

One Energy Place
Pensacola, Florida 32520

Tel 850.444.6111

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NOV 24 2003

BUREAU OF AIR REGULATION

Certified Mail



November 12, 2003

Mr. Scott M. Sheplak, P.E.
Florida Department of Environmental Protection
Division of Air Resources Management
2600 Blair Stone Road
Mail Station #5510
Tallahassee, Florida 32399-2400

**RE: Plant Crist Electric Generating Plant
Corrected ISCST3 Model Input Values
Air Permit No. 0330045-001-AV**

Dear Mr. Sheplak:

Your letter of September 25 indicates that preliminary modeling by FDEP showed modeled exceedances of the SO₂ ambient standard for Plant Crist. Based on our understanding of the stack information used for that modeling, we believe that the emission and stack parameters used were inaccurate and hereby supply you with updated information for the Plant Crist stacks. It is our understanding that FDEP used the stack data shown in Table 1 (attached) for its modeling and estimated the SO₂ emissions for each Unit as shown in Table 2 (attached). We have updated this information to correct the stack height for Units 2-5 at 130.53m and deleted Unit 1 which has been retired and should not be included in the model. We also found that the stack temperature and velocity used for the modeling do not correspond to operations at the permitted heat input values used for the emission calculations and the stack parameters were not properly represented in the modeling.

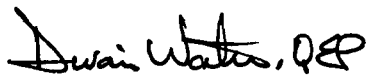
We have used the most recent stack test data to estimate these values for each unit currently in operation. Using the best-fit extrapolation techniques, the temperature and actual flow rates were estimated for the permitted heat input values. Using the unit-specific information, total actual flow rate and weighted-averaged temperature were estimated for each of the two stacks (the Units 2-5 stack and the Units 6&7 stack). Attachment 1 provides the data and graphs used to perform these estimates.

Mr. Scott M. Sheplak, P.E.
November 12, 2003
Page 2

After conversion of these data into the metrics used for ISCST3 model inputs, we show the stack data appropriate for this modeling exercise in Table 3.

Please find this information and supportive data attached for your review. Also enclosed is a statement of certification by the Responsible Official. If you have any questions, please call me at (850) 444-6527.

Sincerely,



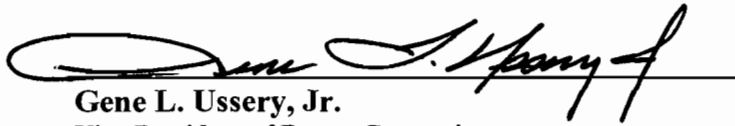
G. Dwain Waters, QEP
Air Quality Programs Supervisor

Cc: Jim Vick, Gulf Power Company
Bernard Jacob, Gulf Power Company
Gene Ussery, Gulf Power Company
Stan Vasa, Southern Company Services
Cleave Holiday, FDEP – Tallahassee Office

CERTIFICATION BY RESPONSIBLE OFFICIAL

“I, the undersigned, am the responsible official, as defined in Chapter 62-210.200, F.A.C., for the Title V source for which this information is being submitted. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made and data contained in this submission are true, accurate and complete.”

Responsible Official Signature:



Gene L. Ussery, Jr.

Vice-President of Power Generation

11-14-03
Date:

Table-1

Unit	TitleV E-Factor in (lb/mmBtu)	TitleV HeatInput in (mmBtu/hr)	Emissions in (g/s)
1	1.98	320	79.83
2	1.98	320	79.83
3	1.98	550	137.21
4	5.9	1096.7	815.29
5	5.9	1096.7	815.29
6	5.9	3704.8	2754.15
7	5.9	6406.4	4762.52

	Total Emissions
Unit 1-5	1927.45
Unit 6-7	7516.67

Table-2

Stack	Emissions in (g/s)	Height in (M)	Temp in (K)	Velocity in (m/s)	Diameter in (m)
GPC1_5	1927.45	137.16	433.0	16.0	5.49
GPC6_7	7516.66	137.16	433.0	29.6	7.07

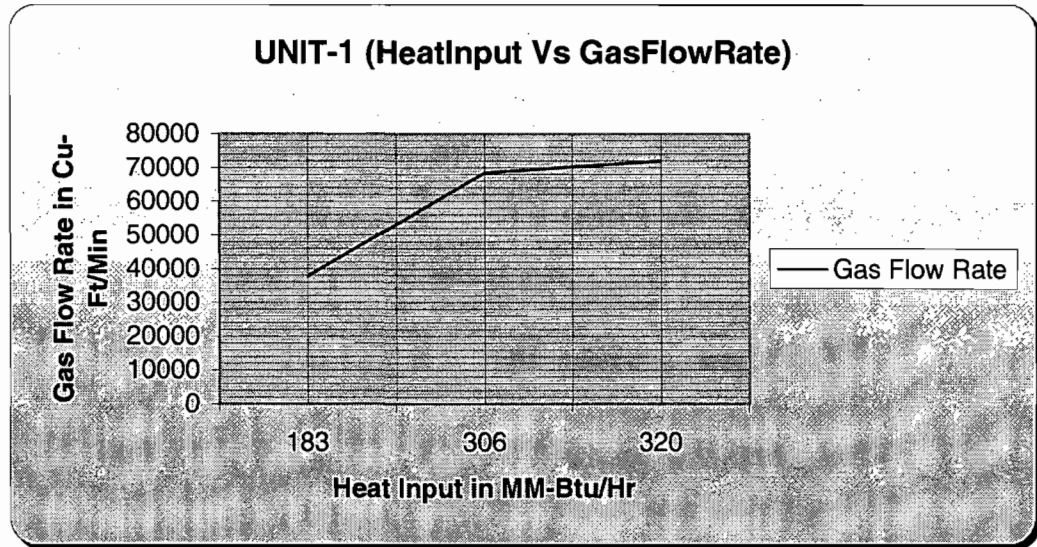
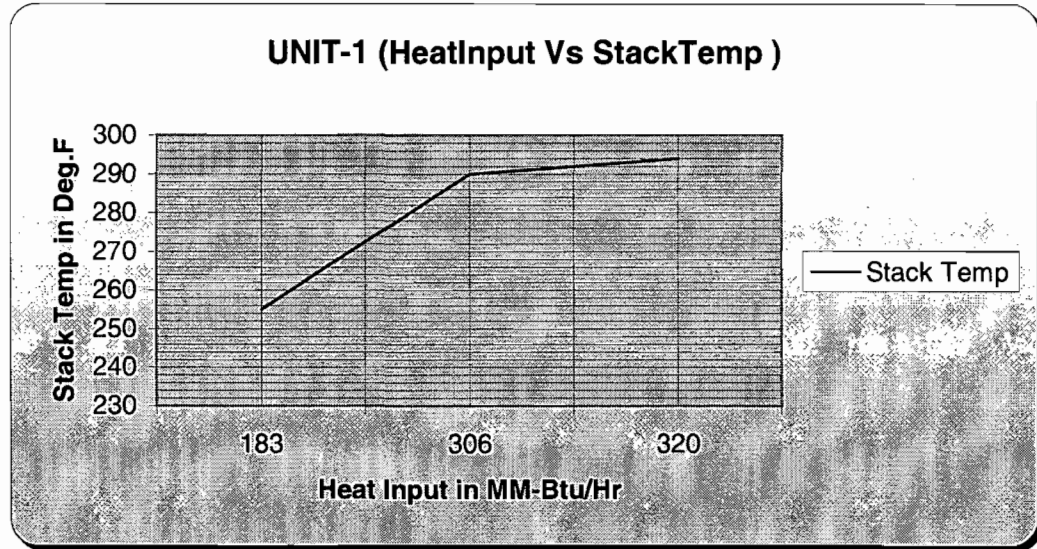
Table-3

Stack	Emissions in (g/s)	Height in (M)	Temp in (K)	Velocity in (m/s)	Diameter in (m)
GPC1_5	1927.45	130.53	459.4	25.1	5.49
GPC6_7	7516.66	137.16	444.0	41.0	7.07

