Paper
2) EPA Method 13A
3) EPA Method 5
4) Heated Glass Beads Isokinetic Method

The applicant has indicated that each of the mist eliminator vendors who submitted proposals guaranteed a drift rate of 0.001 percent based on the sensitive paper testing method. The sensitized paper method essentially uses the same principal to capture particulates as the mist eliminators themselves. In this method droplet collection is achieved by inertial impaction on water sensitive paper. The paper, which is chemically treated, is suspended above the mist eliminators such that droplets from the cooling tower will impinge upon the paper and generate a well-defined stain. The size and shape of the stain are functions of the impingement dynamics, i.e., speed and angle, and of the original droplet diameter. Based on simulation, a relationship between the stain and the droplet size has been developed.

Although the sensitized paper method has been widely used for drift measurements, it does have a major drawback. Testing has indicated that the sensitized paper method cannot provide data on droplet sizes below about 20-30 microns. Droplets with sizes below this range do not have the mass necessary to be captured by inertial impaction. These droplets tend to exhibit the same characteristic as the gaseous portion of the cooling tower exhaust and pass around the sensitive paper without being captured. This situation can be avoided to some degree by using methods which utilize isokinetic sampling.

Isokinetic sampling methods utilize equipment which allow samples to be drawn from a gas stream with a sampling velocity which is essentially equivalent to the velocity of the gas stream itself, and consequently the tendency for small particles to pass around the sampling device is minimized, thereby allowing the smallest particles to be captured. EPA Methods 13A and 5 and the heated glass beads method utilize the equipment necessary to perform sampling isokinetically.

A review of the isokinetic sampling methods used for sampling cooling towers indicates much variability. Testing results from one cooling tower indicates drift rates ranging from 0.0039 to 0.344 percent using repeated EPA Method 13A testing. This variability suggests that a drift limitation backed by EPA Method 13A testing may result in compliance problems which originate from faults with the test method itself.

Previous testing with the heated glass bead method indicates a testing variability which is much less than that which has been demonstrated by EPA Method 13A. The majority of the testing that has been conducted on cooling tower drift has been completed with either the heated glass bead or sensitized paper method. Based on the amount of data and the level of variability experienced, the heated glass bead method may have a stronger basis for backing a given drift limitation.

EPA Method 5 is another testing method that should be considered. Although EPA Method 5 has not been used previously for cooling tower drift measurement, the EPA believes that this method would yield results which are less variable than EPA Method 13A and would be more in line with the heated glass bead method.

Based on EPA's recommendation, the applicant has conducted recent testing using EPA Methods 5, 13A, and the Hot Bead Isokinetic Test Procedure. The study confirmed EPA's notion and established Method 5 as the preferred test method.

The Method 5 testing indicated that a test cell drift rate of 0.0004% can be achieved under the optimum configuration. This drift rate is based on a limited number of tests. Factors, affecting drift rate when scaling up from a test cell to full scale application, indicate that the drift rate will increase 5 fold. In addition, when comparing any two test results achieved with a specific design configuration, the results between tests varied by a factor of 2. To allow an adequate margin for the test uncertainty, scale-up factors, and operation/maintenance margin, FPC proposes that the permitted drift limit be 0.004%.

Environmental Impact Analysis

A review of the proposed cooling tower installations should account for the uniqueness of this particular project from an environmental standpoint. There are two factors that need to be considered:

1) The overall benefit of constructing the cooling towers

2) The existing background concentrations

As noted in the introduction of this determination, the proposal to construct the helper cooling towers is directed at complying with the EPA's request to reduce the outlet temperature of the cooling water used for units 1, 2, and 3. As this is the case, the proposal should be evaluated from the standpoint of providing an overall benefit to the environment and not the potential air impacts only.

It should be noted that although the cooling towers will emit particulates in the form of salt, the overall contribution to the area from the towers will be minimal. The Crystal River Power Facility is located approximately one mile from the Gulf of Mexico. It is expected that the natural contributions of salt deposition from wave action to this area will be substantially greater than that which would be emitted from the cooling towers.

BACT Determination by DER

Based on the information presented by the applicant and the Department's subsequent review, the Department believes that BACT is represented by using state-of-the-art drift eliminators and by limiting the drift rate to 0.004 percent, with EPA Method 5 or a departmental approved equivalent using the Alternate Sampling Procedure to be used as the basis for compliance.

Details of the Analysis May be Obtained by Contacting:

Barry Andrews, P.E., BACT Coordinator
Department of Environmental Regulation
Bureau of Air Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Recommended by:

C. H. Fancy, P.E., Chief
Bureau of Air Regulation

August 21 1990
Date

Approved by:

Dale Twachtmann, Secretary
Dept. of Environmental Regulation

29 August 1990
Date

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT (Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[x] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[ ] This Emissions Unit information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[x] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **3-820 kw Diesel Generators (Relocatable)**		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code: A	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: 49
6. Emissions Unit Comment (limit to 500 characters): **Generators may be located at one of seven FPC plants. These engines will power chillers for cooling the reactor building for Unit No. 3.**		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

B.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:	
2. Long-term Reserve Shutdown Date:	
3. Package Unit: Manufacturer: Caterpillar	Model Number: 3508-DITA
4. Generator Nameplate Rating:	MW
5. Incinerator Information: Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:	 °F seconds °F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		9	mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr		tons/day
3. Maximum Process or Throughput Rate:			
4. Maximum Production Rate:			
5. Operating Capacity Comment (limit to 200 characters): **Generator Nameplate Rating: 0.82 MW. Maximum Heat Input Rate: 8.58 MMBtu/hr. Per unit; hours of operation is sum of individual hours of each generator.**			

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:			
	hours/day		days/week
	weeks/yr	2,970	hours/yr

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment CR-E11-D

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: EU11, See CR-FI-E2	
2. Emission Point Type Code: [x] 1 [ ] 2 [ ] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point):	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
5. Discharge Type Code: [ ] D [ ] F [ ] H [ ] P [ ] R [x] V [ ] W	
6. Stack Height:	15 feet
7. Exit Diameter:	1 feet
8. Exit Temperature:	1,004 °F

9. Actual Volumetric Flow Rate:	7,283 acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates: Zone: East (km): North (km):	
14. Emission Point Comment (limit to 200 characters):	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Internal Combustion Engine, Electric Generation, Distillate Oil (diesel)**	
2. Source Classification Code (SCC): **2-01-001-02**	
3. SCC Units: **Thousand Gallons Burned**	
4. Maximum Hourly Rate: **62.1**	5. Maximum Annual Rate: **184**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: **0.5**	8. Maximum Percent Ash: **0.1**
9. Million Btu per SCC Unit: **138**	
10. Segment Comment (limit to 200 characters): **Million Btu per SCC Unit = 138.24 (rounded to 138). Max annual rate based on total for 3 units (2,970 hours).**	

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
SO2			EL
NOX			NS
CO			NS

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: SO2

2. Total Percent Efficiency of Control: %

3. Potential Emissions: 4.47 lb/hour 6.64 tons/year

4. Synthetically Limited? [x] Yes [ ] No

5. Range of Estimated Fugitive/Other Emissions:

   [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr

6. Emission Factor: 0.5 %Sulfur Content

   Reference: Permit Limit

7. Emissions Method Code:

   [x] 0 [ ] 1 [ ] 2 [ ] 3 [ ] 4 [ ] 5

8. Calculation of Emissions (limit to 600 characters):

   From Manufacturer

9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

   LB/HR - 1 unit; Tons/yr - 1 unit at 2,970 hours (total limit for 3 units)

Emissions Unit Information Section 11 **of** 14

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: **0.5 %Sulfur Content**		
4. Equivalent Allowable Emissions:	**4.47** lb/hour	**6.64** tons/year
5. Method of Compliance (limit to 60 characters): **Fuel Analysis**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **Permit Limit**		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 1

1.	Visible Emissions Subtype: VE20
2.	Basis for Allowable Opacity: [x] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: 20 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: EPA Method 9, annual
5.	Visible Emissions Comment (limit to 200 characters): Rule 62-296.320(4)(b)1.

Visible Emissions Limitations: Visible Emissions Limitation _____ of _____

1.	Visible Emissions Subtype:
2.	Basis for Allowable Opacity: [ ] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance:
5.	Visible Emissions Comment (limit to 200 characters):

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [x] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[x] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[ ] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	[x] C	[ ] E	[ ] Unknown
	SO_2	[x] C	[ ] E	[ ] Unknown
	NO_2	[x] C	[ ] E	[ ] Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO_2	lb/hour		tons/year
	NO_2			tons/year
5.	PSD Comment (limit to 200 characters):			
	Relocatable source			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1.	Process Flow Diagram [X] Attached, Document ID: CR-E11-L1 [ ] Not Applicable [ ] Waiver Requested
2.	Fuel Analysis or Specification [X] Attached, Document ID: CR-E11-L2 [ ] Not Applicable [ ] Waiver Requested
3.	Detailed Description of Control Equipment [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
4.	Description of Stack Sampling Facilities [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Waiver Requested
5.	Compliance Test Report [ ] Attached, Document ID: _____ [X] Not Applicable [ ] Previously Submitted, Date: _____
6.	Procedures for Startup and Shutdown [ ] Attached, Document ID: _____ [X] Not Applicable
7.	Operation and Maintenance Plan [ ] Attached, Document ID: _____ [X] Not Applicable
8.	Supplemental Information for Construction Permit Application [ ] Attached, Document ID: _____ [X] Not Applicable
9.	Other Information Required by Rule or Statute [ ] Attached, Document ID: _____ [X] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10.	Alternative Methods of Operation [ ] Attached, Document ID: _____ [x] Not Applicable
11.	Alternative Modes of Operation (Emissions Trading) [ ] Attached, Document ID: _____ [x] Not Applicable
12.	Identification of Additional Applicable Requirements [x] Attached, Document ID: CR-E11-L12 [ ] Not Applicable
13.	Compliance Assurance Monitoring Plan [ ] Attached, Document ID: _____ [x] Not Applicable
14.	Acid Rain Permit Application (Hard Copy Required) [ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ [ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ [ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ [ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ [x] Not Applicable

ATTACHMENT CR-E11-D

APPLICABLE REQUIREMENTS LISTING

ATTACHMENT CR-E11-D

EMISSION UNIT REGULATIONS

EMISSION UNIT: Unit 11 - Three 820 kW Diesel Generators - FPC Crystal River

FDEP Rules:

Stationary Sources-General:

62-210.700(1)	
62-210.700(4)	- Maintenance
62-210.700(6)	

Stationary Sources-Emission Standards/RACT:

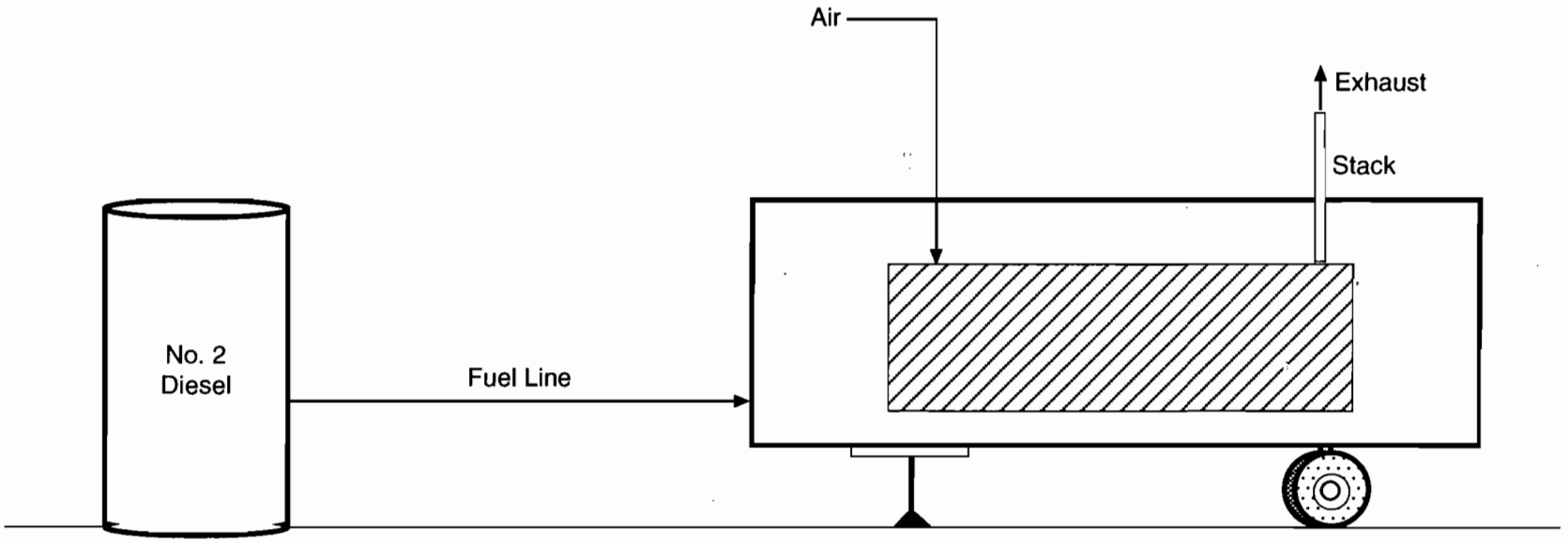
62-296.320(4)(b)(State Only)	- General VE

Stationary Sources-Emission Monitoring:

62-297.310(2)(b)	- Operating Rate
62-297.310(4)(a)2.	- Applicable Test Procedures;Sampling time
62-297.310(5)	- Determination of Process Variables
62-297.310(7)(a)3.	- Permit Renewal Test Required
62-297.310(7)(a)4.	
62-297.310(7)(a)9.	- FDEP Notification - 15 days
62-297.310(8)	- Test Reports

ATTACHMENT CR-E11-L1

PROCESS FLOW DIAGRAM



Caterpillar Model 3508-DITA, 820 kW, 1220 hp at 1,800 rpm

Attachment CR-E11-L1
Flow Diagram of Diesel Engine/Generator Set

KBN
A GOLDER ASSOCIATES COMPANY

ATTACHMENT CR-E11-L2

FUEL ANALYSIS OR SPECIFICATION

ATTACHMENT CR-E11-L2

FUEL ANALYSIS
NO. 2 FUEL OIL

Parameter	Typical Value	Max Value
API gravity @ 60 F	30[1]	-
Relative density	7.1 lb/gal [2]	
Heat content	19,500 Btu / lb (HHV)	
% sulfur	0.3 [2]	0.5 [3]
% nitrogen	0.025 - 0.03	
% ash	negligible	0.1 [1]

Note: The values listed are "typical" values based upon 1) information gathered by laboratory analysis, and 2) FPC's fuel purchasing specifications. However, analytical results from grab samples of fuel taken at any given time may vary from those listed.

[1] Data taken from the FPC fuel procurement specification

[2] Data from laboratory analysis

[3] Data from current air permit.

ATTACHMENT CR-E11-L12

IDENTIFICATION OF ADDITIONAL APPLICABLE REQUIREMENTS

ADDITIONAL APPLICABLE REQUIREMENTS

Applicable Requirements as defined in Rule 62-210.200(29) not identified in Section D of this emission unit section are included in this attachment of the application. Any air operation permit issued by the Department (or local program designee) and included in this attachment is provided for information purposes. The specific conditions of the operating permit are not Applicable Requirements as defined in Rule 62-210.200(29) unless implementing a specific Applicable Requirement of the Department's rules (e.g., emission limitations).

Florida Department of Environmental Regulation

Southwest District • 4520 Oak Fair Boulevard • Tampa, Florida 33610-7347

Lawton Chiles, Governor 813-620-6100 Carol M. Browner, Secretary

PERMITTEE:
Florida Power Corporation
P.O. Box 14042
St. Petersburg, FL 33733

PERMIT/CERTIFICATION
Permit No: AO09-205952
Counties: Citrus, Pasco, Pinellas, Polk, Sumter
Expiration Date: 03/31/97
Project: Three 820 Kilowatt Diesel Generators

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 & 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or on file with the department and made a part hereof and specifically described as follows:

For the operation of three Caterpillar Model 3508-DITA 820 kilowatt diesel generators. The maximum heat input rate to each diesel generator is 8.58 million Btu per hour (62.1 gallons of diesel fuel per hour). The diesel generators burn new/virgin No. 2 diesel fuel oil with a maximum sulfur content of 0.5% by weight. The diesel generators may be located at any Florida Power Corporation facility listed below.

Locations:
(1) The Crystal River Plant, Powerline Road, Red Level, Citrus County.
(2) The Anclote Plant, Anclote Road, west of Alternate 19, Tarpon Springs, Pasco County.
(3) The Bartow Plant, Weedon Island, St. Petersburg, Pinellas County.
(4) The Higgins Plant, Shore Drive, Oldsmar, Pinellas County.
(5) The Bayboro Plant, 13th Ave. & 2nd St. South, St. Petersburg, Pinellas County.
(6) The Wildwood Reclamation Facility, State Road 462, 1 mile east of U.S. 301, Wildwood, Sumter County.
(7) The future FPC Polk County Site, County Road 555, 1 mile southwest of Homeland, Polk County.

UTM: 17-334.4 E 3204.2 N NEDS NO: 0004 Point ID: 12
(Original Citrus County Location)

Replaces Permit No.: AC09-202080

PERMITTEE:
Florida Power Corporation
St. Petersburg, FL 33733

PERMIT/CERTIFICATION
Permit No: AO09-205952
Expiration Date: 03/31/97
Project: Three 820 Kilowatt Diesel Generators

SPECIFIC CONDITIONS:

1. A part of this permit is the attached 15 General Conditions.

2. Visible emissions from each diesel generator shall not be equal to or greater than 20% opacity.
[Rule 17-2.610(2)(a), F.A.C.].

3. Florida Power Corporation shall not discharge air pollutants which cause or contribute to an objectionable odor.
[Rule 17-2.620(2), F.A.C.].

4. The hours of operation expressed as "engine-hours" shall not exceed 2,970 in any consecutive 12 month period. The hours of operation expressed as "engine-hours" shall be the summation of the individual hours of operation of each diesel generator.
[Permit AC09-202080].

5. Florida Power Corporation is permitted to burn only new/virgin No. 2 diesel fuel oil with a maximum sulfur content of 0.5% by weight in the diesel generators. [Permit AC09-202080].

6. The heat input rate to each diesel generator shall not exceed 8.58 million Btu per hour (62.1 gallons per hour).
[Permit AC09-202080].

7. Florida Power Corporation shall notify the Department, in writing, at least 15 days prior to the date on which any diesel generator is to be relocated. The notification shall specify,

(A) which diesel generator, by serial number, is being relocated,
(B) which location the diesel generator is being relocated from,
(C) which location the diesel generator is being relocated to, and
(D) the approximate startup date at the new location.

If a diesel generator is to be relocated within Pinellas County, then Florida Power Corporation shall provide the same notification to the Air Quality Division of the Pinellas County Department of Environmental Management.
[Rule 17-4.070(3), F.A.C.].

SPECIFIC CONDITIONS:

8. Test each diesel generator for the following pollutants on an annual basis within 30 days of the date October 25. The test reports shall be submitted to the Air Section of the Southwest District Office of the Department within 45 days of testing. A copy of the test reports shall be submitted to the Air Quality Division of the Pinellas County Department of Environmental Management for each diesel generator located in Pinellas County. [Rules 17-2.700(2)(a)1. and 17-2.700(7), F.A.C.].

(X) Opacity
(X) Fuel Sulfur Analysis

9. After each relocation, test each relocated diesel generator for the following pollutants within 30 days of startup. The test reports shall be submitted to the Air Section of the Southwest District Office of the Department within 45 days of testing. A copy of the test reports shall be submitted to the Air Quality Division of the Pinellas County Department of Environmental Management for each diesel generator located in Pinellas County. [Rules 17-4.070(3), 17-2.700(2)(a)1. and 17-2.700(7), F.A.C.].

(X) Opacity
(X) Fuel Sulfur Analysis

10. Compliance with the emission limitation of specific condition #2 shall be determined using EPA Method 9 contained in 40 CFR 60, Appendix A, and adopted by reference in Rule 17-2.700, F.A.C. The minimum requirements for stack sampling facilities, source sampling and reporting, shall be in accordance with Rule 17-2.700, F.A.C. and 40 CFR 60.

11. Testing of each diesel generator emissions must be accomplished while operating the diesel generator within ±10% of the maximum fuel firing rate of 62.1 gallons per hour. Failure to submit the actual operating rate may invalidate the test. [Rule 17-4.070(3), F.A.C.].

12. Florida Power Corporation shall notify the Department at least 15 days prior to the date on which each formal compliance test is to begin of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted. For each diesel generator located in Pinellas County, Florida Power Corporation shall provide the same notification to the Air Quality Division of the Pinellas County Department of Environmental Management. [Rule 17-2.700(2)(a)9., F.A.C.].

SPECIFIC CONDITIONS:

13. Compliance with specific condition #4 shall be documented by record keeping. At a minimum, the records shall indicate the daily hours of operation for each individual diesel generator, the daily hours of operation expressed as "engine-hours", and a cumulative total hours of operation expressed as "engine-hours" for each month. The records shall be maintained for a minimum of 2 years and made available to the Department or the Pinellas County Department of Environmental Management upon request. [Rule 17-4.070(3), F.A.C.].

14. In order to document continuing compliance with specific condition #5, records of the sulfur content, in percent by weight, of all the fuel burned shall be kept based on either vendor provided as-shipped analyses or on analyses of as-received samples. The records shall be maintained for a minimum of 2 years and shall be made available to the Department or the Pinellas County Department of Environmental Management upon request. [Rule 17-4.070(3), F.A.C.].

15. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Rule 17-2.610(3), F.A.C. These provisions are applicable to any source, including, but not limited to, vehicular movement, transportation of materials, construction, alterations, demolition or wrecking, or industrial related activities such as loading, unloading, storing and handling.

16. Issuance of this permit does not relieve Florida Power Corporation from complying with applicable emission limiting standards or other requirements of Chapter 17-2, or any other requirements under federal, state, or local law. [Rule 17-2.210, F.A.C.].

17. Construction permit number AC09-202080 might have been subject to the new source review (NSR) requirements of Rule 17-2.500, F.A.C. if any of the federally enforceable limits in the permit had been relaxed. If Florida Power Corporation requests relaxation of any of the federally enforceable limits, then the Department will determine whether the NSR requirements of Rule 17-2.500, F.A.C. shall apply as though construction had not yet commenced. [Rule 17-2.500(2)(g), F.A.C.].

PERMITTEE:
Florida Power Corporation
St. Petersburg, FL 33733

PERMIT/CERTIFICATION
Permit No: AO09-205952
Expiration Date: 03/31/97
Project: Three 820 Kilowatt Diesel Generators

SPECIFIC CONDITIONS:

18. Florida Power Corporation shall submit, for these diesel generators, on or before March 1, an emission report for the preceding calendar year containing the following information pursuant to Section 403.061(13), Florida Statutes.

(A) The location of each diesel generator, by serial number, at the end of the preceding calendar year.
(B) The annual amount of fuel burned in each diesel generator, by serial number.
(C) The annual hours of operation of each diesel generator, by serial number.
(D) The annual hours of operation expressed in "engine-hours", as defined in specific condition 4.
(E) A copy of the fuel sulfur content records required by specific condition 14 for the preceding calendar year.
(F) Annual emissions of particulate, PM_{10}, carbon monoxide, SO_2, and NOx based upon actual diesel generator operation and fuel use (provide a copy of the calculation sheets and the basis for the calculations).
(G) Any changes in the information contained in the permit application.

If any diesel generator operated within Pinellas County at any time during the preceding calendar year, then Florida Power Corporation shall provide a copy of the emission report to the Air Quality Division of the Pinellas County Department of Environmental Management.

19. Three applications to renew this operation permit shall be submitted to the Department of Environmental Regulation, and one copy shall be submitted to the Air Quality Division of the Pinellas County Department of Environmental Management, by January 30, 1997.
[Rules 17-4.090 and 17-4.050(2), F.A.C. and Pinellas County Ordinance 89-70 as amended by 90-63, Subpart 2.210].

