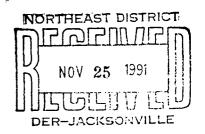


November 25, 1991



Mr. Johnny Cole
Florida Department of Environmental
Regulation
Northeast District
7825 Baymeadows Way, Suite B-200
Jacksonville, FL 32256-7577

Subject: Green Superphosphoric Acid Plant

Dear Johnny:

As discussed with you, I am transmitting the attached "Application to Construct" together with a proprietary disclosure which we have marked "Confidential".

This process was first permitted by the Southwest District office of FDER on March 1, 1989, under Permits AC53-138041 and A053-157886. The basic process has since been patented and will be licensed to the Occidental Chemical Corporation.

Occidental intends to install a unit similar in production rate and configuration at its White Springs facility.

I will be pleased to answer any questions you may have.

Sincerely,

OCCIDENTAL CHEMICAL CORPORATION

W. W. Atwood

Environmental Special Projects Manager

WWA: gmc

enclosures

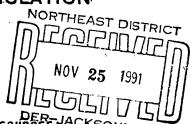


STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING 2600 BLAIR STONE ROAD TALLAHASSEE, FLORIDA 32301





APPLICATION TO TERRATE/CONSTRUCT AIR POLLUTION SOURCES JAC Green Superphosphoric Acid Plant
[X] New1 SOURCE TYPE: [] Existing¹ APPLICATION TYPE: [X] Construction [] Operation [] Modification COMPANY NAME: Occidental Chemical Corporation Hamilton Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) Green SPA Plant City White Springs SOURCE LOCATION: Street U. S. 41, North of White Springs UTM: East (17) 321.1 North_ Latitude 30 a 26 . Longitude ⁸² APPLICANT NAME AND TITLE: J. B. Munroe, Vice President, Operations P. O. Box 300, White Springs, FL APPLICANT ADDRESS: SECTION I: STATEMENTS BY APPLICANT AND ENGINEER APPLICANT Occidental Chemical Corporation I am the undersigned owner or authorized representative* of I certify that the statements made in this application for a Construction permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment. *Attach letter of authorization Vice President, Operations and Title (Please Type) 904/397-8101 Telephone No. B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.) This is to certify that the engineering features of this pollution control project have

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

See Florida Administrative Code Rule 17-2.100(57) and (104)

DER Form 17-1.202(1) Effective October 31, 1982

pollution sources.	on of the pollution control facilities and, if applicable,
A Company of the Comp	Signed
	John B, Koogler, Ph.D., P.E.
	Name (Please Type)
	Koogler & Associates, Environmental Services
	Company Name (Please Type)
	4014 N.W. 13th Street, Gainesville, FL 32609
	Hailing Address (Please Type)
rida Registration No. 1	2925 Date: 11 (20/9) Telephone No. (904) 377-5822
SEC	TION II: GENERAL PROJECT INFORMATION
and expected improvement	extent of the project. Refer to pollution control equipments in source performance as a result of installation. State result in full compliance. Attach additional sheet if
See Attachments A &	В
	·
	
Schedule of project cove	red in this application (Construction Permit Application On
Start of Construction F Costs of pollution contr for individual component	ebruary 1992 Completion of Construction February 1993
Start of Construction F Costs of pollution contr for individual component Information on actual co permit.)	ebruary 1992 Completion of Construction February 1993 ol system(s): (Note: Show breakdown of estimated costs on s/units of the project serving pollution control purposes.
Start of Construction F Costs of pollution contr for individual component Information on actual co permit.)	ebruary 1992 Completion of Construction February 1993 ol system(s): (Note: Show breakdown of estimated costs on s/units of the project serving pollution control purposes. sts shall be furnished with the application for operation
Start of Construction F Costs of pollution contr for individual component Information on actual co permit.)	ebruary 1992 Completion of Construction February 1993 ol system(s): (Note: Show breakdown of estimated costs on s/units of the project serving pollution control purposes. sts shall be furnished with the application for operation
Start of Construction F Costs of pollution contr for individual component Information on actual co permit.)	ebruary 1992 Completion of Construction February 1993 ol system(s): (Note: Show breakdown of estimated costs on s/units of the project serving pollution control purposes. sts shall be furnished with the application for operation
Start of Construction F Costs of pollution contr for individual component Information on actual co permit.)	ebruary 1992 Completion of Construction February 1993 ol system(s): (Note: Show breakdown of estimated costs on s/units of the project serving pollution control purposes. sts shall be furnished with the application for operation
Start of Construction F Costs of pollution contr for individual component Information on actual co permit.) Scrubber for fluoric	sts shall be furnished with the application for operation
Start of Construction F Costs of pollution contr for individual component Information on actual co permit.) Scrubber for fluoric	ebruary 1992 Completion of Construction February 1993 of system(s): (Note: Show breakdown of estimated costs on s/units of the project serving pollution control purposes. sts shall be furnished with the application for operation de emission control is estimated to cost \$50,000.
Costs of pollution contr for individual component Information on actual co permit.) Scrubber for fluorio	ebruary 1992 Completion of Construction February 1993 of system(s): (Note: Show breakdown of estimated costs on s/units of the project serving pollution control purposes. sts shall be furnished with the application for operation de emission control is estimated to cost \$50,000.