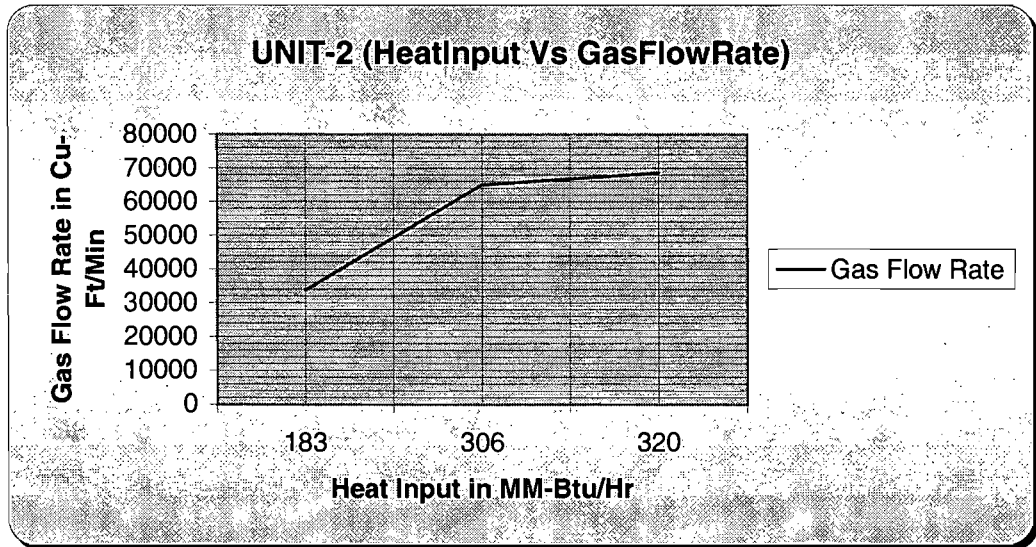
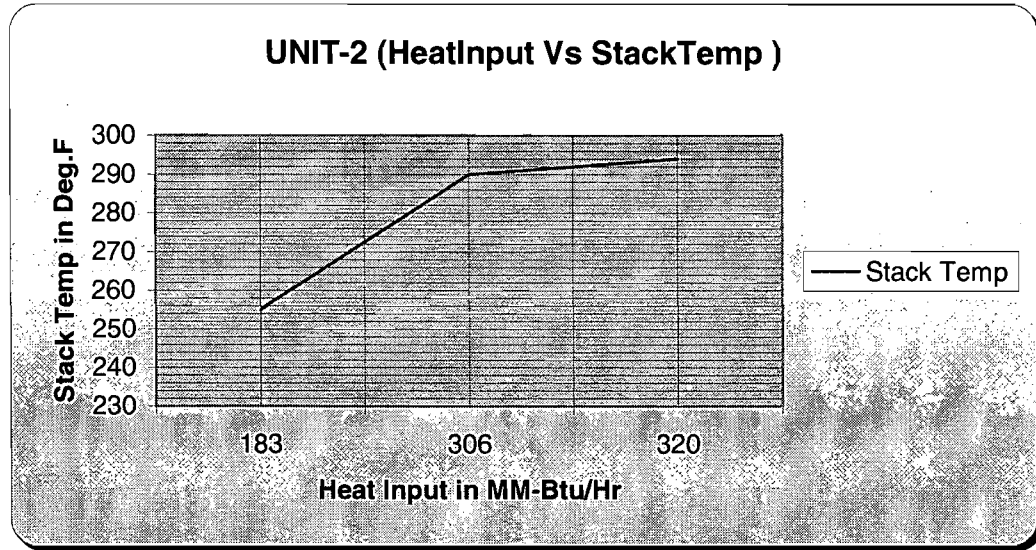
Unit Name	Heat Input in MM-Btu/Hr	Stack Temp in Deg. F	Gas Flow Rate in Cu-Ft/Min
Unit 1	320.00	293.98	71887.38
Unit 2	320.00	293.98	68573.98
Unit 3	550.00	322.65	267080.45
Unit 4	1096.70	336.17	358249.66
Unit 5	1096.70	463.65	490627.83
Unit 6	3704.80	345.00	1297376.11
Unit 7	6406.40	336.81	2112669.94

Stack	Heat Input in MM-Btu/Hr	Stack Temp in Deg. F	Gas Flow Rate in Cu-Ft/Min
Stack 1-5	3383.40	367.31	1256419.30
Stack 6-7	10111.20	339.81	3410046.06

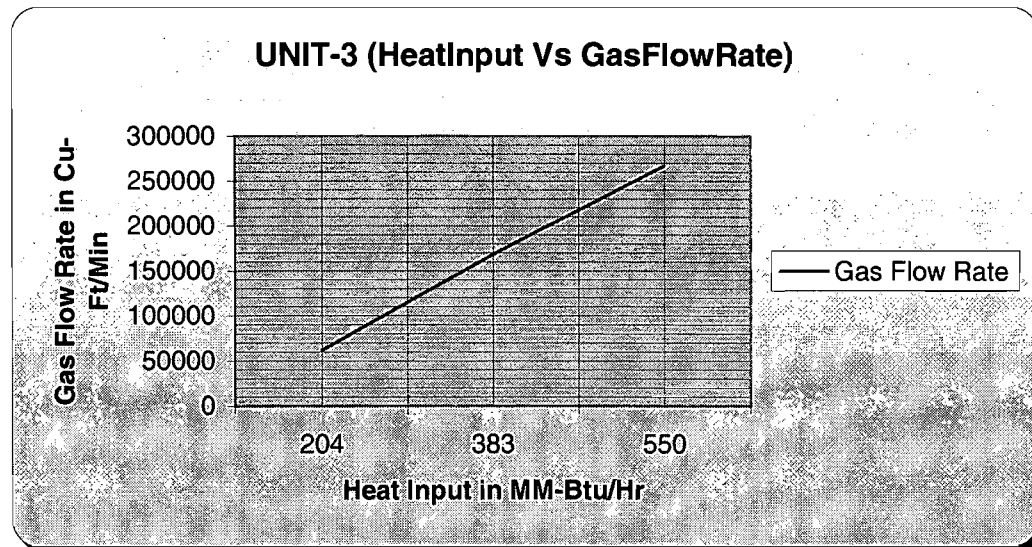
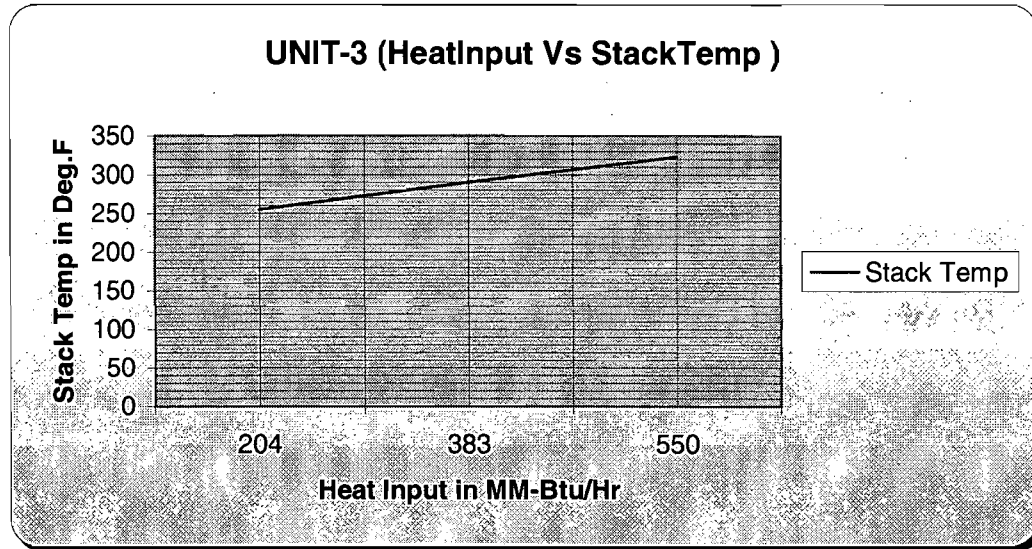
Heat Input	Stack Temp	Gas Flow Rate
183	255	37800
306	290	68404
320	293.9837398	71887.38211



Heat Input	Stack Temp	Gas Flow Rate
183	255	33600
306	290	65000
320	293.9837398	68573.98374



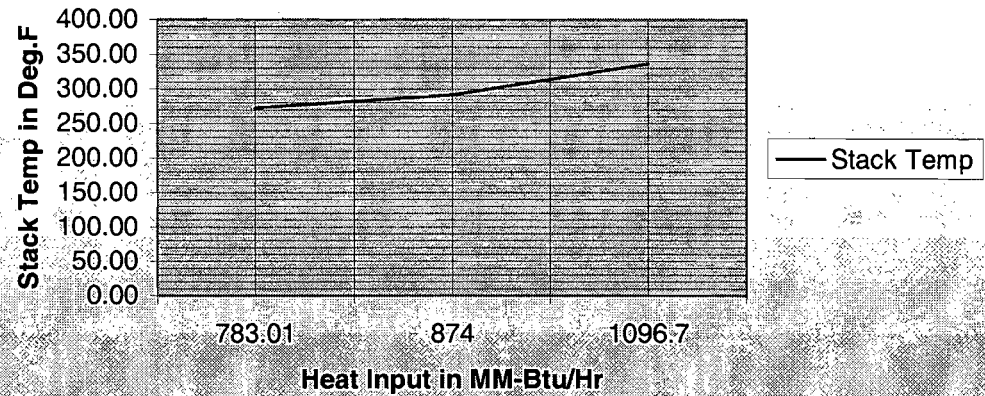
Heat Input	Stack Temp	Gas Flow Rate
204	255	61800
383	290	168000
550	322.6536313	267080.4469



