PEF letter to FDEP NPDES Permit Renewal App CR 4 & 5 January 25, 2010

Progress Energy

Larry E. Hatcher
Manager, Crystal River
Fossil Plant & Fuel Operations

CERTIFIED MAIL

January 25, 2010

Mr. Marc Harris, P.E.
Supervisor, Power Plant NPDES Permitting
Industrial Wastewater Section
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Re: Progress Energy Florida, Inc. –Crystal River Units 4 & 5
NPDES Permit Renewal Application – FL0036366

Dear Mr. Harris:

Submitted for your review are three (3) copies of the completed application forms and supporting documentation for the renewal of the subject NPDES permit. An additional copy of the application has been sent to Yanisa Angulo, P.E. of the FDEP – Southwest District Office. The application fee in the amount of $7,500.00 is also enclosed.

Please note that number of attachments are included as part of the permit renewal application package. Additionally, in order to reduce the amount of paper generated as part of the renewal, a compact disk (CD) has been included that contains copies of various reports cited in the attachments.

If you have any questions or require further information regarding this application, please contact Mr. Doug Yowell at (727) 820-5228.

Sincerely,

Larry E. Hatcher

Larry E. Hatcher
Manager, Crystal River
Fossil Plant & Fuel Operations

Enclosures

CERTIFIED

Progress Energy Florida, Inc.
15760 W. Powerline Street
Crystal River, FL 34428

CERTIFIED MAIL: ARTICLE NO.:

Address for SW District:

Ms. Yanisa Angulo, P.E.
Florida Department of Environmental Protection
Southwest District
Industrial Wastewater Program
13051 N. Telecom Parkway
Temple Terrace, FL 33637

WASTEWATER FACILITY OR ACTIVITY PERMIT
APPLICATION FORM 1
GENERAL INFORMATION

I - IDENTIFICATION NUMBER:

Facility ID FL0036366

II - CHARACTERISTICS:

INSTRUCTIONS: Complete the questions below to determine whether you need to submit any permit application forms to the Department of Environmental Protection. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the blank in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements. See Section B of the instructions. See also, Section C of the instructions for definitions of the terms used here.

SPECIFIC QUESTIONS	YES	NO	FORM ATTACHED
A. Is this facility a domestic wastewater facility which results in a discharge to surface or ground waters?		X	
B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters?		X	
C. Does or will this facility (other than those describe in A. or B.) discharge process wastewater, or non-process wastewater regulated by effluent guidelines or new source performance standards, to surface waters?	X		2CS
D. Does or will this facility (other than those described in A. or B.) discharge process wastewater to ground waters?	X		N/A
E. Does or will this facility discharge non-process wastewater, not regulated by effluent guidelines or new source performance standards, to surface waters?		X	
F. Does or will this facility discharge non-process wastewater to ground waters?	X		N/A
G. Does or will this facility discharge stormwater associated with industrial activity to surface waters?		X	
H. Is this facility a non-discharging/closed loop recycle system?		X	
I. Is this facility a public water system whose primary purpose is the production of potable water for public consumption and which discharges demineralization concentrate to surface water or groundwater?		X	

III - NAME OF FACILITY: (80 characters and spaces)

Crystal River Power Plant Units 4 & 5

IV - FACILITY CONTACT: (A. 30 characters and spaces)

A. Name and Title (Last, first, & title)	B. Phone (area code & no.)
Yowell, Douglas W.	727-820-5228

V - FACILITY MAILING ADDRESS: (A. 30 characters and spaces; B. 25 characters and spaces)

A. Street or P.O. Box: P.O. Box 14042, PEF-903		
B. City or Town: St. Petersburg	State: FL	Zip Code: 33733

VI - FACILITY LOCATION: (A. 30 characters and spaces; B. 24 characters and spaces; C. 3 spaces (if known); D. 25 characters and spaces; E. 2 spaces; F. 9 spaces)

A. Street, Route or Other Specific Identifier: 15760 W. Powerline St.		
B. County Name: Citrus	C. County Code (if known):	
D. City or Town: Crystal River	E. State: FL	F. Zip Code: 34428

VII - SIC CODES: (4-digit, in order of priority)

1. Code #: 4911	(Specify) Electric Svc.	2. Code #:	(Specify)
3. Code #:	(Specify)	4. Code #:	(Specify)

VIII - OPERATOR INFORMATION: (A. 40 characters and spaces; B. 1 character; C. 1 character (if other, specify); D. 12 characters; E. 30 characters and spaces; F. 25 characters and spaces; G. 2 characters; H. 9 characters)

A. Name: Progress Energy Florida, Inc		B. Is the name in VIII A. the owner? ☒ Yes ☐ No	
C. Status of Operator: F = Federal; S = State; P = Private; O = Other; M = Public (other than F or S)	(code) P	(specify) Utility	D. Phone No.: 352-563-4484
E. Street or P. O. Box: 15760 W. Powerline St.			
F. City or Town: Crystal River		G. State: FL	H. Zip Code: 34428

IX - INDIAN LAND:

A. Is the facility located on Indian lands?	☐ Yes	☒ No

X - EXISTING ENVIRONMENTAL PERMITS:

A. NPDES Permit No.	B. UIC Permit No.	C. Other (specify)	D. Other (specify)
FL0036366	N/A	COC - PA 77-09	FLA011862 - DWW

XI - MAP: Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII - NATURE OF BUSINESS (provide a brief description)

Crystal River Units 4 & 5 are steam electric generating facilities.

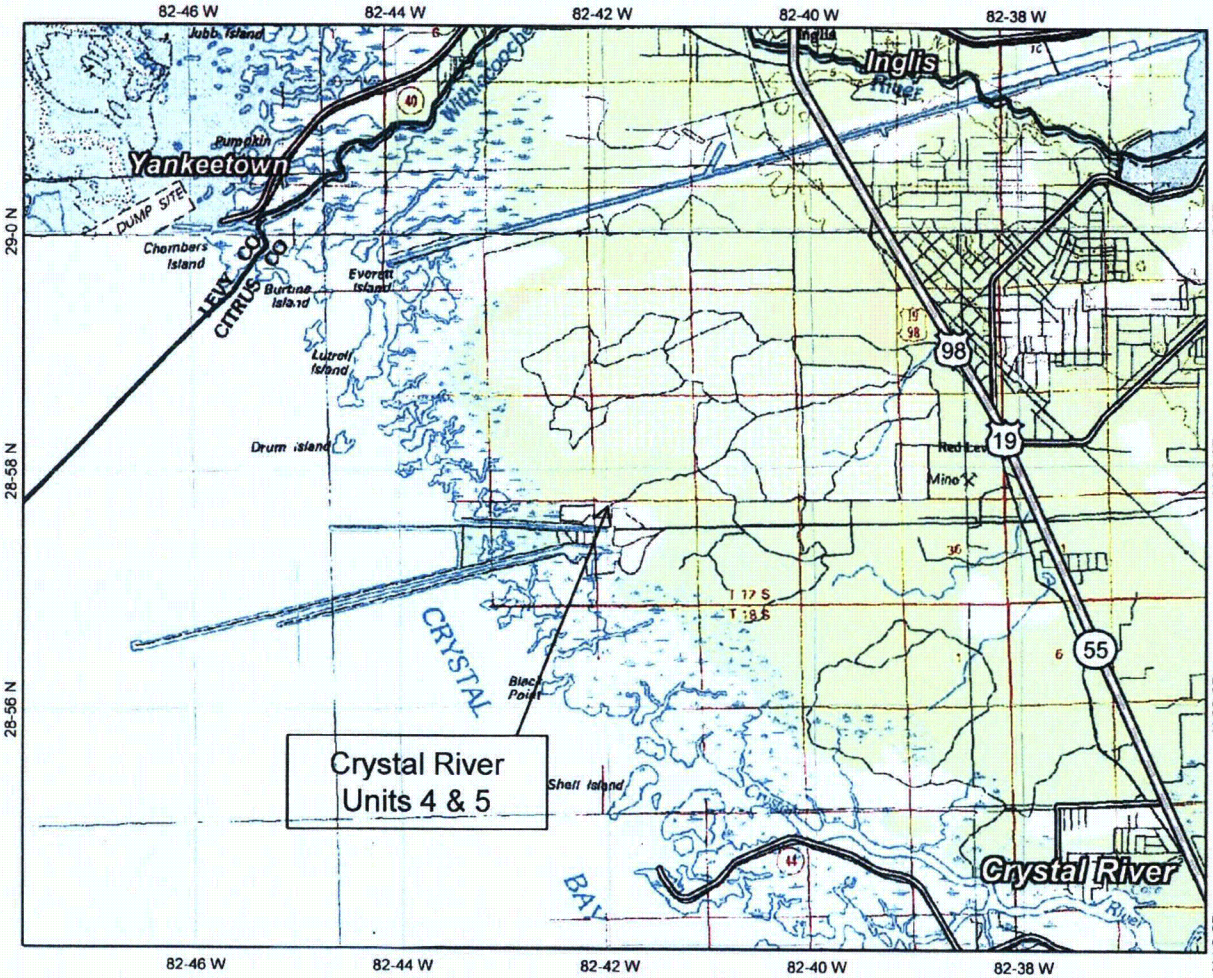
XIII - CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

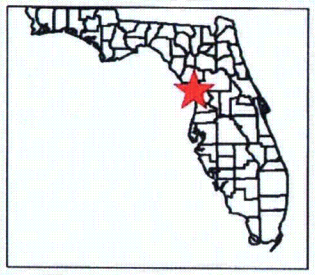
Larry Hatcher	Larry E. Hatch
A. Name (type or print)	B. Signature
Manager, CR Fossil Plants	1/25/10
Official Title (type or print)	C. Date Signed

Form 1, Section XI - Maps

Crystal River Units 4 & 5 NPDES Permit No. FL0036366



Map center: 526600, 551501



Legend

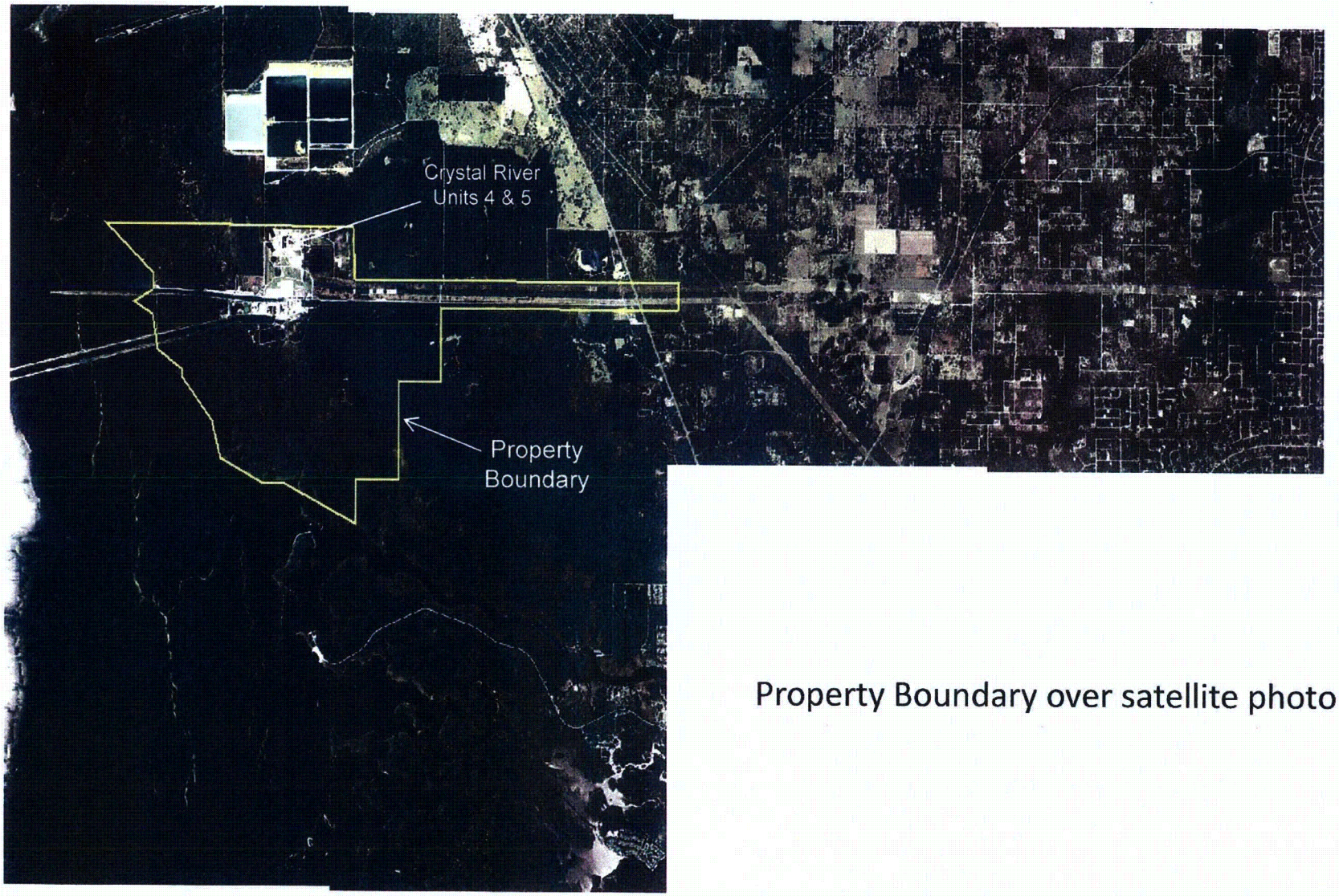
- Interstates
- US Highways
- State Highways
- County Roads
- Local Roads
- Cities (census places)
- Counties (generalized)

Scale: 1:100,000

[Florida Department of Environmental Protection] Disclaimer: This map is intended for display purposes only. It was created using data from different sources collected at different scales, with different levels of accuracy, and/or covering different periods of time.

Notes: Map produced on Thu Jan 14 06:50:02 EST 2010

Crystal River Units 4 & 5 NPDES Permit No. FL0036366



Property Boundary over satellite photo

FORM

2CS

WASTEWATER APPLICATION FOR PERMIT TO DISCHARGE PROCESS WASTEWATER FROM NEW OR EXISTING INDUSTRIAL WASTEWATER FACILITIES TO SURFACE WATERS

Facility I.D. Number: FL0036366

Please print or type information in the appropriate areas.

I OUTFALL LOCATION For each outfall, list the X,Y coordinates and the name of the receiving water. **(latitude/longitude to the nearest 15 seconds)**

A. Outfall No. (List)	B. Latitude			C. Longitude			D. Name of Receiving Water
	Deg.	Min.	Sec.	Deg.	Min.	Sec.	
D-074	28	58	02	82	42	02	CR4&5 Cooling Tower Blowdown Canal
D-075	28	58	02	82	42	02	CR4&5 Cooling Tower Blowdown Canal
D-0C0	28	58	02	82	42	07	CR4&5 Cooling Tower Blowdown Canal
I-CH0	28	58	09	82	42	37	Runoff Collection System (D-0C0)
I-C40	28	57	10	82	42	37	Runoff Collection System (D-0C0)
EFF-3A/3B	28	57	33.5	82	42	15.5	CR123 Disch. Canal then to Crystal Bay

II OUTFALL DESIGN

A. Outfall No. (List)	B. Design Configuration and Construction Materials	C. Distance from shore	D. Diameter	E. Elevation of Discharge Invert (MSL)	F. Receiving Water Depth at POD (MSL)
D-074	Fiberglass Pipe	3,400 ft.	42-in.	4.3 ft.	10 ft.
D-075	Fiberglass Pipe	3,400 ft.	42-in.	4.3 ft.	10 ft.
D-0C0	Concrete Overflow Weir	3,250 ft.	N/A	6.9 ft.	10 ft.
I-CH0	Concrete Overflow Weir	4,300 ft.	N/A	6.8 ft.	N/A
I-C40	Concrete Overflow Weir	4,700 ft.	N/A	6.9 ft.	N/A
EFF-3A/3B	Concrete Flume	0 ft.	N/A	- 3 ft.	- 12 ft.

Facility I.D. Number: FL0036366

III RECEIVING WATER INFORMATION

For each surface water that will receive effluent, supply the following information:

A. Name of Receiving Water	B. Check One		C. Classification (See Ch. 62-302, F.A.C.)	D. Type of Receiving Water (canal, river, lake, etc.)
	Fresh	Salt or Brackish		
CR123 Disch. Canal then to Crystal Bay	☐	☒	N/A	Canal
Crystal Bay	☐	☒	Class III	Gulf of Mexico
	☐	☐		
	☐	☐		
	☐	☐		
	☐	☐		

E. Minimum 7-day 10-year low flow of the receiving water at each outfall (if appropriate).

F. Identify and describe the flow of effluent from each outfall to a major body of water. A suitably marked map or aerial photograph may be used.

G. Do you request a mixing zone under Rule 62-4.244, F.A.C.? If yes, for what parameters or pollutants?

IV FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of:

1. All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and stormwater runoff;

2. The average flow contributed by each operation; and

3. The treatment received by the wastewater.

Use the space on the next page. Continue on additional sheets, if necessary.

(1) Outfall No. (List)	(2) Operation(s) Contributing Flow		(3) Treatment		
	(a) Operation (list)	(b) Avg. Flow & Units	(a) Description	(b) List Code from Table 2CS-1	
D-074	Cooling Tower Blowdown Unit 4	44 mgd	Screening	1-T	
			Disinfection	2-F	
			Discharge to Surface Water	4-A	
D-075	Cooling Tower Blowdown Unit 5	44 mgd	Screening	1-T	
			Disinfection	2-F	
			Discharge to Surface Water	4-A	
D-0C0	Runoff Collection System Overflow	intermittent	Sedimentation	1-U	
			Percolation	1-Y	
I-C40	Ash Storage Area Runoff	intermittent	Sedimentation	1-U	
			Percolation	1-Y	
I-CH0	Coal Storage Area Runoff	intermittent	Sedimentation	1-U	
			Percolation	1-Y	
EFF-3A/3B	Combined U4/U5 CT Blowdown	88 mgd	Discharge to Surface Water	4-A	

C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal?
☒ Yes (complete the following table) ☐ No (go to D. below)

(1) Outfall No. (List)	(2) Operation(s) Contributing Flow (List)	(3) Frequency		(4) Flow				
		(a) Days per Week (specify avg.)	(b) Months per Yr. (specify avg.)	(a) Flow Rate (in mgd)		(b) Total Volume (specify with units)		(c) Duration (in days)
				Long Term Avg.	Max. Daily	Long Term Avg.	Max. Daily	
D-0C0	Runoff Collection System Overflow	unk.	< 1	N/A	N/A	N/A	N/A	N/A
I-C40	Ash Storage Area Runoff	unk.	< 1	N/A	N/A	N/A	N/A	N/A
I-0C0	Coal Storage Area Runoff	unk.	< 1	N/A	N/A	N/A	N/A	N/A

D. Describe practices to be followed to ensure adequate wastewater treatment during emergencies such as power loss and equipment failures causing shutdown of pollution abatement equipment of the proposed/permitted facilities.

E. List the method(s) and location(s) of flow measurement.

V PRODUCTION

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?

☒ Yes (complete Item V-B) ☐ No (go to Section VI)

B. Are the limitations in the applicable guideline expressed in terms of production (or other measure of operation)?

☐ Yes (complete Item V-C) ☒ No (go to Section VI)

C. If you answered "yes" to Item V-B, list the quantity which represents an actual measurement of your level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

1. AVERAGE DAILY PRODUCTION			2. Affected Outfalls
a. Quantity per Day	b. Units of Measure	c. Operation, Product, Materials, Etc. (specify)	(list outfall nos.)
N/A			

Facility I.D. Number: FL0036366

VI IMPROVEMENTS

A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement order, enforcement compliance schedule letter, stipulations, court orders, and grant or loan conditions.

☐ Yes (complete the following table) ☒ No (go to Item VI-B)

1. Identification of Condition, Agreement, Etc.	2. Affected Outfalls		3. Brief Description of Project	4. Final Compliance Date	
	a. No.	b. Source of Discharge		a. Required	B. Projected

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs (or other environmental projects which may affect your discharges) you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction.

☐ Mark "X" if description of additional control programs is attached.

VII INTAKE AND EFFLUENT CHARACTERISTICS

A, B, & C: See instructions before proceeding--Complete one set of tables for each outfall -- Annotate the outfall number in the space provided. NOTE: Tables VII-A, VII-B, and VII-C are included on separate sheets number VII-1 through VII-9.

D. Use the space below to list any of the pollutants listed in Table 2CS-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. Pollutant	2. Source	1. Pollutant	2. Source
N/A			

Facility I.D. Number: FL0036366

VIII POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

Is any pollutant listed in Item VII-C a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or by-product?

☐ YES (list all such pollutants below) ☒ NO (go to IX)

IX BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☒ YES (identify the test(s) and describe their purposes below) ☐ NO (go to Section X)

Acute WET testing perfomed at EFF-1 in March and April, 2007 during application of AS-8861 - a surfactant.

(See attachment 6 for summary of results)

Testing performed by Hydrosphere Research, 11842 Research Circle, Alachua, FL 32615

FL-NELAP Cert. # EE82295

X CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item VII performed by a contract laboratory or consulting firm?

☒ YES (list the name, address, telephone number, and certification number of, and pollutants analyzed by each such laboratory or firm below) ☐ NO (go to Section XI)

A. Name	B. Address	C. Telephone (area code & no.)	D. Pollutants Analyzed (list)
Southern Analytical Laboratories FL-NELAP Cert. # E84129	110 Bayview Blvd., Oldsmar, FL 34677	813-855-1844	All except for WET testing

Facility I.D. Number: FL0036366

XI CONNECTION TO REGIONAL POTW

A. Indicate the relationship between this project and area regional planning for wastewater treatment. List steps to be taken for this industrial wastewater facility to become part of an area-wide wastewater treatment system.

N/A

XII-A CERTIFICATIONS FOR NEW OR MODIFIED FACILITIES

This is to certify the engineering features of this pollution control project have been designed by me and found to be in conformity with sound engineering principles, applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules of the Department. It is also agreed that the undersigned, if authorized by the owner, will furnish the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signature	Company Name
	Address
Name (please type)	
(Affix Seal)	Florida Registration No.:
	Telephone No.:
	Date

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name & Official Title (Please type or print)	Signature
Telephone No. (area code & No.)	Date Signed

XII-B CERTIFICATIONS FOR PERMIT RENEWALS

This is to certify the engineering features of this pollution control project have been examined by me and found to be in conformity with sound engineering principles, applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules of the Department.

Signature	Progress Energy Florida, Inc.
	Company Name
Brian V. Powers, P.E.	Address Crystal River Energy Complex
Name (please type)	15760 W. Powerline St.
(Affix Seal)	Crystal River, FL 34428
	Florida Registration No.: 53205
	Telephone No.: 352-464-7714
	Date

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Larry Hatcher, Crystal River Fossil Plant Manager	Larry E. Hatcher
Name & Official Title (Please type or print)	Signature
352-563-4484	1/25/10
Telephone No. (area code & No.)	Date Signed

Cooling Tower Makeup Canal (Intake)

Facility ID. Number: FL0036366 Outfall No. CT Makeup Canal

PLEASE PRINT OR TYPE ONLY: You may report some or all of this information on separate sheets instead of completing these pages. Use the same format. SEE INSTRUCTIONS.

VII. INTAKE AND EFFLUENT CHARACTERISTICS

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. Pollutant	2. Effluent							3. Units		4. Intake (optional)		
	a. Max. Daily Value		b. Max. 30-day Value		c. Annual Avg. Value		d. No. of Analyses	a. Concentration	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
a. Carbonaceous Biochemical Oxygen Demand (CBOD)	< 2						1	mg/L				
b. Chemical Oxygen Demand (COD)	110						1	mg/L				
c. Total Organic Carbon (TOC)	5.0						1	mg/L				
d. Total Suspended Solids (TSS)	48						1	mg/L				
e. Total Nitrogen (as N)	0.64						1	mg/L				
f. Total Phosphorus (as P)	0.023 (I)						1	mg/L				
g. Ammonia (as N)	0.11						1	mg/L				
h. Flow - actual or projected	Value 102.		Value 102		Value 94.81		47		mgd	Value		
i. Flow - design	Value -		Value -		Value -		-	-		Value		
j. Specific Conductivity	Value 42,480.		Value		Value		1	umhos/cm		Value		
k. Temperature (winter)	Value-		Value -		Value -		-	°C		Value		
l. Temperature (summer)	Value36.2		Value		Value		1	°C		Value		
m. pH	Min. 8.0	Max. 8.0	Min.	Max.			1	STANDARD UNITS				

PART B - Mark "X" in column 2a for each pollutant you know or have reason to believe is present. Mark "X" in column 2b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additonal details and requirements.

1. Pollutant and CAS No. (if available)	2. Mark "X"		3. Effluent							4. Units		5. Intake (optional)		
	a. believed present	b. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
			(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
a. Bromide (24949-67-9)	☐	☐	42						1	mg/L				
b. Chlorine, Total Residual	☐	☐	< 0.01						1	mg/L				
c. Color	☐	☐	5						1	PCU				
d. Fecal Coliform	☐	☐	1						1	# col/100 ml				
e. Fluoride (16984-48-8)	☐	☐	0.76						1	mg/L				
f. Nitrate-Nitrite (as N)	☐	☐	0.030 (I)						1	mg/L				

: Item VII-B Contd.