Approal operating factor of 100% (0760 he/em) word for a marketing marketing	
Annual operating factor of 100% (8760 hr/yr) used for permitting. Ty	pical annua
operating factor will be 85%.	
f this is a new source or major modification, answer the following que Yes or No) New minor source.	estions.
. Is this source in a non-attainment area for a particular pollutant?	NO
a. If yes, has "offset" been applied?	-
b. If yes, has "Lowest Achievable Emission Rate" been applied?	
c. If yes, list non-attainment pollutants.	
. Does best available control technology (BACT) apply to this source? If yes, see Section VI.	NONO
. Does the State "Prevention of Significant Deterioriation" (PSD) requirement apply to this source? If yes, see Sections VI and VII.	NO
Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source?	NO
Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source?	NO
o "Reasonably Available Control Technology" (RACT) requirements apply o this source?	NO_
a. If yes, for what pollutants?	

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

	Contain	inants	Utilization			
Description	Type	· % Wt	Rate - lbs/hr	Relate to Flow Diagram		
H3PO4 (SPA)	F	0.3	54000	2		
Oxidant (1)	None	<u>-</u>	(1)	1		
(1) See proprie	etary disclosure	attached.				

R.	Process	Rate	i f	applicable:	(500	Section	٧.	Item 1)
.	1 10000	ware,	т,	Thhirdanie.	(200	Jeceron	٠,	ICCM IJ

1.	Total Process Input Rate (lbs/hr):_	54000 + Oxidant	· · · · · · · · · · · · · · · · · · ·
,	Product Weight (lhe/hr).	54000 + Oxidant	•

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Name of	Emission ¹		Rate per		Potent Emis:	Relate to Flow	
Contaminant	Maximum lbs/hr	Actual T/yr	Rule 17-2	lbs/hr	lbs/hr	T/yr	Diagram
NOx	13.5	59.1*	NA	NA	13.5	59.1	5
Fluorides	0.2	0.99	NA	NA	45.4	198.8	5
* See Attach	nent C for	offsetti	ing emissions	and net emis	sion incre	ase.	

¹See Section V, Item 2.

²Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

³Calculated from operating rate and applicable standard.

⁴Emission, if source operated without control (See Section V, Item 3).

D. Control Devices: (See Section V. Item) _	Control	Devices:	(See	Section	٧.	Item	Δ
--	-----	---------	----------	------	---------	----	------	---

Name and Type (Model & Serial No.)	Conteminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
Scrubber	Fluoride	99.5	· NA	Estimate*
(specific scrubber not yet selected)				
		 		
* Based on performa	nce of similar	cross-flow pack	ed scrubber at Occiden	tal.