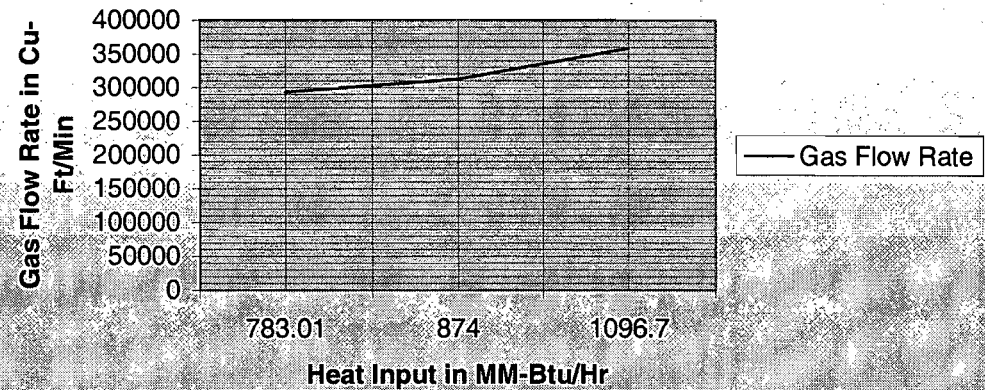
Heat Input	Stack Temp	Gas Flow Rate
783.01	272.73	293650
874	291.13	312388
1096.7	336.1677327	358249.6617

Run-1	Run-2	Run-3
286	292.1	295.3
272	272.8	273.4

UNIT-4 (HeatInput Vs StackTemp)

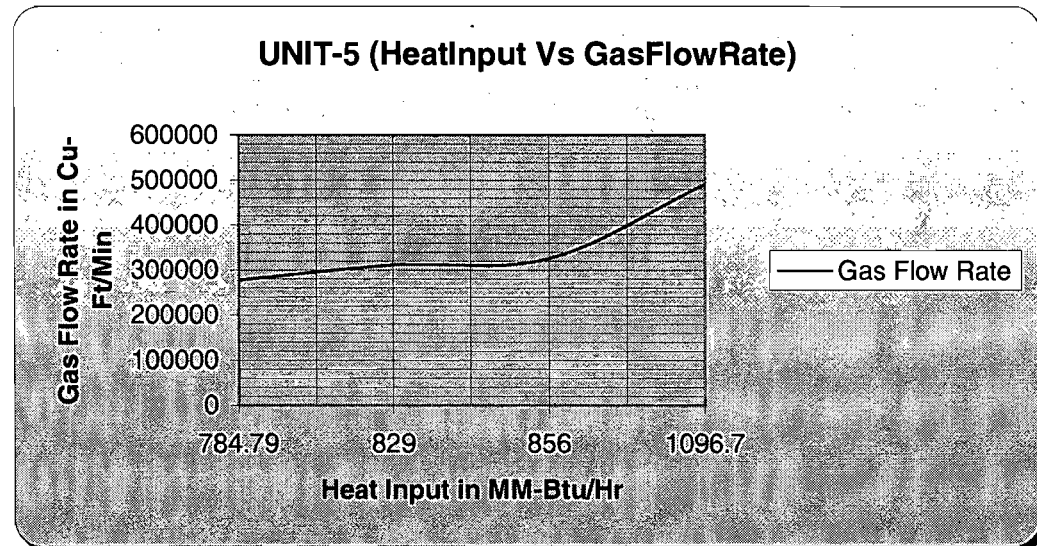
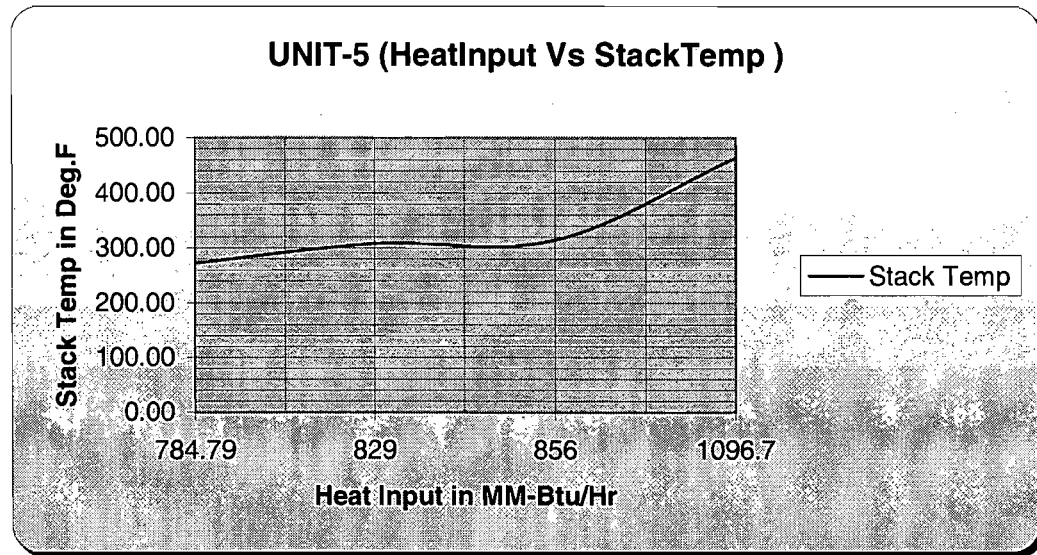


UNIT-4 (HeatInput Vs GasFlowRate)



Heat Input	Stack Temp	Gas Flow Rate
784.79	272.40	277704
829	307.83	310933
856	314.00	325560
1096.7	463.65	490627.8292

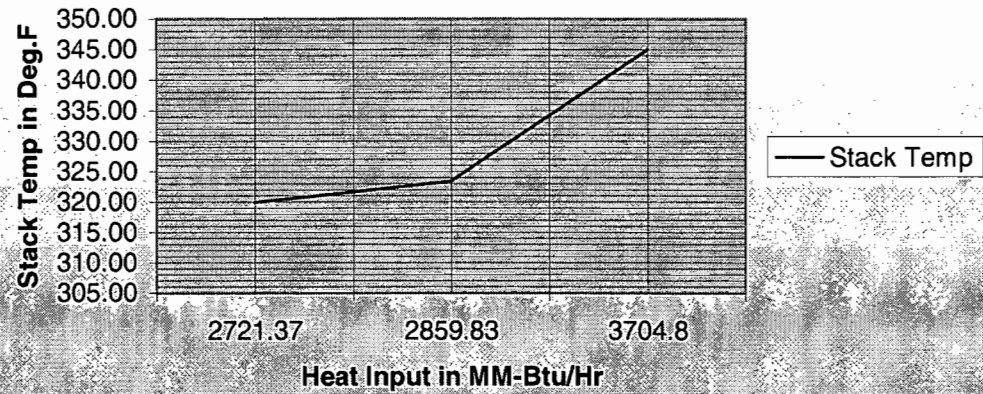
Run-1	Run-2	Run-3
272	271.6	273.6
306.6	308.7	308.2
310.8	314.6	316.6



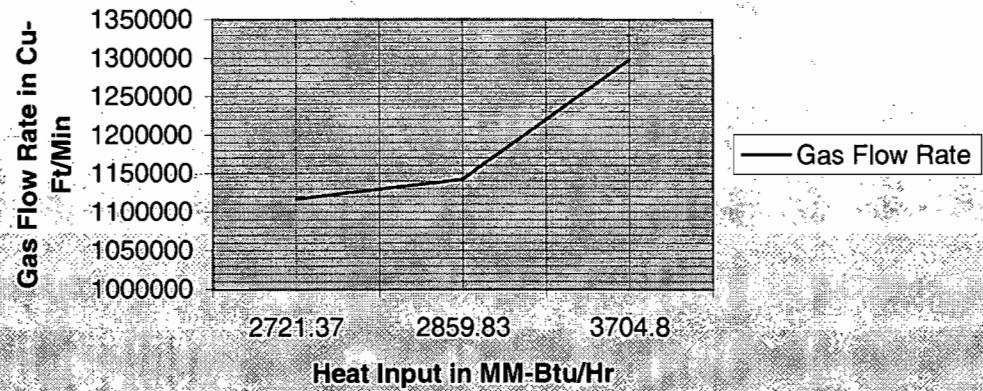
Heat Input	Stack Temp	Gas Flow Rate
2721.37	319.90	1116600
2859.83	323.43	1142052
3704.8	344.9959555	1297376.1111

Run-1	Run-2	Run-3
320.5	320.7	318.5
318.3	324.7	327.3

UNIT-6 (HeatInput Vs StackTemp)



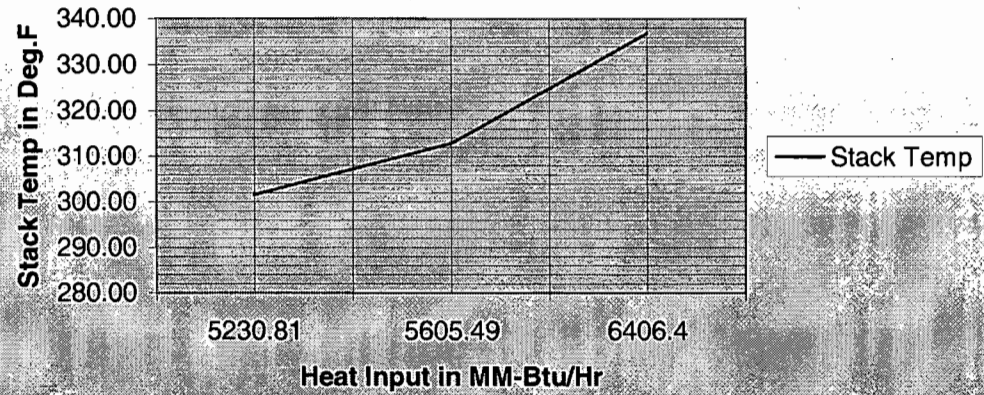
UNIT-6 (HeatInput Vs GasFlowRate)