Facility ID. Number FL0036366 Outfall No. CT Makeup Canal

1. Pollutant and CAS No. (if available)	2. Mark "X"		3. Effluent							4. Units		5. Intake (optional)		
	a. believed present	b. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
			(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
g. Nitrogen, Total Organic (as N)	☐	☐	0.64						1	mg/L				
h. Oil and grease	☐	☐	< 1.3						1	mg/L				
i. Phosphorus, Total (as P) (7723-14-0)	☐	☐	0.023 (I)						1	mg/L				
j. Radioactivity														
(1) Alpha, Total	☐	☐	2.8						1	pCi/L				
(2) Beta, Total	☐	☐	230						1	pCi/L				
(3) Radium, Total	☐	☐	1.0						1	pCi/L				
(4) Radium 226, Total	☐	☐	1.0						1	pCi/L				
k. Sulfate (as SO_4) (14808-79-8)	☐	☐	2,200						1	mg/L				
l. Sulfide (as S)	☐	☐	< 0.1						1	mg/L				
m. Sulfite (as SO_3) (14265-45-3)	☐	☐	< 2						1	mg/L				
n. Surfactants	☐	☐	0.18 (I)						1	mg/L				
o. Aluminum, Total (7429-90-5)	☐	☐	0.28						1	mg/L				
p. Barium, Total (7440-39-3)	☐	☐	0.014 (I)						1	mg/L				
q. Boron, Total (7440-42-8)	☐	☐	< 0.05						1	mg/L				
r. Cobalt, Total (7440-48-4)	☐	☐	< 0.01						1	mg/L				
s. Iron, Total (7439-89-6)	☐	☐	0.26						1	mg/L				
t. Maagnesium, Total (7439-95-4)	☐	☐	870						1	mg/L				
u. Molybdenum, Total (7439-98-7)	☐	☐	0.057						1	mg/L				
v. Manganese, Total (7439-96-5)	☐	☐	< 0.001						1	mg/L				
w. Tin, Total (7440-31-5)	☐	☐	1.7						1	mg/L				
x. Titanium, Total (7440-32-6)	☐	☐	< 0.01						1	mg/L				

Facility ID. Number: FL0036366 Outfall No. CT Makeup Canal

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2a for all GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2a (secondary industries, non-process wastewater outfalls, and non-required GC/MS fractions), mark "X" in column 2b for each pollutant you know or have reason to believe is present. Mark "X" in column 2c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one anlysis for that pollutnat if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4,dinitrophenol, or 2-methyl-4,6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	☐	☐	☐	0.0019 (I)						1	mg/L				
2M. Arsenic, Total (7723-14-0)	☐	☐	☐	0.0016 (I)						1	mg/L				
3M. Beryllium, Total (7440-41-7)	☐	☐	☐	< 0.0001						1	mg/L				
4M. Cadmium, Total (7440-43-9)	☐	☐	☐	< 0.001						1	mg/L				
5M. Chromium, Total (7440-47-3)	☐	☐	☐	< 0.004						1	mg/L				
6M. Copper, Total (7440-50-8)	☐	☐	☐	0.0022 (I)						1	mg/L				
7M. Lead, Total (7439-92-1)	☐	☐	☐	< 0.005						1	mg/L				
8M. Mercury, Total (7439-97-6)	☐	☐	☐	2.0						1	ng/L				
9M. Nickel, Total (7440-02-0)	☐	☐	☐	< 0.001						1	mg/L				
10M. Selenium, Total (7782-49-2)	☐	☐	☐	0.0065						1	mg/L				
11M. Silver, Total (7440-22-4)	☐	☐	☐	0.0034 (I)						1	mg/L				
12M. Thallium, Total (7440-28-0)	☐	☐	☐	< 0.001						1	mg/L				
13M. Zinc, Total (7440-66-6)	☐	☐	☐	0.013						1	mg/L				
14M. Cyanide, Total (57-12-5)	☐	☐	☐	< 0.005						1	mg/L				
15M. Phenols, Total	☐	☐	☐	0.034						1	mg/L				
DIOXIN															
2,3,7,8-Tetra-chlorodibenzo-P-Dioxin (1764-01-6)	☐	☐	☒												
GC/MS FRACTION - VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	☐	☐	☐	< 0.63						1	ug/L				
2V. Acrylonitrile (107-13-1)	☐	☐	☐	< 1.6						1	ug/L				

Facility ID. Number: FL0036366 Outfall No. CT Makeup Canal

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)															
3V. Benzene (71-43-2)	☐	☐	☐	< 0.10						1	ug/L				
4V. Bis (Chloromethyl) Ether (542-88-1)	☐	☐	☒												
5V. Bromoform (75-25-2)	☐	☐	☐	< 0.10						1	ug/L				
6V. Carbon Tetrachloride (56-23-5)	☐	☐	☐	< 0.22						1	ug/L				
7V Chlorobenzene (108-90-7)	☐	☐	☐	< 0.04						1	ug/L				
8V. Chlorodi-bromomethane (124-8-1)	☐	☐	☐	< 0.15						1	ug/L				
9V. Chloroethane (74-00-3)	☐	☐	☐	< 0.39						1	ug/L				
10V. 2-Chloro-ethylvinyl Ether (110-75-8)	☐	☐	☐	< 0.39						1	ug/L				
11V. Chloroform (67-86-3)	☐	☐	☐	< 0.14						1	ug/L				
12V. Dichloro-bromomethane (75-24-4)	☐	☐	☐	< 0.13						1	ug/L				
13V. Dichloro-difluoromethane (75-71-8)	☐	☐	☐	< 0.74						1	ug/L				
14V. 1,1-Dichloroethane (75-34-3)	☐	☐	☐	< 0.12						1	ug/L				
15V. 1,2-Dichloroethane (107-06-2)	☐	☐	☐	< 0.12						1	ug/L				
16V. 1,1-Dichloroethylene (75-35-4)	☐	☐	☐	< 0.14						1	ug/L				
17V. 1,2,-Dichloropropane (78-87-5)	☐	☐	☐	< 0.06						1	ug/L				
18V. 1,3-Dichloropropylene (542-75-6)	☐	☐	☐	< 0.14						1	ug/L				
19V. Ethylbenzene (100-41-4)	☐	☐	☐	< 0.13						1	ug/L				
20V. Methyl Bromide (74-83-9)	☐	☐	☐	< 0.58						1	ug/L				
21V. Methyl Chloride (74-87-3)	☐	☐	☐	< 0.47						1	ug/L				
22V. Methylene Chloride (74-98-2)	☐	☐	☐	< 0.13						1	ug/L				
23V. 1,1,2,2-Tetra-chloroethane (79-34-5)	☐	☐	☐	< 0.12						1	ug/L				
24V. Tetrachloroethylene (127-18-4)	☐	☐	☐	< 0.16						1	ug/L				

Facility ID. Number: FL0036366 Outfall No. CT Makeup Canal

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)															
25V. Toluene (108-88-3)	☐	☐	☐	< 0.10						1	ug/L				
26V. 1,2-Trans-Dichloroethylene (156-60-5)	☐	☐	☐	< 0.30						1	ug/L				
27V. 1,1,2-Trichloroethane (71-55-6)	☐	☐	☐	< 0.09						1	ug/L				
28V. 1,1,2-Trichloroethane (79-00-5)	☐	☐	☐	< 0.23						1	ug/L				
29V. Trichloroethylene (79-01-6)	☐	☐	☐	< 0.12						1	ug/L				
30V. Trichloro-fluoromethane (75-69-4)	☐	☐	☐	< 0.21						1	ug/L				
31V. Vinyl Chloride (75-01-4)	☐	☐	☐	< 0.38						1	ug/L				
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	☐	☐	☐	< 1						1	ug/L				
2A. 2,4-Dichlorophenol (120-83-2)	☐	☐	☐	< 1						1	ug/L				
3A. 2,4-Dimethylphenol (105-67-9)	☐	☐	☐	< 1						1	ug/L				
4A. 4,6-Dinitro-O-Cresol (534-53-1)	☐	☐	☐	< 3						1	ug/L				
5A. 2,4-Dinitrophenol (51-28-5)	☐	☐	☐	< 15						1	ug/L				
6A. 2-Nitrophenol (88-75-5)	☐	☐	☐	< 1						1	ug/L				
7A. 4-Nitrophenol (100-02-7)	☐	☐	☐	< 15						1	ug/L				
8A. P-Chloro-M-Cresol (59-50-7)	☐	☐	☐	< 1						1	ug/L				
9A. Pentachlorophenol (87-86-5)	☐	☐	☐	< 3						1	ug/L				
10A. Phenol (108-95-2)	☐	☐	☐	< 1						1	ug/L				
11A. 2,4,5-Trichloro-phenol (88-06-2)	☐	☐	☐	< 2						1	ug/L				
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (63-32-9)	☐	☐	☐	< 1						1	ug/L				
2B. Acenaphtylene (208-96-8)	☐	☐	☐	< 1						1	ug/L				
3B. Anthracene (120-12-7)	☐	☐	☐	< 1						1	ug/L				
4B. Benzidine (92-87-5)	☐	☐	☐	< 100						1	ug/L				

Facility ID. Number: FL0036366 Outfall No. CT Makeup Canal

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
5B. Benzo *(a)* Anthracene (56-55-3)	☐	☐	☐	< 1						1	ug/L				
6B. Benzo *(a)* Pyrene (50-32-8)	☐	☐	☐	< 1						1	ug/L				
7B. 3,4-Benzo-fluoranthene (205-99-2)	☐	☐	☐	< 1						1	ug/L				
8B. Benzo *(ghi)* Perylene (191-24-2)	☐	☐	☐	< 1						1	ug/L				
9B. Benzo *(k)* Fluoranthene (207-08-9)	☐	☐	☐	< 1						1	ug/L				
10B. Bis *(2-Chloroethoxy)* Methane (111-91-1)	☐	☐	☐	< 1						1	ug/L				
11B. Bis *(2-chloroethyl)* Ether (111-44-4)	☐	☐	☐	< 3						1	ug/L				
12B. Bis *(2-Chloroisopropyl)* Ether (102-60-1)	☐	☐	☐	< 1						1	ug/L				
13B. Bis *(2-Ethylhexyl)* Phthalate (117-81-7)	☐	☐	☐	< 3						1	ug/L				
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	☐	☐	☐	< 1						1	ug/L				
15B Butyl Benzyl Phthalate (84-68-7)	☐	☐	☐	< 3						1	ug/L				
16B. 2-Chloronaphthalene (91-58-7)	☐	☐	☐	< 1						1	ug/L				
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)	☐	☐	☐	< 2						1	ug/L				
18B. Chrysene (218-01-9)	☐	☐	☐	< 1						1	ug/L				
19B. Dibenzo *(a,h)* Anthracene (53-70-3)	☐	☐	☐	< 1						1	ug/L				
20B. 1,2-Dichlorobenzene (95-50-1)	☐	☐	☐	< 1						1	ug/L				
21B. 1,3-Dichlorobenzene (541-73-1)	☐	☐	☐	< 1						1	ug/L				
22B. 1,4-Dichlorobenzene (106-46-7)	☐	☐	☐	< 1						1	ug/L				
23B. 3,3'-Dichlorobenzidine (92-94-1)	☐	☐	☐	< 40						1	ug/L				
24B. Diethyl Phthalate (84-66-2)	☐	☐	☐	< 1						1	ug/L				
25B. Dimethyl Phthalate (131-11-3)	☐	☐	☐	< 5						1	ug/L				
26B. Di-N-Butyl Phthalate (84-74-2)	☐	☐	☐	< 5						1	ug/L				
27B. 2,4-Dinitrotoluene (121-14-2)	☐	☐	☐	< 1						1	ug/L				
28B. 2,6-Dinitrotoluene (606-20-2)	☐	☐	☐	< 2						1	ug/L				

Facility ID. Number: FL0036366 Outfall No. CT Makeup Canal

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
29B. Di-N-Octyl Phthalate (117-84-0)	☐	☐	☐	< 1						1	ug/L				
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)	☐	☐	☐	< 2						1	ug/L				
31B. Fluoranthene (206-44-0)	☐	☐	☐	< 1						1	ug/L				
32B. Fluorene (86-73-7)	☐	☐	☐	< 1						1	ug/L				
33B. Hexachlorobenzene (118-74-1)	☐	☐	☐	< 1						1	ug/L				
34B. Hexachlorobutadiene (87-68-3)	☐	☐	☐	< 3						1	ug/L				
35B. Hexachlorocyclopentadiene (77-47-4)	☐	☐	☐	< 3						1	ug/L				
36B. Hexachloroethane (67-72-1)	☐	☐	☐	< 3						1	ug/L				
37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5)	☐	☐	☐	< 1						1	ug/L				
38B. Isophorone (78-59-1)	☐	☐	☐	< 1						1	ug/L				
39B. Naphthalene (91-20-3)	☐	☐	☐	< 1						1	ug/L				
40B. Nitrobenzene (98-95-9)	☐	☐	☐	< 2						1	ug/L				
41B N-Nitrosodimethylamine (62-75-9)	☐	☐	☐	< 3						1	ug/L				
42B. N-Nitrosodi-N-Propylamine (621-64-7)	☐	☐	☐	< 3						1	ug/L				
43B. N-Nitro-sodiphenylamine (86-30-6)	☐	☐	☐	< 3						1	ug/L				
44B Phenanthrene (85-01-8)	☐	☐	☐	< 1						1	ug/L				
45B. Pyrene (129-00-0)	☐	☐	☐	< 1						1	ug/L				
46B. 1,2,4-Trichlorobenzene (120-82-1)	☐	☐	☐	< 1						1	ug/L				
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)	☐	☐	☒												
2P. -BHC (319-84-6)	☐	☐	☒												
3P -BHC (319-85-7)	☐	☐	☒												
4P. -BHC (58-89-9)	☐	☐	☒												
5P. -BHC (319-86-8)	☐	☐	☒												

Facility ID. Number: FL0036366 Outfall No. CT Makeup Canal

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
6P. Chlordane (57-74-9)	☐	☐	☒												
7P. 4,4'-DDT (50-29-3)	☐	☐	☒												
8P. 4,4'-DDE (72-55-9)	☐	☐	☒												
9P. 4,4'-DDD (72-54-8)	☐	☐	☒												
10P. Dieldrin (60-57-1)	☐	☐	☒												
11P. -Endosulfan (115-29-7)	☐	☐	☒												
12P. -Endosulfan (115-29-7)	☐	☐	☒												
13P. Endosulfan Sulfate (1031-07-8)	☐	☐	☒												
14P. Endrin (72-20-8)	☐	☐	☒												
15P. Endrin Aldehyde (7421-92-4)	☐	☐	☒												
16P. Heptachlor (76-44-8)	☐	☐	☒												
17P. Heptachlor Epoxide (1024-57-3)	☐	☐	☒												
18P. PCB-1242 (53469-21-9)	☐	☐	☒												
19P. PCB-1254 (11097-69-1)	☐	☐	☒												
20P. PCB-1221 (11104-28-2)	☐	☐	☒												
21P. PCB-1232 (11141-16-5)	☐	☐	☒												
22P. PCB-1248 (12672-29-6)	☐	☐	☒												
23P. PCB-1260 (11096-82-5)	☐	☐	☒												
24P. PCB-1016 (12674-11-2)	☐	☐	☒												
25P. Toxaphene (8001-35-2)	☐	☐	☒												

OUTFALL D-074

Facility ID. Number: FL0036366 Outfall No. D-074

PLEASE PRINT OR TYPE ONLY: You may report some or all of this information on separate sheets instead of completing these pages. Use the same format. SEE INSTRUCTIONS.

VII. INTAKE AND EFFLUENT CHARACTERISTICS

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. Pollutant	2. Effluent							3. Units		4. Intake (optional)		
	a. Max. Daily Value		b. Max. 30-day Value		c. Annual Avg. Value		d. No. of Analyses	a. Concentration	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
a. Carbonaceous Biochemical Oxygen Demand (CBOD)	< 2						1	mg/L				
b. Chemical Oxygen Demand (COD)	160						1	mg/L				
c. Total Organic Carbon (TOC)	4.5						1	mg/L				
d. Total Suspended Solids (TSS)	54						1	mg/L				
e. Total Nitrogen (as N)	0.66						1	mg/L				
f. Total Phosphorus (as P)	0.018 (I)						1	mg/L				
g. Ammonia (as N)	< 0.01						1	mg/L				
h. Flow - actual or projected	Value 97.47		Value 97.47		Value 81.41				mgd	Value		
i. Flow - design	Value		Value		Value					Value		
j. Specific Conductivity	Value 44,800		Value		Value		1	umhos/cm		Value		
k. Temperature (winter)	Value		Value		Value			°C		Value		
l. Temperature (summer)	Value		Value		Value		1	°C		Value		
m. pH	Min.	Max	Min.	Max.				STANDARD UNITS				

PART B - Mark "X" in column 2a for each pollutant you know or have reason to believe is present. Mark "X" in column 2b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additonal details and requirements.

1. Pollutant and CAS No. (if available)	2. Mark "X"		3. Effluent							4. Units		5. Intake (optional)		
	a. believed present	b. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
			(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
a. Bromide (24949-67-9)	☐	☐	47						1	mg/L				
b. Chlorine, Total Residual	☐	☐							1	mg/L				
c. Color	☐	☐	5						1	PCU				
d. Fecal Coliform	☐	☐	< 1						1	#col/100 ml				
e. Fluoride (16984-48-8)	☐	☐	0.80						1	mg/L				
f. Nitrate-Nitrite (as N)	☐	☐	0.033 (I)						1	mg/L				

: Item VII-B Contd. Facility ID. Number FL0036366 Outfall No. D-074

1. Pollutant and CAS No. (if available)	2. Mark "X"		3. Effluent							4. Units		5. Intake (optional)		
	a. believed present	b. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
			(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
g. Nitrogen, Total Organic (as N)	☐	☐	0.66						1	mg/L				
h. Oil and grease	☐	☐	< 1.3						1	mg/L				
i. Phosphorus, Total (as P) (7723-14-0)	☐	☐	0.018 (I)						1	mg/L				
j. Radioactivity														
(1) Alpha, Total	☐	☐	3.1						1	pCi/L				
(2) Beta, Total	☐	☐	220						1	pCi/L				
(3) Radium, Total	☐	☐	1.0						1	pCi/L				
(4) Radium 226, Total	☐	☐	1.0						1	pCi/L				
k. Sulfate (as SO_4) (14808-79-8)	☐	☐	2,400						1	mg/L				
l. Sulfide (as S)	☐	☐	< 0.1						1	mg/L				
m. Sulfite (as SO_3) (14265-45-3)	☐	☐	< 2						1	mg/L				
n. Surfactants	☐	☐	0.209						1	mg/L				
o. Aluminum, Total (7429-90-5)	☐	☐	< 0.05						1	mg/L				
p. Barium, Total (7440-39-3)	☐	☐	0.02						1	mg/L				
q. Boron, Total (7440-42-8)	☐	☐	< 0.05						1	mg/L				
r. Cobalt, Total (7440-48-4)	☐	☐	0.019 (I)						1	mg/L				
s. Iron, Total (7439-89-6)	☐	☐	0.15						1	mg/L				
t. Maagnesium, Total (7439-95-4)	☐	☐	1,400						1	mg/L				
u. Molybdenum, Total (7439-98-7)	☐	☐	0.071						1	mg/L				
v. Manganese, Total (7439-96-5)	☐	☐	≤ 0.001						1	mg/L				
w. Tin, Total (7440-31-5)	☐	☐	1.7						1	mg/L				
x. Titanium, Total (7440-32-6)	☐	☐	< 0.01						1	mg/L				

Facility ID. Number: FL0036366 Outfall No. D-074

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2a for all GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2a (secondary industries, non-process wastewater outfalls, and non-required GC/MS fractions), mark "X" in column 2b for each pollutant you know or have reason to believe is present. Mark "X" in column 2c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one anlysis for that pollutnat if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4,dinitrophenol, or 2-methyl-4,6-dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	☒	☐	☐	0.0031 (I)						1	mg/L				
2M. Arsenic, Total (7723-14-0)	☒	☐	☐	0.0021 (I)						1	mg/L				
3M. Beryllium, Total (7440-41-7)	☒	☐	☐	< 0.0001						1	mg/L				
4M. Cadmium, Total (7440-43-9)	☒	☐	☐	< 0.001						1	mg/L				
5M. Chromium, Total (7440-47-3)	☒	☐	☐	< 0.004						1	mg/L				
6M. Copper, Total (7440-50-8)	☒	☐	☐	0.0025 (I)						1	mg/L				
7M. Lead, Total (7439-92-1)	☒	☐	☐	< 0.005						1	mg/L				
8M. Mercury, Total (7439-97-6)	☒	☐	☐	1.7						1	ng/L				
9M. Nickel, Total (7440-02-0)	☒	☐	☐	0.0029 (I)						1	mg/L				
10M. Selenium, Total (7782-49-2)	☒	☐	☐	0.014						1	mg/L				
11M. Silver, Total (7440-22-4)	☒	☐	☐	0.013						1	mg/L				
12M. Thallium, Total (7440-28-0)	☒	☐	☐	0.0016 (I)						1	mg/L				
13M. Zinc, Total (7440-66-6)	☒	☐	☐	0.019						1	mg/L				
14M. Cyanide, Total (57-12-5)	☒	☐	☐	< 0.005						1	mg/L				
15M. Phenols, Total	☒	☐	☐	0.006 (I)						1	mg/L				
DIOXIN															
2,3,7,8-Tetra-chlorodibenzo-P-Dioxin (1764-01-6)	☐	☐	☒												
GC/MS FRACTION - VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	☒	☐	☐	< 0.63						1	ug/L				
2V. Acrylonitrile (107-13-1)	☒	☐	☐	< 1.6						1	ug/L				

Facility ID. Number: FL0036366 Outfall No. D-074

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)															
3V. Benzene (71-43-2)	☒	☐	☐	< 0.10						1	ug/L				
4V. Bis (Chloromethyl) Ether (542-88-1)	☐	☐	☒												
5V. Bromoform (75-25-2)	☒	☐	☐	1.9						1	ug/L				
6V. Carbon Tetrachloride (56-23-5)	☒	☐	☐	< 0.22						1	ug/L				
7V Chlorobenzene (108-90-7)	☒	☐	☐	< 0.04						1	ug/L				
8V. Chlorodi-bromomethane (124-8-1)	☒	☐	☐	< 0.15						1	ug/L				
9V. Chloroethane (74-00-3)	☒	☐	☐	< 0.39						1	ug/L				
10V. 2-Chloro-ethylvinyl Ether (110-75-8)	☒	☐	☐	< 0.39						1	ug/L				
11V. Chloroform (67-86-3)	☒	☐	☐	< 0.14						1	ug/L				
12V. Dichloro-bromomethane (75-24-4)	☒	☐	☐	< 0.13						1	ug/L				
13V. Dichloro-difluoromethane (75-71-8)	☒	☐	☐	< 0.74						1	ug/L				
14V. 1,1-Dichloroethane (75-34-3)	☒	☐	☐	< 0.12						1	ug/L				
15V. 1,2-Dichloroethane (107-06-2)	☒	☐	☐	< 0.12						1	ug/L				
16V. 1,1-Dichloroethylene (75-35-4)	☒	☐	☐	< 0.14						1	ug/L				
17V. 1,2,-Dichloropropane (78-87-5)	☒	☐	☐	< 0.06						1	ug/L				
18V. 1,3-Dichloropropylene (542-75-6)	☒	☐	☐	< 0.14						1	ug/L				
19V. Ethylbenzene (100-41-4)	☒	☐	☐	< 0.13						1	ug/L				
20V. Methyl Bromide (74-83-9)	☒	☐	☐	< 0.58						1	ug/L				
21V. Methyl Chloride (74-87-3)	☒	☐	☐	< 0.47						1	ug/L				
22V. Methylene Chloride (74-98-2)	☒	☐	☐	< 0.13						1	ug/L				
23V. 1,1,2,2-Tetra-chloroethane (79-34-5)	☒	☐	☐	< 0.12						1	ug/L				
24V. Tetrachloroethylene (127-18-4)	☒	☐	☐	< 0.16						1	ug/L				

Facility ID. Number: FL0036366 Outfall No. D-074

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)															
25V. Toluene (108-88-3)	☒	☐	☐	< 0.10						1	ug/L				
26V. 1,2-Trans-Dichloroethylene (156-60-5)	☒	☐	☐	< 0.30						1	ug/L				
27V. 1,1,2-Trichloroethane (71-55-6)	☒	☐	☐	< 0.09						1	ug/L				
28V. 1,1,2-Trichloroethane (79-00-5)	☒	☐	☐	< 0.23						1	ug/L				
29V. Trichloroethylene (79-01-6)	☒	☐	☐	< 0.12						1	ug/L				
30V. Trichloro-fluoromethane (75-69-4)	☒	☐	☐	< 0.21						1	ug/L				
31V. Vinyl Chloride (75-01-4)	☒	☐	☐	< 0.38						1	ug/L				
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	☒	☐	☐	< 1						1	ug/L				
2A. 2,4-Dichlorophenol (120-83-2)	☒	☐	☐	< 1						1	ug/L				
3A. 2,4-Dimethylphenol (105-67-9)	☒	☐	☐	< 1						1	ug/L				
4A. 4,6-Dinitro-O-Cresol (534-53-1)	☒	☐	☐	< 3						1	ug/L				
5A. 2,4-Dinitrophenol (51-28-5)	☒	☐	☐	< 15						1	ug/L				
6A. 2-Nitrophenol (88-75-5)	☒	☐	☐	< 1						1	ug/L				
7A. 4-Nitrophenol (100-02-7)	☒	☐	☐	< 15						1	ug/L				
8A P-Chloro-M-Cresol (59-50-7)	☒	☐	☐	< 1						1	ug/L				
9A Pentachlorophenol (87-86-5)	☒	☐	☐	< 3						1	ug/L				
10A Phenol (108-95-2)	☒	☐	☐	< 1						1	ug/L				
11A 2,4,5-Trichloro-phenol (88-06-2)	☒	☐	☐	< 2						1	ug/L				
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (63-32-9)	☒	☐	☐	< 1						1	ug/L				
2B. Acenaphtylene (208-96-8)	☒	☐	☐	< 1						1	ug/L				
3B. Anthracene (120-12-7)	☒	☐	☐	< 1						1	ug/L				
4B. Benzidine (92-87-5)	☒	☐	☐	< 100						1	ug/L				

Facility ID. Number: FL0036366 Outfall No. D-074

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
5B. Benzo *(a)* Anthracene (56-55-3)	☒	☐	☐	<1						1	ug/L				
6B. Benzo *(a)* Pyrene (50-32-8)	☒	☐	☐	<1						1	ug/L				
7B. 3,4-Benzo-fluoranthene (205-99-2)	☒	☐	☐	<1						1	ug/L				
8B. Benzo *(ghi)* Perylene (191-24-2)	☒	☐	☐	<1						1	ug/L				
9B. Benzo *(k)* Fluoranthene (207-08-9)	☒	☐	☐	<1						1	ug/L				
10B. Bis *(2-Chloroethoxy)* Methane (111-91-1)	☒	☐	☐	<1						1	ug/L				
11B. Bis *(2-chloroethyl)* Ether (111-44-4)	☒	☐	☐	<3						1	ug/L				
12B. Bis *(2-Chloroisopropyl)* Ether (102-60-1)	☒	☐	☐	<1						1	ug/L				
13B. Bis *(2-Ethylhexyl)* Phthalate (117-81-7)	☒	☐	☐	<3						1	ug/L				
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	☒	☐	☐	<1						1	ug/L				
15B Butyl Benzyl Phthalate (84-68-7)	☒	☐	☐	<3						1	ug/L				
16B. 2-Chloronaphthalene (91-58-7)	☒	☐	☐	<1						1	ug/L				
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)	☒	☐	☐	<2						1	ug/L				
18B. Chrysene (218-01-9)	☒	☐	☐	<1						1	ug/L				
19B. Dibenzo *(a,h)* Anthracene (53-70-3)	☒	☐	☐	<1						1	ug/L				
20B. 1,2-Dichlorobenzene (95-50-1)	☒	☐	☐	<1						1	ug/L				
21B. 1,3-Dichlorobenzene (541-73-1)	☒	☐	☐	<1						1	ug/L				
22B. 1,4-Dichlorobenzene (106-46-7)	☒	☐	☐	<1						1	ug/L				
23B. 3,3'-Dichlorobenzidine (92-94-1)	☒	☐	☐	<40						1	ug/L				
24B. Diethyl Phthalate (84-66-2)	☒	☐	☐	<1						1	ug/L				
25B. Dimethyl Phthalate (131-11-3)	☒	☐	☐	<5						1	ug/L				
26B. Di-N-Butyl Phthalate (84-74-2)	☒	☐	☐	<5						1	ug/L				
27B. 2,4-Dinitrotoluene (121-14-2)	☒	☐	☐	<1						1	ug/L				
28B. 2,6-Dinitrotoluene (606-20-2)	☒	☐	☐	<2						1	ug/L				