E. Fuels

	Consu	mption*	
Type (Be Specific)	avq/hr	max./hr	Maximum Heat Input (MMBTU/hr)
None			

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:			
Percent Sulfur:		Percent Ash:	
Density:	lbs/gal	Typical Percent Nitrogen:	
Heat Capacity:		·	8TU/ga]
Other Fuel Contaminanta (which			
F. If applicable, indicate the	ne percent of fue	l used for space heating.	
Annual Average NA	Ma	ximum	•
G. Indicate liquid or solid w Scrubber water from a pond	-		

ack Hoig	ht:	65			ft.	Stack	Diamet	r: <u> </u>	5
s Flow R	ate:	380	ACFH	4150	_DSCFH	Gae Ex	it Temp	erature:	80
ter Vepo:	r Conte	nt: .	3	<u> </u>	%	Veloci	.ty:	41.3	
	- <u>-</u>		SECT	ION IV: (Not A	INCINER Applicat	• .	FORHATI	GN	
Type of Waste	Type (Plast		Type I (Rubbish)	Type II (Refuse)		ge) (Pa		Type V (Liq.& Gas By-prod.)	Type VI (Salid By-prod
Actual 1b/hr ncinor- ated									
Uncon-							-		
trolled lbs/hr)	of Vas	te		· .					
lbs/hr) scription tal Weigh	it Incin	erat of	ed (lbs/hr	peration	per day				hr)
lbs/hr) scription tal Weigh proximate	nt Incin	erat of	ed (lbs/hr	peration	per day	/	_ day/	wk	•
lbs/hr) scription tal Weigh proximate	nt Incin	orat	ed (lbs/hr	Peration Heat Re	per day	y	_ day/	wk	wks/yr
lbs/hr) scription tal Weigh proximate	at Incid	orat	ed (lbs/hr Hours of O	Peration Heat Re	per day	y	_ day/	wk	wks/yr
scription tal Weigh proximate nufacture te Constr	at Incid	orat	ed (lbs/hr Hours of O	Peration Heat Re	per day	y	_ day/	wk	wks/yr
lbs/hr) scription tal Weigh proximate nufacture te Constr	at Incid	erat	ed (lbs/hr Hours of O Yolume (ft) ³	Heat Re (BTU/	Made	Type	fuel	BTU/hr	wks/yr
lbs/hr) scription tal Weigh proximate nufacture te Constr	at Incide Number cucted	erat	ed (lbs/hr Hours of O Yolume (ft) 3	Heat Re (BTU/	Made	Type	Fuel	BTU/hr Stack Te	Temperature (°F)

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Brief des	scription	of	opera	ting ch	aracte	risti	cs of	control	devic	e8: _			
-,				•									
				,									
													-
Ultimate ash, etc.		of a	any e	ffluent	other	then	thet	emitted	from	the s	itack	(scrubber	water,
													
								•					

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEHENTAL REQUIREMENTS

(ATTACHMENT D) Please provide the following supplements where required for this application.

- 1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
- 2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.
- 3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
- 4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
- 5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).
- 6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
- 7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of air-borne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
- 8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

9.	The appropriate application fee in accormade payable to the Department of Environ	dance with Rule 17-4.05. The check should be neental Regulation.
10.		t, attach a Certificate of Completion of Con- as constructed as shown in the construction
		ABLE CONTROL TECHNOLOGY
Α.	(NOT AP) Are standards of performance for new sta applicable to the source?	PLICABLE) tionary sources pursuant to 40 C.F.R. Part 60
	[] Yes [] No	
	Contaminant	Rate or Concentration
<u></u>		
	Has EPA declared the best available cont yes, attach copy)	rol technology for this class of sources (If
	[] Yes [] No	
1971	Conteminant	Rate or Concentration
	What emission levels do you propose as be	st available control technology?
	Contaminant	Rate or Concentration
),	Describe the existing control and treatmen	nt technology (if any).
	l. Control Device/System:	2. Operating Principles:
	3. Efficiency:*	4. Capital Costs:

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*Explain method of determining

Useful Life: Operating Costs: 7. Energy: 8. Maintenance Cost: 9. Emissions: Conteminant Rate or Concentration 10. Stack Parameters Height: ft. b. Diameter: ft. ٩F. Flow Rate: ACFH d. Temperature: **FPS** Velocity: Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary). ı. Control Device: Operating Principles: c. Efficiency: 1 Capital Cost: Useful Life: Operating Cost: Energy: 2 ... h. Maintenance Cost: Availability of construction materials and process chemicals: Applicability to manufacturing processes: Ability to construct with control device, install in available space, and operate within proposed levels: 2. Operating Principles: Control Device: Efficiency: 1 Capital Cost: d. Useful Life: Operating Cost: f. Energy: 2 Maintenance Cost: Availability of construction materials and process chemicals: Explain method of determining efficiency. $^{
m Z}$ Energy to be reported in units of electrical power – KWH design rate.