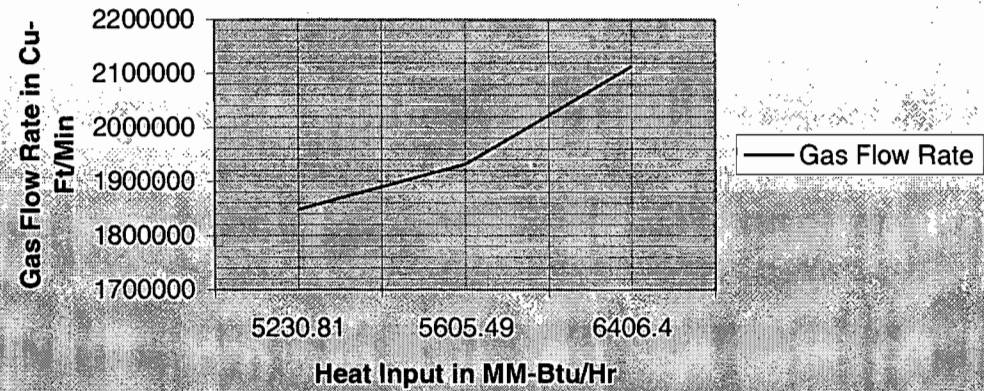
Heat Input	Stack Temp	Gas Flow Rate
5230.81	301.57	1847428
5605.49	312.80	1931965
6406.4	336.81	2112669.945

Run-1	Run-2	Run-3
301.7	301.1	301.9
293.6	332.4	312.4

UNIT-7 (HeatInput Vs StackTemp)



UNIT-7 (HeatInput Vs GasFlowRate)



One Energy Place
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September 29, 2003

Mr. Scott M. Sheplak, P.E.
Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Mail Station #5510
Tallahassee, Florida 32399-2400

Dear Mr. Sheplak:

RE: Plant Crist Title V Application Revision:
Permit No: 0330045-001-AV

Attached, please find several revised pages for the Crist Title V permit application originally submitted in 1996. The requested change adds a sodium carbonate injection system for Crist Unit 4 and 5 to enhance the operation of the particulate control systems on these units. An analysis of the requested injection system shows no impacts to the previously submitted emissions inventory or potential emissions for this facility. New Responsible Official and PE Certifications are enclosed for this revision. Because the estimated emissions from this process is less than 5 tons per year of a regulated pollutant, the process qualifies for a generic exemption under 62-210.300(3)(b)1. F.A.C.

Please revise the "Alternative Methods of Operation" section under EUS-10 and additional information under Emissions Unit 9 (Material Handling Activities) for the chemical additive sodium carbonate and sodium sulfate.

If you have any questions or need further information regarding the revised Crist Title V application, please call me at (850) 444.6527.

Sincerely,

A handwritten signature in black ink that reads "G. Dwain Waters, QEP". The signature is written in a cursive style.

G. Dwain Waters, QEP
Air Quality Programs Supervisor

Mr. Scott Sheplak
September 26, 2003
Page 2

cc: Bernard Jacob, Gulf Power Company
James O. Vick, Gulf Power Company
Terry Wright, Gulf Power Company
Greg Terry, Gulf Power Company
Danny Herrin, Southern Company Services
Sandra Veazey, FDEP Northwest District
Kevin Beaty, Gulf Power Company

APPLICATION INFORMATION

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OCT 01 2003

BUREAU OF AIR REGULATION

Professional Engineer Certification

1. Professional Engineer Name: Gregory N. Terry
 Registration Number: FL 52786

2. Professional Engineer Mailing Address... One Energy Place, Pensacola, FL 32520
 Organization/Firm: Gulf Power Company
 Street Address: 11999 Pate Street
 City: Pensacola State: FL Zip Code: 32520

3. Professional Engineer Telephone Numbers...
 Telephone: 850.429238 ext. Fax: () -

4. Professional Engineer Email Address: gnterry@southernco.com

5. Professional Engineer Statement:
I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) *To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and*

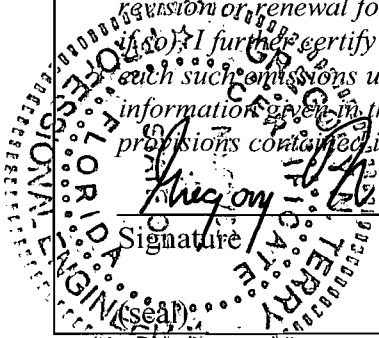
(2) *To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.*

(3) *If the purpose of this application is to obtain a Title V air operation permit (check here , if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.*

(4) *If the purpose of this application is to obtain an air construction permit (check here , if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here , if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.*

(5) *If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here , if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.*

Gregory N. Terry
 Signature _____ Date 9.26.2003

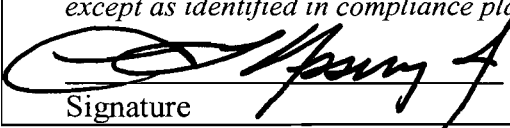


* Attach any exception to certification statement.

APPLICATION INFORMATION

Application Responsible Official Certification

Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

1. Application Responsible Official Name: Gene L. Ussery, Jr.
2. Application Responsible Official Qualification (Check one or more of the following options, as applicable): <input checked="" type="checkbox"/> For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C. <input type="checkbox"/> For a partnership or sole proprietorship, a general partner or the proprietor, respectively. <input type="checkbox"/> For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official. <input type="checkbox"/> The designated representative at an Acid Rain source.
3. Application Responsible Official Mailing Address... Organization/Firm: Gulf Power Company Street Address: One Energy Place City: Pensacola State: Florida Zip Code: 32520-0100
4. Application Responsible Official Telephone Numbers... Telephone: (850) 444-6383 ext. Fax: (850) 444-6744
5. Application Responsible Official Email Address: <u>GLUSSERY@southernco.com</u>
6. Application Responsible Official Certification: <i>I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.</i>  Signature <u>9-26-03</u> Date

ALTERNATIVE METHODS OF OPERATION CRIST UNIT 4

- 1. Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of “on specification” used oil at a rate to minimize emissions less than the applicable opacity standard. The amount of used oil to be consumed by the unit is estimated to be less than 50,000 gallons per year.**
- 2. Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of “boiler chemical cleaning waste” at a rate of less than 50 gallons per minute to minimize emissions less than the applicable opacity standard.**
- 3. Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of “oil contaminated soil” for energy recovery at a rate to minimize emissions less than the applicable opacity standard. The amount of “oil contaminated soil” is estimated to be less than 2500 cubic yards of soil per year.**
- 4. Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of any combination of the following fuels; #2 oil, natural gas as dictated by market and fuel availability demands.**
- 5. Unit is operated under normal conditions utilizing #2 oil as the primary fuel.**
- 6. Unit is operated under normal conditions utilizing natural gas as the primary fuel.**
- 7. Unit is operated under normal conditions utilizing subbituminous coal as the primary fuel.**
- 8. Unit is operated under normal conditions utilizing bituminous coal as the primary fuel.**
- 9. Unit is operated under normal conditions utilizing subbituminous coal as the primary fuel with supplemental use of the additive “sodium carbonate” or “sodium sulfate” at a rate of 440 pounds per hour as necessary to minimize emissions less than the applicable opacity standard.**
- 10. Unit is operated under normal conditions utilizing bituminous coal as the primary fuel with supplemental use of the additive “sodium carbonate” or “sodium sulfate” at a rate of 440 pounds per hour as necessary to minimize emissions less than the applicable opacity standard.**

ALTERNATIVE METHODS OF OPERATION CRIST UNIT 5

- 1. Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of “on specification” used oil at a rate to minimize emissions less than the applicable opacity standard. The amount of used oil to be consumed by the unit is estimated to be less than 50,000 gallons per year.**
- 2. Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of “boiler chemical cleaning waste” at a rate of less than 50 gallons per minute to minimize emissions less than the applicable opacity standard.**
- 3. Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of “oil contaminated soil” for energy recovery at a rate to minimize emissions less than the applicable opacity standard. The amount of “oil contaminated soil” is estimated to be less than 2500 cubic yards of soil per year.**
- 4. Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of any combination of the following fuels; #2 oil, natural gas as dictated by market and fuel availability demands.**
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- 10. Unit is operated under normal conditions utilizing bituminous coal as the primary fuel with supplemental use of the additive “sodium carbonate” or “sodium sulfate” at a rate of 440 pounds per hour as necessary to minimize emissions less than the applicable opacity standard.**

GULF POWER COMPANY
One Energy Place
Pensacola, FL 32520-0328

Fax Phone: 850.444.6217 -
Environmental Affairs

Fax

To:	Scott Sheplak 7DEP	From:	Drain Waters Gulf Power Co. / Environmental Affairs
Fax:	(850) 922-6979	Pages:	1 with cover
Phone:	(850) 921-9532	Date:	9/29/03
Re:			

Urgent For Your Review Comment by _____

Please Reply Please Recycle

● **Comments:**

Attached, please find a copy of the Gulf Power
request for permit modification @ Plant Cist.
The certified mail copy will be routed today.