Facility ID. Number: FL0036366 Outfall No. D-074

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
29B. Di-N-Octyl Phthalate (117-84-0)	☒	☐	☐	<1						1	ug/L				
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)	☒	☐	☐	<2						1	ug/L				
31B. Fluoranthene (206-44-0)	☒	☐	☐	<1						1	ug/L				
32B. Fluorene (86-73-7)	☒	☐	☐	<1						1	ug/L				
33B. Hexachlorobenzene (118-74-1)	☒	☐	☐	<1						1	ug/L				
34B. Hexachlorobutadiene (87-68-3)	☒	☐	☐	<3						1	ug/L				
35B. Hexachlorocyclopentadiene (77-47-4)	☒	☐	☐	<3						1	ug/L				
36B. Hexachloroethane (67-72-1)	☒	☐	☐	<3						1	ug/L				
37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5)	☒	☐	☐	<1						1	ug/L				
38B. Isophorone (78-59-1)	☒	☐	☐	<1						1	ug/L				
39B. Naphthalene (91-20-3)	☒	☐	☐	<1						1	ug/L				
40B. Nitrobenzene (98-95-9)	☒	☐	☐	<2						1	ug/L				
41B. N-Nitrosodimethylamine (62-75-9)	☒	☐	☐	<3						1	ug/L				
42B. N-Nitrosodi-N-Propylamine (621-64-7)	☒	☐	☐	<3						1	ug/L				
43B. N-Nitro-sodiphenylamine (86-30-6)	☒	☐	☐	<3						1	ug/L				
44B. Phenanthrene (85-01-8)	☒	☐	☐	<1						1	ug/L				
45B. Pyrene (129-00-0)	☒	☐	☐	<1						1	ug/L				
46B. 1,2,4-Trichlorobenzene (120-82-1)	☒	☐	☐	<1						1	ug/L				
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)	☐	☐	☒												
2P. -BHC (319-84-6)	☐	☐	☒												
3P. -BHC (319-85-7)	☐	☐	☒												
4P. -BHC (58-89-9)	☐	☐	☒												
5P. -BHC (319-86-8)	☐	☐	☒												

Facility ID. Number: FL0036366 Outfall No. D-074

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
6P. Chlordane (57-74-9)	☐	☐	☒												
7P. 4,4'-DDT (50-29-3)	☐	☐	☒												
8P. 4,4'-DDE (72-55-9)	☐	☐	☒												
9P. 4,4'-DDD (72-54-8)	☐	☐	☒												
10P. Dieldrin (60-57-1)	☐	☐	☒												
11P. -Endosulfan (115-29-7)	☐	☐	☒												
12P. -Endosulfan (115-29-7)	☐	☐	☒												
13P. Endosulfan Sulfate (1031-07-8)	☐	☐	☒												
14P. Endrin (72-20-8)	☐	☐	☒												
15P. Endrin Aldehyde (7421-92-4)	☐	☐	☒												
16P. Heptachlor (76-44-8)	☐	☐	☒												
17P. Heptachlor Epoxide (1024-57-3)	☐	☐	☒												
18P. PCB-1242 (53469-21-9)	☐	☐	☒												
19P. PCB-1254 (11097-69-1)	☐	☐	☒												
20P. PCB-1221 (11104-28-2)	☐	☐	☒												
21P. PCB-1232 (11141-16-5)	☐	☐	☒												
22P. PCB-1248 (12672-29-6)	☐	☐	☒												
23P. PCB-1260 (11096-82-5)	☐	☐	☒												
24P. PCB-1016 (12674-11-2)	☐	☐	☒												
25P. Toxaphene (8001-35-2)	☐	☐	☒												

OUTFALL D-075

Facility ID. Number: FL0036366 Outfall No. D-075

PLEASE PRINT OR TYPE ONLY: You may report some or all of this information on separate sheets instead of completing these pages. Use the same format. SEE INSTRUCTIONS.

VII. INTAKE AND EFFLUENT CHARACTERISTICS

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. Pollutant	2. Effluent							3. Units		4. Intake (optional)		
	a. Max. Daily Value		b. Max. 30-day Value		c. Annual Avg. Value		d. No. of Analyses	a. Concentration	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
a. Carbonaceous Biochemical Oxygen Demand (CBOD)	< 2						1	mg/L				
b. Chemical Oxygen Demand (COD)	160						1	mg/L				
c. Total Organic Carbon (TOC)	4.5						1	mg/L				
d. Total Suspended Solids (TSS)	54						1	mg/L				
e. Total Nitrogen (as N)	0.66						1	mg/L				
f. Total Phosphorus (as P)	0.018 (I)						1	mg/L				
g. Ammonia (as N)	< 0.01						1	mg/L				
h. Flow - actual or projected	Value 97.47		Value 97.47		Value 81.41				mgd	Value		
i. Flow - design	Value		Value		Value					Value		
j. Specific Conductivity	Value 44,800		Value		Value		1	umhos/cm		Value		
k. Temperature (winter)	Value		Value		Value			°C		Value		
l. Temperature (summer)	Value		Value		Value		1	°C		Value		
m. pH	Min.	Max.	Min.	Max.				STANDARD UNITS				

PART B - Mark "X" in column 2a for each pollutant you know or have reason to believe is present. Mark "X" in column 2b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additonal details and requirements.

1. Pollutant and CAS No. (if available)	2. Mark "X"		3. Effluent							4. Units		5. Intake (optional)		
	a. believed present	b. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
			(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
a. Bromide (24949-67-9)	☐	☐	47						1	mg/L				
b. Chlorine, Total Residual	☐	☐							1	mg/L				
c. Color	☐	☐	5						1	PCU				
d. Fecal Coliform	☐	☐	< 1						1	#col/100 ml				
e. Fluoride (16984-48-8)	☐	☐	0.80						1	mg/L				
f. Nitrate-Nitrite (as N)	☐	☐	0.033 (I)						1	mg/L				

: Item VII-B Contd.

Facility ID. Number FL0036366 Outfall No. D-075

1. Pollutant and CAS No. (if available)	2. Mark "X"		3. Effluent							4. Units		5. Intake (optional)		
	a. believed present	b. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
			(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
g. Nitrogen, Total Organic (as N)	☐	☐	0.66						1	mg/L				
h. Oil and grease	☐	☐	< 1.3						1	mg/L				
i. Phosphorus, Total (as P) (7723-14-0)	☐	☐	0.018 (I)						1	mg/L				
j. Radioactivity														
(1) Alpha, Total	☐	☐	3.1						1	pCi/L				
(2) Beta, Total	☐	☐	220						1	pCi/L				
(3) Radium, Total	☐	☐	1.0						1	pCi/L				
(4) Radium 226, Total	☐	☐	1.0						1	pCi/L				
k. Sulfate (as SO_4) (14808-79-8)	☐	☐	2,400						1	mg/L				
l. Sulfide (as S)	☐	☐	< 0.1						1	mg/L				
m. Sulfite (as SO_3) (14265-45-3)	☐	☐	< 2						1	mg/L				
n. Surfactants	☐	☐	0.209						1	mg/L				
o. Aluminum, Total (7429-90-5)	☐	☐	< 0.05						1	mg/L				
p. Barium, Total (7440-39-3)	☐	☐	0.02						1	mg/L				
q. Boron, Total (7440-42-8)	☐	☐	< 0.05						1	mg/L				
r. Cobalt, Total (7440-48-4)	☐	☐	0.019 (I)						1	mg/L				
s. Iron, Total (7439-89-6)	☐	☐	0.15						1	mg/L				
t. Maagnesium, Total (7439-95-4)	☐	☐	1,400						1	mg/L				
u. Molybdenum, Total (7439-98-7)	☐	☐	0.071						1	mg/L				
v. Manganese, Total (7439-96-5)	☐	☐	< 0.001						1	mg/L				
w. Tin, Total (7440-31-5)	☐	☐	1.7						1	mg/L				
x. Titanium, Total (7440-32-6)	☐	☐	< 0.01						1	mg/L				

Facility ID. Number: FL0036366 Outfall No. D-075

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2a for all GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2a (secondary industries, non-process wastewater outfalls, and non-required GC/MS fractions), mark "X" in column 2b for each pollutant you know or have reason to believe is present. Mark "X" in column 2c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one anlysis for that pollutnat if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4,dinitrophenol, or 2-methyl-4,6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	☒	☐	☐	0.0031 (I)						1	mg/L				
2M. Arsenic, Total (7723-14-0)	☒	☐	☐	0.0021 (I)						1	mg/L				
3M. Beryllium, Total (7440-41-7)	☒	☐	☐	< 0.0001						1	mg/L				
4M. Cadmium, Total (7440-43-9)	☒	☐	☐	< 0.001						1	mg/L				
5M. Chromium, Total (7440-47-3)	☒	☐	☐	< 0.004						1	mg/L				
6M. Copper, Total (7440-50-8)	☒	☐	☐	0.0025 (I)						1	mg/L				
7M. Lead, Total (7439-92-1)	☒	☐	☐	< 0.005						1	mg/L				
8M. Mercury, Total (7439-97-6)	☒	☐	☐	1.7						1	ng/L				
9M. Nickel, Total (7440-02-0)	☒	☐	☐	0.0029 (I)						1	mg/L				
10M. Selenium, Total (7782-49-2)	☒	☐	☐	0.014						1	mg/L				
11M. Silver, Total (7440-22-4)	☒	☐	☐	0.013						1	mg/L				
12M. Thallium, Total (7440-28-0)	☒	☐	☐	0.0016 (I)						1	mg/L				
13M. Zinc, Total (7440-66-6)	☒	☐	☐	0.019						1	mg/L				
14M. Cyanide, Total (57-12-5)	☒	☐	☐	< 0.005						1	mg/L				
15M. Phenols, Total	☒	☐	☐	0.006 (I)						1	mg/L				
DIOXIN															
2,3,7,8-Tetra-chlorodibenzo-P-Dioxin (1764-01-6)	☐	☐	☒												
GC/MS FRACTION - VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	☒	☐	☐	< 0.63						1	ug/L				
2V. Acrylonitrile (107-13-1)	☒	☐	☐	< 1.6						1	ug/L				

Facility ID. Number: FL0036366 Outfall No. D-075

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)															
3V. Benzene (71-43-2)	☒	☐	☐	< 0.10						1	ug/L				
4V. Bis (Chloromethyl) Ether (542-88-1)	☐	☐	☒												
5V. Bromoform (75-25-2)	☒	☐	☐	1.9						1	ug/L				
6V. Carbon Tetrachloride (56-23-5)	☒	☐	☐	< 0.22						1	ug/L				
7V Chlorobenzene (108-90-7)	☒	☐	☐	< 0.04						1	ug/L				
8V. Chlorodi-bromomethane (124-8-1)	☒	☐	☐	< 0.15						1	ug/L				
9V. Chloroethane (74-00-3)	☒	☐	☐	< 0.39						1	ug/L				
10V. 2-Chloro-ethylvinyl Ether (110-75-8)	☒	☐	☐	< 0.39						1	ug/L				
11V. Chloroform (67-86-3)	☒	☐	☐	< 0.14						1	ug/L				
12V. Dichloro-bromomethane (75-24-4)	☒	☐	☐	< 0.13						1	ug/L				
13V. Dichloro-difluoromethane (75-71-8)	☒	☐	☐	< 0.74						1	ug/L				
14V. 1,1-Dichloroethane (75-34-3)	☒	☐	☐	< 0.12						1	ug/L				
15V. 1,2-Dichloroethane (107-06-2)	☒	☐	☐	< 0.12						1	ug/L				
16V. 1,1-Dichloroethylene (75-35-4)	☒	☐	☐	< 0.14						1	ug/L				
17V. 1,2,-Dichloropropane (78-87-5)	☒	☐	☐	< 0.06						1	ug/L				
18V. 1,3-Dichloropropylene (542-75-6)	☒	☐	☐	< 0.14						1	ug/L				
19V. Ethylbenzene (100-41-4)	☒	☐	☐	< 0.13						1	ug/L				
20V. Methyl Bromide (74-83-9)	☒	☐	☐	< 0.58						1	ug/L				
21V. Methyl Chloride (74-87-3)	☒	☐	☐	< 0.47						1	ug/L				
22V. Methylene Chloride (74-98-2)	☒	☐	☐	< 0.13						1	ug/L				
23V. 1,1,2,2-Tetra-chloroethane (79-34-5)	☒	☐	☐	< 0.12						1	ug/L				
24V. Tetrachloroethylene (127-18-4)	☒	☐	☐	< 0.16						1	ug/L				

Facility ID. Number: FL0036366 Outfall No. D-075

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)															
25V. Toluene (108-88-3)	☒	☐	☐	< 0.10						1	ug/L				
26V. 1,2-Trans-Dichloroethylene (156-60-5)	☒	☐	☐	< 0.30						1	ug/L				
27V. 1,1,2-Trichloroethane (71-55-6)	☒	☐	☐	< 0.09						1	ug/L				
28V. 1,1,1,2-Trichloroethane (79-00-5)	☒	☐	☐	< 0.23						1	ug/L				
29V. Trichloroethylene (79-01-6)	☒	☐	☐	< 0.12						1	ug/L				
30V. Trichloro-fluoromethane (75-69-4)	☒	☐	☐	< 0.21						1	ug/L				
31V. Vinyl Chloride (75-01-4)	☒	☐	☐	< 0.38						1	ug/L				
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	☒	☐	☐	< 1						1	ug/L				
2A. 2,4-Dichlorophenol (120-83-2)	☒	☐	☐	< 1						1	ug/L				
3A. 2,4-Dimethylphenol (105-67-9)	☒	☐	☐	< 1						1	ug/L				
4A. 4,6-Dinitro-O-Cresol (534-53-1)	☒	☐	☐	< 3						1	ug/L				
5A. 2,4-Dinitrophenol (51-28-5)	☒	☐	☐	< 15						1	ug/L				
6A. 2-Nitrophenol (88-75-5)	☒	☐	☐	< 1						1	ug/L				
7A. 4-Nitrophenol (100-02-7)	☒	☐	☐	< 15						1	ug/L				
8A P-Chloro-M-Cresol (59-50-7)	☒	☐	☐	< 1						1	ug/L				
9A Pentachlorophenol (87-86-5)	☒	☐	☐	< 3						1	ug/L				
10A Phenol (108-95-2)	☒	☐	☐	< 1						1	ug/L				
11A 2,4,5-Trichloro-phenol (88-06-2)	☒	☐	☐	< 2						1	ug/L				
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (63-32-9)	☒	☐	☐	< 1						1	ug/L				
2B. Acenaphtylene (208-96-8)	☒	☐	☐	< 1						1	ug/L				
3B. Anthracene (120-12-7)	☒	☐	☐	< 1						1	ug/L				
4B. Benzidine (92-87-5)	☒	☐	☐	< 100						1	ug/L				

Facility ID. Number: FL0036366 Outfall No. D-075

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass.	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
5B. Benzo *(a)* Anthracene (56-55-3)	☒	☐	☐	< 1						1	ug/L				
6B. Benzo *(a)* Pyrene (50-32-8)	☒	☐	☐	< 1						1	ug/L				
7B. 3,4-Benzo-fluoranthene (205-99-2)	☒	☐	☐	< 1						1	ug/L				
8B. Benzo *(ghi)* Perylene (191-24-2)	☒	☐	☐	< 1						1	ug/L				
9B. Benzo *(k)* Fluoranthene (207-08-9)	☒	☐	☐	< 1						1	ug/L				
10B. Bis *(2-Chloroethoxy)* Methane (111-91-1)	☒	☐	☐	< 1						1	ug/L				
11B. Bis *(2-chloroethyl)* Ether (111-44-4)	☒	☐	☐	< 3						1	ug/L				
12B. Bis *(2-Chloroisopropyl)* Ether (102-60-1)	☒	☐	☐	< 1						1	ug/L				
13B. Bis *(2-Ethylhexyl)* Phthalate (117-81-7)	☒	☐	☐	< 3						1	ug/L				
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	☒	☐	☐	< 1						1	ug/L				
15B. Butyl Benzyl Phthalate (84-68-7)	☒	☐	☐	< 3						1	ug/L				
16B. 2-Chloronaphthalene (91-58-7)	☒	☐	☐	< 1						1	ug/L				
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)	☒	☐	☐	< 2						1	ug/L				
18B. Chrysene (218-01-9)	☒	☐	☐	< 1						1	ug/L				
19B. Dibenzo *(a,h)* Anthracene (53-70-3)	☒	☐	☐	< 1						1	ug/L				
20B. 1,2-Dichlorobenzene (95-50-1)	☒	☐	☐	< 1						1	ug/L				
21B. 1,3-Dichlorobenzene (541-73-1)	☒	☐	☐	< 1						1	ug/L				
22B. 1,4-Dichlorobenzene (106-46-7)	☒	☐	☐	< 1						1	ug/L				
23B. 3,3'-Dichlorobenzidine (92-94-1)	☒	☐	☐	< 40						1	ug/L				
24B. Diethyl Phthalate (84-66-2)	☒	☐	☐	< 1						1	ug/L				
25B. Dimethyl Phthalate (131-11-3)	☒	☐	☐	< 5						1	ug/L				
26B. Di-N-Butyl Phthalate (84-74-2)	☒	☐	☐	< 5						1	ug/L				
27B. 2,4-Dinitrotoluene (121-14-2)	☒	☐	☐	< 1						1	ug/L				
28B. 2,6-Dinitrotoluene (606-20-2)	☒	☐	☐	< 2						1	ug/L				

Facility ID. Number: FL0036366 Outfall No. D-075

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
29B. Di-N-Octyl Phthalate (117-84-0)	☒	☐	☐	< 1						1	ug/L				
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)	☒	☐	☐	< 2						1	ug/L				
31B. Fluoranthene (206-44-0)	☒	☐	☐	< 1						1	ug/L				
32B. Fluorene (86-73-7)	☒	☐	☐	< 1						1	ug/L				
33B. Hexachlorobenzene (118-74-1)	☒	☐	☐	< 1						1	ug/L				
34B. Hexachlorobutadiene (87-68-3)	☒	☐	☐	< 3						1	ug/L				
35B. Hexachlorocyclopentadiene (77-47-4)	☒	☐	☐	< 3						1	ug/L				
36B. Hexachloroethane (67-72-1)	☒	☐	☐	< 3						1	ug/L				
37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5)	☒	☐	☐	< 1						1	ug/L				
38B. Isophorone (78-59-1)	☒	☐	☐	< 1						1	ug/L				
39B. Naphthalene (91-20-3)	☒	☐	☐	< 1						1	ug/L				
40B. Nitrobenzene (98-95-9)	☒	☐	☐	< 2						1	ug/L				
41B N-Nitrosodimethylamine (62-75-9)	☒	☐	☐	< 3						1	ug/L				
42B. N-Nitrosodi-N-Propylamine (621-64-7)	☒	☐	☐	< 3						1	ug/L				
43B. N-Nitro-sodiphenylamine (86-30-6)	☒	☐	☐	< 3						1	ug/L				
44B Phenanthrene (85-01-8)	☒	☐	☐	< 1						1	ug/L				
45B. Pyrene (129-00-0)	☒	☐	☐	< 1						1	ug/L				
46B. 1,2,4-Trichlorobenzene (120-82-1)	☒	☐	☐	< 1						1	ug/L				
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)	☐	☐	☒												
2P. -BHC (319-84-6)	☐	☐	☒												
3P. -BHC (319-85-7)	☐	☐	☒												
4P. -BHC (58-89-9)	☐	☐	☒												
5P. -BHC (319-86-8)	☐	☐	☒												

Facility ID. Number: FL0036366 Outfall No. D-075

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass.	a. Long Term Avg. Value		b. No. of Analyses.
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
6P. Chlordane (57-74-9)	☐	☐	☒												
7P. 4,4'-DDT (50-29-3)	☐	☐	☒												
8P. 4,4'-DDE (72-55-9)	☐	☐	☒												
9P. 4,4'-DDD (72-54-8)	☐	☐	☒												
10P. Dieldrin (60-57-1)	☐	☐	☒												
11P. -Endosulfan (115-29-7)	☐	☐	☒												
12P. -Endosulfan (115-29-7)	☐	☐	☒												
13P. Endosulfan Sulfate (1031-07-8)	☐	☐	☒												
14P. Endrin (72-20-8)	☐	☐	☒												
15P. Endrin Aldehyde (7421-92-4)	☐	☐	☒												
16P. Heptachlor (76-44-8)	☐	☐	☒												
17P. Heptachlor Epoxide (1024-57-3)	☐	☐	☒												
18P. PCB-1242 (53469-21-9)	☐	☐	☒												
19P. PCB-1254 (11097-69-1)	☐	☐	☒												
20P. PCB-1221 (11104-28-2)	☐	☐	☒												
21P. PCB-1232 (11141-16-5)	☐	☐	☒												
22P. PCB-1248 (12672-29-6)	☐	☐	☒												
23P. PCB-1260 (11096-82-5)	☐	☐	☒												
24P. PCB-1016 (12674-11-2)	☐	☐	☒												
25P. Toxaphene (8001-35-2)	☐	☐	☒												

OUTFALL D-0C0

Facility ID. Number: FL0036366 Outfall No: D-0C0

PLEASE PRINT OR TYPE ONLY: You may report some or all of this information on separate sheets instead of completing these pages. Use the same format. SEE INSTRUCTIONS.

VII. INTAKE AND EFFLUENT CHARACTERISTICS

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. Pollutant	2. Effluent							3. Units		4. Intake (optional)		
	a. Max. Daily Value		b. Max. 30-day Value		c. Annual Avg. Value		d. No. of Analyses	a. Concentration	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
a. Carbonaceous Biochemical Oxygen Demand (CBOD)	< 2						1	mg/L				
b. Chemical Oxygen Demand (COD)	29 (I)						1	mg/L				
c. Total Organic Carbon (TOC)	8.6						1	mg/L				
d. Total Suspended Solids (TSS)	3.0						1	mg/L				
e. Total Nitrogen (as N)	0.60						1	mg/L				
f. Total Phosphorus (as P)	0.017 (I)						1	mg/L				
g. Ammonia (as N)	0.20 (I)						1	mg/L				
h. Flow - actual or projected	Value 12.47 *		Value		Value		1		mgd	Value		
i. Flow - design	Value		Value		Value					Value		
j. Specific Conductivity	Value 1,375		Value		Value		1	umhos/cm		Value		
k. Temperature (winter)	Value 20.3		Value		Value		1	°C		Value		
l. Temperature (summer)	Value		Value		Value			°C		Value		
m. pH	Min. 8.8	Max 8.8	Min.	Max.			1	STANDARD UNITS				

PART B - Mark "X" in column 2a for each pollutant you know or have reason to believe is present. Mark "X" in column 2b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additonal details and requirements.

1. Pollutant and CAS No. (if available)	2. Mark "X"		3. Effluent							4. Units		5. Intake (optional)		
	a. believed present	b. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
			(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
a. Bromide (24949-67-9)	☐	☐	1.6						1	mg/L				
b. Chlorine, Total Residual	☐	☐	0.02						1	mg/L				
c. Color	☐	☐	15						1	PCU				
d. Fecal Coliform	☐	☐	< 1						1	#col/100 ml				
e. Fluoride (16984-48-8)	☐	☐	0.22						1	mg/L				
f. Nitrate-Nitrite (as N)	☐	☐	≤ 0.01						1	mg/L				

: Item VII-B Contd.