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

For Dr. Richard D. Garrity
Director of District Management

Florida Department of Environmental Regulation
Southwest District • 4520 Oak Fair Boulevard • Tampa, Florida 33610-7347
Lawton Chiles, Governor 813-623-5561 Carol M. Browner, Secretary

PERMITTEE:
Florida Power Corporation
P.O. Box 14042
St. Petersburg, FL. 33733

PERMIT/CERTIFICATION
Permit No: AC09-202080
County: Citrus
Expiration Date: 06/30/92
Project: Three 820 Kilowatt Diesel Generators

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 & 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or on file with the department and made a part hereof and specifically described as follows:

For construction (installation) of three Caterpillar Model 3508-DITA 820 kilowatt diesel generators. The maximum heat input rate to each diesel generator will be 8.58 million Btu per hour (62.1 gallons of diesel fuel per hour). The diesel generators will burn new/virgin No. 2 diesel fuel oil with a maximum sulfur content of 0.5% by weight.

Location: Florida Power Corporation's Crystal River Facility. Powerline Road. Red Level, Florida.

UTM: 17-334.4 E 3204.2 N NEDS NO: 0004 Point ID: 12

Replaces Permit No.: Not Applicable, New Construction.

PERMITTEE:
Florida Power Corporation
P.O. Box 14042
St. Petersburg, FL. 33733

PERMIT/CERTIFICATION
Permit No: AC09-202080
County: Citrus
Expiration Date: 06/30/92
Project: Three 820 Kilowatt Diesel Generators

SPECIFIC CONDITIONS:

1. A part of this permit is the attached 15 General Conditions.

2. Visible emissions from each diesel generator shall not be equal to or greater than 20% opacity.
[Rule 17-2.610(2)(a), F.A.C.].

3. Florida Power Corporation shall not discharge air pollutants which cause or contribute to an objectionable odor.
[Rule 17-2.620(2), F.A.C.].

4. In order to exempt this construction permit from the new source review requirements of Rule 17-2.500, F.A.C., the hours of operation expressed as "engine-hours" shall not exceed 2,970 in any consecutive 12 month period. The hours of operation expressed as "engine-hours" shall be the summation of the individual hours of operation of each diesel generator.
[Requested in the permit application].

5. Florida Power Corporation is permitted to burn only new/virgin No. 2 diesel fuel oil with a maximum sulfur content of 0.5% by weight in the diesel generators.
[Requested in the permit application].

6. The heat input rate to each diesel generator shall not exceed 8.58 million Btu per hour (62.1 gallons per hour).
[Requested in the permit application].

7. Test each diesel generator for the following pollutants within 30 days of startup. The test reports shall be submitted to the Air Section of the Southwest District Office of the Department within 45 days of testing in conjunction with a Certificate of Completion of Construction, DER Form 17-1.202(3).
[Rules 17-2.700(2)(a)1. and 17-2.700(7), F.A.C.].

(X) Opacity
(X) Fuel Sulfur Analysis

8. Compliance with the emission limitation of specific condition #2 shall be determined using EPA Method 9 contained in 40 CFR 60, Appendix A, and adopted by reference in Rule 17-2.700, F.A.C. The minimum requirements for stack sampling facilities, source sampling and reporting, shall be in accordance with Rule 17-2.700, F.A.C. and 40 CFR 60.

SPECIFIC CONDITIONS:

9. Testing of each diesel generator emissions must be accomplished while operating the diesel generator within ±10% of the maximum fuel firing rate of 62.1 gallons per hour. Failure to submit the actual operating rate may invalidate the test. [Rule 17-4.070(3), F.A.C.].

10. Florida Power Corporation shall notify the Department at least 15 days prior to the date on which each formal compliance test is to begin of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted. [Rule 17-2.700(2)(a)9., F.A.C.].

11. Compliance with specific condition #4 shall be documented by record keeping. At a minimum, the records shall indicate the daily hours of operation for each individual diesel generator, the daily hours of operation expressed as "engine-hours", and a cumulative total hours of operation expressed as "engine-hours" for each month. The records shall be maintained for a minimum of 2 years and made available to the Department upon request. [Rule 17-4.070(3), F.A.C.].

12. In order to document continuing compliance with specific condition #5, records of the sulfur content, in percent by weight, of all the fuel burned shall be kept based on either vendor provided as-shipped analyses or on analyses of as-received samples. The records shall be maintained for a minimum of 2 years and shall be made available to the Department upon request. [Rule 17-4.070(3), F.A.C.].

13. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Rule 17-2.610(3), F.A.C. These provisions are applicable to any source, including, but not limited to, vehicular movement, transportation of materials, construction, alterations, demolition or wrecking, or industrial related activities such as loading, unloading, storing and handling.

14. Issuance of this permit does not relieve Florida Power Corporation from complying with applicable emission limiting standards or other requirements of Chapter 17-2, or any other requirements under federal, state, or local law. [Rule 17-2.210, F.A.C.].

PERMITTEE:
Florida Power Corporation
P.O. Box 14042
St. Petersburg, FL. 33733

PERMIT/CERTIFICATION
Permit No: AC09-202080
County: Citrus
Expiration Date: 06/30/92
Project: Three 820 Kilowatt Diesel Generators

SPECIFIC CONDITIONS:

15. This construction permit may have been subject to the new source review (NSR) requirements of Rule 17-2.500, F.A.C. if any of the federally enforceable limits in this permit had been relaxed. If Florida Power Corporation requests relaxation of any of the federally enforceable limits in this permit, then the Department will determine whether the NSR requirements of Rule 17-2.500, F.A.C. shall apply as though construction had not yet commenced. [Rule 17-2.500(2)(g), F.A.C.].

16. Florida Power Corporation shall submit
    (A) four applications for an operating permit (Certificate of Completion of Construction),
    (B) the appropriate application fee,
    (C) the test reports required by specific condition #7, and
    (D) an up-to-date copy of the records required by specific conditions #11 and #12,

to the Southwest District Office of the Department of Environmental Regulation within 45 days of compliance testing, or by May 1, 1992, whichever date is earliest.
[Rule 17-4.090, F.A.C.].

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Michael A. Kirby for

Dr. Richard D. Garrity
Director of District Management
4520 Oak Fair Boulevard
Tampa, Florida 33610-7347
Phone (813) 623-5561

Florida Department of Environmental Regulation

Southwest District • 4520 Oak Fair Boulevard • Tampa, Florida 33610-7347

Lawton Chiles, Governor 813-620-6100 Carol M. Browner, Secretary

PERMITTEE:
Florida Power Corporation
P.O. Box 14042
St. Petersburg, FL 33733

RECEIVED

APR 28 1992

Environmental Svcs Department

PERMIT/CERTIFICATION
Permit No: AC09-202080
Counties: Citrus, Pasco
Pinellas, Polk, Sumter
Expiration Date: 06/30/92
Project: Three 820 Kilowatt Diesel Generators

Issued: 10/07/91
Amended: 04/27/92

This permit is issued under the provisions of Chapter 403, Florida Statutes, and Florida Administrative Code Rules 17-2 & 17-4. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans and other documents, attached hereto or on file with the department and made a part hereof and specifically described as follows:

For construction (installation) of three Caterpillar Model 3508-DITA 820 kilowatt diesel generators. The maximum heat input rate to each diesel generator will be 8.58 million Btu per hour (62.1 gallons of diesel fuel per hour). The diesel generators will burn new/virgin No. 2 diesel fuel oil with a maximum sulfur content of 0.5% by weight. The diesel generators may be located at any Florida Power Corporation facility listed below.

Locations:
(1) The Crystal River Plant, Powerline Road, Red Level, Citrus County.
(2) The Anclote Plant, Anclote Road, west of Alternate 19, Tarpon Springs, Pasco County.
(3) The Bartow Plant, Weedon Island, St. Petersburg, Pinellas County.
(4) The Higgins Plant, Shore Drive, Oldsmar, Pinellas County.
(5) The Bayboro Plant, 13th Ave. & 2nd St. South, St. Petersburg, Pinellas County.
(6) The Wildwood Reclamation Facility, State Road 462, 1 mile east of U.S. 301, Wildwood, Sumter County.
(7) The future FPC Polk County Site, County Road 555, 1 mile southwest of Homeland, Polk County.

UTM: 17-334.4 E 3204.2 N NEDS NO: 0004 Point ID: 12
(Original Citrus County Location)

Replaces Permit No.: Not Applicable, New Construction.

PERMITTEE:
Florida Power Corporation
St. Petersburg, FL 33733

PERMIT/CERTIFICATION
Permit No: AC09-202080
Expiration Date: 06/30/92
Project: Three 820 Kilowatt Diesel Generators

SPECIFIC CONDITIONS:

1. A part of this permit is the attached 15 General Conditions.

2. Visible emissions from each diesel generator shall not be equal to or greater than 20% opacity.
[Rule 17-2.610(2)(a), F.A.C.].

3. Florida Power Corporation shall not discharge air pollutants which cause or contribute to an objectionable odor.
[Rule 17-2.620(2), F.A.C.].

4. In order to exempt this construction permit from the new source review requirements of Rule 17-2.500, F.A.C., the hours of operation expressed as "engine-hours" shall not exceed 2,970 in any consecutive 12 month period. The hours of operation expressed as "engine-hours" shall be the summation of the individual hours of operation of each diesel generator.
[Requested in the permit application].

5. Florida Power Corporation is permitted to burn only new/virgin No. 2 diesel fuel oil with a maximum sulfur content of 0.5% by weight in the diesel generators.
[Requested in the permit application].

6. The heat input rate to each diesel generator shall not exceed 8.58 million Btu per hour (62.1 gallons per hour).
[Requested in the permit application].

7. Florida Power Corporation shall notify the Department, in writing, at least 15 days prior to the date on which any diesel generator is to be relocated. The notification shall specify,

(A) which diesel generator, by serial number, is being relocated,
(B) which location the diesel generator is being relocated from,
(C) which location the diesel generator is being relocated to, and
(D) the approximate startup date at the new location.

If a diesel generator is to be relocated within Pinellas County, then Florida Power Corporation shall provide the same notification to the Air Quality Division of the Pinellas County Department of Environmental Management.
[Rule 17-4.070(3), F.A.C.].

SPECIFIC CONDITIONS:

8. Test each diesel generator for the following pollutants within 30 days of initial startup. The test reports shall be submitted to the Air Section of the Southwest District Office of the Department within 45 days of testing in conjunction with a Certificate of Completion of Construction, DER Form 17-1.202(3). [Rules 17-2.700(2)(a)1. and 17-2.700(7), F.A.C.].

(X) Opacity
(X) Fuel Sulfur Analysis

9. After each relocation, test each relocated diesel generator for the following pollutants within 30 days of startup. The test reports shall be submitted to the Air Section of the Southwest District Office of the Department within 45 days of testing. A copy of the test reports shall be submitted to the Air Quality Division of the Pinellas County Department of Environmental Management for each diesel generator located in Pinellas County. [Rules 17-4.070(3), 17-2.700(2)(a)1. and 17-2.700(7), F.A.C.].

(X) Opacity
(X) Fuel Sulfur Analysis

10. Compliance with the emission limitation of specific condition #2 shall be determined using EPA Method 9 contained in 40 CFR 60, Appendix A, and adopted by reference in Rule 17-2.700, F.A.C. The minimum requirements for stack sampling facilities, source sampling and reporting, shall be in accordance with Rule 17-2.700, F.A.C. and 40 CFR 60.

11. Testing of each diesel generator emissions must be accomplished while operating the diesel generator within ±10% of the maximum fuel firing rate of 62.1 gallons per hour. Failure to submit the actual operating rate may invalidate the test. [Rule 17-4.070(3), F.A.C.].

12. Florida Power Corporation shall notify the Department at least 15 days prior to the date on which each formal compliance test is to begin of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted. For each diesel generator located in Pinellas County, Florida Power Corporation shall provide the same notification to the Air Quality Division of the Pinellas County Department of Environmental Management. [Rule 17-2.700(2)(a)9., F.A.C.].

SPECIFIC CONDITIONS:

13. Compliance with specific condition #4 shall be documented by record keeping. At a minimum, the records shall indicate the daily hours of operation for each individual diesel generator, the daily hours of operation expressed as "engine-hours", and a cumulative total hours of operation expressed as "engine-hours" for each month. The records shall be maintained for a minimum of 2 years and made available to the Department or the Pinellas County Department of Environmental Management upon request. [Rule 17-4.070(3), F.A.C.].

14. In order to document continuing compliance with specific condition #5, records of the sulfur content, in percent by weight, of all the fuel burned shall be kept based on either vendor provided as-shipped analyses or on analyses of as-received samples. The records shall be maintained for a minimum of 2 years and shall be made available to the Department or the Pinellas County Department of Environmental Management upon request. [Rule 17-4.070(3), F.A.C.].

15. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Rule 17-2.610(3), F.A.C. These provisions are applicable to any source, including, but not limited to, vehicular movement, transportation of materials, construction, alterations, demolition or wrecking, or industrial related activities such as loading, unloading, storing and handling.

16. Issuance of this permit does not relieve Florida Power Corporation from complying with applicable emission limiting standards or other requirements of Chapter 17-2, or any other requirements under federal, state, or local law. [Rule 17-2.210, F.A.C.].

17. This construction permit might have been subject to the new source review (NSR) requirements of Rule 17-2.500, F.A.C. if any of the federally enforceable limits in this permit had been relaxed. If Florida Power Corporation requests relaxation of any of the federally enforceable limits in this permit, then the Department will determine whether the NSR requirements of Rule 17-2.500, F.A.C. shall apply as though construction had not yet commenced. [Rule 17-2.500(2)(g), F.A.C.].

PERMITTEE:
Florida Power Corporation
St. Petersburg, FL 33733

PERMIT/CERTIFICATION
Permit No: AC09-202080
Expiration Date: 06/30/92
Project: Three 820 Kilowatt Diesel Generators

SPECIFIC CONDITIONS:

18. Florida Power Corporation shall submit
    (A) four applications for an operating permit (Certificate of Completion of Construction),
    (B) the appropriate application fee,
    (C) the test reports required by specific condition #7, and
    (D) an up-to-date copy of the records required by specific conditions #11 and #12,

to the Southwest District Office of the Department of Environmental Regulation within 45 days of compliance testing, or by May 1, 1992, whichever date is earliest.
[Rule 17-4.090, F.A.C.].

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

For Dr. Richard D. Garrity
Director of District Management

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[x] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[ ] This Emissions Unit information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[x] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **Cooling Tower, Units 4, 5**		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code: A	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: 49
6. Emissions Unit Comment (limit to 500 characters):		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters): **High efficiency drift eliminators**
2. Control Device or Method Code: **99**

B.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:	
2. Long-term Reserve Shutdown Date:	
3. Package Unit: Manufacturer:	Model Number:
4. Generator Nameplate Rating:	MW
5. Incinerator Information: Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:	 °F seconds °F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:			mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr		tons/day
3. Maximum Process or Throughput Rate:		331,000	gal/min
4. Maximum Production Rate:			
5. Operating Capacity Comment (limit to 200 characters): Max. process - circulating water flow rate			

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:			
	hours/day		days/week
	weeks/yr	8,760	hours/yr

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

Not Applicable

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment CR-E12-D

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: EU12, CR-FI-E2	
2. Emission Point Type Code: [x] 1 [ ] 2 [ ] 3 [ ] 4	
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): See Attachment CR-E12-E14	
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:	
5. Discharge Type Code: [ ] D [ ] F [ ] H [ ] P [ ] R [x] V [ ] W	
6. Stack Height:	443 feet
7. Exit Diameter:	214 feet
8. Exit Temperature:	100 °F

9. Actual Volumetric Flow Rate:	**23,310,000**	acfm
10. Percent Water Vapor:		%
11. Maximum Dry Standard Flow Rate:		dscfm
12. Nonstack Emission Point Height:		feet
13. Emission Point UTM Coordinates: Zone: East (km): North (km):		
14. Emission Point Comment (limit to 200 characters):		

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 1

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Seawater/Machinery, miscellaneous, not classified**	
2. Source Classification Code (SCC): **3-12-999-99**	
3. SCC Units: **Tons processed**	
4. Maximum Hourly Rate: **82,816**	5. Maximum Annual Rate: **725,470,000**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): **Based on 331,000 gal/min, water density of 8.34 lb/gal.**	

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters):	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters):	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			EL
PM10			EL

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: PM
2. Total Percent Efficiency of Control: %
3. Potential Emissions: 175 lb/hour 766.5 tons/year
4. Synthetically Limited? [ ] Yes [x] No
5. Range of Estimated Fugitive/Other Emissions: [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr
6. Emission Factor: NA Reference: Permit
7. Emissions Method Code: [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5
8. Calculation of Emissions (limit to 600 characters): **Based on tower measurements.**
9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters): **1. Emission limit per tower.**

Emissions Unit Information Section 12 of 14

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: **175 lb/hr**		
4. Equivalent Allowable Emissions:	**175** lb/hour	**766.5** tons/year
5. Method of Compliance (limit to 60 characters): **Compliance Test (min. once per 5 yr); sensitive paper method**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **1. Permit; BACT determination. 2. Emission limit per tower.**		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

H. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION
(Regulated Emissions Units Only - Emissions Limited Pollutants Only)

Pollutant Detail Information:

1. Pollutant Emitted: PM10

2. Total Percent Efficiency of Control: %

3. Potential Emissions: 175 lb/hour 766.5 tons/year

4. Synthetically Limited? [ ] Yes [x] No

5. Range of Estimated Fugitive/Other Emissions:

   [ ] 1 [ ] 2 [ ] 3 _____ to _____ tons/yr

6. Emission Factor: NA

   Reference: Permit

7. Emissions Method Code:

   [ ] 0 [ ] 1 [x] 2 [ ] 3 [ ] 4 [ ] 5

8. Calculation of Emissions (limit to 600 characters):

   Based on tower measurements.

9. Pollutant Potential/Estimated Emissions Comment (limit to 200 characters):

   1. Emissions per tower.

Emissions Unit Information Section 12 **of** 14

Allowable Emissions (Pollutant identified on front page)

A.

1. Basis for Allowable Emissions Code: **OTHER**		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units: **175 lb/hr**		
4. Equivalent Allowable Emissions:	**175** lb/hour	**766.5** tons/year
5. Method of Compliance (limit to 60 characters): **Compliance Test (min. once per 5 yr); sensitive paper method**		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters): **1. Permit; BACT determination. 2. Emission limit per tower.**		

B.

1. Basis for Allowable Emissions Code:		
2. Future Effective Date of Allowable Emissions:		
3. Requested Allowable Emissions and Units:		
4. Equivalent Allowable Emissions:	lb/hour	tons/year
5. Method of Compliance (limit to 60 characters):		
6. Pollutant Allowable Emissions Comment (Desc. of Related Operating Method/Mode) (limit to 200 characters):		

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation _____ of _____

1.	Visible Emissions Subtype:
2.	Basis for Allowable Opacity: [ ] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance:
5.	Visible Emissions Comment (limit to 200 characters):

Visible Emissions Limitations: Visible Emissions Limitation _____ of _____

1.	Visible Emissions Subtype:
2.	Basis for Allowable Opacity: [ ] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance:
5.	Visible Emissions Comment (limit to 200 characters):

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [x] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[x] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	[x] C	[ ] E	[ ] Unknown
	SO_2	[ ] C	[ ] E	[ ] Unknown
	NO_2	[ ] C	[ ] E	[ ] Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO_2	0 lb/hour		0 tons/year
	NO_2			0 tons/year
5.	PSD Comment (limit to 200 characters):			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1.	Process Flow Diagram [X] Attached, Document ID: CR-E12-L1 [ ] Not Applicable [ ] Waiver Requested
2.	Fuel Analysis or Specification [ ] Attached, Document ID: _____ [ ] Not Applicable [ ] Waiver Requested
3.	Detailed Description of Control Equipment [X] Attached, Document ID: CR-E12-L3 [ ] Not Applicable [ ] Waiver Requested
4.	Description of Stack Sampling Facilities [X] Attached, Document ID: CR-E12-L4 [ ] Not Applicable [ ] Waiver Requested
5.	Compliance Test Report [ ] Attached, Document ID: _____ [ ] Not Applicable [X] Previously Submitted, Date: 14 May 1992
6.	Procedures for Startup and Shutdown [ ] Attached, Document ID: _____ [X] Not Applicable
7.	Operation and Maintenance Plan [ ] Attached, Document ID: _____ [X] Not Applicable
8.	Supplemental Information for Construction Permit Application [ ] Attached, Document ID: _____ [X] Not Applicable
9.	Other Information Required by Rule or Statute [ ] Attached, Document ID: _____ [X] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10.	Alternative Methods of Operation [ ] Attached, Document ID: _____ [x] Not Applicable
11.	Alternative Modes of Operation (Emissions Trading) [ ] Attached, Document ID: _____ [x] Not Applicable
12.	Identification of Additional Applicable Requirements [x] Attached, Document ID: CR-E03-L12 [ ] Not Applicable
13.	Compliance Assurance Monitoring Plan [x] Attached, Document ID: CR-E01-L13 [ ] Not Applicable
14.	Acid Rain Permit Application (Hard Copy Required) [ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ [ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ [ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ [ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ [x] Not Applicable

ATTACHMENT CR-E12-D

APPLICABLE REQUIREMENTS LISTING

ATTACHMENT CR-E12-D

APPLICABLE REQUIREMENTS LISTING - POWER PLANTS

EMISSION UNIT: EU 12: Cooling Towers for Units 4 and 5 - FPC Crystal River

FDEP Rules:

Stationary Sources-General:

62-210.700(1)	- All EU; Malfunction
62-210.700(4)	- All EUs; poor maintenance
62-210.700(6)	- All EUs; notification

Stationary Sources-Emission Standards:

Note: General VE in Rule 62-296.320(4)(b) does not apply since VE determinations exclude uncombined water and an appropriate VE test cannot be performed.

Stationary Sources-Emission Monitoring (where stack test is required):

Note: Crystal River Units 4 and 5 cooling towers are required to test particulate matter using a sensitive paper method. These hyperbolic cooling towers are non traditional sources and tests facilities must be temporary in nature. The temporary facilities would meet the requirements of the sensitive paper method and the provisions of Rule 62-297 would not apply.

ATTACHMENT CR-E12-E14

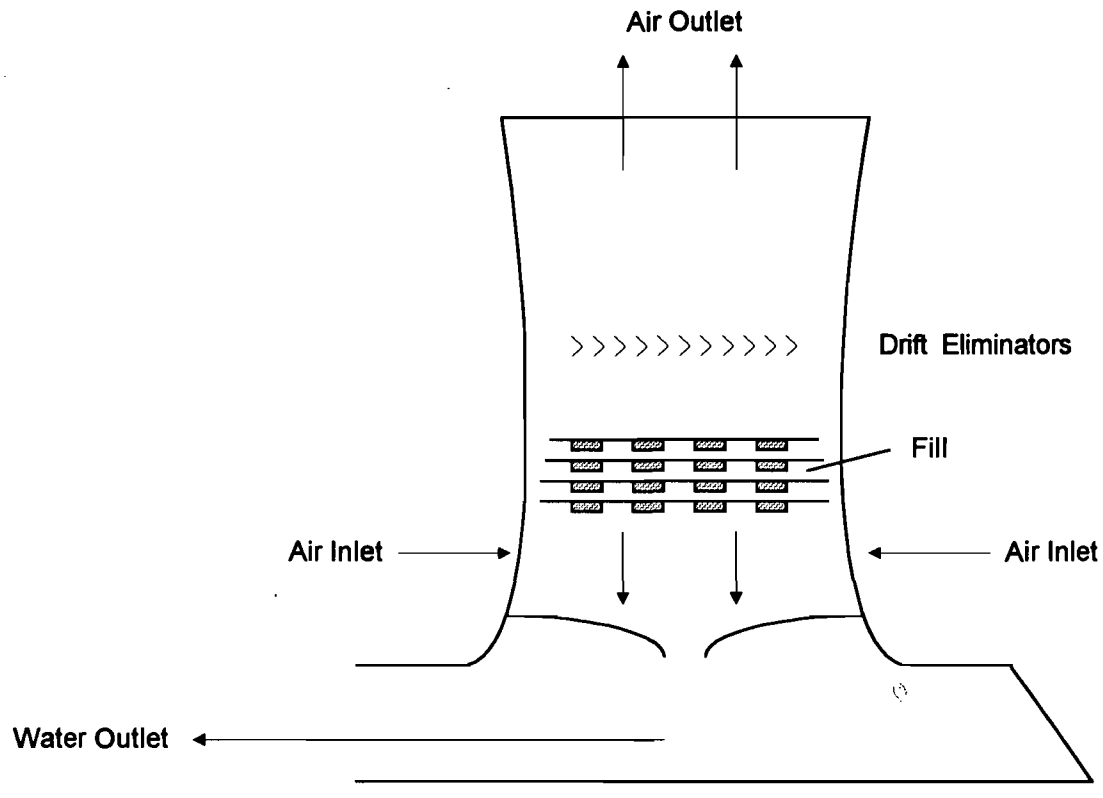
EMISSION POINT COMMENT

ATTACHMENT CR-E12-E14
EMISSION POINT COMMENT

Based on tower measurements. Two natural draft cooling towers used to reduce plant discharge water temperature. Sea (salt) water is sprayed through the towers where the fan induced air flow causes evaporative cooling. Water vapor, saltwater droplets (drift) and salt particles are emitted. Saltwater drift emissions are controlled by high efficiency drift eliminators.