One Energy Place
Pensacola, Florida 32520

Tel 850.444.6111



Certified Mail

September 29, 2003

Mr. Scott M. Sheplak, P.E.
Department of Environmental Protection
Bureau of Air Regulation
2600 Blair Stone Road
Mail Station #5510
Tallahassee, Florida 32399-2400

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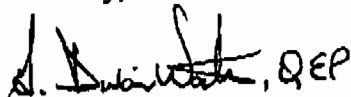
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If you have any questions or need further information regarding the revised Crist Title V application, please call me at (850) 444.6527.

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G. Dwain Waters, QEP
Air Quality Programs Supervisor

~~Mr. Scott Chapman~~

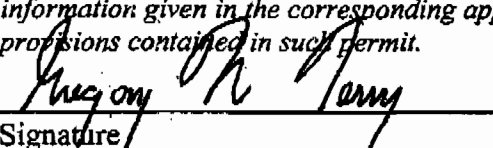
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APPLICATION INFORMATION

Professional Engineer Certification

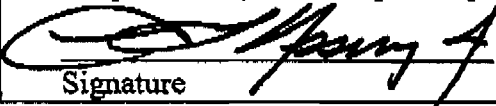
1. Professional Engineer Name: Gregory N. Terry Registration Number: FL 52786	
2. Professional Engineer Mailing Address... One Energy Place, Pensacola, FL 32520 Organization/Firm: Gulf Power Company Street Address: 11999 Pate Street City: Pensacola State: FL Zip Code: 32520	
3. Professional Engineer Telephone Numbers... Telephone: 850.429238 ext. Fax: () -	
4. Professional Engineer Email Address: gnterry@southernco.com	
5. Professional Engineer Statement: <p><i>I, the undersigned, hereby certify, except as particularly noted herein*, that:</i></p> <p><i>(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and</i></p> <p><i>(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.</i></p> <p><i>(3) If the purpose of this application is to obtain a Title V air operation permit (check here <input checked="" type="checkbox"/>), if so, I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.</i></p> <p><i>(4) If the purpose of this application is to obtain an air construction permit (check here <input type="checkbox"/>, if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here <input type="checkbox"/>, if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.</i></p> <p><i>(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here <input type="checkbox"/>, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.</i></p> <p>  _____ Signature </p> <p> 9.26.2003 _____ Date </p> <p>(seal)</p>	

* Attach any exception to certification statement.

APPLICATION INFORMATION

Application Responsible Official Certification

Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

<p>1. Application Responsible Official Name: Gene L. Ussery, Jr.</p>
<p>2. Application Responsible Official Qualification (Check one or more of the following options, as applicable):</p> <p><input checked="" type="checkbox"/> For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.</p> <p><input type="checkbox"/> For a partnership or sole proprietorship, a general partner or the proprietor, respectively.</p> <p><input type="checkbox"/> For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.</p> <p><input type="checkbox"/> The designated representative at an Acid Rain source.</p>
<p>3. Application Responsible Official Mailing Address...</p> <p>Organization/Firm: Gulf Power Company</p> <p>Street Address: One Energy Place</p> <p style="text-align: center;">City: Pensacola State: Florida Zip Code: 32520-0100</p>
<p>4. Application Responsible Official Telephone Numbers...</p> <p>Telephone: (850) 444-6383 ext. Fax: (850) 444-6744</p>
<p>5. Application Responsible Official Email Address: <u>GLUSSERY@southernco.com</u></p>
<p>6. Application Responsible Official Certification:</p> <p><i>I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.</i></p> <p style="text-align: center;">  <u>9-26-03</u> </p> <p style="text-align: center;"> Signature Date </p>

Crist 5EUS4-10 (Alternative Methods of Operation)

ALTERNATIVE METHODS OF OPERATION CRIST UNIT 4

- 1. Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of "on specification" used oil at a rate to minimize emissions less than the applicable opacity standard. The amount of used oil to be consumed by the unit is estimated to be less than 50,000 gallons per year.**
- 2. Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of "boiler chemical cleaning waste" at a rate of less than 50 gallons per minute to minimize emissions less than the applicable opacity standard.**
- 3. Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of "oil contaminated soil" for energy recovery at a rate to minimize emissions less than the applicable opacity standard. The amount of "oil contaminated soil" is estimated to be less than 2500 cubic yards of soil per year.**
- 4. Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of any combination of the following fuels; #2 oil, natural gas as dictated by market and fuel availability demands.**
- 5. Unit is operated under normal conditions utilizing #2 oil as the primary fuel.**
- 6. Unit is operated under normal conditions utilizing natural gas as the primary fuel.**
- 7. Unit is operated under normal conditions utilizing subbituminous coal as the primary fuel.**
- 8. Unit is operated under normal conditions utilizing bituminous coal as the primary fuel.**
- 9. Unit is operated under normal conditions utilizing subbituminous coal as the primary fuel with supplemental use of the additive "sodium carbonate" or "sodium sulfate" at a rate of 440 pounds per hour as necessary to minimize emissions less than the applicable opacity standard.**
- 10. Unit is operated under normal conditions utilizing bituminous coal as the primary fuel with supplemental use of the additive "sodium carbonate" or "sodium sulfate" at a rate of 440 pounds per hour as necessary to minimize emissions less than the applicable opacity standard.**

Crist 5EUS4-10 (Alternative Methods of Operation)

ALTERNATIVE METHODS OF OPERATION CRIST UNIT 5

- 1. Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of "on specification" used oil at a rate to minimize emissions less than the applicable opacity standard. The amount of used oil to be consumed by the unit is estimated to be less than 50,000 gallons per year.**
- 2. Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of "boiler chemical cleaning waste" at a rate of less than 50 gallons per minute to minimize emissions less than the applicable opacity standard.**
- 3. Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of "oil contaminated soil" for energy recovery at a rate to minimize emissions less than the applicable opacity standard. The amount of "oil contaminated soil" is estimated to be less than 2500 cubic yards of soil per year.**
- 4. Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of any combination of the following fuels; #2 oil, natural gas as dictated by market and fuel availability demands.**
- 5. Unit is operated under normal conditions utilizing #2 oil as the primary fuel.**
- 6. Unit is operated under normal conditions utilizing natural gas as the primary fuel.**
- 7. Unit is operated under normal conditions utilizing subbituminous coal as the primary fuel.**
- 8. Unit is operated under normal conditions utilizing bituminous coal as the primary fuel.**
- 9. Unit is operated under normal conditions utilizing subbituminous coal as the primary fuel with supplemental use of the additive "sodium carbonate" or "sodium sulfate" at a rate of 440 pounds per hour as necessary to minimize emissions less than the applicable opacity standard.**
- 10. Unit is operated under normal conditions utilizing bituminous coal as the primary fuel with supplemental use of the additive "sodium carbonate" or "sodium sulfate" at a rate of 440 pounds per hour as necessary to minimize emissions less than the applicable opacity standard.**

BEST AVAILABLE COPY

GULF POWER COMPANY
One Energy Place
Pensacola, FL 32520-0328

Fax Phone: 850.444.6217 -
Environmental Affairs

Fax

To:	<i>Andy Allen Jonathan Holtan</i>	From:	<i>Dwain Waters</i> Gulf Power Co. / Environmental Affairs
Fax:	<i>921-9533 595-8026</i>	Pages:	<i>20 plus cover</i>
Phone:		Date:	<i>9/26/03</i>
Re:			

Urgent For Your Review Comment by _____

Please Reply Please Recycle

● **Comments:**

*Please find attached information on
Na Carbonate.*

Dwain

One Energy Place
Pensacola, Florida 32520

850.444.5111



Certified Mail

June 18, 1999

Mr. Scott M. Sheplak, P.E.
Department of Environmental Protection
Bureau of Air Regulation
111 South Magnolia Drive, Suite 4
Tallahassee, Florida 32301

Dear Mr. Sheplak:

RE: Plant Lansing Smith Title V Application Revision:
Permit No: 0050014-001-AV

Attached, please find several revised pages for the Lansing Smith Title V permit application previously submitted on June 13, 1996. The requested change adds a sodium carbonate injection system for Lansing Smith Unit 1 and 2 to support the fuel switch from high sulfur to low sulfur coal planned in year 2000. An analysis of the requested injection system shows no impacts to the previously submitted emissions inventory or potential emissions for this facility. New Authorized Representative and PE Certifications are enclosed for this revision. Because the estimated emissions from this process is less than 5 tons per year of a regulated pollutant, the process qualifies for a generic exemption under 62-310.300(3)(b)1. F.A.C.

Please revise the "Alternative Methods of Operation" section under EUS-11 and additional information under Emissions Unit 4 (Material Handling Activities) for the chemical additive sodium carbonate.

If you have any questions or need further information regarding the Lansing Smith Title V application, please call me at (850) 444.6527.