Facility ID. Number FL0036366 Outfall No. D-0C0

1. Pollutant and CAS No. (if available)	2. Mark "X"		3. Effluent							4. Units		5. Intake (optional)		
	a. believed present	b. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
			(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
g. Nitrogen, Total Organic (as N)	☐	☐	0.60						1	mg/L				
h. Oil and grease	☐	☐	< 1.3						1	mg/L				
i. Phosphorus, Total (as P) (7723-14-0)	☐	☐	0.017 (I)						1	mg/L				
j. Radioactivity														
(1) Alpha, Total	☐	☐	3.6						1	pCi/L				
(2) Beta, Total	☐	☐	1.1						1	pCi/L				
(3) Radium, Total	☐	☐	1.1						1	pCi/L				
(4) Radium 226, Total	☐	☐	1.5						1	pCi/L				
k. Sulfate (as SO_4) (14808-79-8)	☐	☐	130						1	mg/L				
l. Sulfide (as S)	☐	☐	0.34 (I)						1	mg/L				
m. Sulfite (as SO_3) (14265-45-3)	☐	☐	< 2						1	mg/L				
n. Surfactants	☐	☐	< 0.05						1	mg/L				
o. Aluminum, Total (7429-90-5)	☐	☐	0.11 (I)						1	mg/L				
p. Barium, Total (7440-39-3)	☐	☐	0.016 (I)						1	mg/L				
q. Boron, Total (7440-42-8)	☐	☐	0.96						1	mg/L				
r. Cobalt, Total (7440-48-4)	☐	☐	< 0.01						1	mg/L				
s. Iron, Total (7439-89-6)	☐	☐	0.025 (I)						1	mg/L				
t. Maagnesium, Total (7439-95-4)	☐	☐	27						1	mg/L				
u. Molybdenum, Total (7439-98-7)	☐	☐	0.020						1	mg/L				
v. Manganese, Total (7439-96-5)	☐	☐	0.0023 (I)						1	mg/L				
w. Tin, Total (7440-31-5)	☐	☐	0.16 (I)						1	mg/L				
x. Titanium, Total (7440-32-6)	☐	☐	< 0.01						1	mg/L				

Facility ID. Number: FL0036366 Outfall No. D-0C0

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2a for all GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2a (secondary industries, non-process wastewater outfalls, and non-required GC/MS fractions), mark "X" in column 2b for each pollutant you know or have reason to believe is present. Mark "X" in column 2c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one anlysis for that pollutnat if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4,dinitrophenol, or 2-methyl-4,6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	☒	☐	☐	< 0.001						1	mg/L				
2M. Arsenic, Total (7723-14-0)	☒	☐	☐	0.0031 (I)						1	mg/L				
3M. Beryllium, Total (7440-41-7)	☒	☐	☐	0.00020 (I)						1	mg/L				
4M. Cadmium, Total (7440-43-9)	☒	☐	☐	< 0.001						1	mg/L				
5M. Chromium, Total (7440-47-3)	☒	☐	☐	< 0.004						1	mg/L				
6M. Copper, Total (7440-50-8)	☒	☐	☐	0.0026 (I)						1	mg/L				
7M. Lead, Total (7439-92-1)	☒	☐	☐	< 0.005						1	mg/L				
8M. Mercury, Total (7439-97-6)	☒	☐	☐	0.00096						1	ug/L				
9M. Nickel, Total (7440-02-0)	☒	☐	☐	0.0016 (I)						1	mg/L				
10M. Selenium, Total (7782-49-2)	☒	☐	☐	0.0012 (I)						1	mg/L				
11M. Silver, Total (7440-22-4)	☒	☐	☐	< 0.001						1	mg/L				
12M. Thallium, Total (7440-28-0)	☒	☐	☐	< 0.001						1	mg/L				
13M. Zinc, Total (7440-66-6)	☒	☐	☐	0.013						1	mg/L				
14M. Cyanide, Total (57-12-5)	☒	☐	☐	< 0.005						1	mg/L				
15M. Phenols, Total	☒	☐	☐	0.098						1	mg/L				
DIOXIN															
2,3,7,8-Tetra-chlorodibenzo-P-Dioxin (1764-01-6)	☐	☐	☒												
GC/MS FRACTION-VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	☒	☐	☐	< 0.63						1	ug/L				
2V. Acrylonitrile (107-13-1)	☒	☐	☐	< 1.6						1	ug/L				

Facility ID. Number: FL0036366 Outfall No. D-0C0

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)															
3V. Benzene (71-43-2)	☒	☐	☐	< 0.10						1	ug/L				
4V. Bis (Chloromethyl) Ether (542-88-1)	☐	☐	☒												
5V. Bromoform (75-25-2)	☒	☐	☐	< 0.10						1	ug/L				
6V. Carbon Tetrachloride (56-23-5)	☒	☐	☐	< 0.22						1	ug/L				
7V Chlorobenzene (108-90-7)	☒	☐	☐	< 0.04						1	ug/L				
8V. Chlorodi-bromomethane (124-8-1)	☒	☐	☐	< 0.15						1	ug/L				
9V. Chloroethane (74-00-3)	☒	☐	☐	< 0.39						1	ug/L				
10V. 2-Chloro-ethylvinyl Ether (110-75-8)	☒	☐	☐	< 0.39						1	ug/L				
11V. Chloroform (67-86-3)	☒	☐	☐	< 0.14						1	ug/L				
12V. Dichloro-bromomethane (75-24-4)	☒	☐	☐	< 0.13						1	ug/L				
13V. Dichloro-difluoromethane (75-71-8)	☒	☐	☐	< 0.74						1	ug/L				
14V. 1,1-Dichloroethane (75-34-3)	☒	☐	☐	< 0.12						1	ug/L				
15V. 1,2-Dichloroethane (107-06-2)	☒	☐	☐	< 0.12						1	ug/L				
16V. 1,1-Dichloroethylene (75-35-4)	☒	☐	☐	< 0.14						1	ug/L				
17V. 1,2,-Dichloropropane (78-87-5)	☒	☐	☐	< 0.06						1	ug/L				
18V. 1,3-Dichloropropylene (542-75-6)	☒	☐	☐	< 0.06						1	ug/L				
19V. Ethylbenzene (100-41-4)	☒	☐	☐	< 0.13						1	ug/L				
20V. Methyl Bromide (74-83-9)	☒	☐	☐	< 0.58						1	ug/L				
21V. Methyl Chloride (74-87-3)	☒	☐	☐	< 0.47						1	ug/L				
22V. Methylene Chloride (74-98-2)	☒	☐	☐	< 0.13						1	ug/L				
23V. 1,1,2,2-Tetra-chloroethane (79-34-5)	☒	☐	☐	< 0.12						1	ug/L				
24V. Tetrachloroethylene (127-18-4)	☒	☐	☐	< 0.16						1	ug/L				

Facility ID. Number: FL0036366 Outfall No. D-0C0

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)															
25V. Toluene (108-88-3)	☒	☐	☐	< 0.10						1	ug/L				
26V. 1,2-Trans-Dichloroethylene (156-60-5)	☒	☐	☐	< 0.30						1	ug/L				
27V. 1,1,2-Trichloroethane (71-55-6)	☒	☐	☐	< 0.09						1	ug/L				
28V. 1,1,2-Trichloroethane (79-00-5)	☒	☐	☐	< 0.23						1	ug/L				
29V. Trichloroethylene (79-01-6)	☒	☐	☐	< 0.12						1	ug/L				
30V. Trichloro-fluoromethane (75-69-4)	☒	☐	☐	< 0.21						1	ug/L				
31V. Vinyl Chloride (75-01-4)	☒	☐	☐	< 0.38						1	ug/L				
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	☒	☐	☐	< 1						1	ug/L				
2A. 2,4-Dichlorophenol (120-83-2)	☒	☐	☐	< 1						1	ug/L				
3A. 2,4-Dimethylphenol (105-67-9)	☒	☐	☐	< 1						1	ug/L				
4A. 4,6-Dinitro-O-Cresol (534-53-1)	☒	☐	☐	< 3						1	ug/L				
5A. 2,4-Dinitrophenol (51-28-5)	☒	☐	☐	< 15						1	ug/L				
6A. 2-Nitrophenol (88-75-5)	☒	☐	☐	< 1						1	ug/L				
7A. 4-Nitrophenol (100-02-7)	☒	☐	☐	< 15						1	ug/L				
8A P-Chloro-M-Cresol (59-50-7)	☒	☐	☐	< 1						1	ug/L				
9A Pentachlorophenol (87-86-5)	☒	☐	☐	< 3						1	ug/L				
10A Phenol (108-95-2)	☒	☐	☐	< 1						1	ug/L				
11A 2,4,5-Trichloro-phenol (88-06-2)	☒	☐	☐	< 2						1	ug/L				
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (63-32-9)	☒	☐	☐	< 1						1	ug/L				
2B. Acenaphtylene (208-96-8)	☒	☐	☐	< 1						1	ug/L				
3B. Anthracene (120-12-7)	☒	☐	☐	< 1						1	ug/L				
4B. Benzidine (92-87-5)	☒	☐	☐	< 100						1	ug/L				

Facility ID. Number: FL0036366 Outfall No. D-0C0

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
5B. Benzo *(a)* Anthracene (56-55-3)	☒	☐	☐	<1						1	ug/L				
6B. Benzo *(a)* Pyrene (50-32-8)	☒	☐	☐	<1						1	ug/L				
7B. 3,4-Benzo-fluoranthene (205-99-2)	☒	☐	☐	<1						1	ug/L				
8B. Benzo *(ghi)* Perylene (191-24-2)	☒	☐	☐	<1						1	ug/L				
9B. Benzo *(k)* Fluoranthene (207-08-9)	☒	☐	☐	<1						1	ug/L				
10B. Bis *(2-Chloroethoxy)* Methane (111-91-1)	☒	☐	☐	<1						1	ug/L				
11B. Bis *(2-chloroethyl)* Ether (111-44-4)	☒	☐	☐	<3						1	ug/L				
12B. Bis *(2-Chloroisopropyl)* Ether (102-60-1)	☒	☐	☐	<1						1	ug/L				
13B. Bis *(2-Ethylhexyl)* Phthalate (117-81-7)	☒	☐	☐	<3						1	ug/L				
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	☒	☐	☐	<1						1	ug/L				
15B Butyl Benzyl Phthalate (84-68-7)	☒	☐	☐	<3						1	ug/L				
16B. 2-Chloronaphthalene (91-58-7)	☒	☐	☐	<1						1	ug/L				
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)	☒	☐	☐	<2						1	ug/L				
18B. Chrysene (218-01-9)	☒	☐	☐	<1						1	ug/L				
19B. Dibenzo *(a,h)* Anthracene (53-70-3)	☒	☐	☐	<1						1	ug/L				
20B. 1,2-Dichlorobenzene (95-50-1)	☒	☐	☐	<1						1	ug/L				
21B. 1,3-Dichlorobenzene (541-73-1)	☒	☐	☐	<1						1	ug/L				
22B. 1,4-Dichlorobenzene (106-46-7)	☒	☐	☐	<1						1	ug/L				
23B. 3,3'-Dichlorobenzidine (92-94-1)	☒	☐	☐	<40						1	ug/L				
24B. Diethyl Phthalate (84-66-2)	☒	☐	☐	<1						1	ug/L				
25B. Dimethyl Phthalate (131-11-3)	☒	☐	☐	<5						1	ug/L				
26B. Di-N-Butyl Phthalate (84-74-2)	☒	☐	☐	<5						1	ug/L				
27B. 2,4-Dinitrotoluene (121-14-2)	☒	☐	☐	<1						1	ug/L				
28B. 2,6-Dinitrotoluene (606-20-2)	☒	☐	☐	<2						1	ug/L				

Facility ID. Number: FL0036366 Outfall No. D-0C0

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
29B. Di-N-Octyl Phthalate (117-84-0)	☒	☐	☐	<1						1	ug/L				
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)	☒	☐	☐	<2						1	ug/L				
31B. Fluoranthene (206-44-0)	☒	☐	☐	<1						1	ug/L				
32B. Fluorene (86-73-7)	☒	☐	☐	<1						1	ug/L				
33B. Hexachlorobenzene (118-74-1)	☒	☐	☐	<1						1	ug/L				
34B. Hexachlorobutadiene (87-68-3)	☒	☐	☐	<3						1	ug/L				
35B. Hexachlorocyclopentadiene (77-47-4)	☒	☐	☐	<3						1	ug/L				
36B. Hexachloroethane (67-72-1)	☒	☐	☐	<3						1	ug/L				
37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5)	☒	☐	☐	<1						1	ug/L				
38B. Isophorone (78-59-1)	☒	☐	☐	<1						1	ug/L				
39B. Naphthalene (91-20-3)	☒	☐	☐	<1						1	ug/L				
40B. Nitrobenzene (98-95-9)	☒	☐	☐	<2						1	ug/L				
41B. N-Nitrosodimethylamine (62-75-9)	☒	☐	☐	<3						1	ug/L				
42B. N-Nitrosodi-N-Propylamine (621-64-7)	☒	☐	☐	<3						1	ug/L				
43B. N-Nitro-sodiphenylamine (86-30-6)	☒	☐	☐	<3						1	ug/L				
44B. Phenanthrene (85-01-8)	☒	☐	☐	<1						1	ug/L				
45B. Pyrene (129-00-0)	☒	☐	☐	<1						1	ug/L				
46B. 1,2,4-Trichlorobenzene (120-82-1)	☒	☐	☐	<1						1	ug/L				
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)	☐	☐	☒												
2P. -BHC (319-84-6)	☐	☐	☒												
3P. -BHC (319-85-7)	☐	☐	☒												
4P. -BHC (58-89-9)	☐	☐	☒												
5P. -BHC (319-86-8)	☐	☐	☒												

Facility ID. Number: FL0036366 Outfall No. D-0C0

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
6P. Chlordane (57-74-9)	☐	☐	☒												
7P. 4,4'-DDT (50-29-3)	☐	☐	☒												
8P. 4,4'-DDE (72-55-9)	☐	☐	☒												
9P. 4,4'-DDD (72-54-8)	☐	☐	☒												
10P. Dieldrin (60-57-1)	☐	☐	☒												
11P. -Endosulfan (115-29-7)	☐	☐	☒												
12P. -Endosulfan (115-29-7)	☐	☐	☒												
13P. Endosulfan Sulfate (1031-07-8)	☐	☐	☒												
14P. Endrin (72-20-8)	☐	☐	☒												
15P. Endrin Aldehyde (7421-92-4)	☐	☐	☒												
16P. Heptachlor (76-44-8)	☐	☐	☒												
17P. Heptachlor Epoxide (1024-57-3)	☐	☐	☒												
18P. PCB-1242 (53469-21-9)	☐	☐	☒												
19P. PCB-1254 (11097-69-1)	☐	☐	☒												
20P. PCB-1221 (11104-28-2)	☐	☐	☒												
21P. PCB-1232 (11141-16-5)	☐	☐	☒												
22P. PCB-1248 (12672-29-6)	☐	☐	☒												
23P. PCB-1260 (11096-82-5)	☐	☐	☒												
24P. PCB-1016 (12674-11-2)	☐	☐	☒												
25P. Toxaphene (8001-35-2)	☐	☐	☒												

OUTFALL I-C40

Facility ID. Number: FL0036366 Outfall No. I-C40

PLEASE PRINT OR TYPE ONLY: You may report some or all of this information on separate sheets instead of completing these pages. Use the same format. SEE INSTRUCTIONS.

VII. INTAKE AND EFFLUENT CHARACTERISTICS

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. Pollutant	2. Effluent							3. Units		4. Intake (optional)		
	a. Max. Daily Value		b. Max. 30-day Value		c. Annual Avg. Value		d. No. of Analyses	a. Concentration	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
a. Carbonaceous Biochemical Oxygen Demand (CBOD)	<2						1	mg/L				
b. Chemical Oxygen Demand (COD)	<10						1	mg/L				
c. Total Organic Carbon (TOC)	4.2						1	mg/L				
d. Total Suspended Solids (TSS)	12						1	mg/L				
e. Total Nitrogen (as N)	1.1						1	mg/L				
f. Total Phosphorus (as P)	0.015 (I)						1	mg/L				
g. Ammonia (as N)	0.73						1	mg/L				
h. Flow - actual or projected	Value 0.54 *		Value		Value		1		mgd	Value		
i. Flow - design	Value		Value		Value					Value		
j. Specific Conductivity	Value 1,251		Value		Value		1	umhos/cm		Value		
k. Temperature (winter)	Value		Value		Value			°C		Value		
l. Temperature (summer)	Value 26.0		Value		Value		1	°C		Value		
m. pH	Min. 7.3	Max 7.3	Min.	Max.			1	STANDARD UNITS				

PART B - Mark "X" in column 2a for each pollutant you know or have reason to believe is present. Mark "X" in column 2b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. Pollutant and CAS No. (if available)	2. Mark "X"		3. Effluent							4. Units		5. Intake (optional)		
	a. believed present	b. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
			(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
a. Bromide (24949-67-9)	☐	☐	1.0						1	mg/L				
b. Chlorine, Total Residual	☐	☐	<0.01						1	mg/L				
c. Color	☐	☐	5						1	PCU				
d. Fecal Coliform	☐	☐	14						1	#col/100 ml				
e. Fluoride (16984-48-8)	☐	☐	0.092						1	mg/L				
f. Nitrate-Nitrite (as N)	☐	☐	0.032 (I)						1	mg/L				

: Item VII-B Contd. Facility ID. Number FL0036366 Outfall No. I-C40

1. Pollutant and CAS No. (if available)	2. Mark "X"		3. Effuent							4. Units		5. Intake (optional)		
	a. believed present	b. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
			(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
g. Nitrogen, Total Organic (as N)	☐	☐	0.37						1	mg/L				
h. Oil and grease	☐	☐	< 1.3						1	mg/L				
i. Phosphorus, Total (as P) (7723-14-0)	☐	☐	0.015 (I)						1	mg/L				
j. Radioactivity														
(1) Alpha, Total	☐	☐	11						1	pCi/L				
(2) Beta, Total	☐	☐	3.5						1	pCi/L				
(3) Radium, Total	☐	☐	3.7						1	pCi/L				
(4) Radium 226, Total	☐	☐	5.0						1	pCi/L				
k. Sulfate (as SO_4) (14808-79-8)	☐	☐	120						1	mg/L				
l. Sulfide (as S)	☐	☐	< 0.1						1	mg/L				
m. Sulfite (as SO_3) (14265-45-3)	☐	☐	< 2						1	mg/L				
n. Surfactants	☐	☐	< 0.05						1	mg/L				
o. Aluminum, Total (7429-90-5)	☐	☐	0.14 (I)						1	mg/L				
p. Barium, Total (7440-39-3)	☐	☐	0.034						1	mg/L				
q. Boron, Total (7440-42-8)	☐	☐	0.58						1	mg/L				
r. Cobalt, Total (7440-48-4)	☐	☐	< 0.01						1	mg/L				
s. Iron, Total (7439-89-6)	☐	☐	0.49						1	mg/L				
t. Maagnesium, Total (7439-95-4)	☐	☐	18						1	mg/L				
u. Molybdenum, Total (7439-98-7)	☐	☐	0.018						1	mg/L				
v. Manganese, Total (7439-96-5)	☐	☐	0.026						1	mg/L				
w. Tin, Total (7440-31-5)	☐	☐	0.10 (I)						1	mg/L				
x. Titanium, Total (7440-32-6)	☐	☐	< 0.01						1	mg/L				

Facility ID. Number: FL0036366 Outfall No. I-C40

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2a for all GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2a (secondary industries, non-process wastewater outfalls, and non-required GC/MS fractions), mark "X" in column 2b for each pollutant you know or have reason to believe is present. Mark "X" in column 2c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one anlysis for that pollutnat if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4,dinitrophenol, or 2-methyl-4,6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	☒	☐	☐	< 0.001						1	mg/L				
2M. Arsenic, Total (7723-14-0)	☒	☐	☐	0.0046						1	mg/L				
3M. Beryllium, Total (7440-41-7)	☒	☐	☐	< 0.0001						1	mg/L				
4M. Cadmium, Total (7440-43-9)	☒	☐	☐	< 0.001						1	mg/L				
5M. Chromium, Total (7440-47-3)	☒	☐	☐	< 0.004						1	mg/L				
6M. Copper, Total (7440-50-8)	☒	☐	☐	0.0012 (I)						1	mg/L				
7M. Lead, Total (7439-92-1)	☒	☐	☐	< 0.005						1	mg/L				
8M. Mercury, Total (7439-97-6)	☒	☐	☐	1.1						1	ng/L				
9M. Nickel, Total (7440-02-0)	☒	☐	☐	0.0013 (I)						1	mg/L				
10M. Selenium, Total (7782-49-2)	☒	☐	☐	< 0.001						1	mg/L				
11M. Silver, Total (7440-22-4)	☒	☐	☐	< 0.001						1	mg/L				
12M. Thallium, Total (7440-28-0)	☒	☐	☐	< 0.001						1	mg/L				
13M. Zinc, Total (7440-66-6)	☒	☐	☐	0.018						1	mg/L				
14M. Cyanide, Total (57-12-5)	☒	☐	☐	< 0.005						1	mg/L				
15M. Phenols, Total	☒	☐	☐	< 0.005						1	mg/L				
DIOXIN															
2,3,7,8-Tetra-chlorodibenzo-P-Dioxin (1764-01-6)	☐	☐	☒												
GC/MS FRACTION - VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	☒	☐	☐	< 0.63						1	ug/L				
2V. Acrylonitrile (107-13-1)	☒	☐	☐	< 1.6						1	ug/L				

Facility ID. Number: FL0036366 Outfall No. I-C40

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)															
3V. Benzene (71-43-2)	☒	☐	☐	< 0.10						1	ug/L				
4V. Bis (Chloromethyl) Ether (542-88-1)	☐	☐	☒												
5V. Bromoform (75-25-2)	☒	☐	☐	< 0.10						1	ug/L				
6V. Carbon Tetrachloride (56-23-5)	☒	☐	☐	< 0.22						1	ug/L				
7V Chlorobenzene (108-90-7)	☒	☐	☐	< 0.04						1	ug/L				FORMTEX
8V. Chlorodi-bromomethane (124-8-1)	☒	☐	☐	< 0.15						1	ug/L				
9V. Chloroethane (74-00-3)	☒	☐	☐	< 0.39						1	ug/L				
10V. 2-Chloro-ethylvinyl Ether (110-75-8)	☒	☐	☐	< 0.39						1	ug/L				
11V. Chloroform (67-86-3)	☒	☐	☐	< 0.14						1	ug/L				
12V. Dichloro-bromomethane (75-24-4)	☒	☐	☐	< 0.13						1	ug/L				
13V. Dichloro-difluoromethane (75-71-8)	☒	☐	☐	< 0.74						1	ug/L				
14V. 1,1-Dichloroethane (75-34-3)	☒	☐	☐	< 0.12						1	ug/L				
15V. 1,2-Dichloroethane (107-06-2)	☒	☐	☐	< 0.12						1	ug/L				
16V. 1,1-Dichloroethylene (75-35-4)	☒	☐	☐	< 0.14						1	ug/L				
17V. 1,2,-Dichloropropane (78-87-5)	☒	☐	☐	< 0.06						1	ug/L				
18V. 1,3-Dichloropropylene (542-75-6)	☒	☐	☐	< 0.14						1	ug/L				
19V. Ethylbenzene (100-41-4)	☒	☐	☐	< 0.13						1	ug/L				
20V. Methyl Bromide (74-83-9)	☒	☐	☐	< 0.58						1	ug/L				
21V. Methyl Chloride (74-87-3)	☒	☐	☐	< 0.47						1	ug/L				
22V. Methylene Chloride (74-98-2)	☒	☐	☐	< 0.13						1	ug/L				
23V. 1,1,2,2-Tetra-chloroethane (79-34-5)	☒	☐	☐	< 0.12						1	ug/L				
24V. Tetrachloroethylene (127-18-4)	☒	☐	☐	< 0.16						1	ug/L				

Facility ID. Number: FL0036366 Outfall No. I-C40

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)															
25V. Toluene (108-88-3)	☒	☐	☐	< 0.10						1	ug/L				
26V. 1,2-Trans-Dichloroethylene (156-60-5)	☒	☐	☐	< 0.30						1	ug/L				
27V. 1,1,2-Trichloroethane (71-55-6)	☒	☐	☐	< 0.09						1	ug/L				
28V. 1,1,2-Trichloroethane (79-00-5)	☒	☐	☐	< 0.23						1	ug/L				
29V. Trichloroethylene (79-01-6)	☒	☐	☐	< 0.12						1	ug/L				
30V. Trichloro-fluoromethane (75-69-4)	☒	☐	☐	< 0.21						1	ug/L				
31V. Vinyl Chloride (75-01-4)	☒	☐	☐	< 0.38						1	ug/L				
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	☒	☐	☐	< 1						1	ug/L				
2A. 2,4-Dichlorophenol (120-83-2)	☒	☐	☐	< 1						1	ug/L				
3A. 2,4-Dimethylphenol (105-67-9)	☒	☐	☐	< 1						1	ug/L				
4A. 4,6-Dinitro-O-Cresol (534-53-1)	☒	☐	☐	< 3						1	ug/L				
5A. 2,4-Dinitrophenol (51-28-5)	☒	☐	☐	< 15						1	ug/L				
6A. 2-Nitrophenol (88-75-5)	☒	☐	☐	< 1						1	ug/L				
7A. 4-Nitrophenol (100-02-7)	☒	☐	☐	< 15						1	ug/L				
8A P-Chloro-M-Cresol (59-50-7)	☒	☐	☐	< 1						1	ug/L				
9A Pentachlorophenol (87-86-5)	☒	☐	☐	< 3						1	ug/L				
10A Phenol (108-95-2)	☒	☐	☐	< 1						1	ug/L				
11A 2,4,5-Trichloro-phenol (88-06-2)	☒	☐	☐	< 2						1	ug/L				
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (63-32-9)	☒	☐	☐	< 1						1	ug/L				
2B. Acenaphtylene (208-96-8)	☒	☐	☐	< 1						1	ug/L				
3B. Anthracene (120-12-7)	☒	☐	☐	< 1						1	ug/L				
4B. Benzidine (92-87-5)	☒	☐	☐	< 100						1	ug/L				

Facility ID. Number: FL0036366 Outfall No. I-C40

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
5B. Benzo *(a)* Anthracene (56-55-3)	☒	☐	☐	<1						1	ug/L				
6B. Benzo *(a)* Pyrene (50-32-8)	☒	☐	☐	<1						1	ug/L				
7B. 3,4-Benzo-fluoranthene (205-99-2)	☒	☐	☐	<1						1	ug/L				
8B. Benzo *(ghi)* Perylene (191-24-2)	☒	☐	☐	<1						1	ug/L				
9B. Benzo *(k)* Fluoranthene (207-08-9)	☒	☐	☐	<1						1	ug/L				
10B. Bis *(2-Chloroethoxy)* Methane (111-91-1)	☒	☐	☐	<1						1	ug/L				
11B. Bis *(2-chloroethyl)* Ether (111-44-4)	☒	☐	☐	<3						1	ug/L				
12B. Bis *(2-Chloroisopropyl)* Ether (102-60-1)	☒	☐	☐	<1						1	ug/L				
13B. Bis *(2-Ethylhexyl)* Phthalate (117-81-7)	☒	☐	☐	<3						1	ug/L				
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	☒	☐	☐	<1						1	ug/L				
15B Butyl Benzyl Phthalate (84-68-7)	☒	☐	☐	<3						1	ug/L				
16B. 2-Chloronaphthalene (91-58-7)	☒	☐	☐	<1						1	ug/L				
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)	☒	☐	☐	<2						1	ug/L				
18B. Chrysene (218-01-9)	☒	☐	☐	<1						1	ug/L				
19B. Dibenzo *(a,h)* Anthracene (53-70-3)	☒	☐	☐	<1						1	ug/L				
20B. 1,2-Dichlorobenzene (95-50-1)	☒	☐	☐	<1						1	ug/L				
21B. 1,3-Dichlorobenzene (541-73-1)	☒	☐	☐	<1						1	ug/L				
22B. 1,4-Dichlorobenzene (106-46-7)	☒	☐	☐	<1						1	ug/L				
23B. 3,3'-Dichlorobenzidine (92-94-1)	☒	☐	☐	<40						1	ug/L				
24B. Diethyl Phthalate (84-66-2)	☒	☐	☐	<1						1	ug/L				
25B. Dimethyl Phthalate (131-11-3)	☒	☐	☐	<5						1	ug/L				
26B. Di-N-Butyl Phthalate (84-74-2)	☒	☐	☐	<5						1	ug/L				
27B. 2,4-Dinitrotoluene (121-14-2)	☒	☐	☐	<1						1	ug/L				
28B. 2,6-Dinitrotoluene (606-20-2)	☒	☐	☐	<2						1	ug/L				

Facility ID. Number: FL0036366 Outfall No. I-C40

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
29B. Di-N-Octyl Phthalate (117-84-0)	☒	☐	☐	< 1						1	ug/L				
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)	☒	☐	☐	< 2						1	ug/L				
31B. Fluoranthene (206-44-0)	☒	☐	☐	< 1						1	ug/L				
32B. Fluorene (86-73-7)	☒	☐	☐	< 1						1	ug/L				
33B. Hexachlorobenzene (118-74-1)	☒	☐	☐	< 1						1	ug/L				
34B. Hexachlorobutadiene (87-68-3)	☒	☐	☐	< 3						1	ug/L				
35B. Hexachlorocyclopentadiene (77-47-4)	☒	☐	☐	< 3						1	ug/L				
36B. Hexachloroethane (67-72-1)	☒	☐	☐	< 3						1	ug/L				
37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5)	☒	☐	☐	< 1						1	ug/L				
38B. Isophorone (78-59-1)	☒	☐	☐	< 1						1	ug/L				
39B. Naphthalene (91-20-3)	☒	☐	☐	< 1						1	ug/L				
40B. Nitrobenzene (98-95-9)	☒	☐	☐	< 2						1	ug/L				
41B. N-Nitrosodimethylamine (62-75-9)	☒	☐	☐	< 3						1	ug/L				
42B. N-Nitrosodi-N-Propylamine (621-64-7)	☒	☐	☐	< 3						1	ug/L				
43B. N-Nitro-sodiphenylamine (86-30-6)	☒	☐	☐	< 3						1	ug/L				
44B Phenanthrene (85-01-8)	☒	☐	☐	< 1						1	ug/L				
45B. Pyrene (129-00-0)	☒	☐	☐	< 1						1	ug/L				
46B. 1,2,4-Trichlorobenzene (120-82-1)	☒	☐	☐	< 1						1	ug/L				
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)	☐	☐	☒												
2P. -BHC (319-84-6)	☐	☐	☒												
3P -BHC (319-85-7)	☐	☐	☒												
4P. -BHC (58-89-9)	☐	☐	☒												
5P. -BHC (319-86-8)	☐	☐	☒												

Facility ID. Number: FL0036366 Outfall No. I-C40

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
6P. Chlordane (57-74-9)	☐	☐	☒												
7P. 4,4'-DDT (50-29-3)	☐	☐	☒												
8P. 4,4'-DDE (72-55-9)	☐	☐	☒												
9P. 4,4'-DDD (72-54-8)	☐	☐	☒												
10P. Dieldrin (60-57-1)	☐	☐	☒												
11P. -Endosulfan (115-29-7)	☐	☐	☒												
12P. -Endosulfan (115-29-7)	☐	☐	☒												
13P. Endosulfan Sulfate (1031-07-8)	☐	☐	☒												
14P. Endrin (72-20-8)	☐	☐	☒												
15P. Endrin Aldehyde (7421-92-4)	☐	☐	☒												
16P. Heptachlor (76-44-8)	☐	☐	☒												
17P. Heptachlor Epoxide (1024-57-3)	☐	☐	☒												
18P. PCB-1242 (53469-21-9)	☐	☐	☒												
19P. PCB-1254 (11097-69-1)	☐	☐	☒												
20P. PCB-1221 (11104-28-2)	☐	☐	☒												
21P. PCB-1232 (11141-16-5)	☐	☐	☒												
22P. PCB-1248 (12672-29-6)	☐	☐	☒												
23P. PCB-1260 (11096-82-5)	☐	☐	☒												
24P. PCB-1016 (12674-11-2)	☐	☐	☒												
25P. Toxaphene (8001-35-2)	☐	☐	☒												

OUTFALL I-CH0

Facility ID. Number: FL0036366 Outfall No. I-CH0

PLEASE PRINT OR TYPE ONLY: You may report some or all of this information on separate sheets instead of completing these pages. Use the same format. SEE INSTRUCTIONS.