ATTACHMENT CR-E12-L1

PROCESS FLOW DIAGRAM



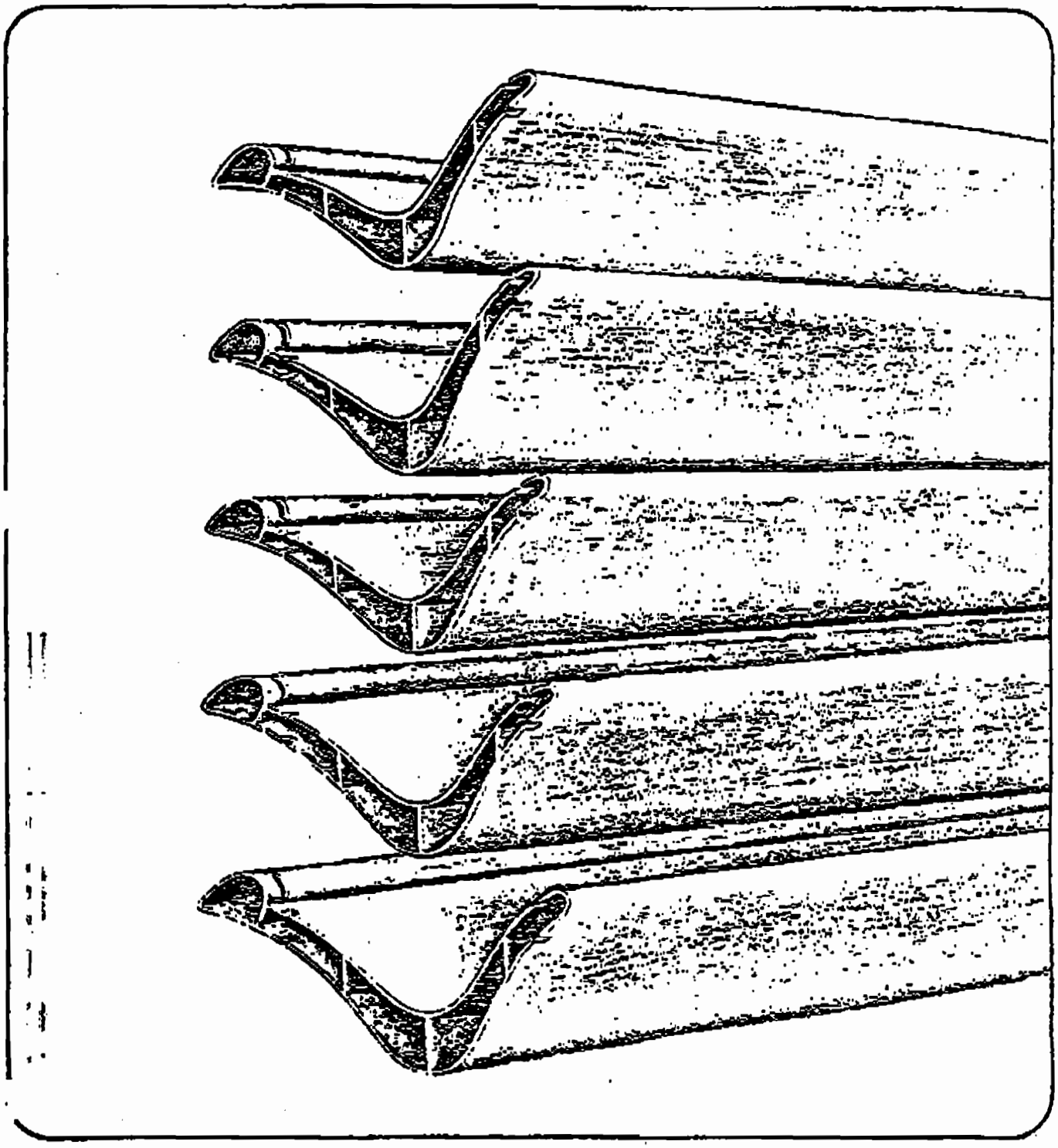
Attachment Facility Process Flow Diagram Florida Power Corporation Crystal River, FL	Process Flow Legend: Solid / Liquid → Gas - - - - → Steam ····· →	Emission Unit: Natural Draft Cooling Tower Process Area: *Filename:* FPCCR2B.VSD *Latest Revision Date:* 6/8/96	KBN Engineering and Applied Sciences, Inc.

ATTACHMENT CR-E12-L3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

SPECTRA

a new standard of excellence in cooling tower drift eliminators



THERMATEC
SANTA ROSA, CA

U.S. and foreign patents pending

The SPECTRA PVC drift eliminator is the result of extensive research and testing using state of the art technology to solve an old problem in the most effective way yet devised.

Removing liquid droplets from a gas stream while using as little fan energy as possible . . . that's what drift removal is all about. One look at the SPECTRA blade will tell you why it's superior in getting this troublesome job done in an energy efficient way. *(FIGURE 1.)*

Most drift eliminator designs used today do a pretty good job in removing those big drift drops under normal circumstances, but . . . when the going gets tough they leave a lot to be desired. Those small drops while not as noticeable, can be just as damaging to plant equipment and may have an even more serious impact on your neighbors and the environment since once airborne they travel further. The SPECTRA blade gets *ALL* the big drops and collects a much higher percentage of the small drops by putting the right blade surface where it counts. You also get a useful gas velocity operating range well beyond the limits of other designs. This can be important to you when the wind is up or on a tower that's been causing you drift problems.

We invite comparison . . . Ask about a no cost demonstration test at our research facility.

The SPECTRA PVC drift eliminator is made of material that meets or exceeds the ASTM D-1784 specifications for Type 1, Grade 2 Rigid Polyvinylchloride Compounds. Type 1 PVC compounds have the highest strength and chemical resistance properties of all the rigid PVC compounds. *(TABLE 1.)*

High strength — PVC retains high impact and tensile strength over a wide range of temperature conditions and resists heat distortion. In these respects it is considered superior to other plastics. These properties coupled with a highly stable double wall blade construction and low working stresses insure stable blade dimensions and structural integrity of the SPECTRA design even under severe thermal shock conditions.

Weather exposure — PVC is exceptionally durable in outdoor weather exposures and retains its superior physical properties. It stands up well to ultraviolet radiation, temperature variations, air contaminates and biological attack.

Chemical and corrosion resistance — PVC is highly impervious to chemical or biological degradation. Strong acids,

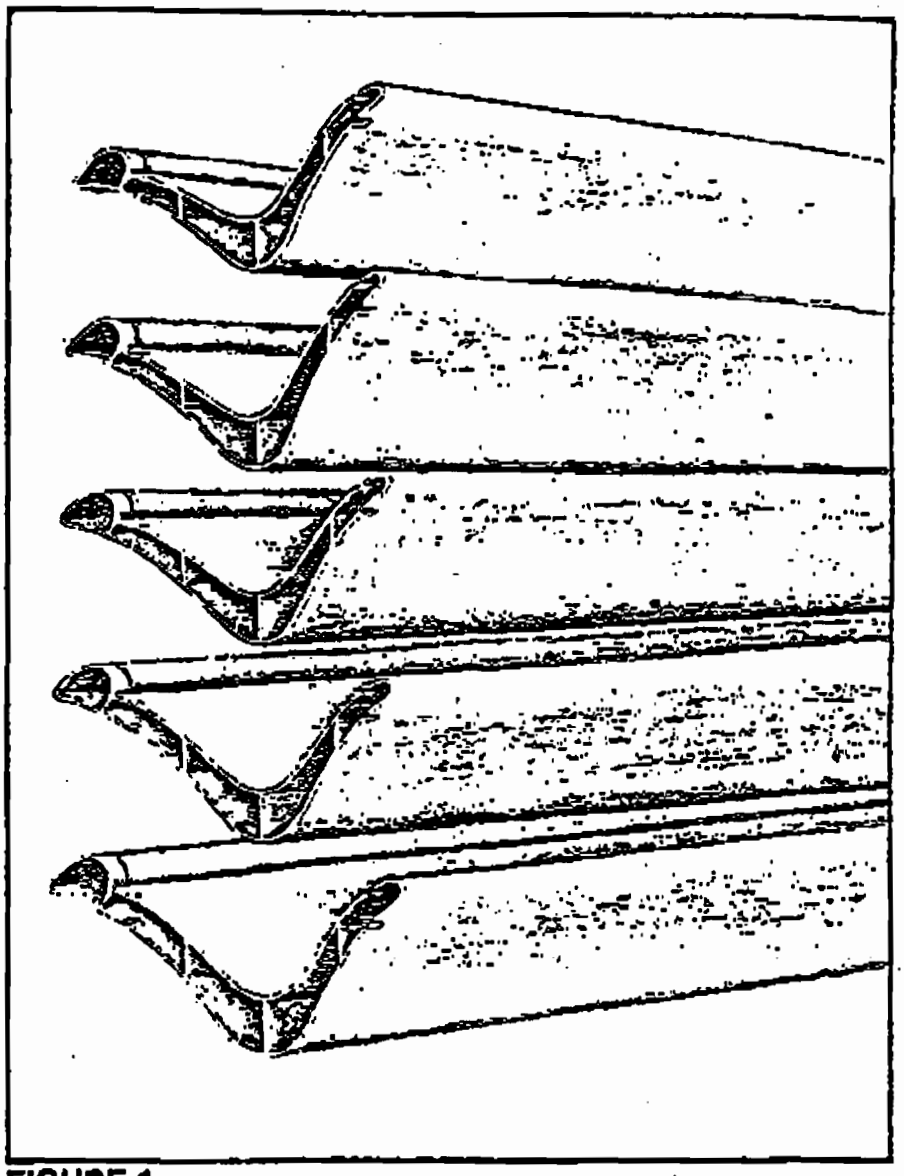
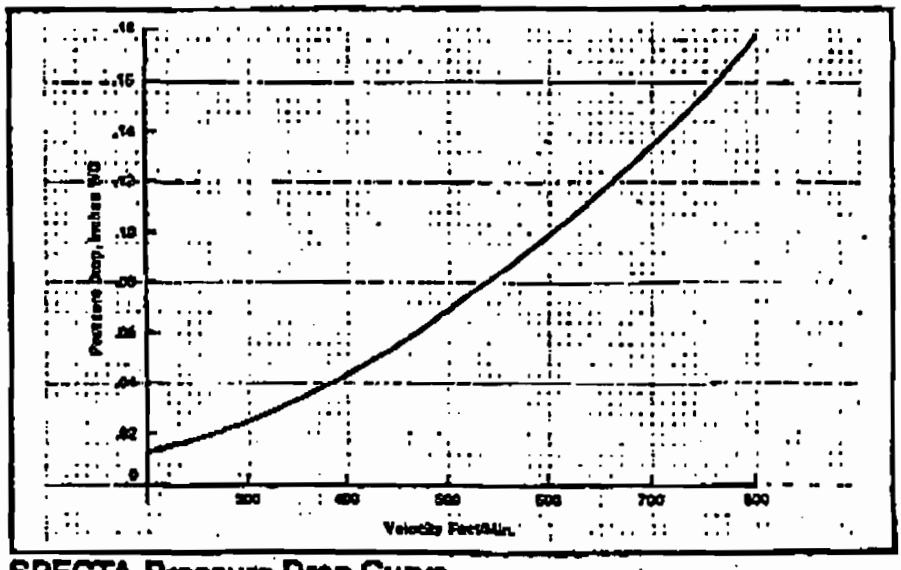


FIGURE 1



SPECTA Pressure Drop Curve

ATTACHMENT CR-E12-L4

DESCRIPTION OF STACK SAMPLING FACILITIES

DRIFT ELIMINATOR SYSTEM

The tower drift eliminator system is located directly above and supported on the water distribution pipes. The drift eliminator is of the impingement type consisting of PVC blades. The blades change the air flow direction two (2) times before the air is discharged. The water droplets, which separate from the air flow within the drift eliminator, collect and fall back to the fill surface. The proposed drift eliminator system is guaranteed to limit the maximum drift loss to .0005% of the design flow.

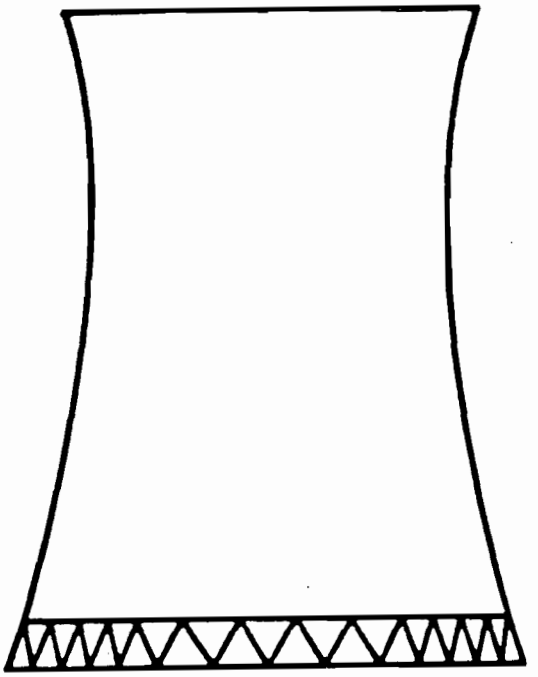
ACCESS FACILITIES

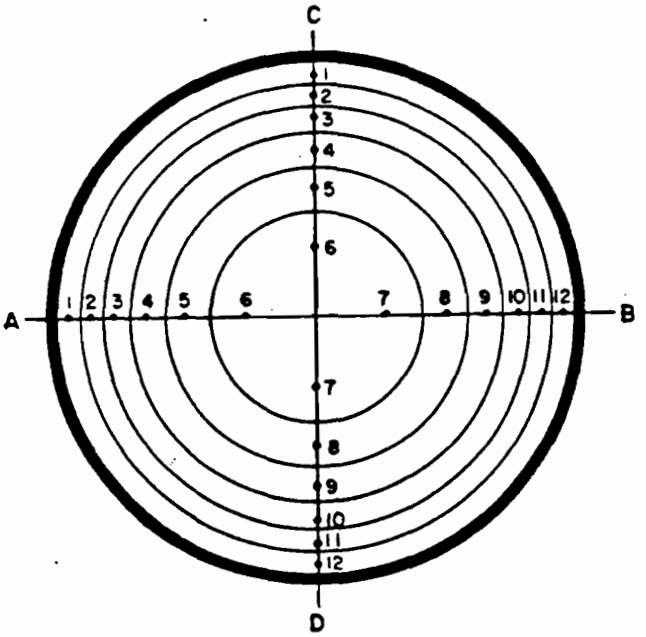
Two (2) precast concrete stairways with handrails are provided. These stairways are spaced 180° apart and provide access from ground level to the top of flume walkways.

Within the tower, a network of precast concrete walkways are provided. These walkways are located on top of the five (5) main water distribution flumes and between the flumes.

MATERIAL OF CONSTRUCTION

Item 1.	Tower Structural Supports (Internals)	Precast Concrete
Item 2.	Tower Enclosure	Cast-In-Place Concrete
Item 3.	Water Distribution System	
	A. Inlet Header	Fiberglass Reinforced Polyester
	B. Inlet Riser	Cast-In-Place Concrete
	C. Flumes	Precast Concrete
	D. Distribution Pipes	Fiberglass Reinforced Polyester
	E. Spray Nozzles	Polypropylene





EQUAL AREA MEASUREMENT POINTS

Position	Distance from Edge (feet)	Distance from Edge (meters)
1	7.0	2.1
2	22.1	6.7
3	39.0	11.9
4	58.5	17.8
5	82.5	25.1
6	117.4	35.8

Figure 3.1
EQUAL AREA SAMPLING STATIONS
AT THE DRIFT ELIMINATOR LEVEL

ESC
ENVIRONMENTAL SYSTEMS CORPORATION
200 TECH CENTER DRIVE
KNOXVILLE, TENNESSEE 37912

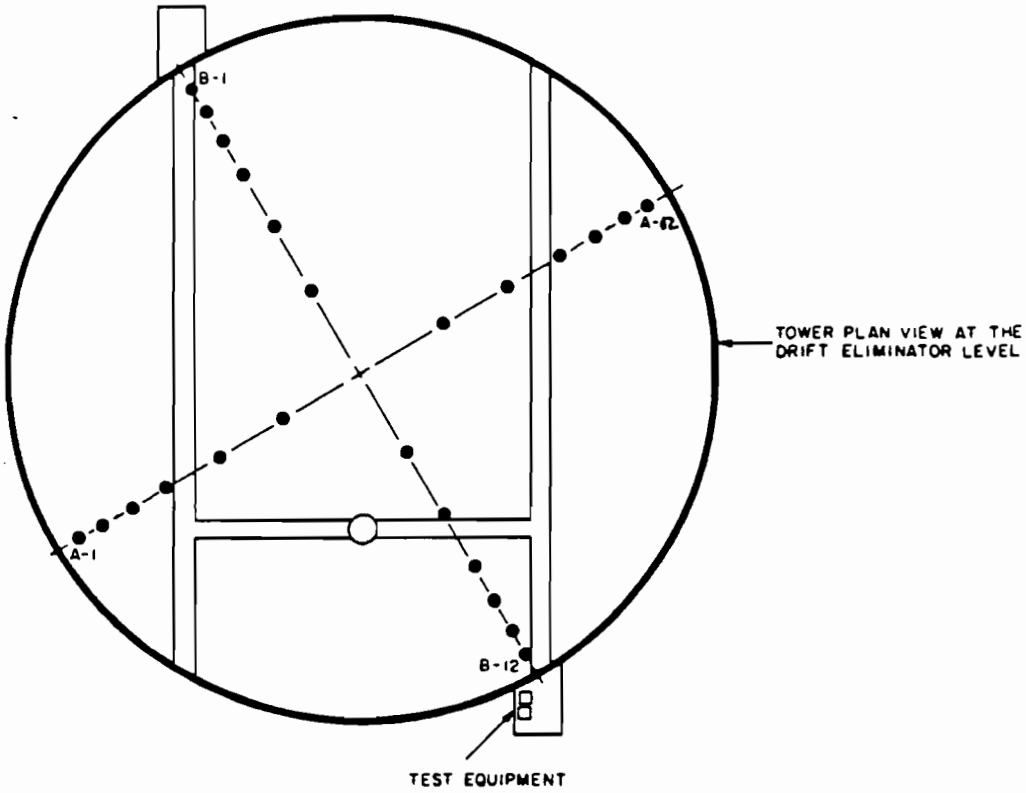


Figure 3.2
SAMPLING POINT LOCATIONS

ESC
ENVIRONMENTAL SYSTEMS CORPORATION
200 TECH CENTER DRIVE
KNOXVILLE TENNESSEE 37912

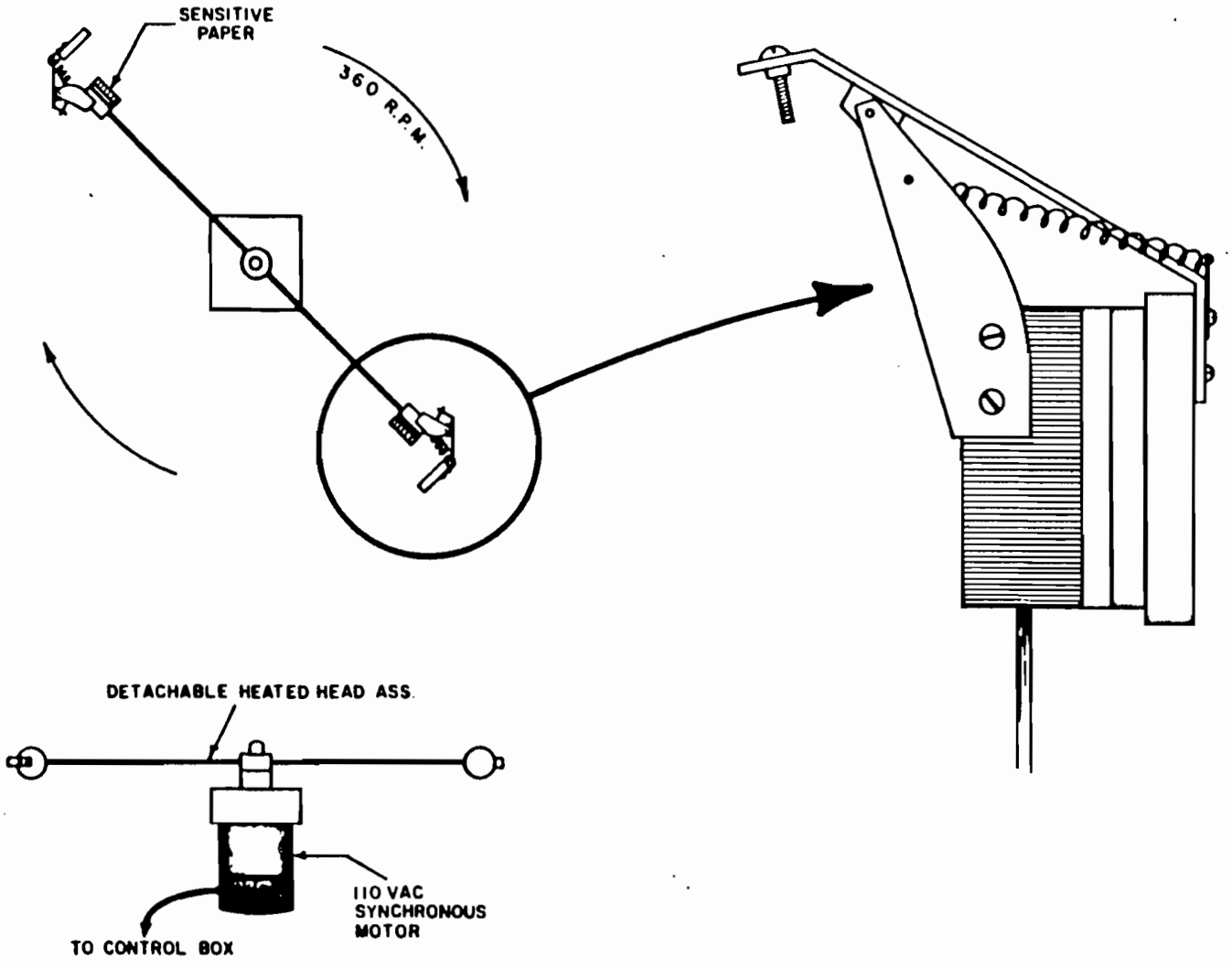


Figure 3.3

ROTATING SENSITIVE PAPER MACHINE

ESC
ENVIRONMENTAL SYSTEMS CORPORATION
200 TECH CENTER DRIVE
KNOXVILLE TENNESSEE 37912

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[x] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[ ] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[ ] This Emissions Unit information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[x] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **Material-handling operations for firing of Units 1,2,4,5**		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code: A	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: 49
6. Emissions Unit Comment (limit to 500 characters): **Fugitive emissions and other emissions from material-handling operations due to firing coal at Units 1,2,4,5 are included in this emissions unit. See Helper Cooling Towers (EU10), AC09-162037/PSD-FL-139, Spec. Cond. 3 (CR-E10-L12). Descriptions of emissions are presented in 'Particulate Matter Air Quality Impact Assessment, Florida Power Corporation, Crystal River Plant;' March, 1989; January, 1990. See Attachment CR-E13-B6.**		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters): **Dust Suppression - Traffic Control**
2. Control Device or Method Code: **108**

B.