Applicability to manufacturing processes: j. Ability to construct with control device, install in available space, and operate within proposed levels: 3. Control Device: Operating Principles: Α. ъ. Efficiency: 1 Capital Cost: d. C. Useful Life: Operating Cost: e. Energy: 2 h. Maintenance Cost: q. Availability of construction materials and process chemicals: Applicability to manufacturing processes: Ability to construct with control device, install in available space, and operate k. within proposed levels: Control Device: Operating Principles: ь. Efficiency:1 Capital Costs: c. Useful Life: Operating Cost: ·f. Energy: 2 h. Maintenance Cost: g. Availability of construction materials and process chemicals: i. Applicability to manufacturing processes: Ability to construct with control device, install in available space, and operate within proposed levels: Describe the control technology selected: 2. Efficiency: 1 Control Device: Useful Life: Capital Cost: 5. Operating Cost: Energy: 2 7. Maintenance Cost: Manufacturer: Other locations where employed on similar processes: (1) Company: (2) Mailing Address: (3) City: (4) State: $^{
m l}$ Explain method of determining efficiency. ²Energy to be reported in units of electrical power - KWH design rate.

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	•						
(5) Environmental Manager:						
(6) Telephone No.:					•	
(7) Emissions: ¹						
	Contaminant			Rate o	r Concent	ration	
		·					
					· · · · · · · · · · · · · · · · · · ·		
	<u> </u>						
(8) Process Rate: 1						
b.	. (1) Company:		J				
(:	2) Mailing Address:						
(:	3) City:		(4) State	e:			
(5	5) Environmental Manager:						
(6	6) Telephone Na.:						
(7	7) Emissions: ¹						
	Contaminant			. Rate o	. Cancents	ation	
		<u> </u>		<u> </u>			
				·····			
					,		
(8	3) Process Rate: 1						
10	. Reason for selection and	description	of systems	ı. .			
	cant must provide this info			e. Shoul	d this in	nformation no	it b
	SECTION VII - P			NT DETERI	ORATION		
A. Co	mpany Monitored Data	(NOT APPLIC	ABLE)			•	
1.	no. sites	TSP	()_ so ² * _		_ Wind spd/di	l r
	riod of Monitoring						
	·	month da	y year	month	day ye	ar	
αŧ	her data recorded						
At	tach all data or statistical	summaries t	o this app	lication.			
·Speci	fy bubbler (8) or continuous	(c).					
	rm 17-1.202(1) ive November 30, 1982	Page 1	1 of 12				

	2.	Įns t	rument	tetion,	Field a	ind Labo	ratory						
	a.	Was	instru	ımentati	on EPA	referen	ced or it	s equiva	lent?	[] Ye	es [] N	o	
	6.	Was	instru	ımentati	on cali	.br.ated .	in accord	lance wit	h Dep	artment	procedur	es?	
		[]	Yes (] No	[] Unk	n o wn							
8.	Het	sorol	ogical	L Data U	sed for	Air Qua	ality Mod	eling			•.		
	1.		_ Year	(s) of	data fr	om	/ /	ear m	anth	/ / day ye	ar		
	2.	Surf	ace da	ta obta	ined fr	om (loce	ition)						
	3.	Upper	rair	(mixing	height) data d	obtained	from (lo	catio	n)			· · ·
	4.	Stabi	ility	wind ro	se (STA	R) data	obtained	from (1	ocati	an)			
c.				s Used							-		
	1.				చ్ [.] ే	•		Hodi	fied?	If yes	, attach	descri	iptian.
											, attach		
			•										
											, attach		
	4.										, attach	-	
				of all (ables.	final mo	odel run	s showin	g input d	lata,	recepto	r locatio	ins, an	d prin-
٥.	Appl	licant	s Haxi	imum Al]	lowable	Emissio	n Data		,				
		lutant	•			Emissio							
		TSP							ars	ama/sec			-
		: : : 0 ²											
Ε.		-	Data l	Jaed in	Modelin	ıg .			gre	иша / в в С			
	poin	it sour	rce (a		paint n						e name, d allowab		
	Atta	ich al.	l othe	er infor	mation	support	ive to th	ie PSQ re	view.				
i.	ble	techn	ologi	es (i.e	., job:	s, payr		duction,	tax		versus o rgy, etc		pplica- Include

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the requested best available control technology.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of

ATTACHMENT A



Occidental produces fertilizer grade superphosphoric acid (SPA) under permits A024-170300 covering SPA Plants A and B at the Suwannee River Complex and A024-186309 for SPA Plants C and D at the Swift Creek Complex.