VII. INTAKE AND EFFLUENT CHARACTERISTICS

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. Pollutant	2. Effluent							3. Units		4. Intake (optional)		
	a. Max. Daily Value		b. Max. 30-day Value		c. Annual Avg. Value		d. No. of Analyses	a. Concentration	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
a. Carbonaceous Biochemical Oxygen Demand (CBOD)	5.5						1	mg/L				
b. Chemical Oxygen Demand (COD)	16 (1)						1	mg/L				
c. Total Organic Carbon (TOC)	4.0						1	mg/L				
d. Total Suspended Solids (TSS)	20						1	mg/L				
e. Total Nitrogen (as N)	0.36						1	mg/L				
f. Total Phosphorus (as P)	0.050						1	mg/L				
g. Ammonia (as N)	0.016 (1)						1	mg/L				
h. Flow - actual or projected	Value 1.2 *		Value		Value		1		mgd	Value		
i. Flow - design	Value		Value		Value					Value		
j. Specific Conductivity	Value 461		Value		Value		1	umhos/cm		Value		
k. Temperature (winter)	Value 20.4		Value		Value		1	°C		Value		
l. Temperature (summer)	Value		Value		Value			°C		Value		
m. pH	Min. 8.3	Max 8.3	Min.	Max.			1	STANDARD UNITS				

PART B - Mark "X" in column 2a for each pollutant you know or have reason to believe is present. Mark "X" in column 2b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additonal details and requirements.

1. Pollutant and CAS No. (if available)	2. Mark "X"		3. Effluent							4. Units		5. Intake (optional)		
	a. believed present	b. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
			(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
a. Bromide (24949-67-9)	☐	☐	< 0.04						1	mg/L				
b. Chlorine, Total Residual	☐	☐	0.03						1	mg/L				
c. Color	☐	☐	5						1	PCU				
d. Fecal Coliform	☐	☐	58						1	#col/100 ml				
e. Fluoride (16984-48-8)	☐	☐	0.44						1	mg/L				
f. Nitrate-Nitrite (as N)	☐	☐	< 0.01						1	mg/L				

: Item VII-B Contd.

Facility ID. Number FL0036366 Outfall No. I-CH0

1. Pollutant and CAS No. (if available)	2. Mark "X"		3. Effluent							4. Units		5. Intake (optional)		
	a. believed present	b. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
			(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
g. Nitrogen, Total Organic (as N)	☐	☐	0.34						1	mg/L				
h. Oil and grease	☐	☐	< 1.3						1	mg/L				
i. Phosphorus, Total (as P) (7723-14-0)	☐	☐	0.050						1	mg/L				
j. Radioactivity														
(1) Alpha, Total	☐	☐	5.7						1	pCi/L				
(2) Beta, Total	☐	☐	3.5						1	pCi/L				
(3) Radium, Total	☐	☐	1.0						1	pCi/L				
(4) Radium 226, Total	☐	☐	1.6						1	pCi/L				
k. Sulfate (as SO_4) (14808-79-8)	☐	☐	91						1	mg/L				
l. Sulfide (as S)	☐	☐	0.14 (I)						1	mg/L				
m. Sulfite (as SO_3) (14265-45-3)	☐	☐	< 2						1	mg/L				
n. Surfactants	☐	☐	< 0.05						1	mg/L				
o. Aluminum, Total (7429-90-5)	☐	☐	0.20						1	mg/L				
p. Barium, Total (7440-39-3)	☐	☐	0.054						1	mg/L				
q. Boron, Total (7440-42-8)	☐	☐	0.31						1	mg/L				
r. Cobalt, Total (7440-48-4)	☐	☐	< 0.01						1	mg/L				
s. Iron, Total (7439-89-6)	☐	☐	0.17						1	mg/L				
t. Maagnesium, Total (7439-95-4)	☐	☐	11						1	mg/L				
u. Molybdenum, Total (7439-98-7)	☐	☐	0.022						1	mg/L				
v. Manganese, Total (7439-96-5)	☐	☐	0.024						1	mg/L				
w. Tin, Total (7440-31-5)	☐	☐	< 0.1						1	mg/L				
x. Titanium, Total (7440-32-6)	☐	☐	< 0.01						1	mg/L				

Facility ID. Number: FL0036366 Outfall No. I-CH0

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2a for all GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2a (secondary industries, non-process wastewater outfalls, and non-required GC/MS fractions), mark "X" in column 2b for each pollutant you know or have reason to believe is present. Mark "X" in column 2c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one anlysis for that pollutnat if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4,dinitrophenol, or 2-methyl-4,6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part, please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	☒	☐	☐	<0.001						1	mg/L				
2M. Arsenic, Total (7723-14-0)	☒	☐	☐	0.0076						1	mg/L				
3M. Beryllium, Total (7440-41-7)	☒	☐	☐	<0.0001						1	mg/L				
4M. Cadmium, Total (7440-43-9)	☒	☐	☐	< 0.001						1	mg/L				
5M. Chromium, Total (7440-47-3)	☒	☐	☐	< 0.004						1	mg/L				
6M. Copper, Total (7440-50-8)	☒	☐	☐	0.012						1	mg/L				
7M. Lead, Total (7439-92-1)	☒	☐	☐	< 0.005						1	mg/L				
8M. Mercury, Total (7439-97-6)	☒	☐	☐	0.0011						1	ug/L				
9M. Nickel, Total (7440-02-0)	☒	☐	☐	< 0.001						1	mg/L				
10M. Selenium, Total (7782-49-2)	☒	☐	☐	0.0024 (1)						1	mg/L				
11M. Silver, Total (7440-22-4)	☒	☐	☐	<0.001						1	mg/L				
12M. Thallium, Total (7440-28-0)	☒	☐	☐	<0.001						1	mg/L				
13M. Zinc, Total (7440-66-6)	☒	☐	☐	0.019						1	mg/L				
14M. Cyanide, Total (57-12-5)	☒	☐	☐	< 0.005						1	mg/L				
15M. Phenols, Total	☒	☐	☐	< 0.005						1	mg/L				
DIOXIN															
2,3,7,8-Tetra-chlorodibenzo-P-Dioxin (1764-01-6)	☐	☐	☒												
GC/MS FRACTION-VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	☒	☐	☐	<0.63						1	ug/L				
2V. Acrylonitrile (107-13-1)	☒	☐	☐	<1.6						1	ug/L				

Facility ID. Number: FL0036366 Outfall No. I-CH0

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)															
3V. Benzene (71-43-2)	☒	☐	☐	< 0.10						1	ug/L				
4V. Bis (Chloromethyl) Ether (542-88-1)	☐	☐	☒												
5V. Bromoform (75-25-2)	☒	☐	☐	< 0.10						1	ug/L				
6V. Carbon Tetrachloride (56-23-5)	☒	☐	☐	< 0.22						1	ug/L				
7V Chlorobenzene (108-90-7)	☒	☐	☐	< 0.04						1	ug/L				
8V. Chlorodi-bromomethane (124-8-1)	☒	☐	☐	< 0.15						1	ug/L				
9V. Chloroethane (74-00-3)	☒	☐	☐	< 0.39						1	ug/L				
10V. 2-Chloro-ethylvinyl Ether (110-75-8)	☒	☐	☐	< 0.39						1	ug/L				
11V. Chloroform (67-86-3)	☒	☐	☐	< 0.14						1	ug/L				
12V. Dichloro-bromomethane (75-24-4)	☒	☐	☐	< 0.13						1	ug/L				
13V. Dichloro-difluoromethane (75-71-8)	☒	☐	☐	< 0.74						1	ug/L				
14V. 1,1-Dichloroethane (75-34-3)	☒	☐	☐	< 0.12						1	ug/L				
15V. 1,2-Dichloroethane (107-06-2)	☒	☐	☐	< 0.12						1	ug/L				
16V. 1,1-Dichloroethylene (75-35-4)	☒	☐	☐	< 0.14						1	ug/L				
17V. 1,2,-Dichloropropane (78-87-5)	☒	☐	☐	< 0.06						1	ug/L				
18V. 1,3-Dichloropropylene (542-75-6)	☒	☐	☐	< 0.14						1	ug/L				
19V. Ethylbenzene (100-41-4)	☒	☐	☐	< 0.13						1	ug/L				
20V. Methyl Bromide (74-83-9)	☒	☐	☐	< 0.58						1	ug/L				
21V. Methyl Chloride (74-87-3)	☒	☐	☐	< 0.47						1	ug/L				
22V. Methylene Chloride (74-98-2)	☒	☐	☐	< 0.13						1	ug/L				
23V. 1,1,2,2-Tetra-chloroethane (79-34-5)	☒	☐	☐	< 0.12						1	ug/L				
24V. Tetrachloroethylene (127-18-4)	☒	☐	☐	< 0.16						1	ug/L				

Facility ID. Number: FL0036366 Outfall No. I-CH0

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)															
25V. Toluene (108-88-3)	☒	☐	☐	< 0.10						1	ug/L				
26V. 1,2-Trans-Dichloroethylene (156-60-5)	☒	☐	☐	< 0.30						1	ug/L				
27V. 1,1,2-Trichloroethane (71-55-6)	☒	☐	☐	< 0.09						1	ug/L				
28V. 1,1,2-Trichloroethane (79-00-5)	☒	☐	☐	< 0.23						1	ug/L				
29V. Trichloroethylene (79-01-6)	☒	☐	☐	< 0.12						1	ug/L				
30V. Trichloro-fluoromethane (75-69-4)	☒	☐	☐	< 0.21						1	ug/L				
31V. Vinyl Chloride (75-01-4)	☒	☐	☐	< 0.38						1	ug/L				
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	☒	☐	☐	< 1						1	ug/L				
2A. 2,4-Dichlorophenol (120-83-2)	☒	☐	☐	< 1						1	ug/L				
3A. 2,4-Dimethylphenol (105-67-9)	☒	☐	☐	< 1						1	ug/L				
4A. 4,6-Dinitro-O-Cresol (534-53-1)	☒	☐	☐	< 3						1	ug/L				
5A. 2,4-Dinitrophenol (51-28-5)	☒	☐	☐	< 15						1	ug/L				
6A. 2-Nitrophenol (88-75-5)	☒	☐	☐	< 1						1	ug/L				
7A. 4-Nitrophenol (100-02-7)	☒	☐	☐	< 15						1	ug/L				
8A P-Chloro-M-Cresol (59-50-7)	☒	☐	☐	< 1						1	ug/L				
9A Pentachlorophenol (87-86-5)	☒	☐	☐	< 3						1	ug/L				
10A Phenol (108-95-2)	☒	☐	☐	< 1						1	ug/L				
11A 2,4,5-Trichloro-phenol (88-06-2)	☒	☐	☐	< 2						1	ug/L				
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (63-32-9)	☒	☐	☐	< 1						1	ug/L				
2B. Acenaphtylene (208-96-8)	☒	☐	☐	< 1						1	ug/L				
3B. Anthracene (120-12-7)	☒	☐	☐	< 1						1	ug/L				
4B. Benzidine (92-87-5)	☒	☐	☐	< 100						1	ug/L				

Facility ID. Number: FL0036366 Outfall No. I-CH0

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
5B. Benzo *(a)* Anthracene (56-55-3)	☒	☐	☐	< 1						1	ug/L				
6B. Benzo *(a)* Pyrene (50-32-8)	☒	☐	☐	< 1						1	ug/L				
7B. 3,4-Benzo-fluoranthene (205-99-2)	☒	☐	☐	< 1						1	ug/L				
8B. Benzo *(ghi)* Perylene (191-24-2)	☒	☐	☐	< 1						1	ug/L				
9B. Benzo *(k)* Fluoranthene (207-08-9)	☒	☐	☐	< 1						1	ug/L				
10B. Bis *(2-Chloroethoxy)* Methane (111-91-1)	☒	☐	☐	< 1						1	ug/L				
11B. Bis *(2-chloroethyl)* Ether (111-44-4)	☒	☐	☐	< 3						1	ug/L				
12B. Bis *(2-Chloroisopropyl)* Ether (102-60-1)	☒	☐	☐	< 1						1	ug/L				
13B. Bis *(2-Ethylhexyl)* Phthalate (117-81-7)	☒	☐	☐	< 3						1	ug/L				
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	☒	☐	☐	< 1						1	ug/L				
15B Butyl Benzyl Phthalate (84-68-7)	☒	☐	☐	< 3						1	ug/L				
16B. 2-Chloronaphthalene (91-58-7)	☒	☐	☐	< 1						1	ug/L				
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)	☒	☐	☐	< 2						1	ug/L				
18B. Chrysene (218-01-9)	☒	☐	☐	< 1						1	ug/L				
19B. Dibenzo *(a,h)* Anthracene (53-70-3)	☒	☐	☐	< 1						1	ug/L				
20B. 1,2-Dichlorobenzene (95-50-1)	☒	☐	☐	< 1						1	ug/L				
21B. 1,3-Dichlorobenzene (541-73-1)	☒	☐	☐	< 1						1	ug/L				
22B. 1,4-Dichlorobenzene (106-46-7)	☒	☐	☐	< 1						1	ug/L				
23B. 3,3'-Dichlorobenzidine (92-94-1)	☒	☐	☐	< 40						1	ug/L				
24B. Diethyl Phthalate (84-66-2)	☒	☐	☐	< 1						1	ug/L				
25B. Dimethyl Phthalate (131-11-3)	☒	☐	☐	< 5						1	ug/L				
26B. Di-N-Butyl Phthalate (84-74-2)	☒	☐	☐	< 5						1	ug/L				
27B. 2,4-Dinitrotoluene (121-14-2)	☒	☐	☐	< 1						1	ug/L				
28B. 2,6-Dinitrotoluene (606-20-2)	☒	☐	☐	< 2						1	ug/L				

Facility ID. Number: FL0036366 Outfall No. I-CH0

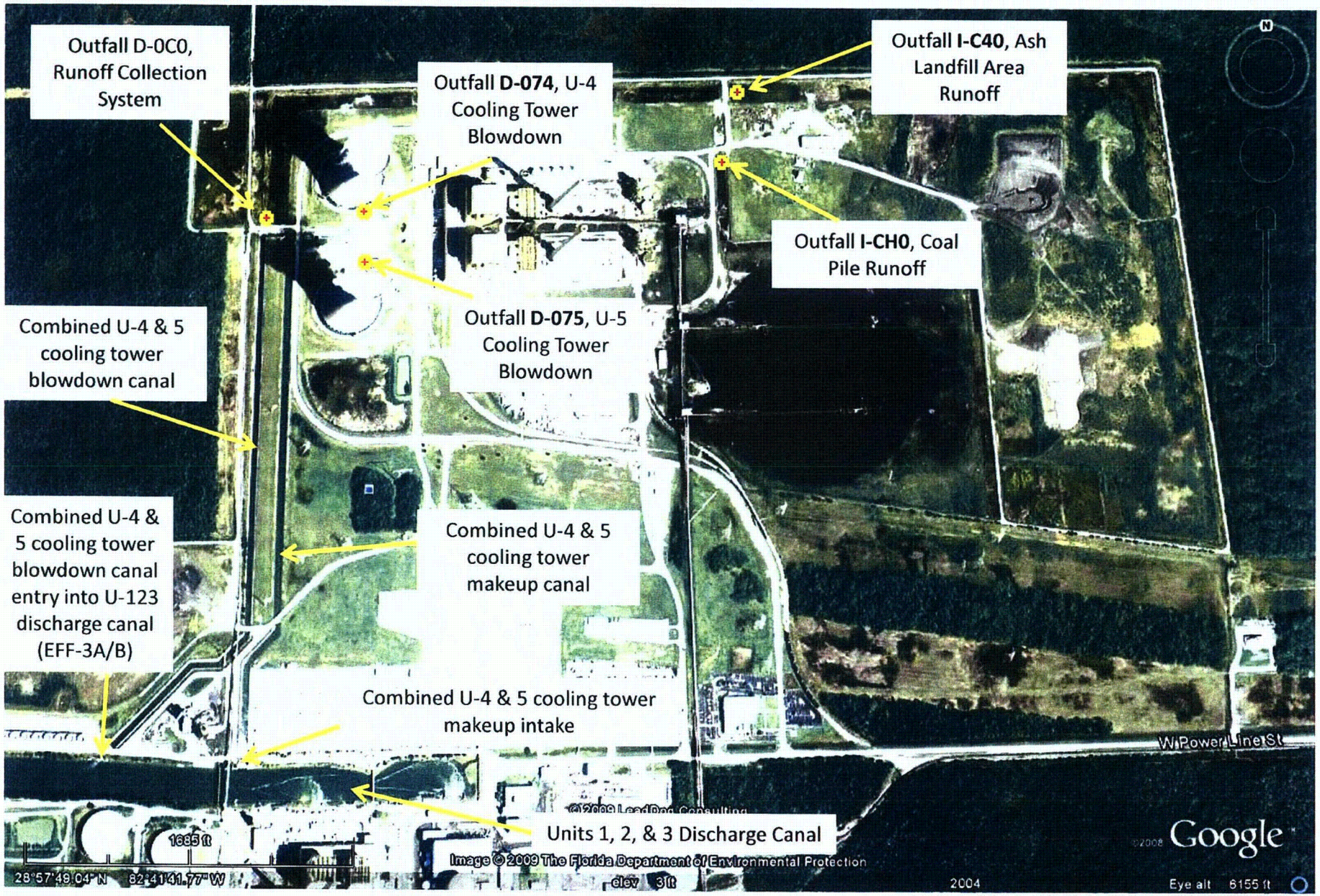
1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
29B. Di-N-Octyl Phthalate (117-84-0)	☒	☐	☐	< 1						1	ug/L				
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)	☒	☐	☐	< 2						1	ug/L				
31B. Fluoranthene (206-44-0)	☒	☐	☐	< 1						1	ug/L				
32B. Fluorene (86-73-7)	☒	☐	☐	< 1						1	ug/L				
33B. Hexachlorobenzene (118-74-1)	☒	☐	☐	< 1						1	ug/L				
34B. Hexachlorobutadiene (87-68-3)	☒	☐	☐	< 3						1	ug/L				
35B. Hexachlorocyclopentadiene (77-47-4)	☒	☐	☐	< 3						1	ug/L				
36B. Hexachloroethane (67-72-1)	☒	☐	☐	< 3						1	ug/L				
37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5)	☒	☐	☐	< 1						1	ug/L				
38B. Isophorone (78-59-1)	☒	☐	☐	< 1						1	ug/L				
39B. Naphthalene (91-20-3)	☒	☐	☐	< 1						1	ug/L				
40B. Nitrobenzene (98-95-9)	☒	☐	☐	< 2						1	ug/L				
41B N-Nitrosodimethylamine (62-75-9)	☒	☐	☐	< 3						1	ug/L				
42B. N-Nitrosodi-N-Propylamine (621-64-7)	☒	☐	☐	< 3						1	ug/L				
43B. N-Nitro-sodiphenylamine (86-30-6)	☒	☐	☐	< 3						1	ug/L				
44B Phenanthrene (85-01-8)	☒	☐	☐	< 1						1	ug/L				
45B. Pyrene (129-00-0)	☒	☐	☐	< 1						1	ug/L				
46B. 1,2,4-Trichlorobenzene (120-82-1)	☒	☐	☐	< 1						1	ug/L				
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)	☐	☐	☒												
2P. -BHC (319-84-6)	☐	☐	☒												
3P -BHC (319-85-7)	☐	☐	☒												
4P. -BHC (58-89-9)	☐	☐	☒												
5P. -BHC (319-86-8)	☐	☐	☒												

Facility ID. Number: FL0036366 Outfall No. 1-CH0

1. Pollutant and CAS No. (if available)	2. Mark "X"			3. Effluent							4. Units		5. Intake (optional)		
	a. testing required	b. believed present	c. believed absent	a. Maximum Daily Value		b. Max. 30-day Value (if available)		c. Long Term Avg. Value (if available)		d. No. of Analyses	a. Conc.	b. Mass	a. Long Term Avg. Value		b. No. of Analyses
				(1) Conc.	(2) Mass	(1) Conc.	(2) Mass	(1) Conc.	(2) Mass				(1) Conc.	(2) Mass	
6P. Chlordane (57-74-9)	☐	☐	☒												
7P. 4,4'-DDT (50-29-3)	☐	☐	☒												
8P. 4,4'-DDE (72-55-9)	☐	☐	☒												
9P. 4,4'-DDD (72-54-8)	☐	☐	☒												
10P. Dieldrin (60-57-1)	☐	☐	☒												
11P. -Endosulfan (115-29-7)	☐	☐	☒												
12P. -Endosulfan (115-29-7)	☐	☐	☒												
13P. Endosulfan Sulfate (1031-07-8)	☐	☐	☒												
14P. Endrin (72-20-8)	☐	☐	☒												
15P. Endrin Aldehyde (7421-92-4)	☐	☐	☒												
16P. Heptachlor (76-44-8)	☐	☐	☒												
17P. Heptachlor Epoxide (1024-57-3)	☐	☐	☒												
18P. PCB-1242 (53469-21-9)	☐	☐	☒												
19P. PCB-1254 (11097-69-1)	☐	☐	☒												
20P. PCB-1221 (11104-28-2)	☐	☐	☒												
21P. PCB-1232 (11141-16-5)	☐	☐	☒												
22P. PCB-1248 (12672-29-6)	☐	☐	☒												
23P. PCB-1260 (11096-82-5)	☐	☐	☒												
24P. PCB-1016 (12674-11-2)	☐	☐	☒												
25P. Toxaphene (8001-35-2)	☐	☐	☒												