1. Description (limit to 200 characters): **Enclosures**
2. Control Device or Method Code: **99**

C.

1. Description (limit to 200 characters): **Dust Suppression by Water Sprays**
2. Control Device or Method Code: **61**

C. EMISSIONS UNIT DETAIL INFORMATION
(Regulated Emissions Units Only)

Emissions Unit Details

1. Initial Startup Date:	
2. Long-term Reserve Shutdown Date:	
3. Package Unit: Manufacturer:	Model Number:
4. Generator Nameplate Rating:	MW
5. Incinerator Information: Dwell Temperature: Dwell Time: Incinerator Afterburner Temperature:	 °F seconds °F

Emissions Unit Operating Capacity

1. Maximum Heat Input Rate:		mmBtu/hr
2. Maximum Incineration Rate:	lbs/hr	tons/day
3. Maximum Process or Throughput Rate:		
4. Maximum Production Rate:		
5. Operating Capacity Comment (limit to 200 characters): **Coal: 2,000,000 TPY, #1,2; 3,200,000 TPY Units 4,5. Flyash: 175,000 TPY, #1,2; 262,500 TPY, #4,5. Bottom ash: 50,000 TPY, #1,2; 75,000 TPY, #4,5 (Est throughput based on 1990 analysis; CR-E13-B6)**		

Emissions Unit Operating Schedule

1. Requested Maximum Operating Schedule:		
hours/day		days/week
weeks/yr	8,760	hours/yr

D. EMISSIONS UNIT REGULATIONS
(Regulated Emissions Units Only)

Rule Applicability Analysis (Required for Category II Applications and Category III applications involving non Title-V sources. See Instructions.)

List of Applicable Regulations (Required for Category I applications and Category III applications involving Title-V sources. See Instructions.)

See Attachment CR-E13-D

E. EMISSION POINT (STACK/VENT) INFORMATION
(Regulated Emissions Units Only)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram: EU13, CR-FI-E2
2. Emission Point Type Code: [ ] 1 [ ] 2 [ ] 3 [x] 4
3. Descriptions of Emissions Points Comprising this Emissions Unit for VE Tracking (limit to 100 characters per point): See Attachment CR-E13-B6
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:
5. Discharge Type Code: [ ] D [x] F [ ] H [ ] P [ ] R [ ] V [ ] W
6. Stack Height: feet
7. Exit Diameter: feet
8. Exit Temperature: °F

9. Actual Volumetric Flow Rate:	acfm
10. Percent Water Vapor:	%
11. Maximum Dry Standard Flow Rate:	dscfm
12. Nonstack Emission Point Height:	feet
13. Emission Point UTM Coordinates: Zone: East (km): North (km):	
14. Emission Point Comment (limit to 200 characters): **See Attachment CR-E13-B6.**	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 6

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Coal, Storage and Transport**	
2. Source Classification Code (SCC):	
3. SCC Units: **Tons**	
4. Maximum Hourly Rate:	5. Maximum Annual Rate: **2,000,000**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: **1.2**	8. Maximum Percent Ash: **8.9**
9. Million Btu per SCC Unit: **24**	
10. Segment Comment (limit to 200 characters): **Source Classification Code: A253 000 0040. Units No. 1,2. Ash-typical. Estimated throughput; CR-E13-B6.**	

Segment Description and Rate: Segment 2 of 6

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Coal, Storage and Transport**	
2. Source Classification Code (SCC):	
3. SCC Units: **Tons**	
4. Maximum Hourly Rate:	5. Maximum Annual Rate: **3,200,000**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur: **0.7**	8. Maximum Percent Ash: **8.3**
9. Million Btu per SCC Unit: **24**	
10. Segment Comment (limit to 200 characters): **Source Classification Code: A253 000 0040. Units No. 1,2. Ash-typical. Estimated throughput; CR-E13-B6.**	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 3 of 6

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Flyash, Storage and Transport**	
2. Source Classification Code (SCC):	
3. SCC Units: **Tons**	
4. Maximum Hourly Rate:	5. Maximum Annual Rate: **175,000**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): **SCC: A253 000 0000. Unit No. 1,2.Estimated throughput; CR-E13-B6**	

Segment Description and Rate: Segment 4 of 6

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Flyash, Storage and Transport**	
2. Source Classification Code (SCC):	
3. SCC Units: **Tons**	
4. Maximum Hourly Rate:	5. Maximum Annual Rate: **262,500**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): **SCC: A253 000 0000. Unit No. 4,5. Estimated throughput;CR-E13-B6**	

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 5 of 6

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Bottom Ash, Storage and Transport**	
2. Source Classification Code (SCC):	
3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): **SCC: 253 000 0000. Unit No.1,2; Estimated throughput; CR-E13-B6**	

Segment Description and Rate: Segment 6 of 6

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Bottom Ash, Storage and Transport**	
2. Source Classification Code (SCC):	
3. SCC Units: **Tons**	
4. Maximum Hourly Rate:	5. Maximum Annual Rate: **75,000**
6. Estimated Annual Activity Factor:	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): **SCC: 253 000 0000. Unit No. 4,5; Estimated throughput; CR-E13-B6**	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
PM			WP
PM10			WP

I. VISIBLE EMISSIONS INFORMATION
(Regulated Emissions Units Only)

Visible Emissions Limitations: Visible Emissions Limitation 1 of 1

1.	Visible Emissions Subtype: VE20
2.	Basis for Allowable Opacity: [x] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: 20 % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance: None
5.	Visible Emissions Comment (limit to 200 characters): Rule 62-296.320(4)(b)1.

Visible Emissions Limitations: Visible Emissions Limitation _____ of _____

1.	Visible Emissions Subtype:
2.	Basis for Allowable Opacity: [ ] Rule [ ] Other
3.	Requested Allowable Opacity Normal Conditions: % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour
4.	Method of Compliance:
5.	Visible Emissions Comment (limit to 200 characters):

J. CONTINUOUS MONITOR INFORMATION
(Regulated Emissions Units Only)

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

Continuous Monitoring System Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement: [ ] Rule [ ] Other	
4. Monitor Information: Monitor Manufacturer: Model Number: Serial Number:	
5. Installation Date:	
6. Performance Specification Test Date:	
7. Continuous Monitor Comment (limit to 200 characters):	

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [x] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [ ] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[x] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	[x] C	[ ] E	[ ] Unknown
	SO_2	[ ] C	[ ] E	[x] Unknown
	NO_2	[ ] C	[ ] E	[x] Unknown
4.	Baseline Emissions:			
	PM	lb/hour	17.81	tons/year
	SO_2	lb/hour		tons/year
	NO_2			tons/year
5.	PSD Comment (limit to 200 characters):			
	PM10 Emissions from material-handling operations for Units 1,2 are baseline; for Units 4,5, increment consuming emissions are 11.53.			

L. EMISSIONS UNIT SUPPLEMENTAL INFORMATION
(Regulated Emissions Units Only)

Supplemental Requirements for All Applications

1.	Process Flow Diagram [X] Attached, Document ID: CR-E13-B6 [ ] Not Applicable	[ ] Waiver Requested
2.	Fuel Analysis or Specification [ ] Attached, Document ID: _____ [X] Not Applicable	[ ] Waiver Requested
3.	Detailed Description of Control Equipment [X] Attached, Document ID: CR-E13-L3 [ ] Not Applicable	[ ] Waiver Requested
4.	Description of Stack Sampling Facilities [ ] Attached, Document ID: _____ [X] Not Applicable	[ ] Waiver Requested
5.	Compliance Test Report [X] Attached, Document ID: _____ [ ] Previously Submitted, Date: _____	[ ] Not Applicable
6.	Procedures for Startup and Shutdown [ ] Attached, Document ID: _____	[X] Not Applicable
7.	Operation and Maintenance Plan [ ] Attached, Document ID: _____	[X] Not Applicable
8.	Supplemental Information for Construction Permit Application [ ] Attached, Document ID: _____	[X] Not Applicable
9.	Other Information Required by Rule or Statute [ ] Attached, Document ID: _____	[X] Not Applicable

Additional Supplemental Requirements for Category I Applications Only

10.	Alternative Methods of Operation [x] Attached, Document ID: CR-E13-B6 [ ] Not Applicable
11.	Alternative Modes of Operation (Emissions Trading) [ ] Attached, Document ID: _____ [x] Not Applicable
12.	Identification of Additional Applicable Requirements [x] Attached, Document ID: CR-E10-L12 [ ] Not Applicable
13.	Compliance Assurance Monitoring Plan [ ] Attached, Document ID: _____ [ ] Not Applicable
14.	Acid Rain Permit Application (Hard Copy Required) [ ] Acid Rain Part - Phase II (Form No. 62-210.900(1)(a)) Attached, Document ID: _____ [ ] Repowering Extension Plan (Form No. 62-210.900(1)(a)1.) Attached, Document ID: _____ [ ] New Unit Exemption (Form No. 62-210.900(1)(a)2.) Attached, Document ID: _____ [ ] Retired Unit Exemption (Form No. 62-210.900(1)(a)3.) Attached, Document ID: _____ [x] Not Applicable

ATTACHMENT CR-E13-B6

GENERAL EMISSION UNIT INFORMATION

Particulate Matter
Air Quality Impact Assessment
for Proposed Helper Cooling Towers
for Units 1, 2, and 3
Crystal River Plant

January 1990

PREPARED FOR:

Florida Power Corporation
St. Petersburg, Florida

PREPARED BY:

KBN Engineering and Applied Sciences, Inc.
1034 NW 57th Street
Gainesville, FL 32605

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2.3 FUGITIVE DUST EMISSION SOURCES

Detailed information on fugitive dust sources identified to exist at the Crystal River plant are presented in the first report. Identified fugitive dust operations include all processes related to:

1. Batch/continuous drop operations,
2. Wind erosion, and
3. Vehicular traffic.

The following changes were incorporated in the modeling for fugitive dust:

1. The coal pile emissions for Units 4 and 5 have been reduced through the application of surfactants. The emissions from the pile maintenance and traffic sources were reduced by 50 percent from those previously used (see Table 3-2 in the first report). Emissions for source numbers 30, 32, 34, and 35 were each revised to 25 pounds per day (lb/day). Emissions for source numbers 31 and 33 were revised to 38 lb/day each.
2. Area source 41, used to simulate fugitive emissions from the Progress Materials' operation in the original modeling, was modified to more realistically represent the extent of the emissions. Previously, the extent of these emissions was simulated as a 350 m square representing Units 1 and 2 bottom ash storage pile. However, these emissions occur at the Progress Materials facility. Therefore, the location of this source has been moved to the 80 m square representing the Progress Materials site.

2.3.1 SUMMARY OF FUGITIVE PM EMISSIONS

A summary of fugitive PM(TSP) emissions from the Crystal River power plant site is presented in Table 2-4. This table summarizes the emissions presented in Tables 1 through 7 of the first report with noted changes. The emissions are grouped by source activity, and are also identified by source number used in the dispersion modeling analysis. All the fugitive emissions were modeled as area sources (see Section 3.0 for further discussion).

Those fugitive sources which do not consume PSD increments are also identified in Table 2-4. Non-increment-consuming sources consist of sources associated with CR Units 1 and 2, since these units are considered to be coal burning for PSD baseline purposes. All sources associated with CR Units 4 and 5 and with on-site ash disposal from any of the units are increment-consuming sources. In addition, PM sources associated with the

Table 2-4. Summary of Fugitive Dust Emissions, Crystal River Power Plant

Model Source No.	Source	Max. 24-Hr Emissions (lb/day) PM(TSP)	Max. 24-Hr Emissions (lb/day) PM10	Annual Avg. Emissions (TPY) PM(TSP)	Annual Avg. Emissions (TPY) PM10
	CR 4/5 Active Ash Storage:				
11	Transfer operations	0	0	0.023	0.011
10	Wind erosion	53	53	1.226	1.226
11	Vehicular traffic	30	13	3.034	1.365
20,21	CR 4/5 Inactive Ash Storage				
	Wind erosion	79	79	1.839	1.839
	CR 4/5 Coal Pile:				
12,31,33	CR 4/5 Transfer operations	36	18	3.440	1.689
30,32,34,35	Wind erosion	100	100	1.506	1.506
31,33	Pile maintenance/traffic	51	23	8.652	3.890
31,33	Ash transfer	0	0	0	0
	CR 1/2 Bottom Ash Storage:				
41[a]	Transfer	0	0	0.006	0.003
40[a]	Wind erosion	359	359	8.338	8.338
	Progress Materials:				
41	Transfer	1	0	0.064	0.031
41	Vehicular traffic	77	35	6.256	2.815
40	Wind erosion	1	1	0.200	0.200
	Ideal Basic:				
51	Transfer	4	2	0.064	0.031
51	Vehicular traffic	9	4	0.002	0.001
50	Wind Erosion	41	41	0.940	0.940
	CR 1/2 Coal Pile:				
62[a]	CR 1/2 Transfer operations	24	12	1.870	0.924
60,61[a]	Wind erosion	98	98	2.269	2.269
62[a]	Pile maintenance/traffic	82	37	13.942	6.274

[a]Not a PSD increment-consuming source.

Note: PM(TSP) = total suspended particulate matter. TPY = tons per year.
lb/day = pounds per day.

Progress Materials and Ideal Basic operations are PSD increment-consuming sources.

Particulate Matter
Air Quality Impact Assessment
Florida Power Corporation
Crystal River Plant

March 1989

Prepared for:
Florida Power Corporation
St. Petersburg, Florida

Prepared by:
KBN Engineering and Applied Sciences, Inc.
P.O. Box 14288
Gainesville, FL 32604

88047

2.3 FUGITIVE DUST EMISSION SOURCES

2.3.1 Batch/Continuous Drop Operations

A number of batch and continuous drop operations are associated with the coal handling facilities at Crystal River. The coal is brought in by barge or rail, unloaded and conveyed to storage piles, reclaimed from the pile, conveyed to a crusher, and then conveyed to the boiler houses. A schematic of the coal handling system at Crystal River is shown in Figure 2-1. The system was surveyed and reviewed with plant personnel to identify all PM emission sources. Based upon this review, it was determined that the worst

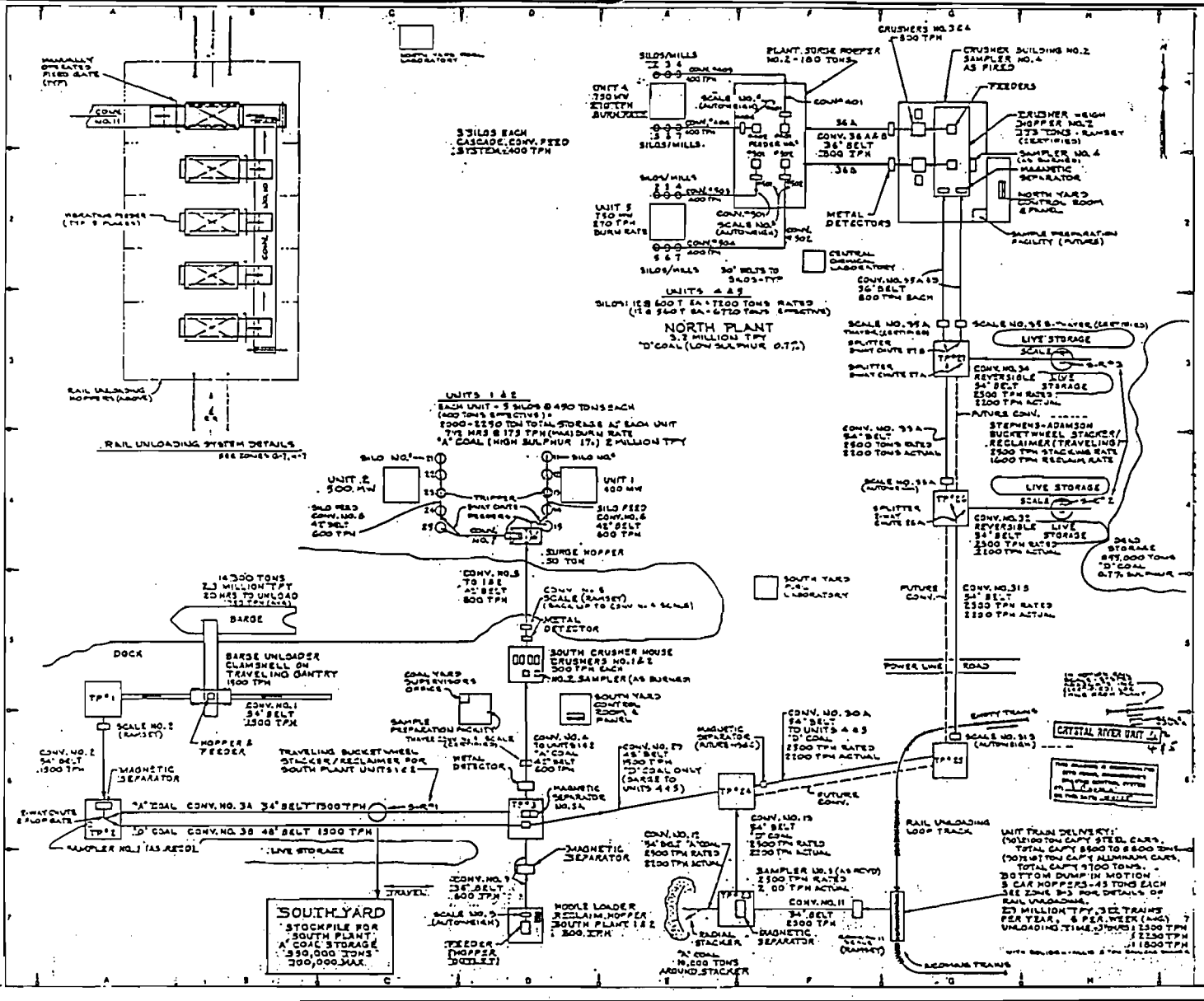

Figure 2-1. Schematic of FPC Crystal River Coal Handling System

KBN

case method of coal delivery was by barge for all units, since the coal would have to pass through the greatest number of transfer points. As a result, coal delivery by rail was not considered further.

In addition to coal handling, there are drop operations associated with ash handling activities, Progress Materials operations, and Ideal Basic's operations. These involve truck loading, conveyor transfer point, and truck dumping.

For continuous drop operations, the equation from AP-42, Section 11.2.3 (reference Appendix A) is appropriate for estimating PM emissions:

$$E = k\ (0.0018)\ \frac{(s/5)\ (U/5)\ (H/10)}{(M/2)^2}$$

where: E = emission factor (lb/ton)
k = particle size multiplier
s = material silt content (%)
U = mean wind speed (mph)
H = drop height (ft)
M = material moisture content (%)

For batch drop operations, the equation from AP-42, Section 11.2.3, is appropriate:

$$E = k\ (0.0018)\ \frac{(s/5)\ (U/5)\ (H/5)}{(M/2)^2\ (Y/6)^{0.33}}$$

where: E = emission factor (lb/ton)
k = particle size multiplier
s = material silt content (%)
U = mean wind speed (mph)
H = drop height (ft)
M = material moisture content (%)
Y = dumping device capacity (yd^3)

The batch/continuous drop operations associated with the Crystal River power plant are identified in Tables 1a through 1d and Tables 2a through 2d. Table 1a shows the annual emission factors for each operation associated with the coal handling operations, while the annual emissions are shown in Table 1b. Table 1a also shows the input parameters for each operation. The silt content of the coal was an average value (5%) taken from the literature (ERT, 1982), and the moisture content (7%) was based upon a two year record of data from the Crystal River power plant.

The emission factor for coal crushing was based upon published emission factors for crushing in the metallic mineral industry and crushing in the stone quarrying and processing industry (high moisture ore) (USEPA, 1986). This factor is 0.02 lb/ton of throughput (uncontrolled) for PM(TSP), and 0.01 lb/ton for PM10.

Nearly all transfer points in the coal handling system are enclosed and vented to baghouses for dust control. However, normally the baghouses are not operated. As a result, control efficiencies were based only on enclosures. Enclosures were estimated to result in 90% control efficiency (ERT, 1983; Dames & Moore, 1981) (refer to Appendix B).

Tables 1c and 1d present PM emission factors, control efficiencies and annual PM emissions for other drop operations at Crystal River, i.e., ash handling, Progress Materials and Ideal Basic. Information for Progress Materials was obtained from the permit application submitted for the Aardelite facility (KBN, 1987). Emissions for Ideal Basic operations were obtained from a previous study performed by KBN (refer to Appendix C).

Tables 2a through 2d present maximum 24-hour PM emission factors, control efficiencies and PM emissions for the batch/continuous drop operations at Crystal River. Wind speed for this purpose was 12 mph, which is exceeded approximately 18% of the time (based upon Tampa meteorological data; refer to Appendix D). Coal throughputs represent maximum 24-hour conditions (i.e., barge unloading at maximum rate, units firing at maximum rate).

Thruputs for ash were also based upon the maximum ash disposed in one day for the generating units. Maximum 24-hour emission rates for Progress Materials were obtained from their permit application, and for Ideal Basic, from the previous study performed (see Appendix C).

2.3.2 Wind Erosion

Fugitive dust emissions occur due to wind erosion of open storage piles. At the Crystal River plant, open storage piles consist of Units 1 and 2 coal storage piles, Units 4 and 5 coal storage piles, Units 1 and 2 bottom ash storage piles, and Units 4 and 5 ash storage area. Each of these storage piles consist of active and inactive areas. In addition, Progress Materials operation contains a product storage pile, as does Ideal Basic's limestone shipping operation.

To estimate fugitive particulate emissions due to wind erosion from the storage piles, the equation from AP-42, Section 11.2.3 was used (refer to Appendix A):

$$E = 1.7\ (s/1.5)\ [(365-p)/235)]\ (f/15)$$

where:

E = emission factor (lb/day/acre)
s = material silt content (%)
p = number of days per year on which rainfall exceeds 0.01 inches
f = percentage of time that wind speed exceeds 12 mph

Meteorological data from Tampa was used as the basis for the parameters p and f. Based upon a ten (10) year record, the wind speed in Tampa exceeds 12 mph 18% of the time. Based upon a twenty-nine (29) year of record, rainfall in Tampa exceeds 0.01 inches on 107 days per year (see Appendix D for supportive information).

Silt content of coal (5%) and ash (18%) were based upon values reported in the literature (ERT,1981). Based upon these parameters, uncontrolled PM emission factors for wind erosion were determined for the Crystal River sources. These emission factors are presented in Table 3. To estimate

maximum 24-hour emissions, the emission factors were corrected to account for a wind speed of greater than 12 mph occurring 100 percent of the time, and no precipitation. It is noted that emissions due to wind erosion will only occur when the wind speed exceeds 12 mph, as reflected in the emission factor equation.

The control efficiency employed currently at Crystal River consists of watering. However, in the future, if all ash generated at the site is disposed on-site (in the Units 4 and 4 ash disposal area), FPC will utilize a crusting agent on the inactive coal and inactive ash storage piles, and a chemical wetting agent on the active ash storage pile. This will act to control fugitive dust emissions from these activities. Control efficiencies for these control measures were derived from the literature, and are shown in Table 3. Supportive information is contained in Appendix B.

The controlled emission factors for wind erosion are shown in Table 3, for both the annual average and the maximum 24-hour emission case. The size of each storage pile is also shown, along with the resulting PM emission rate. It is again noted that wind erosion emissions only occur when the wind speed exceeds 12 mph.

2.3.3 Vehicular Traffic

Vehicular traffic over unpaved roads and in the storage pile areas is another potential source of PM emissions at Crystal River. In the coal pile areas, frontend loaders, scrapers and bulldozers are used to reclaim coal (Units 1 and 2 only) and maintain the storage piles. Ash produced from the generating units and disposed in the Units 4 and 5 ash disposal area will be transported by truck. A portion of the ash hall road will be unpaved. Progress Materials and Ideal Basic also have vehicular traffic associated with their operations.