Sincerely,

G. Dwain Waters
Air Quality Programs Coordinator, QEP

Mr. Scott Sheplak
June 18, 1999
Page 2

cc: Robert G. Moore., Gulf Power Company
James O Vick, Gulf Power Company
Kimberly D. Flowers, Gulf Power Company
Danny Herrin, Southern Company Services
Ed Middleswart, FDEP Northwest District

4. Professional Engineer Statement :

I, the undersigned, hereby certify, except as particularly noted herein, that :*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollutant control equipment described in this Application for Air Permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

If the purpose of this application is to obtain a Title V source air operation permit (check here if so), I further certify that each emissions unit described in this Application for Air Permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance schedule is submitted with this application.

If the purpose of this application is to obtain an air construction permit for one or more proposed new or modified emissions units (check here if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

If the purpose of this application is to obtain an initial air operation permit or operation permit revision for one or more newly constructed or modified emissions units (check here if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Magony P. Perry

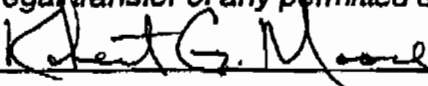
 Signature
 (seal)

06/16/1999

 Date

I. Part 6 - 1

Owner/Authorized Representative or Responsible Official

1. Name and Title of Owner/Authorized Representative or Responsible Official :	
Name :	Robert G. Moore
Title :	V.P. Power Generation/Transmission
2. Owner or Authorized Representative or Responsible Official Mailing Address :	
Organization/Firm :	Gulf Power Company
Street Address :	One Energy Place
City :	Pensacola
State :	FL
Zip Code :	32520-0100
3. Owner/Authorized Representative or Responsible Official Telephone Numbers :	
Telephone :	(850)444-6383
Fax :	(850)444-6744
4. Owner/Authorized Representative or Responsible Official Statement :	
<p><i>I, the undersigned, am the owner or authorized representative* of the non-Title V source addressed in this Application for Air Permit or the responsible official, as defined in Rule 62-210.200, F.A.C., of the Title V source addressed in this application, whichever is applicable. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof. I understand that a permit, if granted by the Department, cannot be transferred without authorization from the Department, and I will promptly notify the Department upon sale or legal transfer of any permitted emissions units.</i></p>	
 _____ Signature	6/16/99 _____ Date

* Attach letter of authorization if not currently on file.

I. Part 2 - 1

DEP Form No. 62-210.900(1) - Form
 Effective : 3-21-96

Smith1EUS1-10 (Alternative Methods of Operation)

ALTERNATIVE METHODS OF OPERATION LANSING SMITH UNIT 1

- 1. Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of "on specification" used oil at a rate to minimize emissions less than the applicable opacity standard. The amount of used oil to be consumed by the unit is estimated to be less than 50,000 gallons per year.**
- 2. Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of "boiler chemical cleaning waste" at a rate of less than 50 gallons per minute to minimize emissions less than the applicable opacity standard.**
- 3. Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of "oil contaminated soil" for energy recovery at a rate to minimize emissions less than the applicable opacity standard. The amount of "oil contaminated soil" is estimated to be less than 2500 cubic yards of soil per year.**
- 4. Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of #2 oil.**
- 5. Unit is operated under normal conditions utilizing subbituminous coal as the primary fuel.**
- 6. Unit is operated under normal conditions utilizing bituminous coal as the primary fuel.**
- 7. Unit is operated under normal conditions utilizing subbituminous coal as the primary fuel with supplemental use of the additive "sodium carbonate" at a rate of 420 pounds per hour as necessary to minimize emissions less than the applicable opacity standard.**
- 8. Unit is operated under normal conditions utilizing bituminous coal as the primary fuel with supplemental use of the additive "sodium carbonate" at a rate of 420 pounds per hour as necessary to minimize emissions less than the applicable opacity standard.**

Smith2EUS2-10 (Alternative Methods of Operation)

ALTERNATIVE METHODS OF OPERATION LANSING SMITH UNIT 2

1. Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of "on specification" used oil at a rate to minimize emissions less than the applicable opacity standard. The amount of used oil to be consumed by the unit is estimated to be less than 50,000 gallons per year.
2. Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of "boiler chemical cleaning waste" at a rate of less than 50 gallons per minute to minimize emissions less than the applicable opacity standard.
3. Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of "oil contaminated soil" for energy recovery at a rate to minimize emissions less than the applicable opacity standard. The amount of "oil contaminated soil" is estimated to be less than 2500 cubic yards of soil per year.
4. Unit is operated under normal conditions utilizing coal as the primary fuel with supplemental firing of #2 oil.
5. Unit is operated under normal conditions utilizing subbituminous coal as the primary fuel.
6. Unit is operated under normal conditions utilizing bituminous coal as the primary fuel.
7. Unit is operated under normal conditions utilizing subbituminous coal as the primary fuel with supplemental use of the additive "sodium carbonate" at a rate of 420 pounds per hour as necessary to minimize emissions less than the applicable opacity standard.
8. Unit is operated under normal conditions utilizing bituminous coal as the primary fuel with supplemental use of the additive "sodium carbonate" at a rate of 420 pounds per hour as necessary to minimize emissions less than the applicable opacity standard.

Sodium Carbonate Drop to Smith Coal Conveyor Belt

$$E = \frac{k \cdot (0.0018) \cdot (s/5) \cdot (u/5) \cdot (h/10)}{(m/2)^2}$$

where:

k = 1.0 for TSP; 0.37 for PM-10

s = silt content of material;

= assume 2.2 for coal ; AP-42 Table 11.2.3-1 9/88

= assume 5.0 for bottom ash; 76.6 for fly ash

= assume 1.6 for limestone; AP-42 Table 11.2.3-1 9/88

h = Height of drop in feet

m = moisture ;

= assume 7.5 % per KBN*

u = mean wind speed;

= assume 8.8 mph per KBN*

Conveyor Belt Drop Point (Plant Smith Coal Belt)

Assume h = 1 ft., s = 76.6 (the same as fly ash)

$$E_{tsp} = \frac{1.0(0.0018) \cdot (76.6/5) \cdot (8.8/5) \cdot (1/10)}{(7.5/2)^2} \text{ lb/ton of coal}$$

$$E_{tsp} = 0.000345 \text{ lb/ton of Na}_2\text{CO}_3$$

Total Drop Point Emissions = .000345 lb/ton * 1840 tons of sodium carbonate/year

= 0.635 lbs/year or 0.000 tons/year

Total PM-10 Drop Emissions = .635 * 0.37 =

0.235 lbs/year or 0.000 tons/year

Fill in the following variables to calculate emissions:

k	s	h	m	u	t
1	76.6	1	7.5	8.8	1,840

TSP = 0.000345 lb/ton of coal ash

Total Drop Point Emissions = 0.635 lbs per year
0.000 tons per year

Total PM-10 Drop Emissions = 0.235 lbs per year
0.000 tons per year

Gulf Power Company
Lansing Smith Electric Generating Plant

FINAL Permit No.: 0050014-006-AV

was tested. Rule 62-297.310(5), F.A.C., included in the permit, requires measurement of the process variables for emission tests. Such heat input determination may be based on measurements of fuel consumption by various methods including but not limited to fuel flow metering or tank drop measurements, using the heat value of the fuel determined by the fuel vendor or the owner or operator, to calculate average hourly heat input during the test.}

[Rules 62-4.160(2), 62-210.200(PTE) & 62-296.405, F.A.C.; permits AC03-2023 & AC03-2024; and, Applicant's request in initial Title V permit application received June 14, 1996.]

A.2. Emissions Unit Operating Rate Limitation After Testing. See specific condition A.29.
[Rule 62-297.310(2), F.A.C.]

A.3. Methods of Operation.

- a. **Fuels.** The fuels that are allowed to be burned in these boilers are coal and/or new No. 2 fuel oil and/or on-specification used oil (see specific condition A.36.). Fuel oil is only used for periods of start-up and as needed for flame stabilization. Also, on-site generated "oil contaminated soil" is periodically combusted for energy recovery purposes.
- b. **Other.**

1. Supplemental injection of "sodium carbonate" (at a rate of up to 420 pounds per hour) as necessary to maintain visible emissions below the applicable standards.

2. Supplemental injection of "GAM 60" for purposes of maintaining boiler tube temperatures.

[Rule 62-213.410, F.A.C.; Applicant's request in initial Title V permit application dated June 14, 1996, and in revised Title V permit application dated June 18, 1999; and, Gulf Power letter dated July 15, 2002.]

A.4. Hours of Operation. These emissions units may operate continuously, i.e. 8760 hours/year. For each emissions unit, the permittee shall maintain an operation log available for Department inspection that documents the total hours of annual operation, including a detailed account of the hours operated on each of the allowable fuels.

[Rules 62-213.440 & 62-210.200(PTE), F.A.C.; and, Applicant's request in initial Title V application received June 14, 1996.]

Emission Limitations and Standards

{Permitting Note: The attached Table 1-1, Summary of Air Pollutant Standards and Terms, summarizes information for convenience purposes only. This table does not supersede any of the terms or conditions of this permit.}

{Permitting note: Unless otherwise specified, the averaging time for conditions A.5. – A.9. are based on the specified averaging time of the applicable test method.}

A.5. Visible Emissions. Visible emissions shall not exceed 40 percent opacity. Because units 1 and 2 share a common stack, visible emissions violations from the stack will be attributed to both units unless opacity meter results show the specific unit causing the violation.