Carbon particles entrained in Occidental SPA result in a black product satisfactory for many uses; however, a "decolorized" SPA has marketing advantages, particularly for domestic sales. Therefore, it is planned to use a proprietary process, licensed from others, to effect a color change in the SPA from black to green using an oxidant.

The oxidant, added to hot SPA, promotes a reaction with the carbon resulting in an off-gas containing fluorides and nitrogen oxides. fluorides will be controlled by scrubbing. The oxidation/reaction process which includes oxidant recovery and recirculation will maintain nitrogen oxide levels, with offsets, below the significant net emissions increase of 40 tons per year. The emission rate, based on a currently permitted FARMLAND unit, will be approximately 0.5 pounds of nitrogen oxide per ton of SPA,

It is planned to install this process modification to treat approximately 20% of the SPA production capacity.

The plant will operate in full compliance with all applicable state and federal air regulations.

ATTACHMENT B



The proposed facility will result in the emission of 59.1 tons per year of NOx (reported as NO_2) and 0.99 tons per year of fluoride. No other regulated pollutants (See Table 17-2,500-2,FAC) will be emitted from the facility.

The emission of NOx will be partially off-set by the permanent shut down of the B Sulfuric Acid Plant located at the Suwannee River Chemical Complex (Permit AO24-103964). The NOx off-sets will total 33.2 tons per year; resulting in a net NOx emission increase from the proposed project of 25.9 tons per year. This emission increase is less than the 40 ton per year de minimis increase for NOx defined by Rule 17-2.500(2)(e)2, FAC. The off-sets for NOx are documented in Attachment C to this application.

The fluoride emissions from the proposed facility will be 0.99 ton per year; a rate less than the 3.0 tons per year de minimis emission increase for fluorides defined by Rule 17-2.500(2)(e),FAC.

As there will not be a significant increase in the emission rate of any pollutant regulated under the act, the proposed facility will not be classified as a modification to a Major Facility (Rule 17-2.500(2)(d)4.a.(ii),FAC. The project may be permitted as a minor source in accordance with Rule 17-2.500(2)(d)4.b,FAC.

ATTACHMENT C



NOx EMISSIONS OFFSET FROM EXISTING "B" H2SO4 PLANT A024-103964

TEST DATA

Date

6/86

Production Rate -Stack Gas Flow -

43.1 ton/hr (1035 tpd)

106,310 dscf/ton of acid

ANNUAL PRODUCTION

Year	Hours of Operation (hr/yr)	Acid Production (tons/yr)
1986	6,496	264,136
1985	8,366	330,861
Average	7,431	297,498

NO_X EMISSIONS OFFSET

Annual = 106,310 dscf/ton H2SO4

x 297,498 tons/yr

 $x (2.1 \times 10^{-6})$ 1b NOx/dscf* x 1/2000

= 33.2 tons N0x/yr as $N0_2$

*Emission factor from IMC-New Wales permit application for Third (H2SO4) Train Expansion (file with FDER-Tallahassee).

NET NOX EMISSION INCREASE

Proposed Increase

59.1 tpy

Emission Offset - 33.2 tpy

Net Emission Increase - 25.9 tpy

ATTACHMENT D



SECTION V

SUPPLEMENTAL INFORMATION

1. Process Input and Production Rate

Process Input

H3P04 (as SPA) -

54,000 lb/hr (@ 70% P₂O₅)

<u>Oxidant</u> - <u>Proprietary</u> (See attached disclosure)

Total - 54,000 lb/hr + 0xidant

Production Rate

H3P04 (as Oxidized SPA) - 54,000 lb/hr

Oxidization products - Proprietary (See attached disclosure)

Total - 54,000 lb/hr + products

Annual Production Capacity

Emission estimates and maximum annual production are based on annual operating factor of 100%. Because of maintenance, the actual operating factor will typically be 85%.