For vehicular traffic over unpaved roads and vehicular traffic in storage pile areas, USEPA recommends that the equation for traffic over unpaved

roads (AP-42, Section 11.2.1) be used to estimate fugitive dust emissions. This equation is as follows:

$$E = k\ (5.9)\ (s/12)\ (S/30)\ (W/3)^{0.7}\ (w/4)^{0.5}\ [(365-p)/365]$$

where:

E = emission factor (lb/VMT), VMT= vehicle miles traveled
k = particle size multiplier
s = silt content of road surface material (%)
S = mean vehicle speed (mph)
W = mean vehicle weight (tons)
w = mean number of wheels
p = number of days per year on which rainfall exceeds 0.01 inches

Scrapers and bulldozers (tractor type) are unique vehicles, and the generalized vehicular traffic equation may not be representative. As a result, the literature was searched to find a more appropriate factor. AP-42, Section 8.24, Western Surface Coal Mining, contains emission factors developed specifically for these two type of vehicles (refer to Appendix A). As a result, these factors were selected for application to Crystal River. The equation for a scraper, operating in the travel mode, is given as:

$$E = 2.7 \times 10^{-5}\ s^{1.3}\ W^{2.4}$$

where,

s = material silt content (%)
W = mean vehicle weight (tons)
E = emission factor for TSP in lb/VMT

The equation for a bulldozer, bulldozing coal, is given as:

$$E = 78.4\ s^{1.2}\ /\ M^{1.3}$$

where,

s = material silt content (%)
M = material moisture content (%)
E = emission factor for TSP in lb/hr

Uncontrolled emission factors for vehicular traffic based upon these equations are shown in Table 4 (annual factors) and Table 5 (maximum 24-hour factors). The input parameters to the equations are also shown. In the coal pile areas, the vehicles will be travelling over coal, thus the material silt content reflects the silt content for coal. In the ash storage areas, the haul trucks will travel over an unpaved road (limestone), and the scrapers and frontend loaders will travel over the ash surface. Silt contents for these materials were obtained from the literature (refer to Appendix A).

Annual fugitive dust emissions due to vehicular traffic at Crystal River are presented in Table 6. Vehicle miles travelled and the basis for such is shown in the table. Vehicle miles for coal and ash transport are based upon the total tonnages moved, the capacity of the vehicle, and the haul distance. For pile maintenance in the coal and ash storage areas, vehicle miles or operating hours were based upon information supplied by FPC. This included total hours of operation for frontend loaders, scrapers and bulldozers. It was assumed that the vehicles were actually in motion 75% of the time during the reported operating hours.

The control method currently employed by FPC at Crystal River is watering. The control efficiency for this technique is estimated at 80%, based upon published literature (see Appendix B). For the Units 4 and 5 ash disposal area, if all ash is disposed on-site in the future, as this analysis assumes, FPC will employ a chemical wetting agent to suppress dust emissions due to vehicular traffic. This control technique is estimated to result in 95% control (see Appendix B). In addition, the ash haul road will be paved, except for the last 0.1 miles in the active ash disposal area. It was assumed that PM emissions from the paved road are negligible in comparison to other fugitive PM sources, and therefore were not considered in this analysis.

Resulting PM emissions due to vehicular traffic are shown in Table 6, for the annual average, and in Table 7 for the maximum 24-hour case.

2.3.4 Summary of Fugitive PM Emissions

A summary of fugitive PM emissions from the Crystal River power plant site is presented in Table 8. This table summarizes the emissions presented in Tables 1 through 7. The emissions are grouped by source activity, and are also identified by source number used in the dispersion modeling analysis. All the fugitive emissions were modeled as area sources (see Section 3.0 for further discussion).

Those fugitive sources which do not consume PSD increments are also identified in Table 8. Non-increment consuming sources consist of sources associated with CR Units 1 and 2, since these units are considered to be coal burning for PSD baseline purposes. All sources associated with CR Units 4 and 5 and with on-site ash disposal from any of the units are increment consuming sources. In addition, PM sources associated with the Progress Materials and Ideal Basic operations are PSD increment consuming sources.

Table 1a. Annual Fugitive Dust Emission Factors, Coal Handling--Batch/Continuous Drop Operations

SOURCE NO.	SOURCE	TYPE	S SILT CONTENT (%)	M MOISTURE CONTENT (%)	U WIND SPEED (MPH)	H DROP HEIGHT (FT)	Y DEVICE CAPACITY (YD**3)	E EMISSION FACTOR (LB/TON)
		ANNUAL EMISSION FACTORS						
CR 1/2 (COAL BY BARGE):								
B-1	Clamshell to hopper	Batch drop	5	7	8.8	10	25	0.00032
B-2	Hopper to belt	Continuous drop	5	7	8.8	3	-	0.00008
B-3	Belt to C1	Continuous drop	5	7	8.8	3	-	0.00008
TP1-1	C1 to C2	Continuous drop	5	7	8.8	15	-	0.00039
TP2-1	C2 to C3A	Continuous drop	5	7	8.8	45	-	0.00116
SR-1	C3A to hopper	Continuous drop	5	7	8.8	5	-	0.00013
SR-2	Hopper to belt	Continuous drop	5	7	8.8	5	-	0.00013
SR-3	Belt to belt	Continuous drop	5	7	8.8	5	-	0.00013
SR-4	Belt to coal pile	Continuous drop	5	7	8.8	10	-	0.00026
MR-1	FEL to reclaim pile	Batch drop	5	7	8.8	8	25	0.00026
MR-2	Pile to hopper	Continuous drop	5	7	8.8	5	-	0.00013
MR-3	Hopper to C9	Continuous drop	5	7	8.8	5	-	0.00013
TP-1	C9 to C4	Continuous drop	5	7	8.8	3	-	0.00008
SC-1	C4 to feeders	Continuous drop	5	7	8.8	15	-	0.00039
SC-2	Feeders to crusher	Continuous drop	5	7	8.8	10	-	0.00026
SC-3	Crusher	Crushing	-	-	-	-	-	0.02000
SC-4	Crusher to C5	Continuous drop	5	7	8.8	5	-	0.00013
CR 4/5 (COAL BY BARGE):								
B-1	Clamshell to hopper	Batch drop	5	7	8.8	10	25	0.00032
B-2	Hopper to belt	Continuous drop	5	7	8.8	3	-	0.00008
B-3	Belt to C1	Continuous drop	5	7	8.8	3	-	0.00008
TP1-1	C1 to C2	Continuous drop	5	7	8.8	15	-	0.00039
TP2-2	C2 to C3B	Continuous drop	5	7	8.8	45	-	0.00116
TP3-2	C3B to C29	Continuous drop	5	7	8.8	20	-	0.00052
TP24-1	C29 to C30A	Continuous drop	5	7	8.8	31	-	0.00080
TP25-1	C30A to C31B	Continuous drop	5	7	8.8	35	-	0.00091
TP26-1	C31B to C33A	Continuous drop	5	7	8.8	60	-	0.00155
TP27-1	C33A to C34	Continuous drop	5	7	8.8	30	-	0.00078
SR-11	C34 to hopper	Continuous drop	5	7	8.8	5	-	0.00013
SR-12	Hopper to belt	Continuous drop	5	7	8.8	5	-	0.00013
SR-13	Belt to Belt	Continuous drop	5	7	8.8	5	-	0.00013
SR-14	Belt to coal pile	Continuous drop	5	7	8.8	10	-	0.00026
SR-15	Bucket wheel to belt	Continuous drop	5	7	8.8	5	-	0.00013
SR-16	Belt to C34	Continuous drop	5	7	8.8	5	-	0.00013
TP27-2	C34 to C35A/B	Continuous drop	5	7	8.8	27	-	0.00070
NC-1	C35A/B to hopper	Continuous drop	5	7	8.8	45	-	0.00116
NC-2	Hopper to feeders	Continuous drop	5	7	8.8	5	-	0.00013
NC-3	Feeder to crusher	Continuous drop	5	7	8.8	5	-	0.00013
NC-4	Crusher	Crushing	-	-	-	-	-	0.02000
NC-5	Crusher to feeder	Continuous drop	5	7	8.8	5	-	0.00013
NC-6	Feeders to C36A/B	Continuous drop	5	7	8.8	5	-	0.00013

Table 1b. Annual Fugitive Dust Emissions, Coal Handling--Batch/Continuous Drop Operations

SOURCE NO.	SOURCE	UNCONTROLLED EMISSION FACTOR (LB/TON)	CONTROL METHOD	CONTROL EFFICIENCY (%)	CONTROLLED EMISSION FACTOR (LB/TON)	ANNUAL THRUPUT (TPY)	PARTICLE SIZE MULTIPLIER (K) TSP	PM10	ANNUAL EMISSIONS (TPY) TSP	PM10
			ANNUAL EMISSION ESTIMATES							
CR 1/2 (COAL BY BARGE):										
B-1	Clamshell to hopper	0.00032	-	0	0.000323	2,000,000	0.73	0.36	0.236	0.116
B-2	Hopper to belt	0.00008	Enclosure	90	0.000008	2,000,000	0.77	0.37	0.006	0.003
B-3	Belt to C1	0.00008	Enclosure	90	0.000008	2,000,000	0.77	0.37	0.006	0.003
TP1-1	C1 to C2	0.00039	Enclosure	90	0.000039	2,000,000	0.77	0.37	0.030	0.014
TP2-1	C2 to C3A	0.00116	Enclosure	90	0.000116	2,000,000	0.77	0.37	0.090	0.043
SR-1	C3A to hopper	0.00013	Enclosure	90	0.000013	2,000,000	0.77	0.37	0.010	0.005
SR-2	Hopper to belt	0.00013	Enclosure	90	0.000013	2,000,000	0.77	0.37	0.010	0.005
SR-3	Belt to belt	0.00013	Enclosure	90	0.000013	2,000,000	0.77	0.37	0.010	0.005
SR-4	Belt to coal pile	0.00026	-	0	0.000259	2,000,000	0.77	0.37	0.199	0.096
MR-1	FEL to reclaim pile	0.00026	-	0	0.000258	2,000,000	0.73	0.36	0.189	0.093
MR-2	Pile to hopper	0.00013	Enclosure	90	0.000013	2,000,000	0.77	0.37	0.010	0.005
MR-3	Hopper to C9	0.00013	Enclosure	90	0.000013	2,000,000	0.77	0.37	0.010	0.005
TP-1	C9 to C4	0.00008	Enclosure	90	0.000008	2,000,000	0.77	0.37	0.006	0.003
SC-1	C4 to feeders	0.00039	Enclosure	90	0.000039	2,000,000	0.77	0.37	0.030	0.014
SC-2	Feeders to crusher	0.00026	Enclosure	90	0.000026	2,000,000	0.77	0.37	0.020	0.010
SC-3	Crusher	0.02000	Enclosures	95	0.001000	2,000,000	1.00	0.50	1.000	0.500
SC-4	Crusher to C5	0.00013	Enclosure	90	0.000013	2,000,000	0.77	0.37	0.010	0.005
								TOTALS =	1.870	0.924
CR 4/5 (COAL BY BARGE):										
B-1	Clamshell to hopper	0.00032	-	0	0.000323	3,200,000	0.73	0.36	0.377	0.186
B-2	Hopper to belt	0.00008	Enclosure	90	0.000008	3,200,000	0.77	0.37	0.010	0.005
B-3	Belt to C1	0.00008	Enclosure	90	0.000008	3,200,000	0.77	0.37	0.010	0.005
TP1-1	C1 to C2	0.00039	Enclosure	90	0.000039	3,200,000	0.77	0.37	0.048	0.023
TP2-2	C2 to C3B	0.00116	Enclosure	90	0.000116	3,200,000	0.77	0.37	0.143	0.069
TP3-2	C3B to C29	0.00052	Enclosure	90	0.000052	3,200,000	0.77	0.37	0.064	0.031
TP24-1	C29 to C30A	0.00080	Enclosure	90	0.000080	3,200,000	0.77	0.37	0.099	0.047
TP25-1	C30A to C31B	0.00091	Enclosure	90	0.000091	3,200,000	0.77	0.37	0.112	0.054
TP26-1	C31B to C33A	0.00155	Enclosure	90	0.000155	3,200,000	0.77	0.37	0.191	0.092
TP27-1	C33A to C34	0.00078	Enclosure	90	0.000078	3,200,000	0.77	0.37	0.096	0.046
SR-11	C34 to hopper	0.00013	Enclosure	90	0.000013	3,200,000	0.77	0.37	0.016	0.008
SR-12	Hopper to belt	0.00013	Enclosure	90	0.000013	3,200,000	0.77	0.37	0.016	0.008
SR-13	Belt to Belt	0.00013	Enclosure	90	0.000013	3,200,000	0.77	0.37	0.016	0.008
SR-14	Belt to coal pile	0.00026	-	0	0.000259	3,200,000	0.77	0.37	0.319	0.153
SR-15	Bucket wheel to belt	0.00013	Enclosure	90	0.000013	3,200,000	0.77	0.37	0.016	0.008
SR-16	Belt to C34	0.00013	Enclosure	90	0.000013	3,200,000	0.77	0.37	0.016	0.008
TP27-2	C34 to C35A/B	0.00070	Enclosure	90	0.000070	3,200,000	0.77	0.37	0.086	0.041
NC-1	C35A/B to hopper	0.00116	Enclosure	90	0.000116	3,200,000	0.77	0.37	0.143	0.069
NC-2	Hopper to feeders	0.00013	Enclosure	90	0.000013	3,200,000	0.77	0.37	0.016	0.008
NC-3	Feeder to crusher	0.00013	Enclosure	90	0.000013	3,200,000	0.77	0.37	0.016	0.008
NC-4	Crusher	0.02000	Enclosures	95	0.001000	3,200,000	1.00	0.50	1.600	0.800
NC-5	Crusher to feeder	0.00013	Enclosure	90	0.000013	3,200,000	0.77	0.37	0.016	0.008
NC-6	Feeders to C36A/B	0.00013	Enclosure	90	0.000013	3,200,000	0.77	0.37	0.016	0.008
								TOTALS =	3.440	1.689

Table 1c. Annual Fugitive Dust Emission Factors, Other Batch/Continuous Drop Operations

SOURCE NO.	SOURCE	TYPE	s SILT CONTENT (%)	M MOISTURE CONTENT (%)	U WIND SPEED (MPH)	H DROP HEIGHT (FT)	Y DEVICE CAPACITY (YD**3)	E EMISSION FACTOR (LB/TON)
		ANNUAL EMISSION FACTORS						
CR 1/2 FLY ASH HANDLING:								
	Fly ash silo to truck	Continuous drop	18	20	8.8	5	-	0.00006
	Truck dump at ash pile	Batch drop	18	20	8.8	8	27	0.00011
CR 1/2 BOTTOM ASH HANDLING:								
	Backhoe to truck	Batch drop	18	20	8.8	5	5	0.00012
	Truck dump at ash pile	Batch drop	18	20	8.8	8	27	0.00011
CR 4/5 FLY ASH HANDLING:								
	Fly ash silo to truck	Continuous drop	18	20	8.8	5	-	0.00006
	Truck dump at ash pile	Batch drop	18	20	8.8	8	27	0.00011
CR 4/5 BOTTOM ASH HANDLING:								
	Fly ash silo to truck	Continuous drop	18	20	8.8	5	-	0.00006
	Truck dump at ash pile	Batch drop	18	20	8.8	8	27	0.00011
PROGRESS MATERIALS:								
	Pile Loading	Continuous drop	Refer to permit application					0.00005
	Loadout Hopper	Batch drop	Refer to permit application					0.00037
	Hopper-to-belt	Continuous drop	Refer to permit application					0.000025
	Truck Loading	Continuous drop	Refer to permit application					0.00005
IDEAL BASIC:								
	Apron feeder	Continuous drop	Refer to separate report					0.000002
	Barge pile loading	Continuous drop	Refer to separate report					0.000029
	Barge loading	Continuous drop	Refer to separate report					0.000057

Table 1d. Annual Fugitive Dust Emissions, Other Batch/Continuous Drop Operations

SOURCE NO.	SOURCE	UNCONTROLLED EMISSION FACTOR (LB/TON)	CONTROL METHOD	CONTROL EFFICIENCY (%)	CONTROLLED EMISSION FACTOR (LB/TON)	ANNUAL THRUPUT (TPY)	PARTICLE SIZE MULTIPLIER (K) TSP	PM10	ANNUAL EMISSIONS (TPY) TSP	PM10
		ANNUAL EMISSION ESTIMATES								
CR 1/2 ASH HANDLING:										
	Fly ash silo to truck	0.00006	-	0	0.000057	175,000	0.77	0.37	0.0038	0.0018
	Truck dump at ash pile	0.00011	-	0	0.000111	175,000	0.73	0.36	0.0071	0.0035
CR 1/2 BOTTOM ASH HANDLING:										
	Backhoe to truck	0.00012	-	0	0.000121	50,000	0.73	0.36	0.0022	0.0011
	Truck dump at ash pile	0.00011	-	0	0.000111	50,000	0.73	0.36	0.0020	0.0010
CR 4/5 FLY ASH HANDLING:										
	Fly ash silo to truck	0.00006	Enclosure	90	0.000006	262,500	0.77	0.37	0.0006	0.0003
	Truck dump at ash pile	0.00011	-	0	0.000111	262,500	0.73	0.36	0.0106	0.0052
CR 4/5 BOTTOM ASH HANDLING:										
	Fly ash silo to truck	0.00006	Enclosure	90	0.000006	75,000	0.77	0.37	0.0002	0.0001
	Truck dump at ash pile	0.00011	-	0	0.000111	75,000	0.73	0.36	0.0030	0.0015
PROGRESS MATERIALS:										
	Pile Loading	0.00005	-	0	0.000050	350,400	0.77	0.37	0.0067	0.0032
	Loadout Hopper	0.00037	-	0	0.000370	350,400	0.73	0.36	0.0473	0.0233
	Hopper-to-belt	0.00003	-	0	0.000025	350,400	0.77	0.37	0.0034	0.0016
	Truck Loading	0.00005	-	0	0.000050	350,400	0.77	0.37	0.0067	0.0032
								TOTALS =	0.064	0.031
IDEAL BASIC:										
	Apron feeder	0.00000	-	0	0.000002	1,900,000	0.77	0.37	0.0015	0.0007
	Barge pile loading	0.00003	-	0	0.000029	1,900,000	0.77	0.37	0.0212	0.0102
	Barge loading	0.00006	-	0	0.000057	1,900,000	0.77	0.37	0.0417	0.0200
								TOTALS =	0.064	0.031

Table 2a. Maximum 24-Hour Fugitive Dust Emission Factors, Coal Handling--Batch/Continuous Drop Operations

SOURCE NO.	SOURCE	TYPE	s SILT CONTENT (%)	M MOISTURE CONTENT (%)	U WIND SPEED (MPH)	H DROP HEIGHT (FT)	Y DEVICE CAPACITY (YD**3)	E EMISSION FACTOR (LB/TON)
		MAXIMUM 24-HOUR EMISSION FACTORS						
CR 1/2 (COAL BY BARGE):								
B-1	Clamshell to hopper	Batch drop	5	7	12	10	25	0.00044
B-2	Hopper to belt	Continuous drop	5	7	12	3	-	0.00011
B-3	Belt to C1	Continuous drop	5	7	12	3	-	0.00011
TP1-1	C1 to C2	Continuous drop	5	7	12	15	-	0.00053
TP2-1	C2 to C3A	Continuous drop	5	7	12	45	-	0.00159
SR-1	C3A to hopper	Continuous drop	5	7	12	5	-	0.00018
SR-2	Hopper to belt	Continuous drop	5	7	12	5	-	0.00018
SR-3	Belt to belt	Continuous drop	5	7	12	5	-	0.00018
SR-4	Belt to coal pile	Continuous drop	5	7	12	10	-	0.00035
MR-1	FEL to reclaim pile	Batch drop	5	7	12	8	25	0.00035
MR-2	Pile to hopper	Continuous drop	5	7	12	5	-	0.00018
MR-3	Hopper to C9	Continuous drop	5	7	12	5	-	0.00018
TP-1	C9 to C4	Continuous drop	5	7	12	3	-	0.00011
SC-1	C4 to feeders	Continuous drop	5	7	12	15	-	0.00053
SC-2	Feeders to crusher	Continuous drop	5	7	12	10	-	0.00035
SC-3	Crusher	Crushing	-	-	-	-	-	0.02000
SC-4	Crusher to C5	Continuous drop	5	7	12	5	-	0.00018
CR 4/5 (COAL BY BARGE):								
B-1	Clamshell to hopper	Batch drop	5	7	12	10	25	0.00044
B-2	Hopper to belt	Continuous drop	5	7	12	3	-	0.00011
B-3	Belt to C1	Continuous drop	5	7	12	3	-	0.00011
TP1-1	C1 to C2	Continuous drop	5	7	12	15	-	0.00053
TP2-2	C2 to C3B	Continuous drop	5	7	12	45	-	0.00159
TP3-2	C3B to C29	Continuous drop	5	7	12	20	-	0.00071
TP24-1	C29 to C30A	Continuous drop	5	7	12	31	-	0.00109
TP25-1	C30A to C31B	Continuous drop	5	7	12	35	-	0.00123
TP26-1	C31B to C33A	Continuous drop	5	7	12	60	-	0.00212
TP27-1	C33A to C34	Continuous drop	5	7	12	30	-	0.00106
SR-11	C34 to hopper	Continuous drop	5	7	12	5	-	0.00018
SR-12	Hopper to belt	Continuous drop	5	7	12	5	-	0.00018
SR-13	Belt to Belt	Continuous drop	5	7	12	5	-	0.00018
SR-14	Belt to coal pile	Continuous drop	5	7	12	10	-	0.00035
SR-15	Bucket wheel to belt	Continuous drop	5	7	12	5	-	0.00018
SR-16	Belt to C34	Continuous drop	5	7	12	5	-	0.00018
TP27-2	C34 to C35A/B	Continuous drop	5	7	12	27	-	0.00095
NC-1	C35A/B to hopper	Continuous drop	5	7	12	45	-	0.00159
NC-2	Hopper to feeders	Continuous drop	5	7	12	5	-	0.00018
NC-3	Feeder to crusher	Continuous drop	5	7	12	5	-	0.00018
NC-4	Crusher	Crushing	-	-	-	-	-	0.02000
NC-5	Crusher to feeder	Continuous drop	5	7	12	5	-	0.00018
NC-6	Feeders to C36A/B	Continuous drop	5	7	12	5	-	0.00018

Table 2b. Maximum 24-Hour Fugitive Dust Emissions, Coal Handling--Batch/Continuous Drop Operations