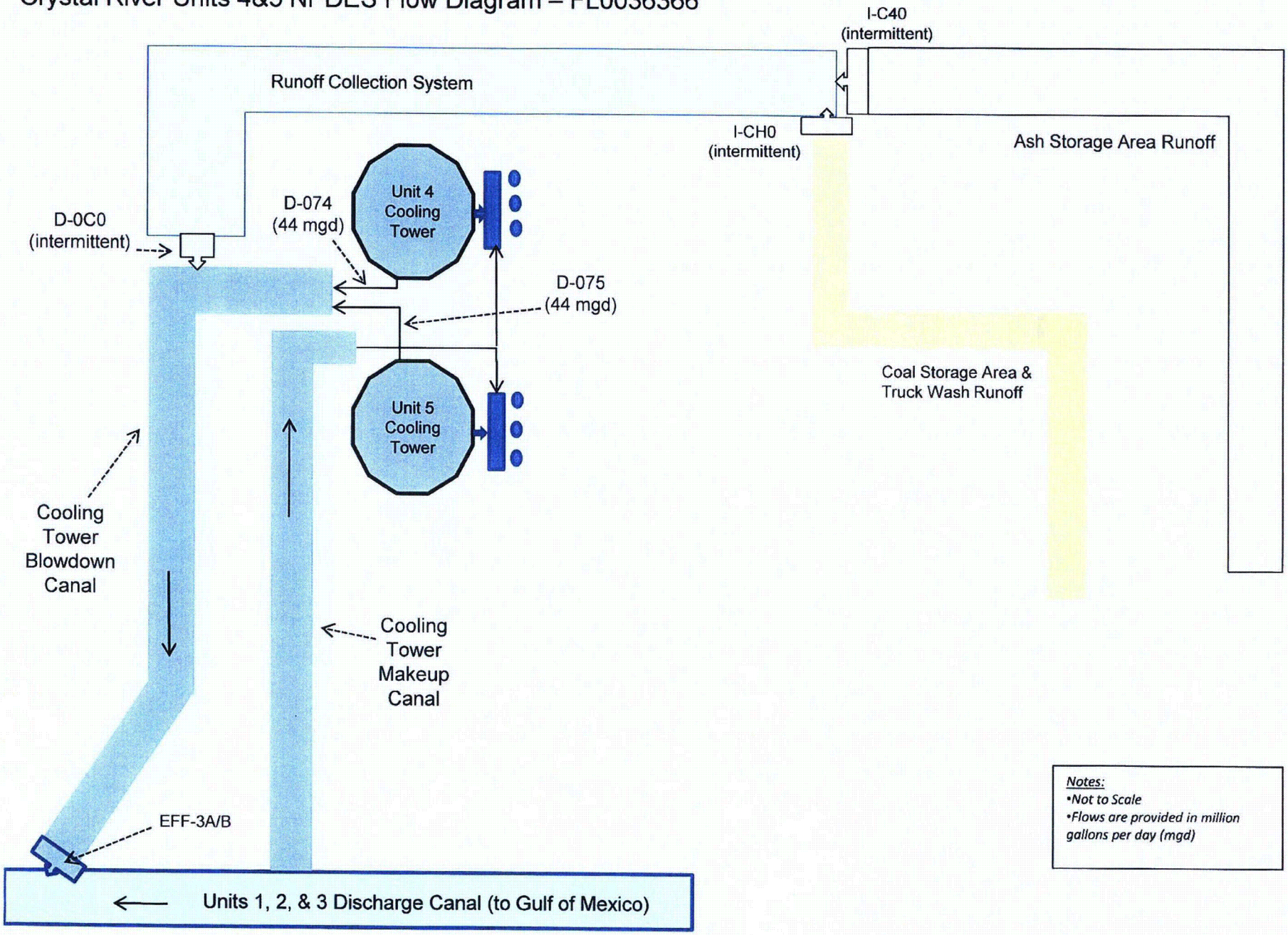
Attachment 2 – Outfall Locations

Crystal River North NPDES Outfalls - NPDES Permit No. FL0036366

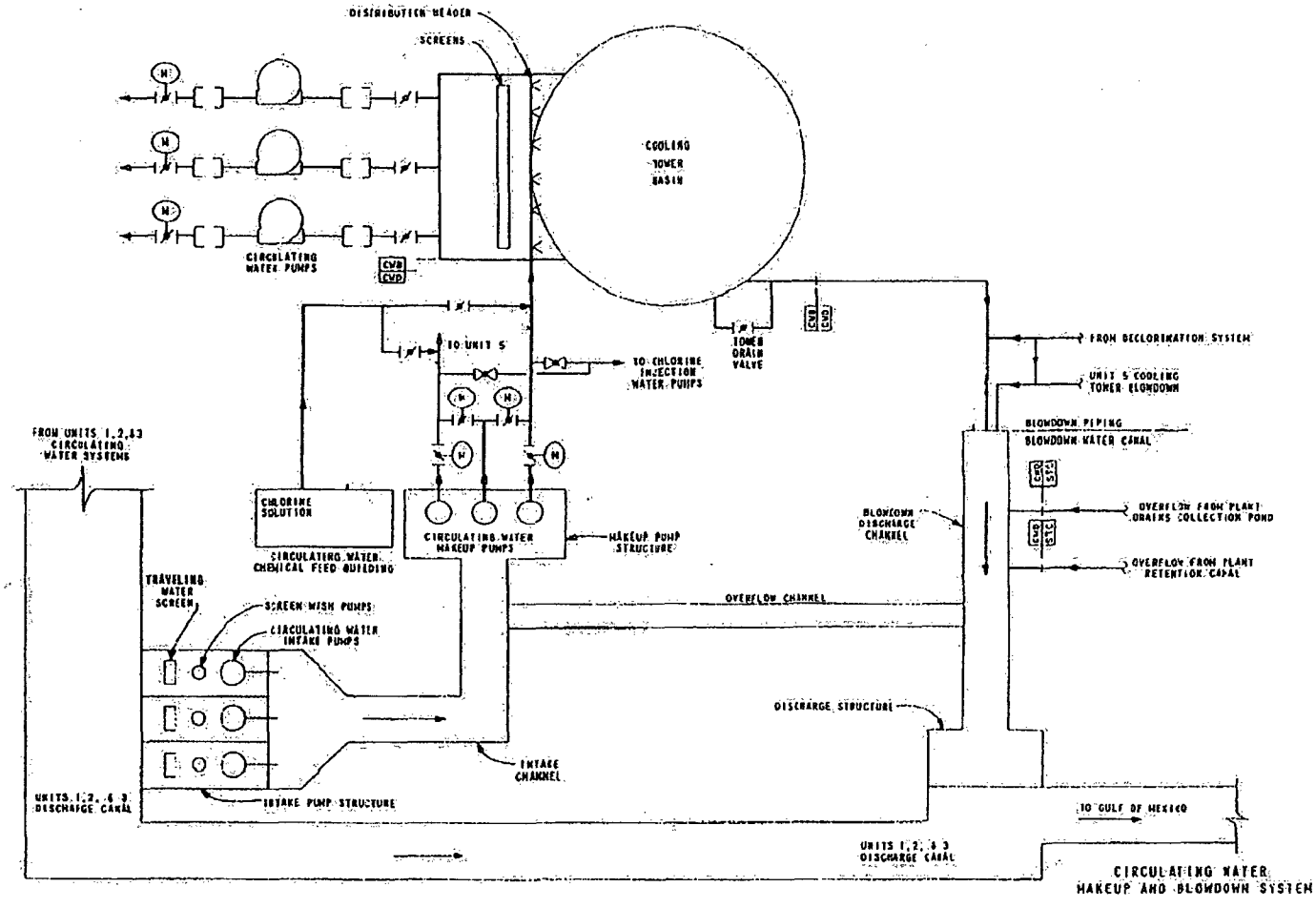


Attachment 3 – Flow Diagram

Crystal River Units 4&5 NPDES Flow Diagram – FL0036366



Notes:
- *Not to Scale*
- *Flows are provided in million gallons per day (mgd)*



CIRCULATING WATER MAKEUP AND BLOWDOWN SYSTEM

FIGURE 1-1

ATTACHMENT 4
Form 2CS Additional Information

Miscellaneous Clarification to Form 2CS Application

Many of these issues were discussed in a pre-application meeting with the Department:

- Results below the Method Detection Limit (MDL) are reported as "less-than" (<) the MDL. Results between the MDL and the Practical Quantitation Limit (PQL) are reported and provided with an "I" code.

- Form 2CS states that single grab samples would be acceptable for those outfalls taken from holding ponds or impoundments with a retention time of greater than 24 hours. At Crystal River Units 4 & 5, there are three internal outfalls that are designed to retain a 10-yr, 24-hr rainfall event. These include Outfalls D-0C0, I-C40 and I-CH0. Current NPDES permit requirements reflect these releases in that single grab samples are required for NPDES compliance sampling purposes.

Form 2CS – Section IV.D. – Power Loss

Power generating facilities are interconnected to the electrical grid, and, therefore have a reliable backup power supply. However, in the unlikely event of complete power loss, the cooling tower circulating water pumps for Outfalls D-074 and D-075 would cease to operate, thereby preventing a discharge to the site discharge canal.

Passive discharges, such as Outfalls I-CH0, I-C40 and D-0C0 rely on passive pollution control, such as settling within runoff collection systems, and are therefore, unaffected by power loss or loss of an active pollution control system.

Form 2CS - Section IV.E. – Flow Measurement

Flow from Outfalls D-074 and D-075 are measured continuously via bubble-tube type flow meters at the blowdown flow point from each cooling tower. Flow from Outfalls I-CH0, I-C40 and D-0C0 are measured at the overflow weirs utilizing Stevens Type A-04 Water Chart Level Recorders. Flow data are obtained when used in conjunction with the existing weirs whereby water level is an index of flow.

Form 2CS – Section VI - Improvements

Permit Section VI.1 requires continued implementation of a Best Management Practices Pollution Prevention Plan (BMP3). CR 4 & 5 continues to maintain the plan and provide updates to the plan as needed. A copy of the most recent version of the BMP3 plan is provided on the attached CD.

Form 2CS – Section VII

Outfalls I-C40 (Ash Landfill Area Runoff), I-CH0 (Coal Storage Area Runoff), and D-0C0 (Runoff Collection System), which are each designed to contain a 10-yr, 24-hr. rainfall event have rarely ever discharged. In fact, these outfalls have only discharged once during the life of the current NPDES permit, this occurring in August 2008 in conjunction with tropical storm Fay. Consequently, we collected grab samples from these perimeter ditch/pond systems directly in front of their respective outfall locations and analyzed these for the Form 2CS parameters. Hence, these samples likely represent worst-case conditions should these outfalls discharge. Flow values reported in section VII. Part A. for these outfalls are based on those measured during the most recent discharge events in August 2008. Sample results from the August 2008 discharge event for Outfalls I-C40, I-CH0 and D-0C0 are provided as a supplement at the end of this attachment.

Additionally, in order to more accurately characterize discharges entering the site discharge canal, we performed Form 2CS sampling at the end of the cooling tower blowdown canal. The sampling point is delineated in the existing NPDES permit as EFF-3A/B.

We did not sample for the Part C, GC/MS Volatile compound 4v. – Bis (Chloromethly) Ether. Our contract lab indicated that there were few, if any, labs that were certified to perform this analysis. Per USEPA Document EPA-600/S4-81-062 relative to performing analysis of haloethers in industrial and municipal wastewaters, this particular haloether was dropped from the study due to its extreme volatility and hydrolytic instability.

Attachment 4 Supplemental

Historical Sample Results for Outfalls:

- D-0C0 – Runoff Collection System Overflow
- I-C40 – Ash Storage Area Runoff
- I-CH0 – Coal Pile and Truck Wash Area Runoff

Crystal River North NPDES Permit No. FL0036366
Outfall D-0C0 - Runoff Collection System Overflow

Month/Yr.	Parameter	Min	Daily Max	Units
August-08	Flow		12.47	mgd
August-08	Length of Discharge		84	hrs.
August-08	TSS		5	mg/L
August-08	Oil and Grease		1.2	mg/L
August-08	Iron		0.87	mg/L
August-08	pH	8.2	8.2	S.U.
August-08	Arsenic		6.1	ug/L
August-08	Cadmium		0.22	ug/L
August-08	Chromium (total)		5.2	ug/L
August-08	Copper		2.5	ug/L
August-08	Lead		1.3	ug/L
August-08	Mercury		0.024	ug/L
August-08	Nickel		0.98	ug/L
August-08	Selenium		2.6	ug/L
August-08	Vanadium		8.3	ug/L
August-08	Zinc		94	ug/L

Crystal River North NPDES Permit No. FL0036366
Outfall I-C40 - Ash Storage Area Runoff

Month/Yr.	Parameter	Daily Max	Units
August-08	Flow	0.54	mgd
August-08	Length of Discharge	4	hrs.
August-08	TSS	3.6	mg/L
August-08	Iron	1	mg/L
August-08	Arsenic	6.1	ug/L
August-08	Cadmium	1.8	ug/L
August-08	Chromium (total)	5.4	ug/L
August-08	Copper	2.5	ug/L
August-08	Lead	1.3	ug/L
August-08	Mercury	0.024	ug/L
August-08	Nickel	0.98	ug/L
August-08	Selenium	2.6	ug/L
August-08	Vanadium	16	ug/L
August-08	Zinc	19	ug/L

Crystal River North NPDES Permit No. FL0036366
Outfall I-CH0 - Coal Pile & Truck Wash Runoff

Month/Yr.	Parameter/Outfall	Daily Max (mg/L)	Units
August-08	Flow	1.2	mgd
August-08	Length of Discharge	24	hrs.
August-08	TSS	3.2	mg/L
August-08	Iron	4.3	mg/L
August-08	Arsenic	6.1	ug/L
August-08	Cadmium	0.27	ug/L
August-08	Chromium (total)	14	ug/L
August-08	Copper	4.4	ug/L
August-08	Lead	1.3	ug/L
August-08	Mercury	0.048	ug/L
August-08	Nickel	4.7	ug/L
August-08	Selenium	2.6	ug/L
August-08	Vanadium	35	ug/L
August-08	Zinc	50	ug/L

ATTACHMENT 5
WASTE WATER DESCRIPTION

The following contains descriptions of the contributory wastewater streams and wastewater treatment employed at Crystal River Units 4 & 5. Additional descriptions of chemical usage and chemicals that have the potential to be discharged via the permitted outfalls are provided in attachment 8.

D-074 and D-075

- **Cooling Tower Blowdown**

  These discharges consist of non-contact, closed-cycle cooling tower blowdown from the Units 4 & 5 cooling tower basins. Water is discharged from these tower basins to a common cooling tower blowdown canal, which, in turn, discharges to the Crystal River Units 1,2,3 discharge canal. Both the Units 4 & 5 condenser cooling water systems have the ability to utilize mechanical condenser tube cleaning systems. Unit 5 employs a Beaudrey ZBL system, while Unit 4 has the ability to use the Amertap system. In both systems, rubber sponge balls are injected into circulating water (CW) flow at the condenser inlet. The sponge balls are circulated through the condenser tubes, where they mechanically remove fouling debris and scale that builds up on the condenser tube surfaces. Sponge balls are then collected at the condenser outlet by a ball strainer and re-injected at the inlet to continuously maintain the cleaning process. Plans are to switch the current Unit 4 Amertap system to a Beaudrey ZBL system similar to that used by Unit 5.

  In addition, both units have the ability to inject an oxidizing biocide to treat the main unit condensers. Sodium hypochlorite and/or sodium bromide are used within the cooling towers. Sodium metabisulfite is use to dechlorinate/debrominate the cooling tower blowdown prior to discharge from the cooling tower blowdown canal. Finally, silt dispersants and/or biodispersants are occasionally used. See Attachment 6 for additional clarifications and suggested changes to the cooling tower blowdown system.

  - Method of flow measurement - D-074 and D-075 flows are continuously measured using bubbler tube-type flow meters.

I-CH0 – Coal Storage Area Runoff

This is an internal outfall that intermittently discharges accumulated storm water runoff from coal handling and other areas to the runoff collection system. Included in this discharge is wash water from washing of trucks used to haul ash. The system is designed to contain a 10-yr, 24-hr. rainfall event. See Attachment 6 for additional clarifications and suggested changes to this system.

- Method of flow measurement – flow is measured at the overflow weir utilizing a Stevens Type A-04 Water Chart Level Recorder. Flow data are obtained when the level recorder is used in conjunction with the existing weir whereby water level is an index of flow.

I-C40 – Ash Storage Area Runoff

This is an internal outfall that intermittently discharges accumulated storm water runoff from the existing dry bottom ash/fly ash storage area to the runoff collection system. The system is designed to contain a 10-yr, 24-hr. rainfall event. See Attachment 6 for clarifications and suggested changes to this system.

- Method of flow measurement – flow is measured at the overflow weir utilizing a Stevens Type A-04 Water Chart Level Recorder. Flow data are obtained when the level recorder is used in conjunction with the existing weir whereby water level is an index of flow.

D-0C0 – Runoff Collection System Overflow

This is an internal outfall that intermittently discharges accumulated storm water runoff from the areas around the Units 4 & 5 plant site as well as receiving discharge from internal outfalls I-CH0 and I-C40. The system is designed to contain a 10-yr, 24-hr. rainfall event. See Attachment 6 for clarifications and suggested changes to this system.

- Method of flow measurement – flow is measured at the overflow weir utilizing a Stevens Type A-04 Water Chart Level Recorder. Flow data are obtained when the level recorder is used in conjunction with the existing weir whereby water level is an index of flow.

Various Potential Miscellaneous Discharges

- **Treated Groundwater**

At Crystal River, all groundwater is treated to drinking water standards by lime softening or microfiltration/R.O. processes. This water is then chlorinated and used as potable and/or service water. The service water typically enters the runoff collection system (D-0C0), or is discharged to the ground, by incidental leak offs, fugitive dust suppression, and various other flushing/draining activities, including, but not limited to, releases during piping repair, replacement or abandonment; flushing of lines for testing/maintenance; pump priming activities; flushing of heat exchangers; and from pressure relief valves. At Crystal River Units 4 & 5, the estimated release from continuous sources is approximately 118 GPM with an additional 23 GPM from non-continuous sources. This treated water enters the runoff collection system at various locations. However, as stated in other attachments, the runoff collection system has rarely discharged through Outfall D-0C0. In fact, there has only been one discharge event from this outfall during the life of the current NPDES permit. That occurred in August, 2008 in conjunction with tropical storm Fay.

- **AC Condensate**

  At times, uncontaminated condensate from the outside of various HVAC, air handling or other heat exchange systems has the potential to be discharged to the various storm water collection systems and hence, to one of the runoff collection system.

- **Pesticide/Herbicide Use**

  Pesticides/herbicides are used at various locations around the plant site. These products are applied by licensed applicators to reduce insect infestations around buildings and to control vegetation. These products are applied away from locations where aquatic contact is probable.

- **Miscellaneous Discharges**

  Various containment structures and electrical manholes/vaults are drained of storm water from time to time to the runoff collection system. Before such water is drained, it is inspected for oil sheen and/or excessive turbidity/color and only allowed to be drained if no unusual conditions are noted.

Attachment 6

Requested Permit Changes/Clarifications

Progress Energy requests the following changes and clarifications be made to the reissued NPDES permit. Details regarding existing and/or new chemical usage are provided in Attachment 8.

Outfall I-CH0 – Coal Pile and Truck Wash Runoff

Please note that coal pile runoff is now treated and discharged to the site percolation pond per IWW/COC requirements, and, therefore, is no longer part of this runoff collection system. Rather, only certain coal handling areas as well as runoff from areas containing Flue Gas Desulfurization (FGD) equipment drain to this collection system in addition to the truck wash runoff. Attached are "before" and "after" aerial photos of the runoff that used to go to this system, and the areas that now drain to the system. Consequently, we believe this outfall should be renamed "I-CH0 – Coal Handling/Truck Wash Water/FGD Process Equipment Area Runoff.

Given that a significant amount of acreage that had drained through this outfall has been eliminated, we believe this outfall will discharge even less frequently than before, which was already a rare event.

Outfall I-C40 – Ash Storage Area Runoff

Due to the operation of the new FGD system at Crystal River, the facility expects to begin generating high ammoniated ash in the near future. Our existing NPDES permit renewal data, therefore, does not reflect runoff from this ash source, since it has yet to occur. Nevertheless, we bring this to the Department's attention should you wish to address this within the reissued permit.

Outfall D-0C0 – Runoff Collection System overflow

The current NPDES permit treats this as a "D"-designated outfall with the imposition of Water Quality-Based Effluent Limits (WQBELs), which implies that the combined Units 4 & 5 blowdown canal is jurisdictional waters. We believe this is a legacy issue from when USEPA had permitting authority, but believe it to be in error. Clearly, the Units 4 & 5 blowdown canal is a discrete conveyance to the Units 1, 2, 3 discharge canal. We believe the reissued permit should reflect the fact that this outfall is another internal outfall whereby monitoring only requirements should apply. The Department seemed to be in agreement with this assessment during a recent site visit to Crystal River in conjunction with review of the Levy Nuclear project.

Outfalls D-074 & D-075 – Units 4 & 5 Cooling Tower Blowdown

Similar to Outfall D-0C0, the current NPDES permit treats the individual cooling tower blowdown discharges as 'D" outfalls, which, as stated, implies that the combined Units 4 & 5 blowdown canal is jurisdictional waters. Again, we maintain that the Units 4 & 5 combined cooling tower blowdown canal is a discrete conveyance to the Units 1, 2, 3 discharge canal, and, therefore, any discharge from each individual cooling tower is an "internal" outfall. Additionally, we believe that treating each cooling tower as a separate outfall is confusing and does not provide pertinent information.

Therefore, we recommend the following new outfall be designated at the current EFF-3A/3B monitoring point described as:

(New) Outfall D-001 – Cooling System Blowdown Canal

This discharge consists of:	Approximate Flow:
a. Units 4 & 5 Cooling Tower Blowdown	88 mgd
b. Runoff Collection System Discharge	intermittent
c. Ash Storage Area Runoff	intermittent
d. Coal Handling/Truck Wash Water/FGD Process Equipment Area Runoff	intermittent

The following comments should also be considered.

Flow – total, combined cooling tower blowdown flow would be monitored at the existing locations and reported monthly on DMRs. Therefore, the flow monitoring requirements for EFF-1 and EFF-2 would remain unchanged. However, we fail to see what useful information cooling tower makeup flow provides given that the makeup source is the Unit 123 discharge canal. Therefore, we believe that the intake or makeup flow monitoring and reporting requirement should be dropped.

Temperature – Temperature monitoring requirements already take place at the end of the combined blowdown canal, hence, this requirement; including existing sampling location at EFF-3A can remain unchanged.

Total Residual Oxidants – Currently, the permit requires measuring continuously for total residual oxidants (TRO) at the end of the combined Units 4 & 5 blowdown canal at sample point EFF-3B. This should remain unchanged. Likewise, the annual requirement to sample at EFF-3, the POD from the Units 123 site discharge canal into the Gulf of Mexico can remain. Finally, Special Condition 6 of the existing permit can remain as is.

Total Dissolved Solids – We are unsure as to the usefulness of any information that monitoring each of the cooling tower outfalls for TDS provides. It appears to be a legacy issue when salt drift from the cooling towers was thought to be a concern. Since January 2004, the TDS in the discharge from D-074 has averaged 35,713 ppm, while D-075 has averaged 35,745 ppm. During this same time, the intake has averaged 30,424 ppm. All of these values appear to be within natural variation of values that may be found in sea water. Finally, please note that cooling tower salt drift issues are currently addressed in the site's Title V air permit (Permit No. 0170004-024-AV) which contains requirements for inspection of the drift eliminators and testing for particulate matter (PM) whereby the results are reported as a percent of circulating water, as well as lbs. /hr. As part of this test, TDS in the cooling tower basins and intake water are reported. Since the salt drift from the cooling towers issues are being addressed in the Title V permit, we believe this requirement contained in the NPDES permit is redundant and should be discontinued.

Cycles of Concentration - As with TDS, we are unsure of the usefulness in continuing to provide cycles of concentration information from each cooling tower. Again, this appears to be a legacy issue when salt drift from the cooling towers was thought to be a concern. Since January 2004, the cycles of concentration for D-074 have averaged 1.25 times, while D-075 has averaged 1.23 times. Both of these are quite low. Finally, as stated above, it appears that the salt drift issues are addressed in the site's Title V permit; therefore, we believe this requirement should be dropped from the NPDES permit.

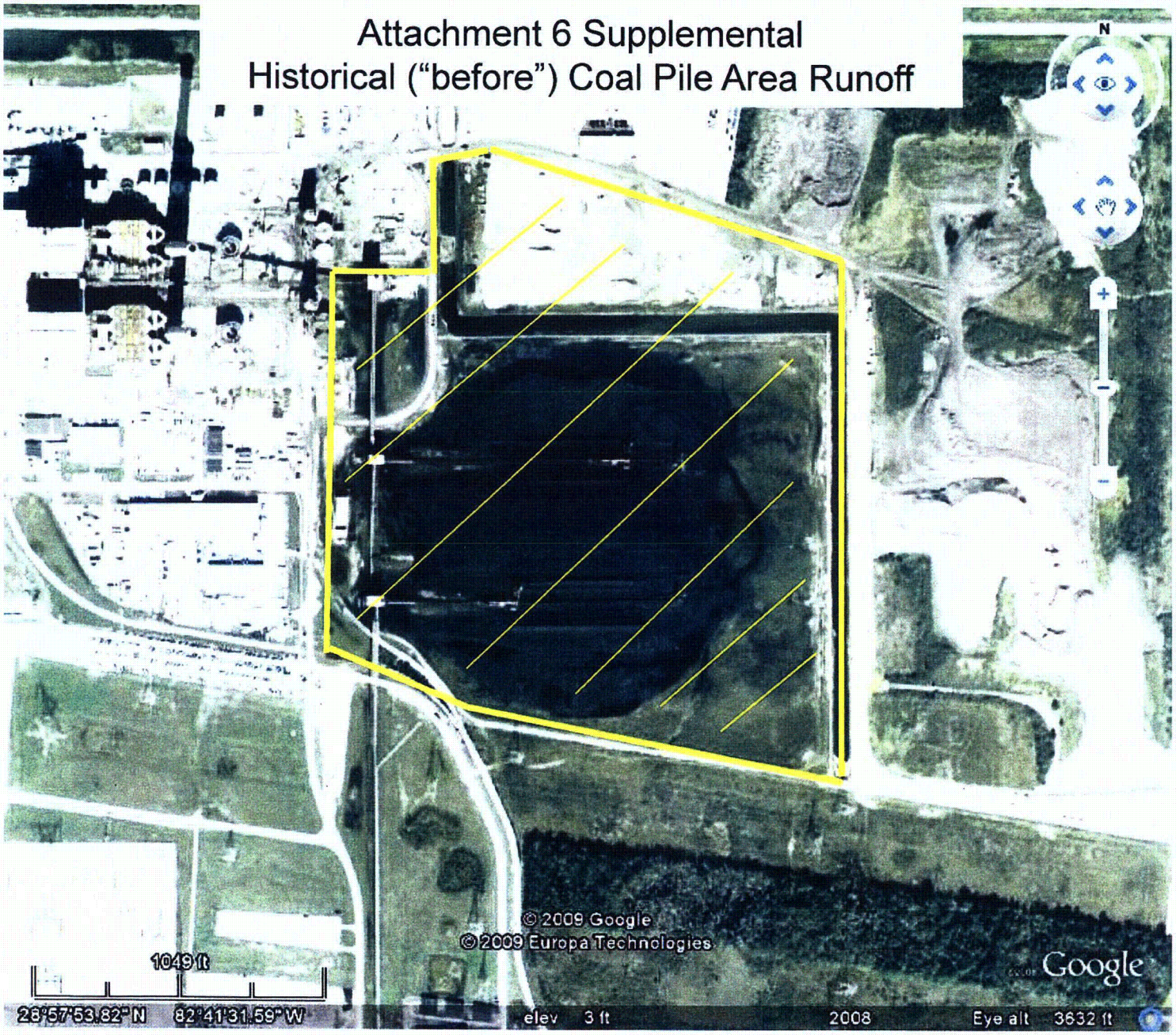
pH – we note that a pH limit of 6.5 – 8.5 applies at EFF-1, which is the Unit 4 cooling tower blowdown. Again, this seems to imply that the combined discharge canal is jurisdictional waters. Any pH limit within these ranges should apply at the end of the cooling tower blowdown (i.e. EFF-3A/B, new outfall D-001). Also given the excellent compliance history involving pH, we believe the sampling frequency should be reduced to 1/week.

Whole Effluent Toxicity (WET) - WET testing requirements under the current permit are being applied at the individual cooling tower blowdown points. Once again, we believe this to be in error. WET testing should apply in the combined cooling tower blowdown canal and not at what amounts to internal outfalls. Consequently, we believe that WET testing requirements under permit condition I.A.8 should apply at the end of the Units 4 & 5 blowdown canal prior to discharge to the Units 123 discharge canal, or perhaps even in the Units 123 discharge canal immediately downstream from where the Units 4 & 5 blowdown enter the Units 123 discharge canal. Clearly, they should not apply at the individual cooling tower basins. The remaining portions of the toxicity testing requirements can remain the same.