Gulf Power Company
Lansing Smith Electric Generating Plant

FINAL Permit No.: 0050014-006-AV

→ **A.17. Testing While Injecting Additives.** If supplemental additives are used greater than 50% of the time that the unit(s) are operated, the owner or operator shall conduct all emissions tests while injecting additives, consistent with normal operating practices approved by the Department.
[Rule 62-213.440, F.A.C.]

A.18. Visible Emissions. The test method for visible emissions shall be DEP Method 9 (see specific condition A.19.), incorporated in Chapter 62-297, F.A.C. A transmissometer may be used and calibrated according to Rule 62-297.520, F.A.C. **The Permittee has elected to utilize a transmissometer (opacity meter) for demonstrating compliance with the visible emissions limit.** As long as the transmissometer is calibrated, maintained, and operated in accordance with Performance Specification 1 of 40 CFR 60, Appendix B (see specific condition A.23.), the annual test for visible emissions is not required.
[Rules 62-213.440 and 62-296.405(1)(e)1., F.A.C.]

{Permitting Note: A transmissometer used to demonstrate compliance should record sufficient data so as to be equivalent to a Method 9 test. Method 9 requires determining an average based on 24 readings at 15-second intervals, thus, a six-minute average. The transmissometers in use at this facility make a permanent recording every six-minutes based on an average of readings taken every 15 seconds. After the 6-minute average is recorded, the individual readings are erased and a new 6-minute average is determined based on the next set of 24 individual readings. This 6-minute block recording is consistent with the requirements of Method 9.}

A.19. DEP Method 9. The provisions of EPA Method 9 (40 CFR 60, Appendix A) are adopted by reference with the following exceptions:

1. EPA Method 9, Section 2.4, Recording Observations. Opacity observations shall be made and recorded by a certified observer at sequential fifteen-second intervals during the required period of observation.
2. EPA Method 9, Section 2.5, Data Reduction. For a set of observations to be acceptable, the observer shall have made and recorded, or verified the recording of, at least 90 percent of the possible individual observations during the required observation period. For single-valued opacity standards (e.g., 20 percent opacity), the test result shall be the highest valid six-minute average for the set of observations taken. For multiple-valued opacity standards (e.g., 20 percent opacity, except that an opacity of 40 percent is permissible for not more than two minutes per hour) opacity shall be computed as follows:
 - a. For the basic part of the standard (i.e., 20 percent opacity), the opacity shall be determined as specified above for a single-valued opacity standard.
 - b. For the short-term average part of the standard, opacity shall be the highest valid short-term average (i.e., two-minute, three-minute average) for the set of observations taken.

In order to be valid, any required average (i.e., a six-minute or two-minute average) shall be based on all of the valid observations in the sequential subset of observations selected, and the selected subset shall contain at least 90 percent of the observations possible for the required averaging time. Each required average shall be calculated by summing the opacity value of each of the valid observations in the appropriate subset, dividing this sum by the number of valid observations in the subset, and rounding the result to the nearest whole number. The number of missing observations in the subset shall be

139 979 173
Material Safety Data Sheet
 Sodium Carbonate

ACC# 21080

Section 1 - Chemical Product and Company Identification
--

MSDS Name: Sodium Carbonate

Catalog Numbers: S71987, S71987-1, S71987-2, S78416, S78416-1, S78419, BP357-1, NC9644731, NC9657562, S261-10, S263-1, S263-10, S263-3, S263-500, S26350LC, S31150LB, S495-500, S71987-3, S719871, S719872, S719873, WESS263500, XXS261200LB, XXS263100KG, XXS263200LB

Synonyms: Crystal Carbonate, Disodium Carbonate, Sal Soda, Soda Ash, Washing Soda

Company Identification:

Fisher Scientific
 1 Reagent Lane
 Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients
--

CAS#	Chemical Name	Percent	EINECS/ELINCS
497-19-8	Sodium carbonate	100.0	207-838-8

Hazard Symbols: Xi

Risk Phrases: 36

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white. **Warning!** Harmful if inhaled. May cause eye and skin irritation with possible burns. May cause respiratory and digestive tract irritation.
Target Organs: No data found.

Potential Health Effects

Eye: May result in corneal injury. Contact with eyes may cause severe irritation, and possible eye burns.

Skin: Contact with skin causes irritation and possible burns, especially if the skin is wet or moist.

Ingestion: May cause irritation of the digestive tract.

Inhalation: Harmful if inhaled. May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema.

Chronic: Prolonged or repeated inhalation may cause nosebleeds, nasal congestion, erosion of the teeth, perforation of the nasal septum, chest pain and bronchitis.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion: Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Material will not burn. Wear appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products. Runoff from fire control or dilution water may cause pollution.

Extinguishing Media: Substance is noncombustible; use agent most appropriate to extinguish surrounding fire. Use water fog, dry chemical, carbon dioxide or alcohol type foam.

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in

Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation. Cover with material such as dry soda ash or calcium carbonate and place into a closed container for disposal.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Avoid ingestion and inhalation.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Good general ventilation should be sufficient to control airborne levels. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Sodium carbonate	none listed	none listed	none listed

OSHA Vacated PELs: Sodium carbonate: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves and clothing to prevent skin exposure.

Clothing: Wear appropriate protective clothing to minimize contact with skin.

Respirators: Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Solid

Appearance: white
Odor: odorless
pH: 11.6 (solution)
Vapor Pressure: Not available.
Vapor Density: Not available.
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 400 deg C
Freezing/Melting Point: 851 deg C
Autoignition Temperature: Not available.
Flash Point: Not available.
Decomposition Temperature: 400 deg C
NFPA Rating: (estimated) Health: 3; Flammability: 0; Reactivity: 0
Explosion Limits, Lower: Not available.
Upper: Not available.
Solubility: Soluble in water
Specific Gravity/Density: 1.55
Molecular Formula: Na₂CO₃
Molecular Weight: 105.9778

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: Incompatible materials, dust generation, excess heat.

Incompatibilities with Other Materials: Reacts explosively with red-hot aluminum metal. Incompatible with ammonia + silver nitrate, 2,4-dinitrotoluene, 2,4,6-trinitrotoluene, sulfuric acid, sodium sulfide + water, lithium, phosphorus pentoxide, fluorine, and hydrogen peroxide. Hot concentrated solutions of sodium carbonate are mildly corrosive to steel.

Hazardous Decomposition Products: Carbon dioxide, toxic fumes of sodium oxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 497-19-8: VZ4050000

LD50/LC50:

CAS# 497-19-8:

Draize test, rabbit, eye: 100 mg/24H Moderate;

Draize test, rabbit, eye: 50 mg Severe;

Draize test, rabbit, skin: 500 mg/24H Mild;
 Inhalation, mouse: LC50 = 1200 mg/m3/2H;
 Inhalation, rat: LC50 = 2300 mg/m3/2H;
 Oral, mouse: LD50 = 6600 mg/kg;
 Oral, rat: LD50 = 4090 mg/kg;

Carcinogenicity:

CAS# 497-19-8: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Neurotoxicity: No information available.

Mutagenicity: No information available.

Other Studies: No data available.

Section 12 - Ecological Information

Ecotoxicity: Fish: Bluegill/Sunfish: LC50 = 320 mg/L; 96 Hr.; Static Conditions
 Cas# 497-19-8

Environmental: No information reported.

Physical: No information found

Other: No information found

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	No information available.				No information available.
Hazard Class:					
UN Number:					
Packing Group:					

Section 15 - Regulatory Information**US FEDERAL****TSCA**

CAS# 497-19-8 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA**Section 302 (RQ)**

None of the chemicals in this material have an RQ.

Section 302 (TPQ)

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 497-19-8: acute.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 497-19-8 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California No Significant Risk Level: None of the chemicals in this product are

listed. **European/International Regulations**

European Labeling in Accordance with EC Directives

Hazard Symbols:

XI

Risk Phrases:

R 36 Irritating to eyes.

Safety Phrases:

S 22 Do not breathe dust.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

WGK (Water Danger/Protection)

CAS# 497-19-8: 1

Canada

CAS# 497-19-8 is listed on Canada's DSL List. CAS# 497-19-8 is listed on Canada's DSL List.

This product has a WHMIS classification of D2B.

CAS# 497-19-8 is listed on Canada's Ingredient Disclosure List.