SOURCE NO.	SOURCE	UNCONTROLLED EMISSION FACTOR (LB/TON)	CONTROL METHOD	CONTROL EFFICIENCY (%)	CONTROLLED EMISSION FACTOR (LB/TON)	MAXIMUM 24-HOUR THRUPUT (TONS)	PARTICLE SIZE MULTIPLIER (K) TSP	PM10	MAXIMUM 24-HR EMISSIONS (LB/DAY TSP	PM10
			MAXIMUM 24-HOUR EMISSION ESTIMATES							
CR 1/2 (COAL BY BARGE):										
B-1	Clamshell to hopper	0.00044	-	0	0.000440	15,000	0.73	0.36	4.82	2.38
B-2	Hopper to belt	0.00011	Enclosure	90	0.000011	15,000	0.77	0.37	0.12	0.06
B-3	Belt to C1	0.00011	Enclosure	90	0.000011	15,000	0.77	0.37	0.12	0.06
TP1-1	C1 to C2	0.00053	Enclosure	90	0.000053	15,000	0.77	0.37	0.61	0.29
TP2-1	C2 to C3A	0.00159	Enclosure	90	0.000159	15,000	0.77	0.37	1.83	0.88
SR-1	C3A to hopper	0.00018	Enclosure	90	0.000018	15,000	0.77	0.37	0.20	0.10
SR-2	Hopper to belt	0.00018	Enclosure	90	0.000018	15,000	0.77	0.37	0.20	0.10
SR-3	Belt to belt	0.00018	Enclosure	90	0.000018	15,000	0.77	0.37	0.20	0.10
SR-4	Belt to coal pile	0.00035	-	0	0.000353	15,000	0.77	0.37	4.07	1.96
MR-1	FEL to reclaim pile	0.00035	-	0	0.000352	8,400	0.73	0.36	2.16	1.07
MR-2	Pile to hopper	0.00018	Enclosure	90	0.000018	8,400	0.77	0.37	0.11	0.05
MR-3	Hopper to C9	0.00018	Enclosure	90	0.000018	8,400	0.77	0.37	0.11	0.05
TP-1	C9 to C4	0.00011	Enclosure	90	0.000011	8,400	0.77	0.37	0.07	0.03
SC-1	C4 to feeders	0.00053	Enclosure	90	0.000053	8,400	0.77	0.37	0.34	0.16
SC-2	Feeders to crusher	0.00035	Enclosure	90	0.000035	8,400	0.77	0.37	0.23	0.11
SC-3	Crusher	0.02000	Enclosures	95	0.001000	8,400	1.00	0.50	8.40	4.20
SC-4	Crusher to C5	0.00018	Enclosure	90	0.000018	8,400	0.77	0.37	0.11	0.05
								TOTALS =	24	12
CR 4/5 (COAL BY BARGE):										
B-1	Clamshell to hopper	0.00044	-	0	0.000440	15,000	0.73	0.36	4.82	2.38
B-2	Hopper to belt	0.00011	Enclosure	90	0.000011	15,000	0.77	0.37	0.12	0.06
B-3	Belt to C1	0.00011	Enclosure	90	0.000011	15,000	0.77	0.37	0.12	0.06
TP1-1	C1 to C2	0.00053	Enclosure	90	0.000053	15,000	0.77	0.37	0.61	0.29
TP2-2	C2 to C3B	0.00159	Enclosure	90	0.000159	15,000	0.77	0.37	1.83	0.88
TP3-2	C3B to C29	0.00071	Enclosure	90	0.000071	15,000	0.77	0.37	0.81	0.39
TP24-1	C29 to C30A	0.00109	Enclosure	90	0.000109	15,000	0.77	0.37	1.26	0.61
TP25-1	C30A to C31B	0.00123	Enclosure	90	0.000123	15,000	0.77	0.37	1.43	0.69
TP26-1	C31B to C33A	0.00212	Enclosure	90	0.000212	15,000	0.77	0.37	2.44	1.17
TP27-1	C33A to C34	0.00106	Enclosure	90	0.000106	15,000	0.77	0.37	1.22	0.59
SR-11	C34 to hopper	0.00018	Enclosure	90	0.000018	15,000	0.77	0.37	0.20	0.10
SR-12	Hopper to belt	0.00018	Enclosure	90	0.000018	15,000	0.77	0.37	0.20	0.10
SR-13	Belt to Belt	0.00018	Enclosure	90	0.000018	15,000	0.77	0.37	0.20	0.10
SR-14	Belt to coal pile	0.00035	-	0	0.000353	15,000	0.77	0.37	4.07	1.96
SR-15	Bucket wheel to belt	0.00018	Enclosure	90	0.000018	13,000	0.77	0.37	0.18	0.08
SR-16	Belt to C34	0.00018	Enclosure	90	0.000018	13,000	0.77	0.37	0.18	0.08
TP27-2	C34 to C35A/B	0.00095	Enclosure	90	0.000095	13,000	0.77	0.37	0.95	0.46
NC-1	C35A/B to hopper	0.00159	Enclosure	90	0.000159	13,000	0.77	0.37	1.59	0.76
NC-2	Hopper to feeders	0.00018	Enclosure	90	0.000018	13,000	0.77	0.37	0.18	0.08
NC-3	Feeder to crusher	0.00018	Enclosure	90	0.000018	13,000	0.77	0.37	0.18	0.08
NC-4	Crusher	0.02000	Enclosures	95	0.001000	13,000	1.00	0.50	13.00	6.50
NC-5	Crusher to feeder	0.00018	Enclosure	90	0.000018	13,000	0.77	0.37	0.18	0.08
NC-6	Feeders to C36A/B	0.00018	Enclosure	90	0.000018	13,000	0.77	0.37	0.18	0.08
								TOTALS =	36	18

Table 2c. Maximum 24-Hr Fugitive Dust Emission Factors, Other Batch/Continuous Drop Operations

SOURCE NO.	SOURCE	TYPE	s SILT CONTENT (%)	M MOISTURE CONTENT (%)	U WIND SPEED (MPH)	H DROP HEIGHT (FT)	Y DEVICE CAPACITY (YD**3)	E EMISSION FACTOR (LB/TON)
		MAXIMUM 24-HR EMISSION FACTORS						
CR 1/2 FLY ASH HANDLING:								
	Fly ash silo to truck	Continuous drop	18	20	12	5	-	0.00008
	Truck dump at ash pile	Batch drop	18	20	12	8	27	0.00015
CR 1/2 BOTTOM ASH HANDLING:								
	Backhoe to truck	Batch drop	18	20	12	5	5	0.00017
	Truck dump at ash pile	Batch drop	18	20	12	8	27	0.00015
CR 4/5 FLY ASH HANDLING:								
	Fly ash silo to truck	Continuous drop	18	20	12	5	-	0.00008
	Truck dump at ash pile	Batch drop	18	20	12	8	27	0.00015
CR 4/5 BOTTOM ASH HANDLING:								
	Fly ash silo to truck	Continuous drop	18	20	12	5	-	0.00008
	Truck dump at ash pile	Batch drop	18	20	12	8	27	0.00015
PROGRESS MATERIALS:								
	Pile Loading	Continuous drop	Refer to permit application					0.00005
	Loadout Hopper	Batch drop	Refer to permit application					0.00037
	Hopper-to-belt	Continuous drop	Refer to permit application					0.000025
	Truck Loading	Continuous drop	Refer to permit application					0.00005
IDEAL BASIC:								
	Apron feeder	Continuous drop	Refer to separate report					0.000012
	Barge pile loading	Continuous drop	Refer to separate report					0.000152
	Barge loading	Continuous drop	Refer to separate report					0.000304

Table 2d. Maximum 24-Hr Fugitive Dust Emissions, Other Batch/Continuous Drop Operations

SOURCE NO.	SOURCE	UNCONTROLLED EMISSION FACTOR (LB/TON)	CONTROL METHOD	CONTROL EFFICIENCY (%)	CONTROLLED EMISSION FACTOR (LB/TON)	MAXIMUM 24-HR THRUPUT (TPD)	PARTICLE SIZE MULTIPLIER (K) TSP	PM10	MAXIMUM 24-HR EMISS. (LB/DAY) TSP	PM10
			MAXIMUM 24-HR EMISSION ESTIMATES							
CR 1/2 ASH HANDLING:										
	Fly ash silo to truck	0.00008	-	0	0.000078	500	0.77	0.37	0.03	0.01
	Truck dump at ash pile	0.00015	-	0	0.000151	500	0.73	0.36	0.06	0.03
CR 1/2 BOTTOM ASH HANDLING:										
	Backhoe to truck	0.00017	-	0	0.000165	140	0.73	0.36	0.02	0.01
	Truck dump at ash pile	0.00015	-	0	0.000151	140	0.73	0.36	0.02	0.01
CR 4/5 FLY ASH HANDLING:										
	Fly ash silo to truck	0.00008	Enclosure	90	0.000008	720	0.77	0.37	0.00	0.00
	Truck dump at ash pile	0.00015	-	0	0.000151	720	0.73	0.36	0.08	0.04
CR 4/5 BOTTOM ASH HANDLING:										
	Fly ash silo to truck	0.00008	Enclosure	90	0.000008	220	0.77	0.37	0.00	0.00
	Truck dump at ash pile	0.00015	-	0	0.000151	220	0.73	0.36	0.02	0.01
PROGRESS MATERIALS:										
	Pile Loading	0.00005	-	0	0.000050	2,100	0.77	0.37	0.08	0.04
	Loadout Hopper	0.00037	-	0	0.000370	2,100	0.73	0.36	0.57	0.28
	Hopper-to-belt	0.00003	-	0	0.000025	2,100	0.77	0.37	0.04	0.02
	Truck Loading	0.00005	-	0	0.000050	2,100	0.77	0.37	0.08	0.04
								TOTALS =	1	0
IDEAL BASIC:										
	Apron feeder	0.00001	-	0	0.000012	7,300	0.77	0.37	0.07	0.03
	Barge pile loading	0.00015	-	0	0.000152	7,300	0.77	0.37	0.85	0.41
	Barge loading	0.00030	-	0	0.000304	15,000	0.77	0.37	3.51	1.69
								TOTALS =	4	2

Table 3. Fugitive Dust Emissions Due To Wind Erosion, Crystal River Power Plant

SOURCE NO.	SOURCE	s SILT CONTENT (%)	p DAYS OF PRECIP. (days/yr)	f FREQ. OF WINDS >12 mph	E EMISSION FACTOR (LB/ACRE-DAY)	CONTROL METHOD	CONTROL EFFICIENCY (%)	CONTROLLED EMISSION FACTOR (LB/ACRE-DAY)	SIZE OF PILE (ACRES)	TSP EMISSIONS
		ANNNUAL EMISSION ESTIMATES								
CR 1/2:										
CP-1	Active coal pile	5	107	18	7.5	Watering	80	1.5	5.1	1.390 TPY
CP-2	Inactive coal pile	5	107	18	7.5	Crusting agent	95	0.4	12.9	0.879 TPY
AP-1	Bottom ash storage									
	-Active	18	107	18	26.9	Watering	80	5.4	1.0	0.981 TPY
	-Inactive	18	107	18	26.9	Crusting agent	95	1.3	30.0	7.357 TPY
CR 4/5:										
CP-3	Active coal pile	5	107	18	7.5	Watering	80	1.5	11.0	2.997 TPY
CP-4	Inactive coal pile	5	107	18	7.5	Crusting agent	95	0.4	11.5	0.783 TPY
AP-2	Ash storage (inactive)	18	107	18	26.9	Crusting agent	95	1.3	7.5	1.839 TPY
AP-3	Ash storage (active)	18	107	18	26.9	Chem. wetting	90	2.7	2.5	1.226 TPY
PROGRESS MATERIALS:										
	Stockpile	Refer to permit application								0.200 TPY
IDEAL BASIC:										
IB-11	Limestone storage (Barge)	3	107	18	4.5	-	0	4.5	1.15	0.940 TPY
									TOTALS =	18.593 TPY
		MAXIMUM 24-HOUR EMISSION ESTIMATES								
CR 1/2:										
CP-1	Active coal pile	5	0	100	58.7	Watering	80	11.7	5.1	59.8 lb/day
CP-2	Inactive coal pile	5	0	100	58.7	Crusting agent	95	2.9	12.9	37.8 lb/day
AP-1	Bottom ash storage									
	-Active	18	0	100	211.2	Watering	80	42.2	1	42.2 lb/day
	-Inactive	18	0	100	211.2	Crusting agent	95	10.6	30	316.9 lb/day
CR 4/5:										
CP-3	Active coal pile	5	0	100	58.7	Watering	80	11.7	11	129.1 lb/day
CP-4	Inactive coal pile	5	0	100	58.7	Crusting agent	95	2.9	11.5	33.7 lb/day
AP-2	Ash storage (inactive)	18	0	100	211.2	Crusting agent	95	10.6	7.5	79.2 lb/day
AP-3	Ash storage (active)	18	0	100	211.2	Chem. wetting	90	21.1	2.5	52.8 lb/day
PROGRESS MATERIALS: Stockpile		Refer to permit application								1.1 lb/day
IDEAL BASIC:										
IB-11	Limestone storage (Barge)	3	0	100	35.2	-	0	35.2	1.15	40.5 lb/day
									TOTALS =	793 lb/day

Table 4. Annual Fugitive Dust Emission Factors For Vehicular Traffic, Crystal River Power Plant

SOURCE NO.	SOURCE	SURFACE TYPE	s SILT CONTENT (%)	MEAN VEHICLE SPEED (MPH)	VEHICLE WEIGHT (TONS)	NUMBER OF WHEELS	p DAYS OF PRECIP. (days/yr)	E EMISSION FACTOR (LB/VMT)
			ANNUAL EMISSION FACTORS					
CR 1/2 COAL:								
MR-4	FEL Traffic	Coal	5	10	27	4	107	2.7
			5	10	9	4	107	1.2
	Pile Maintenance:							
CP-3	Frontend loader	Coal	5	10	27	4	107	2.7
			5	10	9	4	107	1.2
CP-4	Scraper	Coal	5	10	40	-	107	1.5
CP-5	Bulldozer	Coal	5	-	-	-	-	43.1 lb/hr
CR 4/5 COAL:								
	Pile maintenance:							
CP-13	Frontend loader	Coal	5	10	27	4	107	2.7
			5	10	9	4	107	1.2
CP-14	Scraper	Coal	5	10	40	-	107	1.5
CP-15	Bulldozer	Coal	5	-	-	-	107	43.1 lb/hr
ASH HANDLING:								
AP-	CR 1/2 Bottom ash	Limestone	10	20	33	12	107	21.5
			10	20	13	12	107	11.2
AP-	CR 1/2 Fly ash	Limestone	10	20	33	12	107	21.5
			10	20	13	12	107	11.2
AP-	CR 4/5 Bottom ash	Limestone	10	20	33	12	107	21.5
			10	20	13	12	107	11.2
AP-	CR 4/5 Fly ash	Limestone	10	20	33	12	107	21.5
			10	20	13	12	107	11.2
AP-	Scraper	Fly ash	18	10	40	6	107	15.7
AP-	FEL (maint.)	Fly ash	18	10	27	4	107	9.7
			18	10	9	4	107	4.5
PROGRESS MATERIALS:								
PM-	FEL Traffic	Aardelite	15	5	21.4	4	107	3.4
			15	5	18.6	4	107	3.1
IDEAL BASIC:								
IB-	FEL Traffic (barge)	Limestone	10	5	64.9	4	107	5.0
			10	5	46.5	4	107	3.9

Table 5. Maximum 24-Hour Fugitive Dust Emission Factors For Vehicular Traffic, Crystal River Power Plant

SOURCE NO.	SOURCE	SURFACE TYPE	s SILT CONTENT (%)	MEAN VEHICLE SPEED (MPH)	VEHICLE WEIGHT (TONS)	NUMBER OF WHEELS	p DAYS OF PRECIP. (days/yr)	E EMISSION FACTOR (LB/VMT)
			MAXIMUM 24-HOUR EMISSION FACTORS					
CR 1/2 COAL:								
MR-4	FEL Traffic	Coal	5	10	27	4	0	3.8
			5	10	9	4	0	1.8
	Pile Maintenance:							
CP-3	Frontend loader	Coal	5	10	27	4	0	3.8
			5	10	9	4	0	1.8
CP-4	Scraper	Coal	5	10	40	-	0	1.5
CP-5	Bulldozer	Coal	5	-	-	-	0	43.1 lb/hr
CR 4/5 COAL:								
	Pile maintenance:							
CP-13	Frontend loader	Coal	5	10	27	4	0	3.8
			5	10	9	4	0	1.8
CP-14	Scraper	Coal	5	10	40	-	0	1.5
CP-15	Bulldozer	Coal	5	-	-	-	0	43.1 lb/hr
ASH HANDLING:								
AP-	CR 1/2 Bottom ash	Limestone	10	20	33	12	0	30.4
			10	20	13	12	0	15.8
AP-	CR 1/2 Fly ash	Limestone	10	20	33	12	0	30.4
			10	20	13	12	0	15.8
AP-	CR 4/5 Bottom ash	Limestone	10	20	33	12	0	30.4
			10	20	13	12	0	15.8
AP-	CR 4/5 Fly ash	Limestone	10	20	33	12	0	30.4
			10	20	13	12	0	15.8
AP-	Scraper	Fly ash	18	10	40	6	0	22.1
AP-	FEL (maint.)	Fly ash	18	10	27	4	0	13.7
			18	10	9	4	0	6.4
PROGRESS MATERIALS:								
PM-	FEL Traffic	Aardelite	15	5	21.4	4	0	4.9
			15	5	18.6	4	0	4.4
IDEAL BASIC:								
IB-	FEL Traffic (barge)	Limestone	10	5	64.9	4	0	7.0
			10	5	46.5	4	0	5.6

Table 6. Annual Fugitive Dust Emissions From Vehicular Traffic, Crystal River Power Plant

SOURCE NO.	SOURCE	BASIS FOR VEHICLE MILES TRAVELED	VEHICLE MILES TRAVELED (VMT/YR)	E EMISSION FACTOR (LB/VMT)	CONTROL METHOD	CONTROL EFFICIENCY (%)	CONTROLLED EMISSION FACTOR (LB/VMT)	ANNUAL EMISSIONS (TPY)* TSP	PM10
CR 1/2 COAL:									
MR-4	FEL Traffic- Loaded	2,000,000 TPY; 20 tons; 0.1 mi	10,000	2.7	Watering	80	0.54	2.160	0.972
	- Empty		10,000	1.2	Watering	80	0.24	0.960	0.432
	Pile Maintenance:								
CP-3	Frontend loader	1,185 hr/yr; 10 mph	5,925	2.7	Watering	80	0.54	1.280	0.576
			5,925	1.2	Watering	80	0.24	0.569	0.256
CP-4	Scraper	1,260 hr/yr; 10 mph	12,600	1.5	Watering	80	0.3	1.512	0.680
CP-5	Bulldozer	2,164 hr/yr	-	43.1 +	Watering	80	8.62 +	7.461	3.358
							TOTALS =	13.942	6.274
CR 4/5 COAL:									
	Pile maintenance:								
CP-13	Frontend loader	1,890 hr/yr; 10 mph	9,450	2.7	Watering	80	0.54	2.041	0.919
			9,450	1.2	Watering	80	0.24	0.907	0.408
CP-14	Scraper	2,018 hr/yr; 10 mph	20,180	1.5	Watering	80	0.3	2.422	1.090
CP-15	Bulldozer	3,461 hr/yr	-	43.1 +	Watering	80	8.62 +	11.934	5.370
							TOTALS =	17.304	7.787
ASH HANDLING:									
AP-	CR 1/2 Bottom ash								
	- Loaded	50,000 TPY; 20 tons; 0.1 mi	250	21.5	Chem. stabiliz.	95	1.075	0.108	0.048
	- Empty		250	11.2	Chem. stabiliz.	95	0.56	0.056	0.025
AP-	CR 1/2 Fly ash								
	- Loaded	175,000 TPY; 20 tons; 0.1 mi	875	21.5	Chem. stabiliz.	95	1.075	0.376	0.169
	- Empty		875	11.2	Chem. stabiliz.	95	0.56	0.196	0.088
AP-	CR 4/5 Bottom ash								
	- Loaded	75,000 TPY; 20 tons; 0.1 mi	375	21.5	Chem. stabiliz.	95	1.075	0.161	0.073
	- Empty		375	11.2	Chem. stabiliz.	95	0.56	0.084	0.038
AP-	CR 4/5 Fly ash								
	- Loaded	262,500 TPY; 20 tons; 0.1 mi	1,313	21.5	Chem. stabiliz.	95	1.075	0.565	0.254
	- Empty		1,313	11.2	Chem. stabiliz.	95	0.56	0.294	0.132
AP-	Scraper	430 hr/yr; 10 mph	4,300	9.7	Chem. stabiliz.	95	0.485	0.834	0.375
AP-	FEL (maint.)	400 hr/yr; 10 mph	4,000	4.5	Chem. stabiliz.	95	0.225	0.360	0.162
							TOTALS =	3.034	1.365
PROGRESS MATERIALS:									
PM-	FEL Traffic	Refer to Permit Application						6.256	2.815
IDEAL BASIC:									
IB-	Bulldozer (barge)	Refer to separate report	-	-				0.002	0.001

Table 7. Maximum 24-Hour Fugitive Dust Emissions From Vehicular Traffic, Crystal River Power Plant

SOURCE NO.	SOURCE	BASIS FOR VEHICLE-MILES TRAVELED	VEHICLE MILES TRAVELED (VMT/DAY)	E EMISSION FACTOR (LB/VMT)	CONTROL METHOD	CONTROL EFFICIENCY (%)	CONTROLLED EMISSION FACTOR (LB/VMT)	MAXIMUM 24-HR EMISSIONS (lb/day)* TSP	PM10
		MAXIMUM 24-HOUR EMISSIONS							
CR 1/2 COAL:									
MR-4	FEL Traffic-Loaded	4,200 TPD; 20 tons; 0.1 mi	21	3.8	Watering	80	0.76	13	6
	- Empty		21	1.8	Watering	80	0.36	6	3
	Pile Maintenance:								
CP-3	Frontend loader	3.2 hr/day; 10 mph	16	3.8	Watering	80	0.76	10	4
			16	1.8	Watering	80	0.36	5	2
CP-4	Scraper	3.5 hr/day; 10 mph	35	1.5	Watering	80	0.3	8	4
CP-5	Bulldozer	5.9 hr/day	-	43.1 +	Watering	80	8.62 +	41	18
							TOTALS =	82	37
CR 4/5 COAL:									
	Pile maintenance:								
CP-13	Frontend loader	5.2 hr/day; 10 mph	26	3.8	Watering	80	0.76	16	7
			26	1.8	Watering	80	0.36	7	3
CP-14	Scraper	5.5 hr/day; 10 mph	55	1.5	Watering	80	0.3	13	6
CP-15	Bulldozer	9.5 hr/day	-	43.1 +	Watering	80	8.62 +	66	29
							TOTALS =	102	46
ASH HANDLING:									
AP-1	CR 1/2 Bottom ash								
	- Loaded	140 TPD; 20 tons; 0.1 mi	0.7	30.4	Chem. stabiliz.	95	1.52	0.9	0.4
	- Empty		0.7	15.8	Chem. stabiliz.	95	0.79	0.4	0.2
AP-2	CR 1/2 Fly ash								
	- Loaded	500 TPD; 20 tons; 0.1 mi	2.5	30.4	Chem. stabiliz.	95	1.52	3.0	1.4
	- Empty		2.5	15.8	Chem. stabiliz.	95	0.79	1.6	0.7
AP-3	CR 4/5 Bottom ash								
	- Loaded	220 TPD; 20 tons; 0.1 mi	1.1	30.4	Chem. stabiliz.	95	1.52	1.3	0.6
	- Empty		1.1	15.8	Chem. stabiliz.	95	0.79	0.7	0.3
AP-4	CR 4/5 Fly ash								
	- Loaded	720 TPD; 20 tons; 0.1 mi	3.6	30.4	Chem. stabiliz.	95	1.52	4.4	2.0
	- Empty		3.6	15.8	Chem. stabiliz.	95	0.79	2.3	1.0
AP-5	Scraper	1.2 hr/day; 10 mph	12	22.1	Chem. stabiliz.	95	1.11	10.6	4.8
AP-6	FEL (maint.)	1.1 hr/day; 10 mph	5.5	13.7	Chem. stabiliz.	95	0.69	3.0	1.4
			5.5	6.4	Chem. stabiliz.	95	0.32	1.4	0.6
							TOTALS =	30	13
PROGRESS MATERIALS:									
PM-	FEL Traffic	Refer to permit application	-	-	-	-	-	77	35
IDEAL BASIC:									
IB-	Bulldozer (barge)	-	-	1.38 lb/hr	-	-	-	9	4

Table 8. Summary of Fugitive Dust Emissions, Crystal River Power Plant

Model Source No.	Source	Max. 24-Hr Emissions (lb/day) TSP	Max. 24-Hr Emissions (lb/day) PM10	Annual Avg. Emissions (TPY) TSP	Annual Avg. Emissions (TPY) PM10
	CR 4/5 Active Ash Storage:				
11	Transfer operations	0	0	0.023	0.011
10	Wind erosion	53	53	1.226	1.226
11	Vehicular traffic	30	13	3.034	1.365
20,21	CR 4/5 Inactive Ash Storage				
	Wind erosion	79	79	1.839	1.839
	CR 4/5 Coal Pile:				
12,31,33	CR 4/5 Transfer operations	36	18	3.440	1.689
30,32,34,35	Wind erosion	163	163	3.780	3.780
31,33	Pile maintenance/traffic	102	46	17.304	7.787
31,33	Ash transfer	0	0	0	0
	CR 1/2 Bottom Ash Storage:				
41 *	Transfer	0	0	0.006	0.003
40 *	Wind erosion	359	359	8.338	8.338
	Progress Materials:				
41	Transfer	1	0	0.064	0.031
41	Vehicular traffic	77	35	6.256	2.815
40	Wind erosion	1	1	0.200	0.200
	Ideal Basic:				
51	Transfer	4	2	0.064	0.031
51	Vehicular traffic	9	4	0.002	0.001
50	Wind Erosion	41	41	0.940	0.940
	CR 1/2 Coal Pile:				
62 *	CR 1/2 Transfer operations	24	12	1.870	0.924
60,61 *	Wind erosion	98	98	2.269	2.269
62 *	Pile maintenance/traffic	82	37	13.942	6.274

* Not a PSD increment consuming source

ATTACHMENT CR-E13-D

APPLICABLE REQUIREMENTS LISTING

ATTACHMENT CR-E13-D

MASTER APPLICABLE REQUIREMENTS LISTING - POWER PLANTS

EMISSION UNIT: EU13: Material Handling - FPC Crystal

FDEP Rules (associated with Units 4 and 5 only):

62-204.800(7)(b)29(State Only) - NSPS Subpart Y

62-204.800(7)(d)(State Only) - NSPS General Provisions

Stationary Sources-General:

62-210.700(1)

62-210.700(4) - Maintenance

62-210.700(6)

Stationary Sources-Emission Standards:

62-296.320(4)(b) - General VE

Federal Rules:

NSPS Subpart Y (associated with Units 4 and 5 only):

40 CFR 60.252(c) - VE (20%) Coal processing, conveying and storage

NSPS General Provisions (associated with Units 4 and 5 only):

40 CFR 60.11(b) - Compliance (opacity determined by EPA Method 9)

40 CFR 60.11(c) - Compliance (opacity; excludes startup/shutdown/malfunction)

40 CFR 60.11(d) - Compliance (maintain air pollution control equipment)

40 CFR 60.12 - Circumvention

ATTACHMENT CR-E13-L3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

Florida Power CORPORATION

INTEROFFICE CORRESPONDENCE

Environmental & Licensing Affairs | H2G | 231-4491
Office | MAC | Telephone

SUBJECT: See Below

TO: J. H. Lander
Ed Carnahan
W. E. Dudley
H. D. Douglas

DATE: November 21, 1990

Attached is a copy of the final Best Management Plan for fugitive emissions at the Crystal River site. This plan was developed to provide guidance to site management with respect to controlling fugitive emissions. Control of fugitive emissions is required as part of the PSD Air Construction permit for the helper cooling towers (ACO9-162037).