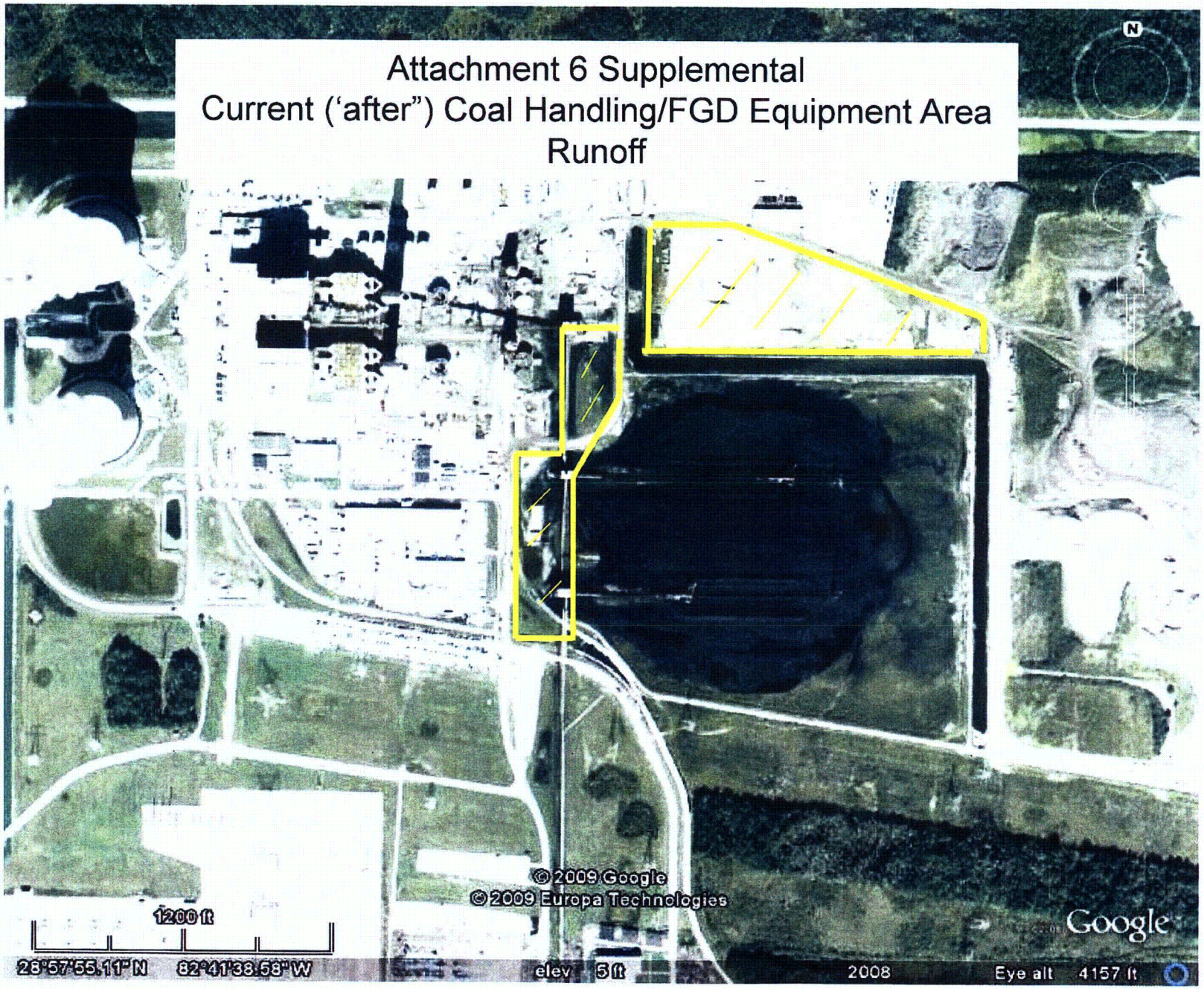
WQBELs – Since we believe that WQBELs should not apply at the outfall from the runoff collection system, nor from the individual cooling tower basin discharges, the question becomes one of where should they apply? Until the jurisdictional waters issue is resolved with respect to the Units 123 discharge canal (see Units 123 NPDES permit renewal application), we will accept for now that these limits apply at the end of the combined Units 4 & 5 blowdown canal prior to discharge to the Units 123 discharge canal.

Therefore, the parameters and limits that currently are listed under condition I.A.14 of the permit for D-0C0, should be moved and applied at the proposed Outfall D-001 (i.e. at sample points EFF-3A/B), and would be applicable whenever there is a discharge from D-0C0 into the combined Units 4 & 5 blowdown canal.

Attachment 6 Supplemental
Historical ("before") Coal Pile Area Runoff



Attachment 6 Supplemental
Current ('after") Coal Handling/FGD Equipment Area Runoff



Attachment 7

Progress Energy offers the following information regarding continuance of the 316(a) variance:

As the Department is aware, the makeup supply to the natural draft cooling towers for Units 4 & 5 is the Units 1, 2, & 3 site discharge canal downstream from where these units discharge once-through condenser cooling water into the site discharge canal. The cooling tower blowdown is then directed back to this same source. Additionally:

1. There are no existing or planned changes at Crystal River Units 4 & 5 that will significantly change plant operating conditions or load factors during the duration of the reissued permit.

2. Heat load modeling shows that the Crystal River Units 4 & 5 cooling tower blowdown discharge results in a net **decrease** of approximately 35-40 mBTU/Hr to the Units 123 site discharge canal during typical summer-time operation.

3. The combined Units 4 & 5 cooling tower blowdown flow of 88 mgd represents approximately 5% of the normal summer-time Units 123 condenser cooling water flow.

Based on the above information, we believe the size of the thermal plume from the Unit 123 discharge canal is not impacted by operation of Units 4 & 5, therefore, the thermal variance involving operation of Units 4 & 5 should be continued.

316(b) Information

In accordance with Section 316(b) of the Clean Water Act and Rule 62-620.100(3)(z) F.A.C., compliance with the rules relative to cooling water intake structures are determined on a case-by-case best professional judgment (BPJ) basis.

As stated under the 316(a) section above, the makeup supply, and hence, the intake structure, for the Units 4 & 5 cooling towers is located on the Units 1, 2, & 3 discharge canal. Furthermore, the condenser cooling water systems for Units 4 & 5 are closed cycle. For these reasons, we believe that the current location, design, and operation of the cooling tower makeup intake structure for Units 4 & 5 represents best technology available for minimizing adverse environmental impact.

Attachment 8

Chemical Usage/Discharge

Below are descriptions of chemicals used at Crystal River Units 4 & 5 that have the potential to be discharged via the NPDES-permitted outfalls. Material Safety Data Sheets (MSDSs) are attached. These chemicals are also described somewhat in attachment 5.

D-074 and D-075

As stated in attachment 5, Units 4 & 5 have the ability to inject oxidizing biocides to control biofouling within the natural draft cooling towers. In addition to sodium hypochlorite, various sodium bromide products (or a mixture of sodium hypochlorite and sodium bromide) may be used. In order to comply with the TRO limit, a dechlorination/debromination product, such as sodium bisulfite or sodium metabisulfite is added at a stochiometric ratio to ensure compliance with the TRO limits.

In addition to biocide treatment of the cooling towers, at times a surfactant is used to increase the effectiveness of the biocide treatments and as a silt dispersant. Currently, the facility uses AS-8861. Please note that only one cooling tower is treated at any one time with this product. The following describes the protocol for using this product:

Procedure:

- Prior to AS-8861 application, the water level in the cooling tower basin is lowered to below the discharge weir and the make-up pumps are shut off. The purpose of this is to allow for a batch treatment process.
- Product AS-8861 is then dispersed into the cooling tower recirculating water. The chemical is added over an approximately 10-minute time period.
    - During product application 17 gallons (144 lbs.) of AS-8861 is typically added. This corresponds to an active chemical dosage rate of 0.5 ppm per the following calculation:
        - (66.6 mm lbs. water)(2.16 ppm AS-8861) = 144 lbs. AS-8861 (144 lbs. AS-8861)(25% active ingredient) = 0.5 ppm AS-8861 active ingredient
- The treated water is then allowed to recirculate for 45-60 minutes. During this time, there is no discharge of treated water from the tower basin.
- At the completion of the recirculation period, the make-up pumps are re-started to establish blowdown flow.
- The disinfection process using biocides is then started.

Antifouling Coatings

Historically, Progress Energy has obtained several authorizations relative to the use of the copper-based anti-fouling coating Ameron ABC#3. Monitoring data previously submitted to the Department to evaluate the release of copper have shown no exceedences to the Class III marine water quality standard for copper. This finding was subsequently acknowledged by the Department in a letter dated June 4, 2002.

Based on these previous conclusions and the fact that the Department has historically authorized use of this product, we request that intermittent use of the product be allowed. Current usage involves re-coating the condenser inlet water boxes, pump suction housings, and various other components associated with the condenser cooling water system as part of routine maintenance activity.

As with all applications involving this product, the product will be applied per manufacturer's instructions and allowed to completely cure before the systems are placed back into operation.

Material Safety Data Sheets

For chemicals used and have the potential to be discharged via the cooling tower blowdown outfall.

- Sodium Hypochlorite
- Sodium Bromide
- Sodium Bisulfite
- Sodium Metabisulfite
- AS-8861
- Ameron ABC#3

ODYSSEY
MANUFACTURING CO.

MATERIAL SAFETY DATA SHEET

REVISED 7/2/00

SECTION I CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

ODYSSEY MANUFACTURING CO.
1484 Massaro Boulevard
Tampa, Florida 33619
1-813-635-0339

EMERGENCY RESPONSE NUMBER:
1-800-ODYSSEY (FLORIDA)
1-813-635-0339 (24 hours)

SUBSTANCE: SODIUM HYPOCHLORITE
TRADE NAME: Ultra-CHLOR
CHEMICAL NAME/SYNONYMS: Sodium Hypochlorite Solution, Bleach Solution, Bleach Liquor, Hypo-solution, Bleach, and Liquid Bleach.
CAS NUMBER: 7681-52-9
CHEMICAL FAMILY: Alkali
FORMULA: NaOCl
DOT PROPER SHIPPING NAME: Hypochlorite Solution
DOT HAZARD CLASS: 8 (Corrosive) PG III; PG II (For solutions greater than 16% available chlorine)
DOT IDENTIFICATION NO: UN1791
RQ: 100 pounds
DOT EMERGENCY GUIDE NO: 154

SECTION II COMPOSITION, INFORMATION ON INGREDIENTS

INGREDIENT(S):

Sodium Hypochlorite (NaOCl)	10.0 - 20.0% wt
Sodium Hydroxide (NaOH)	0.1 - 0.4% wt
Water (H_2O)	79.7 - 89.9% wt

SECTION III HAZARDS IDENTIFICATION

NFPA CLASSIFICATION (SCALE 0-4): Health=2 Fire=0 Reactivity=1
EC CLASSIFICATION (ASSIGNED): C (Corrosive)

EMERGENCY OVERVIEW
COLOR: Yellow
PHYSICAL FORM: Liquid
ODOR: Chlorine Odor
MAJOR HEALTH HAZARDS: Respiratory Tract Burns, Skin Burns, Mucous Membrane Burns, and Eye Irritation
HAZARDOUS MIXTURES WITH OTHER LIQUIDS, SOLIDS, OR GASES: Reacts violently with acids liberating chlorine gas. Also reacts with organic substance. When heated, gives off oxygen that may increase fire hazard.

POTENTIAL HEALTH EFFECTS

INHALATION:

- SHORT TERM EXPOSURE: Irritation to respiratory tract. May have same as effects reported in other routes of exposure, burns, blisters, nausea, difficulty breathing, and lung congestion.
- LONG TERM EXPOSURE: Same as effects reported in short term exposure.

SKIN CONTACT:

- SHORT TERM EXPOSURE: Irritant, reddening of the skin. May have burns, blisters, and itching
- LONG TERM EXPOSURE: Same as effects reported in short term exposure.

EYE CONTACT:

- SHORT TERM EXPOSURE: Irritation (possibly severe), possible eye damage
- LONG TERM EXPOSURE: Same as effects reported in short term exposure.

INGESTION:

- SHORT TERM EXPOSURE: Burns, vomiting stomach pain, disorientation, bluish skin color, convulsions, coma
- LONG TERM EXPOSURE: Same as effects reported in short term exposure.

CARCINOGEN STATUS

OSHA: N
NTP: N
IARC: N

SECTION IV FIRST AID MEASURES

INHALATION: Remove from exposure and get fresh air. Use a bag valve mask or similar device to perform artificial respiration (rescue breathing) if needed. Keep warm and at rest. Get medical attention immediately if artificial respiration is required.

SKIN CONTACT: Remove contaminated clothing, jewelry, and shoes immediately. Flush affected area with large amounts of water, preferably a safety shower. Use soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). For burns, cover affected area securely with sterile, dry, loose fitting dressing. If skin is burned, get medical attention immediately.

EYE CONTACT: Wash eyes immediately with large amounts of water, occasionally lifting upper and lower lids, until no evidence of chemical remains (at least 15 minutes). Continue irrigating with a normal saline solution until ready to transport to physician. Cover with sterile bandages. Get medical attention immediately.

INGESTION: Rinse mouth with water. Drink large quantities of milk (water if no milk is available). Milk of magnesia may be helpful. **DO NOT USE ACIDIC ANTIDOTES SUCH AS SODIUM BICARBONATE.** When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, do not induce vomiting and turn their head to the side. Never make an unconscious person vomit or drink fluids. Get medical attention.

NOTE TO PHYSICIAN: For inhalation, consider oxygen. For ingestion, avoid gastric lavage, emesis, sodium bicarbonate and acid solutions. Consider the use of antacids.

SECTION V FIRE FIGHTING MEASURES

FLASH POINT: Non-flammable
FLAMMABLE LIMITS: Non-flammable

FIRE AND EXPLOSION HAZARDS: Negligible fire hazard. Oxidizer. This material will react with some metals and cause liberation of oxygen. May ignite or explode on contact with combustible materials. Toxic fumes can be liberated by contact with acid or heat.

EXTINGUISHING MEDIA: Regular dry chemical, carbon dioxide, water, or foam suitable for surrounding fire. For large fires, use regular foam or flood with fine water spray.

FIRE FIGHTING: Wear self-contained breathing apparatus and full protective clothing. Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. Use extinguishing agents appropriate for surrounding fire. Do not get water directly on material. For large fires, flood with fine water spray. Reduce vapors with water spray. Apply water from a protected location or from a safe distance. Avoid body contact or inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

SECTION VI ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL RELEASE: Do not touch spilled material. Stop leak if possible without personal risk. For small spills, collect spilled material in appropriate container for disposal and consider absorbing with sand or other non-combustible material (e.g., do not use sawdust or other combustible material). Be advised, however, that the use of absorbing material is creating hazardous waste and this absorbing material must now be disposed of properly. Collect spilled material in appropriate container for disposal. For small dry spills, move containers away from spill to a safe area. For large spills, dike for later disposal. If possible, do not allow material to enter sewers, streams, ponds or storm conduits as concentrated solutions will seriously injure aquatic life. Keep unnecessary people away, isolate hazard area and deny entry. Contain in as small an area as possible, such as a holding area for dilution and neutralization. Contain spill in plastic drums when available. Dispose of in accordance with Federal, State, and local regulations. Personnel engaged in cleanup operations must be equipped with NIOSH approved respirator protection, rubber boots, gloves, and clothing to avoid body contact. Reportable Quantity (RQ): 100 pounds. Notify Local Emergency Planning Committee and State Emergency Response Commission for release greater than or equal to RQ (U.S. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section103, notify the National Response Center at (800) 424-8802 (USA) or (202) 426-2675 (USA).

ADVANCE PLANNING: Plan in advance for an occupational release and have necessary equipment and neutralization agents on-site. Contact Odyssey Manufacturing for assistance.

SECTION VII HANDLING AND STORAGE

Store in vented, closed containers that provide protection from direct sunlight. Keep separated from incompatible substances and do not store near acids, heat, or oxidizable materials or organics. When handling, do not mix with other cleaning agents that may liberate chlorine gas vapors (e.g., acidic agents).

Store and handle in accordance with all current regulations and standards including NFPA 430 Code for the Storage of Liquid and Oxidizing Materials.

SECTION VIII EXPOSURE CONTROLS AND PERSONNEL PROTECTION

EXPOSURE LIMITS: 2 mg/m3 AIHA recommended STEL 15 minute(s) for Sodium Hypochlorite
VENTILATION: Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.
EYE PROTECTION: Splash goggles are preferred to a faceshield. Another option is to wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
CLOTHING: It is recommended to wear appropriate chemical resistant clothing to avoid body contact such as a rubber apron or rain suit. Boots are preferred for footwear.
GLOVES: Wear appropriate chemical resistant gloves.
RESPIRATOR: Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use.

- Any chemical cartridge respirator with organic vapor cartridge(s).
- Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s)
- Any air-purifying respirator with a full facepiece and an organic vapor canister
- Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply (Use for Unknown Concentrations or those that may be Immediately Dangerous to Life or Health)
- Any self-contained breathing apparatus with a full facepiece (Use for High Concentrations or those which are immediately Dangerous to Life or Health)

SECTION IX PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL APPEARANCE: Liquid
APPEARANCE AND ODOR: Clear - Chlorine odor like household bleach.
COLOR: Greenish –Yellowish cast
MOLECULAR WEIGHT: 74.44
MOLECULAR FORMULA: Na-O-Cl

BOILING POINT: Degrades at 230 Degrees Fahrenheit
FREEZING POINT: 7 Degrees Fahrenheit
SPECIFIC GRAVITY: 1.15 - 1.17 at 60 Degrees Fahrenheit
PH: Approximately 11 - 13
VAPOR PRESSURE (mm HG): Vapor Pressure of water + decomposition product Vapor Pressure
VAPOR DENSITY: Not Available
SOLUBILITY IN WATER: Complete
VOLATILITY: Not Available
EVAPORATION RATE: >1
COEFFICIENT OF WATER /OIL DISTRIBUTION: Not Available

SECTION X STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.
CONDITIONS TO AVOID: Avoid heat, flames, sparks and other sources of ignition. Dangerous gases may accumulate in confined spaces. May ignite or explode on contact with combustible materials.
INCOMPATIBLES: Acids, metals, amines, combustible materials, reducing agents. Specific reactions with sodium hypochlorite include the following:
ACIDS: Violent reaction.
ALUMINUM: Corrosive action.
AMINES: Form explosive chloramines.
AMMONIA: Form explosive chloramines.
AMMONIUM SALTS: May form explosive product.
BENZYL CYANIDE (ACIDIFIED): Explosive reaction.
CELLOLOSE: Violent reaction
ETHYLENEIMINE: Forms explosive 1-chloroethyleneimine.
FORMIC ACID: Explosive mixture.
METHANOL: May form explosive compound.
NITROGEN COMPOUNDS: Forms explosive N-chloro compounds.
ORGANIC AND COMBUSTIBLE MATERIALS: Fire and explosion hazard.
OXALIC ACID: Intense reaction
REDUCING AGENTS: Fire and explosion hazard
ZINC: Corrosive
HAZARDOUS DECOMPOSITION:
Thermal decomposition products – Chlorine and Hydrochloric Acid Vapors
Decomposition Products – Hypochlorous Acid Vapors
POLYMERIZATION: Will not polymerize.

SECTION XI SODIUM HYPOCHLORITE TOXILOGICAL INFORMATION

IRRITATION DATA: 10 mg eyes – rabbit moderate
TOXICITY DATA:
1gm/ kg oral-woman; TDLo; 45mg/kg intravenous-man TDLo; 5800 mg/ kg oral-mouse LD5O; 140 mg/ kq/9 week(s) continuous oral-rat TDLo
CARCINOGEN STATUS: According to the IARC, animal inadequate evidence, human no adequate data, Group 3 (Hypochlorite salts)
LOCAL EFFECTS:
Corrosive: inhalation, skin contact, eye, ingestion hazards
ACUTE TOXICITYLEVEL:
Slightly Toxic if ingested
MUTAGENIC DATA:
Mutation in micro organisms – Salmonella typhimurium 1mg / plate (-S9); DNA repair – Escherichiacoli 20ug/ disc; DNA damage – Esoherichiacoli 420 umol/L; phage inhibition capacity – Esoherichiacoli 103 ug/ well; micronucleus test - non-mammalian species multiple 200 ppb; cytogenetic analysis - non-mammalian species multiple 120 ug/ L; cytogenetic analysis – human lymphocyte 100 ppm 24hour(s); sister chromatid exchange – human embryo 149 mg/ L; cytogenetic analysis – hamster lung 100 mg/ L
HEALTH EFFECTS:
INHALATION
ACUTE EXPOSURE: May cause severe bronchial irritation, sore throat with possible blistering, coughing,

stomatitis, nausea, labored breathing, shortness of breath and pulmonary epedema. 10-20 mg/m3 causes burning of the nose and throat; 40-60 mg/m3 may be fatal. If sufficient amounts are absorbed, may cause effects as detailed in acute ingestion.

CHRONIC EXPOSURE: No data available.

SKIN CONTACT

ACUTE EXPOSURE: Extent of damage depends on concentration, pH, volume of solution and duration of contact. May cause redness, pain, blistering, itchy eczema and chemical burns. Sensitization reactions are possible in previously exposed persons.

CHRONIC EXPOSURE: Effects depend on concentration and duration of exposure. Repeated or prolonged contact with corrosive substances may result in dermatitis or effects similar to acute exposure. Allergic dermatitis has also been reported.

EYE CONTACT

ACUTE EXPOSURE: May cause redness, pain, and blurred vision. Solutions of 5% splashed in human eyes have caused a burning sensation and later only slight superficial disturbance of the corneal epithelium which cleared completely in the next day or two without special treatment. However, one animal study reports a 5% solution causing only moderate irritation with clearing within 7 days. A higher concentration of 15% tested on rabbit eyes caused immediate severe pain, hemorrhages, rapid onset of ground-glass appearance of the corneal epithelium, moderate bluish edema of the whole cornea, chemosis and discharge for several days. Such eyes have sometimes healed in 2-3 weeks with slight or no residual corneal damage but they had neovascularization of the conjunctiva and distortion of the nictitating membrane by scarring.

CHRONIC EXPOSURE: Depending on concentration and duration of exposure, symptoms may be as those of acute exposure.

INGESTION

ACUTE EXPOSURE: May cause irritation and erosion of the mucous membranes, vomiting (possibly bloody) and abdominal pain and spasms. A drop in blood pressure, shallow respiration, edema (possibly severe) of pharynx, larynx, and glottis, confusion, convulsions, delirium and coma may occur. Cyanosis and circulatory collapse are possible. Esophageal or gastric perforation and strictures are rare. Death may occur, usually due to complications of severe local injury such as toxemia, shock, perforations, hemorrhage, infection and obstruction. Massive ingestions may produce fatal hyperchloremic metabolic acidosis or aspiration pneumonitis.

CHRONIC EXPOSURE: Sensitization reactions are reported in individuals who are exposed in small amounts through their water supply. High doses have caused sperm abnormality in mice.

SECTION XII ECOLOGICAL INFORMATION

ECOTOXICITY DATA:
FISH TOXICITY: 94.0 ug/L 96h hour(s) LC5O (Mortality) Cutthroat trout (Oncorhynchus clarki)
INVERTEBRATE TOXICITY: 31.6 ug/L 7 hour(s) 1C50 (Species Diversity) Protozoan phylum (Protozoa)
ALGAL TOXICITY: 90 ug/L 96 hour(s) LC5O (Mortality) Algae, phytoplankton, algai mat (Algae)
PHYTOTOXICITY: 230 ug/L 35 hour(s) (Biomass) Curled pondweed (Potamogeton crispus)
OTHER TOXICITY: 2.1 ug/L 28 day(s) (Chlorophyll) Aquatic community (Aquatic community)

ENVIRONMENTAL SUMMARY: Highly toxic to aquatic life.

SECTION XIII DISPOSAL CONSIDERATIONS

Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001. Dispose in accordance with all applicable regulations.

SECTION XIV TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101 SHIPPING NAME-UN NUMBER: Sodium Hypochlorite) - UN1791
U.S. DOT 49 CER 172.101 HAZARD CLASS OR DIVISION: 8
U.S. DOT 49 CFR 172 .101 PACKING GROUP: III (less than 16% available chlorine) / II (16% or more available chlorine)
U.S. DOT 49 CFR 172.101 AND SUBPART E LABELING REQUIREMENTS: Corrosive
U.S. DOT 49 CFR 172.101 PACKAGING AUTHORIZATIONS:
EXCEPTIONS: 49 CFR 173.154

NON- BULK PACKAGING: 49 CFR 173.203 (less than 16% available chlorine) / 49 CFR 173.202 (16% or more available chlorine)
BULK PACKAGING: 49 CFR 173.241 (less than 16% available chlorine) / : 49 CFR 173.242 (16% or more available chlorine)

U.S. DOT 49 CFR 172.101 QUANTITY LIMITATIONS:
PASSENGER AIRCRAFT OR RAILCAR: 5 LITERS / (less than 16% available chlorine) / 1 LITERS (16% or more available chlorine)
CARGO AIRCRAFT ONLY: 60 LITERS / (less than 16% available chlorine) / 30 LITERS (16% or more available chlorine)

SECTION XV REGULATORY INFORMATION

U.S. REGULATIONS
TSCA INVENTORY STATUS: Y

TSCA 12(b) EXPORT NOTIFICATION: Not listed.
CERCLA SECTION 103 (40CFR302.4): Y
SODIUM HYPOCHLORITE: 100 LBS RQ
SARA SECTION 302 (40CFR355.30) : N
SARA SECTION 304 (40CFR355.40) : N
SARA SECTION 313 (40CFR372.65) : N
SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40CFR370.21):
ACUTE: Y
CHRONIC: N
FIRE: N
REACTIVE: N
SUDDEN RELEASE: N
OSHA PROCESS SAFETY (29CFR1S1O.119): N
STATE REGULATIONS:
California Proposition 65: N EUROPEAN REGULATIONS:
EC NUMBER (BINECS) : 231-668-3

EC RISK AND SAFETY PHRASES:

R 31	Contact with acids liberates toxic gas.
R 34	Causes burns.
S ½	Keep locked-up and out of reach of children.
S 28b	After contact with skin, wash immediately with plenty of soap and water.
S 45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
S 50	Do not mix with incompatible materials.

CONCENTRATION LIMITS:

C>10%	C	R 31-34
5%<=C<=10%	Xi	R 31-36/38

GERMAN REGULATIONS:
WATER HAZARD CLASS (WGK) : 2 (Official German Classification)

SECTION XVI OTHER INFORMATION

For additional information, contact our technical service department.

Information contained in this MSDS refers only to the specific material designated and does not relate to any process or use involving other materials. This information is based on data believed to be reliable, and the Product is intended to be used in a manner that is customary and reasonably foreseeable. Since actual use and handling are beyond our control, no warranty, express or implied, is made and no liability is assumed by Odyssey Manufacturing in connection with the use of this information.