Process Input Rate = 27 tons SPA/hr

Annual Production = 27 tph SPA x 8760 hr/yr

= 236,520 tpy SPA

 \times 0.7 ton P_2O_5 per ton SPA

= 165,564 tpy P_2O_5

2/3. Controlled and Uncontrolled Emissions

Nitrogen Oxides (as NO2)

Emission Factor - 0.5 lb NOx/ton SPA (from Farmland Industries, Inc. test data submitted to SW District FDER office).

SPA Feed Rate - 27 tph

NOx Emissions (controlled and uncontrolled)

- = (0.5 lb NOx/ton SPA)(27 ton SPA/hr)
- = 13.5 1b N0x/hr x 8760/2000
- = 59.1 tpy (See Attachment C for Emission Summary with offsetting emissions)

Fluorides

Emission Factor - 2.4 lb/ton P_2O_5 (from Farmland Industries, Inc. permit application submitted to FDER-Tallahassee)

 P_2O_5 Feed Rate = 27 ton SPA/hr x 0.7 lb P_2O_5 /lb SPA = 18.9 ton P_2O_5 /hr

Fluoride Emissions (Uncontrolled)

- = $(2.4 \text{ lb F/ton } P_2O_5)(18.9 \text{ ton } P_2O_5/\text{hr})$
- = 45.4 1b F/hr

x 8760/2000

= 198.8 tpy

Fluoride Emissions (Controlled)

Control efficiency = 99.5% (typical for fluoride scrubber

- = 45.4 (1 0.995)
- = 0.2 lb F/hr
 - x 8760/2000
- = 0.99 tpy

4. Control Equipment

Fluoride emissions will be controlled with a cross-flow packed scrubber similar to those used by Occidental to control fluoride emissions from phosphoric acid and superphosphoric acid plants. The design details of the scrubber have not been finalized at this time; however, the efficiency of the type of scrubber proposed has been proven. When the details of the scrubber have been developed, they will be forwarded to the Department.

5. Efficiency of Control Equipment

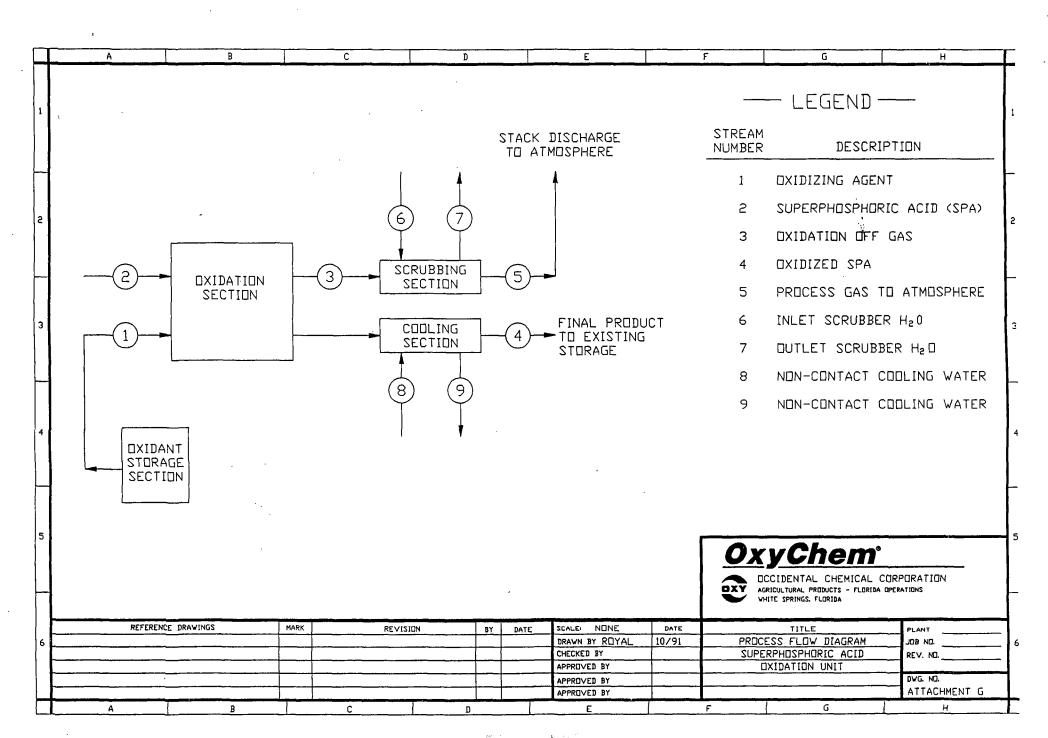
NOx - Not applicable

Fluoride - Designed at 99.5% based on performance of similar scrubbers at Occidental.