Implementation of the plan including any administrative procedures which are necessary is the responsibility of site management. Please contact me at 231-4387 if you have any questions.

W. Jeffrey Pardue

Attachment

cc: P. K. Blizzard - w/o attachment
R. C. Bonner - w/o attachment
D. A. Shantz - w/o attachment
S. H. Osbourn - w/attachment
R. O. Fraze - w/attachment

pag/WJP9.BMP.Mem

File: CRSA.1.2
CRNA.1.2

BEST MANAGEMENT PLAN FOR CONTROL OF FUGITIVE DUST AT FPC'S CRYSTAL RIVER PLANT

Prepared For:

Florida Power Corporation
3201 34th Street South
St. Petersburg, Florida 33711

Prepared By:

KBN Engineering and Applied Sciences, Inc.
1034 NW 57th Street
Gainesville, Florida 32605

November 1990
90062B1

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(Page 1 of 2)

TABLE OF CONTENTS
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SUMMARY OF BEST MANAGEMENT PLAN (Page 1 of 2)

Plant Area	Control Method Level 1	Level 2	Level 3
CR 1/2 Coal Storage Pile			
Active Coal Pile	Water once per hour	Water twice per hour	Apply chemical dust control agent
Inactive Coal Pile	Water with natural drying to form crust	Apply chemical binder, sealer, or crusting agent	– –
CR 1/2 Ash Storage Areas			
Active Ash Area	Water as needed	Apply chemical dust control agent	Cease all activities
Inactive Ash Area	Water with natural drying to form crust	Apply chemical binder, sealer, or crusting agent	– –
CR 4/5 Coal Storage Pile			
Active Coal Pile	Water once per hour	Water twice per hour	Apply chemical dust control agent
Inactive Coal Pile	Water with natural drying to form crust	Apply chemical binder, sealer, or crusting agent	– –
CR 4/5 Ash Storage Area			
Active Ash Area	Water as needed	Apply chemical dust control agent	– –
Inactive Ash Area	Water with natural drying to form crust	Apply chemical binder, sealer, or crusting agent	– –

SUMMARY OF BEST MANAGEMENT PLAN (Page 2 of 2)

Plant Area	Control Method Level 1	Level 2	Level 3
Site Haul Roads			
Unpaved Haul Road	Water as needed	Apply chemical dust control agent	Reduce or eliminate traffic on haul road
Paved Haul Road	Water as needed	Use street vacuum to remove particulate matter from roadway cover trucks to prevent dust emissions	Reduce or eliminate traffic on haul road
Coal Transfer Points			
CR 1/2, CR 4/5	Operate baghouses on transfer points	Apply water at transfer points	Apply chemical dust control agent
Ash Transfer Silos			
CR 1/2, CR 4/5	Evaluate and implement maintenance measures to achieve control if necessary	Apply water at transfer point	Apply chemical dust control agent at transfer point
Aardelite Plant			
Product Loadout, Storage and Loading	Operate water spray system	Manually apply additional water as needed	Apply chemical dust control agent at transfer points.

1.0 INTRODUCTION

1.1 NEED FOR A BEST MANAGEMENT PLAN

Florida Power Corporation (FPC) was recently granted a construction permit by the Florida Department of Environmental Regulation (FDER) which allows FPC to construct helper cooling towers at the Crystal River power plant. The construction permit, permit No. AC09-162037, was issued by FDER on August 29, 1990. Specific Condition 3 of the permit requires that fugitive dust emissions generated at the Crystal River power plant be controlled as described in the permit application. The fugitive dust sources identified in the application and the required controls are listed in Table 1-1. This information was contained in reports prepared by KBN Engineering and Applied Sciences, Inc. (KBN) (KBN, 1989a, 1989b, 1990), and submitted as part of the permit application.

In addition, Specific Condition 7 of the permit requires that FPC comply with all applicable provisions of Chapter 17-2, Florida Administrative Code (F.A.C.). One important provision of these rules is that reasonable precautions be taken to prevent emissions of fugitive dust (Chapter 17-2.600, F.A.C.). Reasonable precautions are stated to include such control measures as enclosures, watering, paving, etc. but are not limited to these control measures.

FPC must demonstrate compliance with the above described permit conditions. Because of the general nature of the permit conditions, and the potential uncertainty in determining the extent of controls necessary to comply with the requirements under all possible operating conditions, a plan is needed which defines procedures which plant personnel can follow. The plan should also define recordkeeping requirements, since the air pollution control agencies will desire documentation on specific reasonable precautions which have been implemented to minimize fugitive dust emissions. This plan is referred to as a Best Management Plan (BMP) for the control of fugitive dust emissions at the Crystal River power plant.

Table 1-1. Fugitive Dust Control Methods Presented in Construction Permit Application for FPC Crystal River Helper Cooling Towers

Source	Activity	Control Method	Estimated Control Efficiency (%)
CR 1/2 Coal Storage Pile			
Active Coal Pile	Wind erosion	Water	80
	Vehicular traffic	Water	80
Inactive Coal Pile	Wind erosion	Crusting agent	95
CR 1/2 Ash Storage Areas			
Active Ash Area	Wind erosion	Water	80
	Backhoe to truck transfer	None	0
Inactive Ash Area	Wind erosion	Crusting agent	95
CR 4/5 Coal Storage Pile			
Active Coal Pile	Wind erosion	Water	90
	Vehicular traffic	Water	80
Inactive Coal Pile	Wind erosion	Crusting agent	95
CR 4/5 Ash Storage Area			
Active Ash Area	Wind erosion	Crusting agent	95
	Vehicular traffic	Chemical stabilizer	95
Inactive Ash Area	Wind erosion	Chemical wetting agent	90
Site Haul Roads			
Unpaved Roads	Vehicular traffic	Chemical stabilizer	95
Coal Transfer Points			
CR 1/2, CR 4/5	Transfer points	Enclosure	90
Ash Transfer Silos			
CR 1/2, CR 4/5	Transfer points	Enclosure	90
Aardelite Plant			
	Transfer points/ storage pile	Water spray	90

1.2 OBJECTIVES OF THE BMP

Plant operating personnel at Crystal River will be responsible for implementing measures to comply with the permit conditions related to fugitive dust control. However, these personnel are generally not trained in air pollution control or in identifying air pollution problems. As a result, plant personnel need a simple, straight forward methodology for identifying when action is needed to adequately control fugitive dust emissions. The objective of the BMP is to identify specific indicators plant personnel can utilize to determine the necessity for further control, and to then provide a hierarchy of control options which can be implemented to comply with the intent of the permit conditions.

1.3 CONTENTS OF THE BMP

The BMP is divided into several sections, each of which deals with a specific section within the Crystal River plant. These include the coal and ash storage piles, ash loading system, site haul roads, and coal transfer system. Since these systems for Crystal River Units 1 and 2 are generally separated from the Units 4 and 5 systems, plant sections for each set of units are addressed separately. The Progress Materials Aardelite Plant, which is located on the Crystal River site, is also addressed in the BMP.

For each plant section, air pollution indicators are identified to allow plant personnel to determine if an air emission problem exists. Secondly, several fugitive dust control measures are presented to allow personnel to implement adequate control measures to mitigate the problem. These are presented in order of increasing control effectiveness. This will allow the personnel to first implement the least effective (and least costly) control alternative, but to proceed to more effective control options if necessary to mitigate the problem. Lastly, recordkeeping requirements are identified to provide documentation that FPC is applying reasonable precautions to prevent fugitive dust emissions, and is complying with the intent of the construction permit.

1.4 DEFINITIONS

In order to understand and implement the BMP for fugitive dust control, it is first necessary to define certain terms used in the BMP.

Fugitive dust -- emissions of particulate matter (dust) which originate from an unconfined source, such as a storage pile, roadway, transfer point, etc.

Visible emissions (VE) -- emissions of air pollutants which are visible to the naked eye. Visible emissions may range from slightly perceptible to a very dark, black color. Generally, the level of visible emissions correlates with the level of fugitive dust emissions.

2.0 CR 1/2 COAL STORAGE PILE

2.1 DESCRIPTION OF SOURCES

Sources of fugitive dust emissions associated with the CR 1/2 coal storage area consists of the following:

1. Active coal storage pile
   a. Emissions due to wind erosion
   b. Emissions due to mobile traffic
2. Inactive coal storage pile
   a. Emissions due to wind erosion
   b. Emissions due to vehicular traffic

Active storage pile areas are considered to be those areas of the pile which have been disturbed within the previous 30 days. These areas are more likely to result in fugitive dust emissions due to wind erosion and can also experience mobile (bulldozer) traffic with associated fugitive dust emissions. Fugitive dust emissions can range from none or little to heavy, depending on weather conditions and activity level in the pile area.

Inactive storage pile areas are those areas of the pile which have not been disturbed during the last 30 days. These areas are likely to develop natural crusting and may exhibit little or no fugitive dust emissions. Heavy dust emissions would only occur under extreme meteorological conditions, i.e., high wind speeds and dry conditions. Rainfall events can cause the inactive storage pile to erode, requiring mobile equipment to rework the pile. This traffic can also generate fugitive dust emissions.

2.2 CONDITIONS REQUIRING ACTION

Action should be taken whenever visible emissions are observed from the active or inactive coal storage piles. Visible emissions will be caused either by wind erosion or due to mobile or vehicular traffic.

2.3 MITIGATIVE MEASURES

The following identifies the fugitive dust control measures which should be implemented whenever visible emissions are observed coming from the Units

1/2 coal storage pile area. It should first be verified that the emissions are indeed a result of wind erosion or mobile/vehicular traffic in the storage pile area. The control measures are listed in order of implementation. Level 1 control should be implemented first. If Level 1 control does not prevent the visible emissions, then Level 2 control should be implemented, and so on, until adequate control is achieved (i.e., no visible emissions).

Active coal pile

Level 1 - Water once per hour

Level 2 - Water twice per hour

Level 3 - Apply chemical dust control agent (i.e., agglomerating agent, surfactant etc.)

Inactive coal pile

Level 1 - Water followed by natural drying to form crust on pile

Level 2 - Apply chemical binder, sealer, or crusting agent

3.0 CR 1/2 ASH STORAGE AREAS

3.1 DESCRIPTION OF SOURCES

Sources of fugitive dust emissions associated with the CR 1/2 ash storage piles consist of the following:

1. Active bottom ash storage area (north or south)
    a. Emissions due to wind erosion
    b. Emissions due to vehicular traffic
2. Inactive bottom ash storage areas (north and south)
    a. Emissions due to wind erosion

Generally at CR Units 1/2, there is an area within one of the two bottom ash storage areas that is active (i.e., bottom ash is being piled and transferred). These areas are likely to result in fugitive dust emissions due to wind erosion, vehicular traffic and material handling activities. Fugitive emissions can range from none or little to heavy, depending on weather conditions and activity level in the pile area.

Inactive bottom ash storage areas are the two bottom ash ponds designated North and South. These areas are likely to develop natural crusting and may exhibit little or no fugitive dust emissions. Heavy dust emissions would only occur under extreme meteorological conditions, i.e., high wind speeds and dry conditions.

3.2 CONDITIONS REQUIRING ACTION

Action should be taken whenever visible emissions are observed from the active or inactive ash storage areas. Visible emissions will be caused either wind erosion, vehicular traffic, or ash handling activities (i.e., front end loader, shovel, etc).

3.3 MITIGATIVE MEASURES

The following identifies the fugitive dust control measures which should be implemented whenever visible emissions are observed coming from the Units 1/2 ash storage area. It should first be determined the exact source of the emissions, i.e., wind erosion, vehicular traffic, or material handling

device. The selected control measure should then be applied as appropriate to control the identified source. The control measures are listed in order of implementation. Level 1 control should first be implemented. If Level 1 control does not prevent the visible emissions, then Level 2 control should be implemented, and so on, until adequate control is achieved (i.e., no visible emissions).

Active ash area

Level 1 - Water as needed

Level 2 - Apply chemical dust control agent (i.e., agglomerating agent, surfactant, etc.)

Level 3 - Cease all activities

Inactive ash area

Level 1 - Water followed by natural drying to form crust on pile

Level 2 - Apply chemical binder, sealer, or crusting agent

4.0 CR 4/5 COAL STORAGE PILE

4.1 DESCRIPTION OF SOURCES

Sources of fugitive dust emissions associated with the CR 4/5 coal storage area consists of the following:

1. Active coal storage pile
    a. Emissions due to wind erosion
    b. Emissions due to mobile traffic
2. Inactive coal storage pile
    a. Emissions due to wind erosion
    b. Emissions due to vehicular traffic

Active storage pile areas are considered to be those areas of the pile which have been disturbed within the previous 30 days. These areas are more likely to result in fugitive dust emissions due to wind erosion, and can also experience vehicular traffic with the associated fugitive emissions. Fugitive emissions can range from none or little to heavy, depending on weather conditions and activity level in the pile area.

Inactive storage pile areas are those areas of the pile which have not been disturbed during the last 30 days. These areas are likely to develop natural crusting and may exhibit little or no fugitive dust emissions. Heavy dust emissions would only occur under extreme meteorological conditions, i.e., high wind speeds and dry conditions. Rainfall events may cause the inactive coal pile to erode, requiring mobile/vehicular traffic on the pile. These activities may also generate fugitive dust emissions.

4.2 CONDITIONS REQUIRING ACTION

Action should be taken whenever visible emissions are observed from the active or inactive coal storage piles. Visible emissions will be caused either by wind erosion or due to mobile/vehicular traffic.

4.3 MITIGATIVE MEASURES

The following identifies the fugitive dust control measures which should be implemented whenever visible emissions are observed coming from the Units

4/5 coal storage pile area. It should first be verified that the emissions are indeed a result of wind erosion or mobile/vehicular traffic in the storage pile area. The control measures are listed in order of implementation. Level 1 control should be implemented first. If Level 1 control does not prevent the visible emissions, then Level 2 control should be implemented, and so on, until adequate control is achieved (i.e., no visible emissions).

Active coal pile

Level 1 - Water once per hour

Level 2 - Water twice per hour

Level 3 - Apply chemical dust control agent (i.e., agglomerating agent, surfactant, etc.)

Inactive coal pile

Level 1 - Water followed by natural drying to form crust on pile

Level 2 - Apply chemical binder, sealer, or crusting agent

5.0 CR 4/5 ASH STORAGE AREAS

5.1 DESCRIPTION OF SOURCES

Sources of fugitive dust emissions associated with the CR 1/2 ash storage piles consist of the following:

1. Active ash storage area
    a. Emissions due to wind erosion
    b. Emissions due to vehicular traffic
2. Inactive ash storage area
    a. Emissions due to wind erosion
    b. Emissions due to vehicular traffic

Generally at CR Units 4/5, there is an area of about 10 acres in size where ash is exposed to the atmosphere. The remaining ash storage area has been capped and sealed. Of the exposed area, the majority is in an inactive state (i.e., no active movement of ash). The active area is likely to result in fugitive dust emissions due to wind erosion, vehicular traffic, and material moving activities. Potential fugitive emissions are greater than the coal storage piles because the ash has a smaller particle size and generally contains less moisture compared to coal. Fugitive emissions can range from none or little to heavy, depending on weather conditions and activity level in the pile area.

The inactive portion of the ash storage area remains undisturbed for long periods of time (i.e., several weeks or more). These areas are likely to develop natural crusting and may exhibit little or no fugitive dust emissions. However, vehicular traffic may frequently travel over the inactive ash area, creating fugitive dust emissions. Due to the fine, dry nature of the ash, heavy dust emissions can occur at any time under dry or windy conditions.

5.2 CONDITIONS REQUIRING ACTION

Action should be taken whenever visible emissions are observed from the active or inactive ash storage areas. Visible emissions will be caused by either wind erosion, vehicular traffic, or ash handling activities (i.e., front end loader, shovel, etc.).

5.3 MITIGATIVE MEASURES

The following identifies the fugitive dust control measures which should be implemented whenever visible emissions are observed emanating from the Units 4/5 ash storage area. It should first be determined the exact source of the emissions, i.e., wind erosion, vehicular traffic, or material handling device. The selected control measure should then be applied as appropriate to control the identified source. The control measures are listed in order of implementation. Level 1 control should be implemented first. If Level 1 control does not prevent the visible emissions, then Level 2 control should be implemented, and so on, until adequate control is achieved (i.e., no visible emissions).

<u>Active ash area</u>

Level 1 - Water as needed

Level 2 - Apply chemical dust control agent (i.e., agglomerating agent, surfactant, etc.)

<u>Inactive ash area</u>

Level 1 - Water followed by natural drying to form crust on pile

Level 2 - Apply chemical binder, sealer, or crusting agent

6.0 SITE HAUL ROADS

6.1 DESCRIPTION OF SOURCE

Crystal River plant haul roads include both unpaved limerock roads and paved roads. Fugitive dust emissions are due to vehicular traffic over these roadways. In the case of unpaved roads, the road surface itself is soil material, which can become airborne due to winds or vehicular traffic. Paved roads can also have soil, coal, or ash deposited on the surface, which then can become airborne. Fugitive emissions can range from none or little to heavy, depending on weather conditions and activity level on the roadway.

6.2 CONDITIONS REQUIRING ACTION

Action should be taken whenever visible emissions are observed from the roadway.

6.3 MITIGATIVE MEASURES

The following identifies the fugitive dust control measures which should be implemented whenever visible emissions are observed emanating from site haul roads. The control measures are listed in order of implementation. Level 1 control should be implemented first. If Level 1 control does not prevent the visible emissions, then Level 2 control should be implemented, and so on, until adequate control is achieved (i.e., no visible emissions).

Unpaved haul road

- Level 1 - Water as needed
- Level 2 - Apply chemical dust control agent (i.e., agglomerating agent, surfactant, etc.)
- Level 3 - Reduce or eliminate traffic on haul road, where possible

Paved haul road

- Level 1 - Water as needed
- Level 2 - Apply chemical dust control agent
- Level 3 - Use street vacuum to remove particulate matter from roadway. In addition, cover trucks appropriately to prevent dust emissions from trucks
- Level 4 - Reduce or eliminate traffic on haul road

7.0 COAL TRANSFER POINTS

7.1 DESCRIPTION OF SOURCES

Sources of fugitive dust emissions associated with the coal transfer points at the Crystal River power plant consist of a clamshell hopper for barge unloading, railcar dump facility, conveyor transfer points, coal crushers, and stacker/reclaimers. Most of the coal transfer points are enclosed and also have vents to baghouses. The baghouses are generally not operated since plant personnel have not observed appreciable visible emissions from these sources. Fugitive dust emissions are normally negligible from these sources due to the wet nature of the coal. However, fugitive emissions could occur due to dry coal and/or windy conditions.

7.2 CONDITIONS REQUIRING ACTION

Action should be taken whenever visible emissions are observed from the coal handling or transfer points.

7.3 MITIGATIVE MEASURES

The following identifies the fugitive dust control measures which should be implemented whenever visible emissions are observed emanating from the coal transfer points. The control measures are listed in order of implementation. Level 1 control should first be implemented. If Level 1 control does not prevent the visible emissions, then Level 2 control should be implemented, and so on, until adequate control is achieved (i.e., no visible emissions).

Level 1 - Operate baghouses already installed on transfer points
Level 2 - Apply water at transfer points
Level 3 - Apply chemical dust control agent (i.e., agglomerating agent, surfactant, etc.) at transfer points

8.0 ASH TRANSFER SILOS

8.1 DESCRIPTION OF SOURCES

Sources of fugitive dust emissions associated with the ash transfer points at the Crystal River power plant are the fly ash silo to truck transfer points located at both CR 1/2 and CR 4/5. These transfer points consist of a continuous drop operation which are controlled by wetting the ash and/or applying a surfactant, and utilizing a chute or sock for loading from silo to truck. Fugitive dust emissions are normally negligible from these sources due to the enclosed nature of the operation. However, fugitive emissions could occur due to the dry nature of the fly ash or due to equipment malfunction (i.e., faulty operation of water/surfactant applicator).

8.2 CONDITIONS REQUIRING ACTION

Action should be taken whenever visible emissions are observed from the fly ash coal transfer points.

8.3 MITIGATIVE MEASURES

The following identifies the fugitive dust control measures which should be implemented whenever visible emissions are observed emanating from the fly ash transfer points. The control measures are listed in order of implementation. Level 1 control should first be implemented. If Level 1 control does not prevent the visible emissions, then Level 2 control should be implemented, and so on, until adequate control is achieved (i.e., no visible emissions).

Level 1 - Evaluate and implement, if necessary, maintenance measures to achieve dust control

Level 2 - Apply water at transfer points

Level 3 - Apply chemical dust control agent (i.e., surfactant, etc.) at transfer points

9.0 PROGRESS MATERIALS AARDELITE PLANT

9.1 DESCRIPTION OF SOURCES

The Progress Materials Aardelite Plant is an independently operated facility located on the Crystal River site. This facility has current air operating permits issued by FDER. The facility receives fly ash from FPC Crystal River Units 1 and 2 fly ash storage silo and mixes the ash with limestone to form solid pellets. These pellets are then transported by truck to offsite facilities. The fugitive dust sources associated with this facility include the following:

1. Conveyor stacker to storage pile,
2. Product storage pile,
3. Vehicular traffic (front-end loader),
4. Front-end loader to hopper transfer point,
5. Hopper to belt transfer point, and
6. Belt to truck transfer point.