Exposure Limits

Section 16 - Additional Information

MSDS Creation Date: 7/12/1999

Revision #1 Date: 8/02/2000

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SODIUM CARBONATE

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SODIUM CARBONATE

MATERIAL SAFETY DATA SHEET
-----FISHER SCIENTIFIC
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SUBSTANCE IDENTIFICATION

CAS-NUMBER 497-19-8

SUBSTANCE: **SODIUM CARBONATE**

TRADE NAMES/SYNONYMS:

CARBONIC ACID, DISODIUM SALT; SODIUM CARBONATE (2:1); SODA ASH;
CRYSTOL CARBONATE; BISODIUM CARBONATE; CARBONIC ACID DISODIUM SALT;
CARBONIC ACID SODIUM SALT; SODA; SODIUM CARBONATE DODECAHYDRATE; S-261;
S-262; S-263; S-264; S-281; S-495; S-636; ACC21080

CHEMICAL FAMILY:
INORGANIC SALT

MOLECULAR FORMULA: C-NA2-O3 MOL WT: 105.99

CERCLA RATINGS (SCALE 0-3): HEALTH=3 FIRE=0 REACTIVITY=0 PERSISTENCE=0

COMPONENTS AND CONTAMINANTS

COMPONENT: SODIUM CARBONATE PERCENT: 99

OTHER CONTAMINANTS: NONE

EXPOSURE LIMITS:
-NONE ESTABLISHED

PHYSICAL DATA

DESCRIPTION: ODORLESS, WHITE HYGROSCOPIC POWDER OR GRANULAR SOLID.

BOILING POINT: DECOMPOSES MELTING POINT: 1564 F (851 C)

SPECIFIC GRAVITY: 2.5 PH: 11.6 SOLUBILITY IN WATER: 7.1%

****SODIUM CARBONATE****

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SOLVENT SOLUBILITY: ALCOHOL; INSOLUBLE IN ACETONE

FIRE AND EXPLOSION DATA**FIRE AND EXPLOSION HAZARD:**
SLIGHT FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME.**FLASH POINT:** NON-COMBUSTIBLE**FIREFIGHTING MEDIA:**
DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR ALCOHOL FOAM
(1984 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.3).FOR LARGER FIRES, USE WATER SPRAY, FOG OR ALCOHOL FOAM
(1984 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.3).**FIREFIGHTING:**
NO ACUTE HAZARD. MOVE CONTAINER FROM FIRE AREA IF POSSIBLE. AVOID BREATHING
VAPORS OR DUSTS; KEEP UPWIND.-----
TOXICITY500 MG/24 HOURS SKIN-RABBIT MODERATE IRRITATION; 100 MG/24 HOURS EYE-RABBIT
SEVERE IRRITATION; 4000 MG/KG ORAL-RAT LDLO; 117 MG/KG INTRAPERITONEAL-MOUSE
LD50; CARCINOGEN STATUS: NONE.
SODIUM CARBONATE IS A SEVERE EYE, SKIN, AND MUCOUS MEMBRANE IRRITANT.-----
HEALTH EFFECTS AND FIRST AID**INHALATION:**
CORROSIVE/TOXIC.
ACUTE EXPOSURE- MAY CAUSE SEVERE IRRITATION AND DELAYED PULMONARY EDEMA.
1200 AND 2300 MG/M3 FOR 2 HOURS CAUSED DYSPNEA AND GASTROINTESTINAL
CHANGES IN MICE AND RATS.CHRONIC EXPOSURE- PROLONGED INHALATION MAY RESULT IN NASAL SEPTUM
PERFORATION.FIRST AID: REMOVE FROM EXPOSURE AREA TO FRESH AIR IMMEDIATELY. IF BREATHING
HAS STOPPED, GIVE ARTIFICIAL RESPIRATION. MAINTAIN AIRWAY AND BLOOD
PRESSURE AND ADMINISTER OXYGEN IF AVAILABLE. KEEP AFFECTED PERSON WARM AND
AT REST. ADMINISTRATION OF OXYGEN SHOULD BE PERFORMED BY QUALIFIED
PERSONNEL. GET MEDICAL ATTENTION IMMEDIATELY.**SKIN CONTACT:**
CORROSIVE.
ACUTE EXPOSURE- ALKALIES PENETRATE SKIN SLOWLY, THEREFORE THE EXTENT OF
DAMAGE DEPENDS ON THE DURATION OF CONTACT. SOLID MAY CAUSE SEVERE BURNS,
ULCERATION, AND NECROSIS. FUMES ARE HIGHLY IRRITATING.

CHRONIC EXPOSURE- MAY CAUSE CHRONIC DERMATITIS.

FIRST AID- REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (AT LEAST 15-20 MINUTES). IN CASE OF CHEMICAL BURNS, COVER AREA WITH STERILE, DRY DRESSING. BANDAGE SECURELY, BUT NOT TOO TIGHTLY. GET MEDICAL ATTENTION IMMEDIATELY.

EYE CONTACT:
CORROSIVE.

ACUTE EXPOSURE- DIRECT CONTACT WITH ALKALIES MAY CAUSE SEVERE BURNS, CONJUNCTIVAL EDEMA, CORNEAL DESTRUCTION, AND PERMANENT CORNEAL OPACIFICATION. FUMES ARE HIGHLY IRRITATING AND MAY CAUSE BLURRED VISION AND CORNEAL DAMAGE.

CHRONIC EXPOSURE- REPEATED OR PROLONGED CONTACT WITH VAPORS MAY CAUSE CONJUNCTIVITIS, BLURRED VISION, AND CORNEAL DAMAGE.

FIRST AID- WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER, OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (AT LEAST 15-20 MINUTES). IN CASE OF BURNS, APPLY STERILE BANDAGES LOOSELY WITHOUT MEDICATION. GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION:
CORROSIVE.

ACUTE EXPOSURE- MAY CAUSE SEVERE PAIN, VOMITING, DIARRHEA, AND COLLAPSE. THE VOMITUS CONTAINS BLOOD AND SHREDS OF MUCDUS. IF DEATH DOES NOT OCCUR IN THE FIRST 24 HOURS, THE PATIENT MAY IMPROVE FOR 2-4 DAYS AND THEN HAVE A SUDDEN ONSET OF ABDOMINAL PAIN, BOARDLIKE ABDOMINAL RIGIDITY, AND HYPOTENSION INDICATING DELAYED GASTRIC OR ESOPHAGEAL PERFORATION. MAY CAUSE CORROSIVE DAMAGE TO THE ESOPHAGUS AND UPPER GASTROINTESTINAL TRACT.

FIRST AID- IF VICTIM IS CONSCIOUS, GIVE LARGE QUANTITIES OF WATER IMMEDIATELY TO DILUTE THE ACID. DO NOT INDUCE VOMITING. GET MEDICAL ATTENTION IMMEDIATELY.

REACTIVITY

REACTIVITY:
STABLE UNDER NORMAL TEMPERATURES AND PRESSURES.

INCOMPATIBILITIES:
SODIUM CARBONATE:
ACIDS: MAY REACT VIOLENTLY.
ALUMINUM: POSSIBLE EXPLOSION UPON HEATING.
PHOSPHORUS PENTOXIDE: HIGHLY EXOTHERMIC REACTION.
SULFURIC ACID: MAY REACT VIOLENTLY.
FLUORINE: MAY CAUSE VIOLENT IGNITION.
LITHIUM: MAY REACT VIOLENTLY.
2,4,6-TRINITRO-TOLUENE: POSSIBLE EXPLOSION.
ZINC: CORROSIVE.

---DECOMPOSITION:
THERMAL DECOMPOSITION MAY RELEASE ACRID SMOKE AND IRRITATING FUMES.

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GULF POWER

SEP-26-2003 16:45

****SODIUM CARBONATE****

POLYMERIZATION:
NONE KNOWN.

CONDITIONS TO AVOID

MAY BURN BUT DOES NOT IGNITE READILY. PREVENT DISPERSION OF DUST IN THE ATMOSPHERE. PROTECT CONTAINER FROM PHYSICAL DAMAGE. DO NOT STORE WITH INCOMPATIBLE SUBSTANCES.

SPILL AND LEAK PROCEDURES

OCCUPATIONAL SPILL:
WITH A CLEAN SHOVEL, PLACE MATERIAL INTO CLEAN, DRY CONTAINER AND COVER. MOVE CONTAINERS AWAY FROM SPILL AREA.

PROTECTIVE EQUIPMENT

VENTILATION:
PROVIDE LOCAL EXHAUST OR GENERAL DILUTION VENTILATION SYSTEM.

RESPIRATOR:
HIGH LEVELS- CHEMICAL CARTRIDGE RESPIRATOR WITH AN ORGANIC VAPOR CARTRIDGE.

FIREFIGHTING- SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN PRESSURE-DEMAND OR OTHER POSITIVE-PRESSURE MODE.

CLOTHING:
EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE (IMPERVIOUS) CLOTHING AND EQUIPMENT TO PREVENT ANY POSSIBILITY OF SKIN CONTACT WITH THIS SUBSTANCE.

GLOVES:
EMPLOYEE MUST WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT CONTACT WITH THIS SUBSTANCE.

EYE PROTECTION:
EMPLOYEE MUST WEAR SPLASH-PROOF OR DUST-RESISTANT SAFETY GOGGLES AND A FACESHIELD TO PREVENT CONTACT WITH THIS SUBSTANCE.

WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES MAY BE EXPOSED TO THIS SUBSTANCE, THE EMPLOYER SHALL PROVIDE AN EYE-WASH FOUNTAIN WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE.

AUTHORIZED - FISHER SCIENTIFIC GROUP, INC.
CREATION DATE: 02/14/85 REVISION DATE: 04/23/85

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