- 6. Process Flow Diagram See Attachment E
- 7. Location Map See Attachment F
- 8. Site Map See Attachment G
- 9. Application Fee \$2000 per 17-4.050(4); with offsets
- 10. Not Applicable.

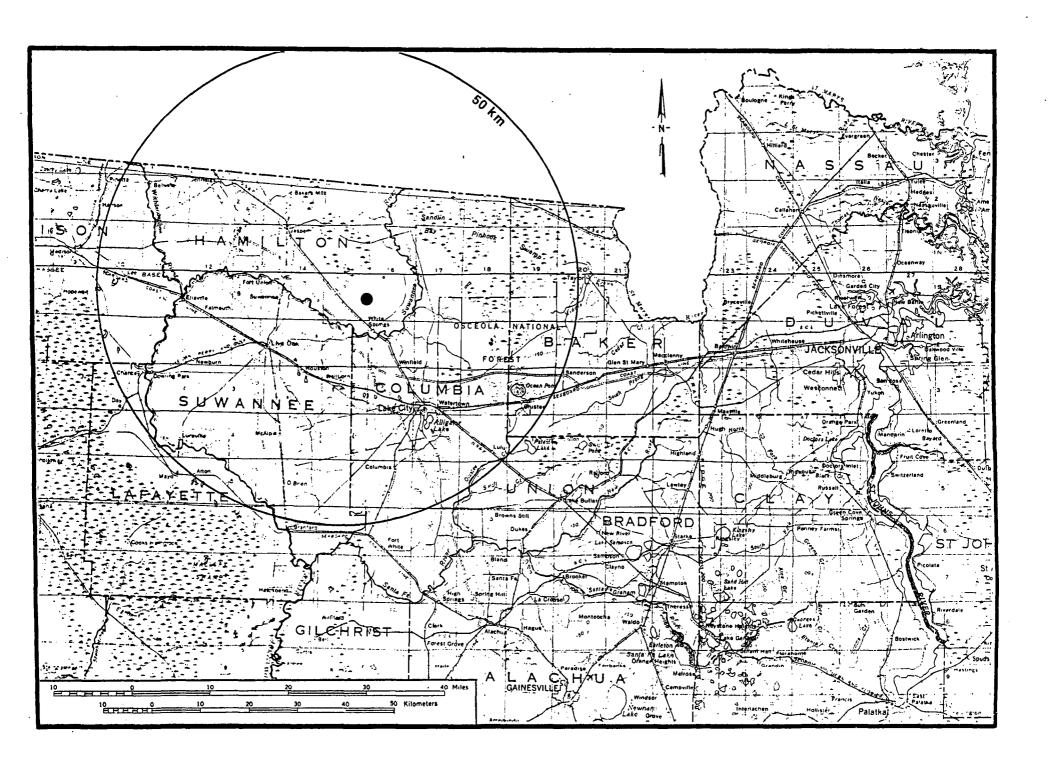
ATTACHMENT E

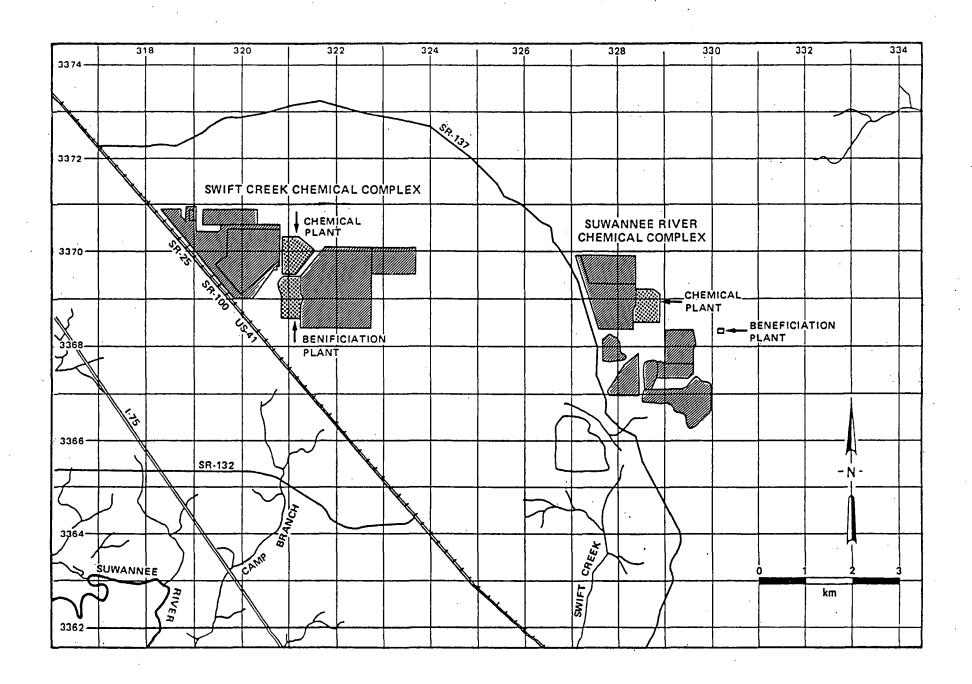




ATTACHMENT F

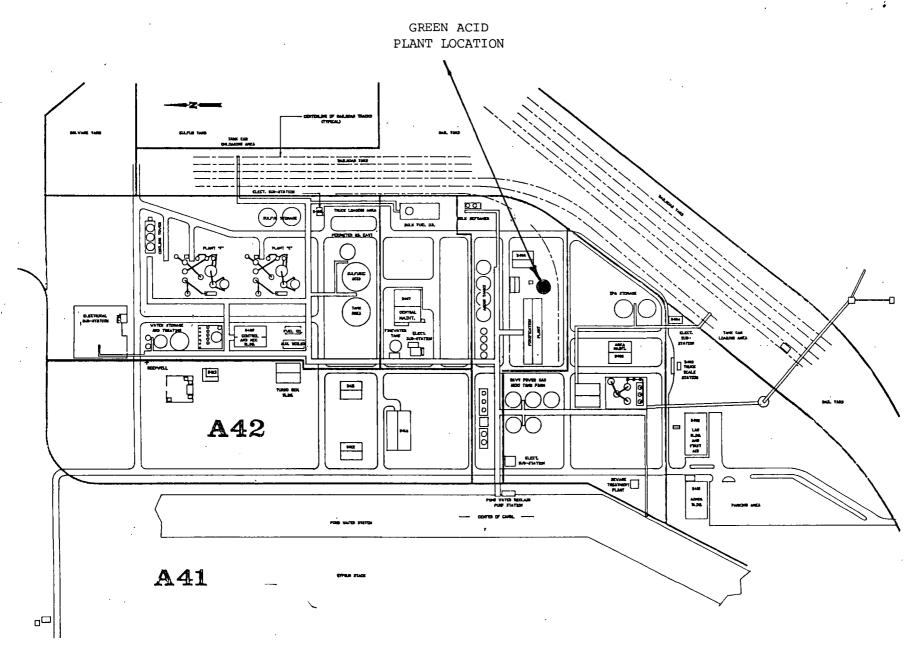






ATTACHMENT G





SWIFT CREEK CHEMICAL COMPLEX

OCCIDENTAL CHEM. CORP.
WHITE SPRINGS, FLORIDA

SCHAFF/E/NO

Department of Environmental Regulation

Routing and Transmittal Slip
To: (Name, Office, Location)
Barry Andrews, DARM, BAR
3.
4.
Remarks:
The endosed ACP for
Opy Green SPA Plantia
being sent for a
processing decision.
Wes atwood said that the
ACP needs to be dollmined
Complete by the end of 1991
to comply w/ FAC Rule
17-2.500 (z)(e) 3.
From Date 11-26-91 Phone 5C
880 4310 x 378