A water spray system is installed on the conveyor stacker as a fugitive dust control measure.

9.2 CONDITIONS REQUIRING ACTION

The air operating permit which covers the fugitive dust sources at the Aardelite plant (A009-159886) requires that additional work practices and/or control measures be implemented whenever visible emissions are observed from the sources. The following identifies the fugitive dust control measures which should be implemented whenever visible emissions are observed from the Aardelite fugitive dust sources. Level 1 control should be implemented first, followed by Level 2, etc., until adequate control is achieved (i.e., no visible emissions).

Level 1--Operate water spray system installed on product storage and loading system.

Level 2--Apply additional water on storage pile or transfer points as needed. Water hose with spray head or similar device to be used.

Level 3--Apply chemical dust control agent (i.e., surfactant) at transfer points or on storage pile.

10.0 RECORDKEEPING REQUIREMENTS

A log should be kept of all action taken to control fugitive dust emissions. For each event, the following should be recorded:

Date

Time

Location of visible emissions

Apparent cause of visible emissions

Descriptor of intensity of visible emissions

Action taken to mitigate visible emissions

Success of action in reducing/eliminating the visible emission

REFERENCES

KBN Engineering and Applied Sciences, Inc. (KBN). 1989a. Particulate Matter Air Quality Impact Assessment--Florida Power Corporation Crystal River Plant. Gainesville, Florida.

KBN Engineering and Applied Sciences, Inc. (KBN). 1989b. Letter to Mr. Eustice Parnelle, Environmental and Licensing Affairs, Florida Power Corporation, April 27, 1989. Gainesville, Florida.

KBN Engineering and Applied Sciences, Inc. (KBN). 1990. Particulate Matter Air Quality Impact Assessment for Proposed Helper Cooling Towers for Units 1, 2, and 3, Crystal River Plant. Gainesville, Florida.

III. EMISSIONS UNIT INFORMATION

A separate Emissions Unit Information Section (including subsections A through L as required) must be completed for each emissions unit addressed in this Application for Air Permit. If submitting the application form in hard copy, indicate, in the space provided at the top of each page, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application. Some of the subsections comprising the Emissions Unit Information Section of the form are intended for regulated emissions units only. Others are intended for both regulated and unregulated emissions units. Each subsection is appropriately marked.

A. TYPE OF EMISSIONS UNIT
(Regulated and Unregulated Emissions Units)

Type of Emissions Unit Addressed in This Section

1. Regulated or Unregulated Emissions Unit? Check one:

[ ] The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

[x] The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

2. Single Process, Group of Processes, or Fugitive Only? Check one:

[ ] This Emissions Unit information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

[x] This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

[ ] This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

B. GENERAL EMISSIONS UNIT INFORMATION
(Regulated and Unregulated Emissions Units)

Emissions Unit Description and Status

1. Description of Emissions Unit Addressed in This Section (limit to 60 characters): **Facility-wide Fugitive/Deminimis Emissions**		
2. Emissions Unit Identification Number: [ ] No Corresponding ID [X] Unknown		
3. Emissions Unit Status Code: **A**	4. Acid Rain Unit? [ ] Yes [X] No	5. Emissions Unit Major Group SIC Code: **49**
6. Emissions Unit Comment (limit to 500 characters): **See Attachment CR-E14-B6**		

Emissions Unit Control Equipment Information

A.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

B.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

C.

1. Description (limit to 200 characters):
2. Control Device or Method Code:

F. SEGMENT (PROCESS/FUEL) INFORMATION
(Regulated and Unregulated Emissions Units)

Segment Description and Rate: Segment 1 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Petroleum Product Storage - Fugitive Emissions (Storage)**	
2. Source Classification Code (SCC): **4-03-888-01**	
3. SCC Units: **Thousand Gallons Stored**	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor: **904**	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): **Segment refers to combined storage capacity of various petroleum product storage tanks contained in emission unit at time permit appl. submittal. See Attachment CR-E14-B6 for list.**	

Segment Description and Rate: Segment 2 of 2

1. Segment Description (Process/Fuel Type and Associated Operating Method/Mode) (limit to 500 characters): **Petroleum Product Storage - Fugitive Emissions (Throughput)**	
2. Source Classification Code (SCC): **4-03-999-99**	
3. SCC Units: **Thousand Gallons Throughput**	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:
6. Estimated Annual Activity Factor: **9,368**	
7. Maximum Percent Sulfur:	8. Maximum Percent Ash:
9. Million Btu per SCC Unit:	
10. Segment Comment (limit to 200 characters): **Segment refers to combined throughput of various petroleum product storage tanks contained in emission unit at time permit appl. submittal. See Attachment CR-E14-B6 for list.**	

G. EMISSIONS UNIT POLLUTANTS
(Regulated and Unregulated Emissions Units)

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code

K. PREVENTION OF SIGNIFICANT DETERIORATION (PSD) INCREMENT TRACKING INFORMATION
(Regulated and Unregulated Emissions Units)

PSD Increment Consumption Determination

1. Increment Consuming for Particulate Matter or Sulfur Dioxide?

   If the emissions unit addressed in this section emits particulate matter or sulfur dioxide, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for particulate matter or sulfur dioxide. Check the first statement, if any, that applies and skip remaining statements.

   [ ] The emissions unit is undergoing PSD review as part of this application, or has undergone PSD review previously, for particulate matter or sulfur dioxide. If so, emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after January 6, 1975. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after January 6, 1975, but before December 27, 1977. If so, baseline emissions are zero, and the emissions unit consumes increment.

   [ ] For any facility, the emissions unit began (or will begin) initial operation after December 27, 1977. If so, baseline emissions are zero, and emissions unit consumes increment.

   [x] None of the above apply. If so, the baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

2. Increment Consuming for Nitrogen Dioxide?

If the emissions unit addressed in this section emits nitrogen oxides, answer the following series of questions to make a preliminary determination as to whether or not the emissions unit consumes PSD increment for nitrogen dioxide. Check first statement, if any, that applies and skip remaining statements.

[ ] The emissions unit addressed in this section is undergoing PSD review as part of this application, or has undergone PSD review previously, for nitrogen dioxide. If so, emissions unit consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source pursuant to paragraph (c) of the definition of "major source of air pollution" in Chapter 62-213, F.A.C., and the emissions unit addressed in this section commenced (or will commence) construction after February 8, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] The facility addressed in this application is classified as an EPA major source and the emissions unit began initial operation after February 8, 1988, but before March 28, 1988. If so, baseline emissions are zero, and the source consumes increment.

[ ] For any facility, the emissions unit began (or will begin) initial operation after March 28, 1988. If so, baseline emissions are zero, and the emissions unit consumes increment.

[x] None of the above apply. If so, baseline emissions of the emissions unit are nonzero. In such case, additional analysis, beyond the scope of this application, is needed to determine whether changes in emissions have occurred (or will occur) after the baseline date that may consume or expand increment.

3.	Increment Consuming/Expanding Code:			
	PM	[ ] C	[ ] E	[x] Unknown
	SO_2	[ ] C	[ ] E	[x] Unknown
	NO_2	[ ] C	[ ] E	[x] Unknown
4.	Baseline Emissions:			
	PM	lb/hour		tons/year
	SO_2	lb/hour		tons/year
	NO_2			tons/year
5.	PSD Comment (limit to 200 characters):			
	Baseline emissions not known.			

ATTACHMENT CR-E14-B6

GENERAL EMISSION UNIT INFORMATION

TRIVIAL ACTIVITIES

The trivial activities identified in this application are provided for information only and are identified as examples of, but not limited to, the trivial activities identified by the Division of Air Resources Management's (DARM's) guidance. It is understood that such activities do not have to be included in with the Title V Application. The trivial activities identified herein are consistent, in terms of amounts of emissions and types, with those activities listed in DARM's guidance.

NOTIFICATION OF TEMPORARY EXEMPTIONS

Pursuant to Rule 62-210.300(3)(b)1., notice is herein provide that the emissions units listed below are not subject to a permit issued by the Department of Environmental Protection and are exempt from permitting until a final determination is made under the Title V permitting requirements (Rule 62-213 F.A.C.). These units would not have triggered review under Rules 62-212.400 or 62-212.500 or any new source performance standard listed in Rule 62-204.800 F.A.C.

Attachment CR-E14-B6
General Emissions Unit Information for Unregulated Emissions Unit

Table 1. FPC, Crystal River Plant, Unregulated Emissions Unit

Area	Emission Unit Description		Status
Units 1 and 2 Area			
Unit 1	Various Steam Vents & Pressure Relief Valves		TR
	Building Ventilation		TR
	Condensate Tank		TR
	Roof monitors		TR
	Lube oil vent		UR/TR
Unit 1- inside	Rotoclone Type D- 2 American air filter, size 15 (VE =0)		UR/TR
	Oil vent		UR/TR
	Vacuum cleaning system (Hoffman)		TR
	Air compressor		TR
	Electric clothes washer/dryer unit		TR
Water Treatment Building (outside Unit 1)	Sulfuric acid tank- 8,000 gal	Demister	TR
	Caustic tank- 8,000 gal (NaOH)		TR
	Water tank (waste neutralization)		TR
	Sewage treatment plant - south Unit 3		UR/TR
	Lime storage		UR/TR
	Diesel fire pump		ER/TR
	Fire pump diesel tank		ER/TR
	Light oil storage tanks -2		UR
	Chlorine tanks- 4		TR
General storage warehouse (outside Unit 1)	Building ventilation		TR
	Routine maintenance		TR
	Plant vehicles (trucks, utility carts, forklifts)		TR
	Storage cabinets- east of Unit 1	Hazardous waste site accumulation; diesel f kerosene; paint; gas/oil	TR
	Shop area	Safety kleen solvent cleaning lathes, welding, etc. cold galvanizing- xylene, MEK LPS- rust inhibitor < 6 gal/day paint	TR

Attachment CR-E14-B6
General Emissions Unit Information for Unregulated Emissions Unit

Table 1. FPC, Crystal River Plant, Unregulated Emissions Unit

Area	Emission Unit Description		Status
		LPS- rust inhibitor < 6 gal/day paint aerosol cans hydrogen storage	
	Liquid SO2 storage tank (for SO3 injection)		TR
	Cation/ anion tanks		TR
	Lab facilities		ER/TR
	Liquid H2, N2, CO2 tank truck		TR
Unit 2	Various Steam Vents & Pressure Relief Valves		TR
	Condensate and Blow-down vents		TR
	Building Ventilation		TR
	Condensate Tank		TR
	Roof monitors		TR
	Lube oil vent		UR/TR
Large Storage Tanks-west of Unit 2	Tanks used as warehouses- 2		TR
	Empty tank- 1		TR
Helper Cooling Towers-Units 1,2,3	Liquid SO2 storage tank (dechlorination)		TR
	Liquid Chlorine storage (chlorination)		TR
Additional Items	CEM building/ Unit 1, 2	calibration gases/ cylinders	ER/TR
General Site	Surface Coating < 6.0 gal/day		ER/TR
	Brazing, Soldering or Welding		ER/TR
	Plant Grounds Maintenance		TR
	Routine Maintneance		TR
	Oil water separators		TR
	CEM Equipment & Calibration Gas Venting		ER/TR
	Compressed Air System & Misc. Compressors		TR
	Non-halogenerated Solvent		TR
	Ammonia drums		TR

Attachment CR-E14-B6
General Emissions Unit Information for Unregulated Emissions Unit

Table 1. FPC, Crystal River Plant, Unregulated Emissions Unit

Area	Emission Unit Description		Status
	Sodium borax, borite		TR
Offices	Office Equipment Operation		TR
	Kitchen/ breakroom		TR
	Routine Repairs		TR
	Heating & Cooling Systems		TR (except Part 82)
	Electrical/ I & C Maintenance Shops		TR
Substation	Transformers and Associated Equipment		TR
Parking Lot	Vehicles		TR
Unit 3 Area			
Technical Support Center	Offices (no laboratories)	Office Equipment Operation	TR
		Kitchen/ breakroom	TR
		Routine Repairs	TR
		Heating & Cooling Systems	TR (except Part 82)
	Emergency diesel generator, 260 kW		ER/TR
Main Building Outside - north	Liquid nitrogen tanks (2)		TR
	Cylinders- Argon, oxygen, nitrogen, acetylene, helium		TR
	Air compressor, motor-driven		TR
	Halon fire protection system (FH-7, FH-1)		ER/TR
	Diesel generator air compressor		ER/TR
Outside - west	Air conditioning units		TR (except Part 82)
	Water tanks (2) (SDT-1)		TR
	Fire protection tanks (2)		ER/TR
	Hydrazine tank (CDT-2)- 50 gal.		TR
	Cooling towers- small (2)	Fresh demineralized water, ozone treated	UR/TR
	Fire pump diesel generators (2)		ER/TR

Attachment CR-E14-B6
General Emissions Unit Information for Unregulated Emissions Unit

Table 1. FPC, Crystal River Plant, Unregulated Emissions Unit

Area	Emission Unit Description		Status
	Steam relief units		TR
	Air compressor, motor-driven		TR
Outside - south	Borated (boron) water tank		TR
	Diesel storage tanks (2), underground	Support for two 3,500 kW diesel generators	UR/TR
	PF55 (degreaser)- 55 gallon drums	Citrus (orange) base solvent;	TR
Machine Shop- east	Welding, grinding, lathes, prefab. fittings		TR
	Chemicals	Toluene- rare; MEK Alcohol - 40 gal. every 2 years	TR
Main Building- inside	Turbine bottom	Hydrazine storage tanks (4- 55 gal drum) - (SCT-2); closed containers	TR
		Battery room (H2SO4 ?)	TR
	Turbine floor	Radioactive waste storage tanks (4- 500 gal closed containers	TR
	Turbine- Westinghouse		TR
	Portable eye wash station		TR
Main Facility- roof	Steam relief valves		TR
	Lube oil vents (2)		UR/TR
Paint Shop	Water-base paints		TR
General Site	Surface Coating < 6.0 gal/day		TR
	Brazing, Soldering or Welding		ER/TR
	Plant Grounds Maintenance		TR
	Routine Maintneance		TR
	Non-halogenerated Solvent		TR
Substation	Transformers and Associated Equipment		TR
Parking Lot	Vehicles		TR
Units 4 and 5 Area			
Unit 4	Various Steam Vents & Pressure Relief Valves		TR

Attachment CR-E14-B6
General Emissions Unit Information for Unregulated Emissions Unit

Table 1. FPC, Crystal River Plant, Unregulated Emissions Unit

Area	Emission Unit Description		Status
	Condensate and Blow-down vents		TR
	Building Ventilation		TR
	Condensate Tank		TR
	Roof monitors		TR
	Lube oil vents		UR/TR
	Acid tank		TR
	Caustic tank		TR
	Neutralization basin		TR
	Service water tanks- 5		TR
	Waste oil storage		UR/TR
	Fire pump house	Diesel generator units- 2 (FPA-PUMP-1, 3) Electric generator unit- 1 (FPA-PUMP-2)	ER/TR
	No. 2 oil storage tanks- 2 (with unloading)		UR/TR
	Water treatment bldg	Lime storage silo w/ baghouse Primary cation and anion tanks Secondary cation and anion tanks Clear well/ chlorinated water Lime delivery- every 3 months Water clarifier/ coagulant use lab/ coal analysis with hood electric water heater- 125 psi/210 lb/hr 2 pumps (diesel)	UR/TR
	Hydrogen/ nitrogen bldg		TR
	Warehouse/receiving		TR
	Ash handling	Settling tank Surge tank Clarifier- clarify water for reuse	TR TR TR
	CEM bldg (at Unit 4 stack)	SO2 cylinders compressed air	TR
	Liquid CO2 Hydrazine drum (35%)		TR
Unit 5	Various Steam Vents & Pressure Relief Valves		TR
	Condensate and Blow-down vents		TR

Attachment CR-E14-B6
General Emissions Unit Information for Unregulated Emissions Unit

Table 1. FPC, Crystal River Plant, Unregulated Emissions Unit

Area	Emission Unit Description		Status
	Building Ventilation		TR
	Condensate Tank		TR
	Roof monitors		TR
	Lube oil vents		UR/TR
	Acid tank		TR
	Caustic tank		TR
	Neutralization basin		TR
	Service water tanks- 5		TR
	Waste oil storage		UR/TR
	Fire pump house	Diesel generator units- 2 (FPA-PUMP-1, 3) Electric generator unit- 1 (FPA-PUMP-2)	ER/TR
	No. 2 oil storage tanks- 2 (with unloading)		UR/TR
	Water treatment bldg	Lime storage silo w/ baghouse Primary cation and anion tanks Secondary cation and anion tanks Clear well/ chlorinated water Lime delivery- every 3 months Water clarifier/ coagulant use lab/ coal analysis with hood electric water heater- 125 psi/210 lb/hr 2 pumps (diesel)	UR/TR
	Hydrogen/ nitrogen bldg		TR
	Warehouse/receiving		TR
	Ash handling	Settling tank Surge tank Clarifier- clarify water for reuse	TR TR TR
	CEM bldg (at Unit 4 stack)	SO2 cylinders compressed air	ER/TR
	Liquid CO2 Hydrazine drum (35%)		TR
Shop area, I/C area, electric shop	kerosene, gasoline, oils, waste oil		TR
	< 6 gal/day paint		TR
	Equipment washer w/ Buckaroo solvent (citric base degreaser)		TR
	lathes, sandblaster		TR
	Parts washer (electric)- Chloro-solv (mineral spirits)		TR

Attachment CR-E14-B6
General Emissions Unit Information for Unregulated Emissions Unit

Table 1. FPC, Crystal River Plant, Unregulated Emissions Unit

Area	Emission Unit Description		Status
General areas	Rooms- electric clothes washer/dryer		TR
	Rooms- kitchen		TR
Cooling towers 4, 5	Chlorine cyclinders - up to 10		TR
	SO2 cyclinders - up to 10		TR
Site Support Building- Waste Management Group/ east side (south Unit 5)			TR
	General warehouse		
	Drum crusher- once/quarter (up to 2 week duration)		
	Oil filter crusher- once/quarter (up to 2 week duration)		
	Empty 55 gal drums		
	no flammable solvents		
Chemical Warehouse/ Fire Training Area (east Unit 4)			TR
	chemical storage/ flammables	lubricants, oils, paints, hydrazine, ammonia, waste oil: all sealed aerosol can puncturing: once/month; 2-3 drums	
	fire training area		TR
Central lab (south Unit 5)	Hoods- 5		ER/TR
	burner/hood		
Chemical storage lab	Hoods- 4		ER/TR
	Oven		
Site Support Building- east side (south Unit 5)			
	general site equipment (heavy duty)		TR
	Building Ventilation		TR
General Site	Surface Coating < 6.0 gal/day		TR
	Brazing, Soldering or Welding		TR
	Plant Grounds Maintenance		TR
	Routine Maintneance		TR
	Oil water separators		TR
	CEM Equipment & Calibration		TR
	Gas Venting		
	Compressed Air System &		TR
	Misc. Compressors		
	Non-halogenerated Solvent		TR
	Fire Water Tank		TR
	Ammonia drums		TR

Attachment CR-E14-B6
General Emissions Unit Information for Unregulated Emissions Unit

Table 1. FPC, Crystal River Plant, Unregulated Emissions Unit

Area	Emission Unit Description		Status
	Sodium borax, borite		TR
Offices	Office Equipment Operation		TR
	Routine Repairs		TR
	Operations kitchen		TR
	Maintenance kitchen/ washroom		TR
	Heating & Cooling Systems		TR (except Part 82)
Substation	Transformers and Associated Equipment		TR
Parking Lot	Vehicles		TR
Mariculture Center			
Technical Center	Offices	Office Equipment Operation	TR
		Kitchen/ breakroom	TR
		Routine Repairs	TR
		Heating & Cooling Systems	TR (except Part 82)
	Laboratory acetone, formaldehyde, ethanol, xylene	Fume hood	ER/TR
	Water tanks (fish, plants)	Bleach (disinfectant)	TR
General Site	Surface Coating < 6.0 gal/day		TR
	Plant Grounds Maintenance		TR
	Routine Maintneance		TR
	Non-halogenerated Solvent		TR
	Portable gasoline cans (boat use)		TR
Parking Lot	Vehicles		TR

Note: ER = Exempt by Rule 62-210.700(3)(a); TR = Trivial; UR = Unregulated

Attachment CR-E14-B6
General Emissions Unit Information

Table 2. FPC, Crystal River Plant, Petroleum Product Storage and Throughput Operation

FPC Tank No.	Storage Product	Storage Tank Size (gallons)	Potential Annual Throughput (gallons)
Crystal River Units 1/2			
4	Diesel (equipment)	250	500
10	No. 2 fuel oil	210,000	2,500,000
11	No. 2 fuel oil	20,200	250,000
SUB-TOTAL			
Crystal River Unit 3			
2	Diesel (equipment)	275	550
3	Diesel (equipment)	275	550
4	Diesel (equipment)	30,118	16,000
5	Diesel (equipment)	30,118	30,000
6	Diesel (equipment)	500	2,000
7	Diesel (equipment)	500	2,000
8	Diesel (equipment)	500	2,000
9	Lube oil	25,000	2,500
15	Diesel (equipment)	2,000	2,000
16	Diesel (equipment)	30	1,000

Attachment CR-E14-B6
General Emissions Unit Information

Table 2. FPC, Crystal River Plant, Petroleum Product Storage and Throughput Operation

FPC Tank No.	Storage Product	Storage Tank Size (gallons)	Potential Annual Throughput (gallons)
22	Diesel (equipment)	1,942.5	16,000
23	Diesel (equipment)	1,942.5	30,000
Con-vault	Diesel (vehicular)	1,008	12,000
Con-vault	Diesel (vehicular)	504	6,000
SUB-TOTAL			
Crystal River Units 4/5			
1	No. 2 fuel oil	256,200	3,000,000
2	No. 2 fuel oil	255,318	3,000,000
3	Diesel (equipment)	250	500
4	Diesel (equipment)	250	500
16	Lube oil	30,000	500 est.
SUB-TOTAL			
Crystal River- Additional			
E.O.F. #01	Diesel (equipment)	2,000.0	4,000 est.
E.O.F. #02	Diesel (equipment)	25.0	100 est.

Attachment CR-E14-B6
General Emissions Unit Information

Table 2. FPC, Crystal River Plant, Petroleum Product Storage and Throughput Operation

FPC Tank No.	Storage Product	Storage Tank Size (gallons)	Potential Annual Throughput (gallons)
Garage #01	Waste Oil	150	600 est.
O.C. #01	Mineral Spirits	80	320 est.
#03- North	Diesel (vehicle)	10,000	200,000
#04- South	Diesel (vehicle)	9,996	200,000
#05- North	Diesel (unleaded gas.)	10,000	80,000
N. Sub. #01	Transmission Oil	1,100	2,200 est.
N. Sub. #02	Transmission Oil	1,100	2,200 est.
N. Sub. #03	Transmission Oil	1,100	2,200 est.
N. Sub. #04	Mineral Spirits	1,100	2,200 est.
	TOTAL	903,832	9,368,420

Florida's PROPOSED Permit Electronic Notification Cover Memorandum

TO: Elizabeth Bartlett, U.S. EPA Region 4

CC: Gregg Worley, U.S. EPA Region 4

THRU: Scott Sheplak, P.E., Bureau of Air Regulation

FROM: Edward J. Svec, Permit Engineer

DATE: February 1, 2001

RE: U.S. EPA Region 4 PROPOSED Title V Operation Permit Revision Review

The following PROPOSED Title V operation permit(s) and associated documents have been posted on the DEP World Wide Web Internet site for your review. Please provide any comments via Internet E-mail, within forty five (45) days of receiving this notice, to Scott Sheplak, at "SHEPLAK_S@dep.state.fl.us".

Applicant Name	County	Method of Transmittal	Electronic File Name(s)
Florida Power Corporation Crystal River Plant	Citrus	INTERNET	0170004p.zip

This zipped file contains the following electronic files:

0170004p.doc
table1-1.doc
table2-1.doc
0170004g.doc
0170004u.doc
0170004h.doc
sob.doc