APPLIED SPECIALTIES, INC.
33555 PIN OAK PARKWAY
AVON LAKE, OHIO 44012

AS-740

07254740-1
September 11, 2007
TELEPHONE (440) 933-9442
EMERGENCY: (216) 973-6118

MATERIAL SAFETY DATA

SECTION 1 MATERIAL IDENTIFICATION

PRODUCT NAME OR SYNONYMS	AS-740 Sodium Bromide Biocide	EPA # 5185-451-46982

SECTION 2 INGREDIENTS AND HAZARDS

COMPONENT	CAS. NUMBER	%	TWA/CEILING	REFERENCE
Sodium Bromide	7647-15-6	40%	Not Established	

Emergency Overview: Odorless, Colorless Liquid. CAUTION: May Be Harmful If Swallowed. May Cause Skin, And Eye Irritation With Redness And Swelling. Do Not Get In Eyes, On Skin Or On Clothing. Wash With Soap And Water After Handling. Remove Contaminated Clothing And Wash Before Use. Keep Container Tightly Closed. Use Only With Adequate Ventilation.

SECTION 3 REGULATORY INFORMATION

OSHA STATUS This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard
TSCA STATUS This substance is subject to regulation under FIFRA and is therefore exempt US Toxic Substance Control Act Inventory listing requirements.

CERCLA REPORTABLE QUANTITY None listed
SARA TITLE III:
SECTION 302 (EXTREMELY HAZARDOUS SUBSTANCE) Not listed

SECTION 311/312 (HAZARDOUS SUBSTANCES
Classification Under Section 311/312 of SARA (40 CFR 370): Acute (Y) Chronic (Y) Fire (N) Reactive (N) Pressure (N)
SECTION 313 SUPPLIER NOTIFICATION: None listed
RCRA STATUS Not regulated as supplied
OSHA, ACGIH, NTP & IARC STATUS None listed

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH - 1 FIRE - 0 REACTIVITY - 0

0 MINIMAL
1 SLIGHT HAZARD
2 MODERATE HAZARD
3 SERIOUS HAZARD
4 SEVERE HAZARD

Chemical identity of some ingredients may be withheld as confidential as permitted by 29 CFR 1910.1200 and various State right to know laws.

SECTION 4 HEALTH HAZARD AND PROTECTION DATA

TARGET ORGANS
Eyes Skin Respiratory System

ROUTES OF ENTRY INTO BODY
Skin or Eye Contact, Inhalation, Ingestion

SIGNS AND SYMPTOMS OF EXPOSURE:
Moderate eye irritant. May cause tearing with redness, and pain. Prolonged and excessive inhalation or ingestion may cause rashes, central nervous system depression and emaciation and, in severe cases, psychoses and mental deterioration; severity depends on concentration and duration of contact. May cause respiratory irritation. Overdose may cause gastrointestinal or cardiovascular irregularities. Sodium Bromide has been shown to cause embryo-fetal toxicity and malformations in rats at dose levels that also produce maternal toxicity. The No-Observed Effect Level is 100 mg/kg/day, and the Acceptable Daily Intake for sodium bromide from food and drinking water in humans is 1 mg/kg/day. Comparable high does of sodium chloride (table salt) similarly cause malformation, embryo-fetal toxicity and maternal toxicity in mice.

TOXICOLOGICAL INFORMATION
Acute: Dermal LD50: >20000mg/kg (Rabbits) Oral LD50: >5000mg/kg (Rats)
Eye: May Cause Irritation Skin: Not expected to be irritating to the skin.
Reproductive Effects: A 3 generation Study in rats fed 4800 mg/kg showed a decrease in fertility; no effects were observed at lower levels according to the literature.

PROTECTIVE EQUIPMENT REQUIRED:
Employees should be required to use impervious clothing, rubber gloves, over boots, safety glasses with side shields as a minimum and other appropriate protective clothing to prevent skin contact. Employees shall be required to use splash-proof safety goggles (ANSI Z87.1 or equivalent) where the material may contact the eyes in addition to face shield. Clothing wet with product should be placed in a closed container until provisions are made for it to be discarded or laundered. Any clothing that becomes wet with the material should be removed immediately and not re-worn until the clothing has been properly cleaned. The employer should provide an eye wash fountain and quick drench shower within the immediate work area for emergency use. RESPIRATORY: Use only in well ventilated areas. Where the potential for excessive exposures exists which cannot be controlled by mechanical means, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations. ESCAPE & FIRE FIGHTING: Use self-contained breathing apparatus (pressure demand MSHA/NIOSH approved or equivalent) and full protective gear.

FIRST AID
SKIN CONTACT: Wash affected skin thoroughly with mild soap and plenty of water. Remove and wash contaminated clothing thoroughly before re-use. **Get medical attention immediately for any sign of irritation.**

EYE CONTACT: If material gets into the eyes, flush the eyes immediately with large amounts of water for at least 30 minutes, lifting the lower and upper lids occasionally. **Get MEDICAL attention immediately**. Contact lenses should not be worn when working with this substance or any other chemicals.

INHALATION: Remove to fresh air. Keep person quiet and warm. If person is not breathing call 911 then give artificial respiration and **Get medical attention immediately**. Treat symptomatically and supportively.

INGESTION: Never give anything by mouth to an unconscious person. Treat symptomatically and supportively. **Get medical attention immediately &** Contact poison control center. If vomiting occurs, keep head lower than hips to prevent aspiration. Do not induce vomiting unless told to do so by poison control or a medical doctor. Have person sip a glass of water if alert and able to swallow.

NOTE TO PHYSICIAN: Treat symptomatically and supportively. The following antidote for Bromide poisoning has been recommended. The decision to administer any antidote should be made only by qualified medical personnel. Give Sodium Chloride, 1 gram every hour in water or as salt tablets; for severe involvement give normal saline, 1 liter every 8 hours to a maximum of 2 liters per day. Sodium chloride therapy must be continued until the blood bromide level drops below 50mg/dL. Simultaneous administration of diuretics is also useful. (Driesback, Handbook of Poisoning, 12th Ed.)

SECTION 5 PHYSICAL DESCRIPTION

APPEARANCE AND ODOR	Colorless clear liquid; odorless.
BOILING POINT	103 C (217F) to 104 C (219F)
MELTING POINT	Not applicable
FLASH POINT	Not Flammable
VAPOR PRESSURE	No data
SPECIFIC GRAVITY	1.43 +/- 0.02 g/ml
PRODUCT pH	7.00 (+/- 0.5)
SOLUBILITY IN WATER	Soluble

SECTION 6 INCOMPATIBILITIES AND STORAGE

Hazardous polymerization will not occur.
Stable under normal conditions. Can evolve hydrogen bromide/bromine when strongly heated.
Hazardous decomposition products: hydrogen bromide, bromide gas and sodium oxide.
Incompatible with strong acids and strong oxidizers.
Store in a dry, well-ventilated area. Keep containers tightly closed when not in use. Store at 0F or above.

SECTION 7 REGULATIONS/OSHA

OSHA Standard 29 CFR 1910.1200	HAZARD COMMUNICATION
OSHA Standard 29 CFR 1910.1000	AIR CONTAMINANTS Table Z-1
OSHA Standard 29 CFR 1910.94	VENTILATION
OSHA Standard 29 CFR 1910.134	RESPIRATORY PROTECTION
OSHA Standard 29 CFR 1910.20	ACCESS TO EMPLOYEE EXPOSURE
OSHA Standard 29 CFR 1910.132	PERSONAL PROTECTIVE EQUIPMENT
OSHA Standard 29 CFR 1910.141	SANITATION
OSHA Standard 29 CFR 1910.151	MEDICAL SERVICES AND FIRST AID
OSHA Standard 29 CFR 1910.133	EYE AND FACE PROTECTION

SECTION 8 EMERGENCY HANDLING OF HAZARDOUS MATERIALS

IF MATERIAL IS ON FIRE OR INVOLVED IN FIRE:
Negligible fire hazard when exposed to heat or flame. Product is non-combustible as supplied. Use water, foam, carbon dioxide or dry chemical to extinguish fire as appropriate to surrounding fire. Fire may result into the release of toxic fumes of bromine, hydrogen bromide and sodium oxide. Product may react with some metals (aluminum, zinc, tin, etc.) to release flammable hydrogen gas. Move container from fire area if you can without risk. Apply cooling water to sides to keep cool. Do not use water directly on material.

IF MATERIAL IS NOT ON FIRE OR NOT INVOLVED IN FIRE: Keep material out of water sources and sewers.

PERSONAL DANGER SITUATION PROTECTION:
Keep upwind. Avoid breathing dust/vapors/fumes from material. Avoid bodily contact with material. Wear boots, protective gloves and gas-tight goggles. Wear full protective clothing including SCBA (regular FIRE FIGHTERS' gear is inadequate).

SECTION 9 SPILL, LEAK AND DISPOSAL PROCEDURES

Persons not wearing protective equipment and clothing should be restricted from spill areas until clean-up has been completed. If AS-740 is spilled, take the following steps:

1 – Ventilate area. Contain spills immediately with inert materials (sand, earth). The floor may be slippery, exercise caution to avoid falls.
2 - Transfer liquids and solid diking material to separate suitable containers for recovery or disposal. Wash spill site after material pickup is complete.
3 - Incinerate any material and the absorbent material in accordance to all FEDERAL, STATE, AND LOCAL REGULATIONS.

NOTE: DO NOT wash or pour AS-740 into any surface waters or streams or directly into sewers.

SECTION 10 SHIPPING AND TRANSPORTATION DATA

PROPER SHIPPING NAME	Disinfectant, NOIBN other than Medicinal
HAZARD CLASS	Not Regulated
IDENTIFICATION NUMBER	None
LABEL REQUIRED	None

SECTION 11 ECOLOGICAL INFORMATION

This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, pond or estuaries, oceans, or other waters unless in accordance with the requirements of a NPDES permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

H. Garcia-Munoz / A Scheurman

This information is given without any warranty or representation. We do not assume any legal responsibility for same, nor do we give permission, inducement, or recommendation to practice any patented invention without a license. It is offered solely for your consideration, investigation and verification. Before using any product, read its label carefully and completely.

PENNSYLVANIA and MASSACHUSETTS RIGHT-TO-KNOW INFORMATION:

The following comprises the CHEMICAL IDENTIFICATION LIST

	CAS#
Water	7732-18-5
Sodium Bromide	7647-15-6

NEW JERSEY RIGHT-TO-KNOW TOTAL INGREDIENTS LABEL:

	CAS#
Water	7732-18-5
Sodium Bromide	7647-15-6

CALIFORNIA PROPOSITION 65:

This product does not contain toxic chemicals currently on the California list of known carcinogens and reproductive toxins

Pursuant to the California Safe Drinking Water and Toxic Enforcement Act of 1986 (proposition 65), this information is provided. This law requires that " clear and reasonable warning " be provided to any individual, knowingly or intentionally exposed to any substances identified by the state as being cancer or reproductive hazards unless, it can be shown that the exposure poses "no significant risk". Based on available data, the following chemicals listed by Proposition 65 may be present in this product:

NONE

Applied Specialties, Inc.
33555 Pin Oak Parkway
Avon Lake, Ohio 44012

AS-9838

071499838-5
May 29, 2007
Telephone (440) 933-9442
Emergency: (216) 973-6118

MATERIAL SAFETY DATA

SECTION 1 MATERIAL IDENTIFICATION

PRODUCT NAME OR SYNONYMS	AS-9838 BOILER WATER TREATMENT

SECTION 2 INGREDIENTS AND HAZARDS

COMPONENT	CAS. NUMBER	TWA/CEILING	REFERENCE
Sodium Bisulfite	7631-90-5	5 mg/m^3	ACGIH

EMERGENCY OVERVIEW: Clear Liquid, Sulfurous Odor. CAUTION! May Cause Eye Irritation And Burns. May Cause Skin Irritation. Harmful If Ingested Or Inhaled. May Cause Reactions In Sulfite Sensitive Individuals.

SECTION 3 REGULATORY INFORMATION

OSHA STATUS This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard
TSCA STATUS All components are listed

CERCLA REPORTABLE QUANTITY Sodium Bisulfite -5,000 lbs.

SECTION 302 (EXTREMELY HAZARDOUS SUBSTANCE) Not Listed
SECTION 311/312 (HAZARDOUS SUBSTANCES)
Classification Under Section 311/312 of SARA (40 CFR 370): Acute (Yes) Chronic (No) Fire (No) Reactive (N) Pressure (No)
SECTION 313 (TOXIC CHEMICALS): None
RCRA STATUS Not Regulated.
NTP, OSHA, ACGIH & IARC STATUS Not listed

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH - 2 FIRE - 0 REACTIVITY - 0

0 MINIMAL
1 SLIGHT HAZARD
2 MODERATE HAZARD
3 SERIOUS HAZARD
4 SEVERE HAZARD

Chemical identity of some ingredients may be withheld as confidential as permitted by 29 CFR 1910.1200 and various State right to know laws.

SECTION 4 HEALTH HAZARD AND PROTECTION DATA

TARGET ORGANS

Eyes Skin Gastrointestinal System Respiratory System Mucous Membranes
Pulmonary Tract

ROUTES OF ENTRY INTO BODY

Inhalation Ingestion Skin Or Eye Contact

SIGNS AND SYMPTOMS OF EXPOSURE

Eye Irritation And Burns Skin Irritation Gastrointestinal Distress
Eye Reddness & Itching Tearing Or Blurry Vision
Coughing Chest Tightness Mucous Membrane Irritation
Respiratory Irritation Dermatitis Nausea Vomiting Diarrhea
Headache Note: May Cause Severe Reactions In Asthmatics And Sulfite Sensitive Individuals.

PROTECTIVE EQUIPMENT REQUIRED:

Employees should be provided with and required to use impervious clothing such as apron, boots, pants and jacket, gloves, splash goggles or safety glasses as a minimum and other appropriate protective clothing to prevent skin contact. Employees shall be provided with and required to use splash-proof safety goggles where the material may contact the eyes in addition to face shield. Appropriate gloves include those made from neoprene and nitrile. Clothing wet with product should be placed in a closed container until provisions are made for it to be discarded or laundered. If the clothing is to be laundered the person performing the laundering should be informed of the hazardous properties of the material. Any clothing that becomes wet with the material should be removed immediately and not reworn until the clothing has been properly cleaned. RESPIRATOR SELECTION - Use only in well ventilated areas. Where the potential for excessive exposures exists which cannot be controlled by mechanical means, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations. ESCAPE & FIRE FIGHTING - Self-contained breathing apparatus with a face-piece operated in a pressure demand or other positive-pressure mode.

FIRST AID

SKIN CONTACT: Skin that becomes contaminated should be washed or showered with large amounts of water to remove any chemical from skin. Contaminated clothing should be removed and the skin washed with soap and water. Clothing should be washed before it is reused. Discard contaminated footwear, which can not be decontaminated. If irritation persists, seek medical attention.

EYE CONTACT: If material gets into the eyes, flush the eyes immediately with large amounts of water for at least 30 minutes, lifting the lower and upper lids occasionally. Get **MEDICAL** attention immediately. Contact lenses should not be worn when working with this substance or any other chemical. Eyewash should be available.

INHALATION: If a person breathes in large amounts of product mist, move the person to fresh air. If breathing has stopped, perform artificial respiration. Keep the affected person warm and at rest. Get medical attention as soon as possible.

INGESTION: If conscious, give 2 glasses of water. **Get medical attention immediately**. Never give anything by mouth to an unconscious person.

SECTION 5 PHYSICAL DESCRIPTION

APPEARANCE AND ODOR	Clear liquid; sulfurous odor.
BOILING POINT	Not determined
MELTING POINT	Not applicable
FLASH POINT	Not applicable
VAPOR PRESSURE	Not determined
SPECIFIC GRAVITY	1.336 +/- 0.02 g/ml
PRODUCT pH	5.55 +/- 0.50 standard pH units
SOLUBILITY IN WATER	Complete

SECTION 6 INCOMPATIBILITIES AND STORAGE

Stable
Hazardous Polymerization Will Not Occur
Keep Containers Closed When Not In Use. Do Not Store In Unlined Steel Drums Or Equipment
Store Containers With Labels Visible

SECTION 7 REGULATIONS/OSHA

OSHA Standard 29 CFR 1910.1200	HAZARD COMMUNICATION
OSHA Standard 29 CFR 1910.1000	AIR CONTAMINANTS Table Z-1
OSHA Standard 29 CFR 1910.94	VENTILATION
OSHA Standard 29 CFR 1910.134	RESPIRATORY PROTECTION
OSHA Standard 29 CFR 1910.20	ACCESS TO EMPLOYEE EXPOSURE
OSHA Standard 29 CFR 1910.132	PERSONAL PROTECTIVE EQUIPMENT
OSHA Standard 29 CFR 1910.141	SANITATION
OSHA Standard 29 CFR 1910.151	MEDICAL SERVICES AND FIRST AID
OSHA Standard 29 CFR 1910.133	EYE AND FACE PROTECTION

SECTION 8 EMERGENCY HANDLING OF HAZARDOUS MATERIALS

IF MATERIAL IS ON FIRE OR INVOLVED IN FIRE:
Use water, alcohol foam or carbon dioxide CO_2 or dry chemical extinguishers or any agents suitable for surrounding fire. Keep material out of water sources and sewers.

IF MATERIAL IS NOT ON FIRE OR NOT INVOLVED IN FIRE: Keep material out of water sources and sewers.

PERSONAL DANGER SITUATION PROTECTION:
Keep upwind. Avoid breathing dust/vapors/fumes from material. Avoid bodily contact with material. Wear boots, protective gloves and gas-tight goggles. Wear full protective clothing (regular FIRE FIGHTERS' gear is inadequate).

SECTION 9 SPILL, LEAK AND DISPOSAL PROCEDURES

Persons not wearing protective equipment and clothing should be restricted from spill areas until clean-up has been completed. If AS-9838 is spilled, take the following steps:

1. Ventilate the spill area. Contain by diking.
2. Collect spilled material using an approved liquid vacuum for reuse.
3. Apply an absorbing compound to any residual material and shovel into a disposal drum.
4. Discard any vacuumed material and the absorbent material in accordance to all FEDERAL, STATE AND LOCAL REGULATIONS.

NOTE: DO NOT wash or pour AS-9838 into any surface waters or streams or directly into sewers.

SECTION 10 SHIPPING AND TRANSPORTATION DATA

Drums and/or Bulk < 1,396 gallons or 15,355 lbs.

PROPER SHIPPING NAME	Compounds, Boiler Cleansing, Preserving, Scale Preventing Or Scale Removing Liquid
HAZARD CLASS	None
NFMC RATING	50093 SUB 2
LABEL REQUIRED	None

Bulk > 1,396 gallons or 15,355 lbs.

PROPER SHIPPING NAME	Environmentally Hazardous Substance, Liquid, N. O. S., (Sodium Bisulfite)
HAZARD CLASS	9
IDENTIFICATION NUMBER	UN3082
PACKAGING GROUP	III
LABEL REQUIRED	Class 9

T. L. Molnar / H. García-Muñoz

This information is given without any warranty or representation. We do not assume any legal responsibility for same, nor do we give permission, inducement, or recommendation to practice any patented invention without a license. It is offered solely for your consideration, investigation and verification. Before using any product, read its label carefully and completely.

PENNSYLVANIA RIGHT-TO-KNOW INFORMATION

The following comprises the CHEMICAL IDENTIFICATION list under PENNSYLVANIA RIGHT-TO-KNOW:

	CAS #
Water	7732-18-5
Sodium Bisulfite	7631-90-5
Sodium Sulfite	7757-83-7
Potassium Bisulfite	7773-03-7
Potassium Sulfite	10117-38-7

NEW JERSEY RIGHT-TO-KNOW TOTAL INGREDIENTS LABEL:

	CAS #
Water	7732-18-5
Sodium Bisulfite	7631-90-5
Sodium Sulfite	7757-83-7
Potassium Bisulfite	7773-03-7
Potassium Sulfite	10117-38-7

CALIFORNIA PROPOSITION 65:

This product does not contain toxic chemicals currently on the California list of known carcinogens and reproductive toxins

Pursuant to the California Safe Drinking Water and Toxic Enforcement Act of 1986 (proposition 65), this information is provided. This law requires that " clear and reasonable warning " be provided to any individual, knowingly or intentionally exposed to any substances identified by the state as being cancer or reproductive hazards unless, it can be shown that the exposure poses "no significant risk". Based on available data, the following chemicals listed by Proposition 65 may be present in this product:

NO SUBSTANCES FOUND TO BE PRESENT IN DETECTABLE LEVELS.

Material Safety Data Sheet

Material Name: Sodium Metabisulphite or Sodium Metabisulfite ID: C1-143

* * * Section 1 - Chemical Product and Company Identification * * *

Chemical Name: Sodium Metabisulphite (Technical, Photo and Food Grades) or Sodium Metabisulfite
Product Use: For Commercial Use
Synonyms: Disulfurous acid, Disodium salt, Fertisilo; Pyrosulfurous acid, disodium salt; Sodium disulfite; Disodium pyrosulfite; Sodium pyrosulfite.

Supplier Information

Chem One Ltd.
8017 Pinemont Drive, Suite 100
Houston, Texas 77040-6519

Phone: (713) 896-9966
Fax: (713) 896-7540
Emergency # (800) 424-9300 or (703) 527-3887

General Comments: FOR COMMERCIAL USE ONLY; NOT TO BE USED AS A PESTICIDE.

NOTE: Emergency telephone numbers are to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to customer service.

* * * Section 2 - Composition / Information on Ingredients * * *

CAS #	Component	Percent
7681-57-4	Sodium Metabisulfite	> 95%

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Sulfites.

Component Information/Information on Non-Hazardous Components

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

* * * Section 3 - Hazards Identification * * *

Emergency Overview

Sodium Metabisulfite is a white crystal or white/yellow powder form. May cause severe allergic reaction in asthmatics and sulfite sensitive individuals. May be harmful if swallowed. May cause eye, skin and respiratory tract irritation. This product is not flammable. Thermal decomposition of this product produces irritating vapors and toxic gases (e.g. sulfur dioxide), which may increase fire hazard due to the flammability of sulfur dioxide. Emergency responders should wear proper personal protective equipment for the releases to which they are responding.

Hazard Statements

WARNING! CAUSES SKIN AND EYE IRRITATION. HARMFUL IF INHALED. MAY CAUSE ALLERGIC SKIN OR RESPIRATORY REACTION. Keep from contact with clothing. Do not taste or swallow. Do not get on skin or in eyes. Avoid breathing dusts or particulates. Avoid prolonged or repeated contact with skin. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. **WARNING! Contact with acids, water or ice releases sulfur dioxide gas which may be harmful or deadly if inhaled. Use of this product in confined spaces may cause suffocation leading to death. Do not use in unventilated areas such as in the holds of fishing boats, walk-in coolers or confined spaces. Use only in ventilated areas.**

Potential Health Effects: Eyes

Exposure to particulates or solution of this product may cause stinging, tearing and redness. Prolonged contact with solutions of this product may cause conjunctivitis, ulceration and corneal abnormalities.

Potential Health Effects: Skin

This product can cause irritation of the skin, especially after prolonged exposures. Repeated skin contact may lead to skin sensitization, an allergic reaction and dermatitis (red, cracked skin). Skin contact can cause allergic skin reaction in susceptible individuals, with symptoms including itching, rash and welts.

Potential Health Effects: Ingestion

Ingestion of this product can irritate the tissues of the mouth, esophagus, and other tissues of the digestive system. Symptoms of exposure can include central nervous system depression, gastrointestinal and cardiac abnormalities, and violent colic. Sulfite compounds, such as this product, can cause a severe allergic reaction in sensitive individuals and some asthmatics, which can be life-threatening.

Potential Health Effects: Inhalation

Breathing dusts or particulates generated by this product can lead to irritation of the nose, throat or respiratory system. Symptoms of such exposure could include coughing and sneezing. This product can cause an asthma-like allergy with symptoms such as shortness of breath, wheezing, coughing, urticaria, angioedema, nasal congestion, nasal polyp swelling and chest tightness. Severe general (anaphylactic) reactions can occur, which can be life-threatening in some cases.

HMIS Ratings: Health Hazard: 2* Fire Hazard: 0 Physical Hazard: 1

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

* * * Section 4 - First Aid Measures * * *

First Aid: Eyes

In case of contact with eyes, rinse immediately with plenty of water for at least 20 minutes. Seek immediate medical attention if any adverse effect occurs.

First Aid: Skin

Remove all contaminated clothing. For skin contact, wash thoroughly with soap and water for at least 20 minutes. Seek immediate medical attention if irritation develops or persists.

First Aid: Ingestion

Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have victim rinse mouth thoroughly with water, if conscious. Contact a physician or poison control center immediately. Never give anything by mouth to a victim who is unconscious or having convulsions.

First Aid: Inhalation

Remove source of contamination or move victim to fresh air. Apply artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Get immediate medical attention.

First Aid: Notes to Physician

Provide general supportive measures and treat symptomatically.

* * * Section 5 - Fire Fighting Measures * * *

Flash Point: Not flammable
Method Used: Not applicable
Upper Flammable Limit (UEL): Not applicable
Lower Flammable Limit (LEL): Not applicable
Auto Ignition: Not applicable
Flammability Classification: Not applicable
Rate of Burning: Not applicable

General Fire Hazards

When involved in a fire, this material may decompose and produce irritating vapors, acrid smoke and toxic gases (i.e. sulfur oxides and sodium oxides). Contact with acids, water and ice produces sulfur oxide, which presents a fire hazard due to its flammability. Sodium Metabisulfite is a reducing agent and reacts explosively with oxidizers.

Hazardous Combustion Products

Sodium sulfide and sulfur oxides.

Extinguishing Media

In case of fire, use water fog, dry chemical, carbon dioxide or regular foam.

Fire Fighting Equipment/Instructions

Firefighters should wear full protective clothing including self-contained breathing apparatus. If possible control runoff from fire control or dilution water to prevent environmental contamination.

NFPA Ratings: Health: 2 Fire: 0 Reactivity: 1 Other:
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

* * * Section 6 - Accidental Release Measures * * *

Containment Procedures

Stop the flow of material, if this can be done without risk. Contain the discharged material. If sweeping of a contaminated area is necessary use a dust suppressant agent, which does not react with product (see Section 10 for incompatibility information).

Clean-Up Procedures

Small releases can be cleaned-up wearing gloves, goggles and suitable body protection. In case of a large spill (in which excessive dusts can be generated), clear the affected area, protect people, and respond with trained personnel. Place all spill residues in an appropriate container and seal. Thoroughly wash the area after a spill or leak clean-up. Prevent spill rinsate from contamination of storm drains, sewers, soil or groundwater.

Evacuation Procedures

Evacuate the area promptly and keep upwind of the spilled material. Isolate the spill area to prevent people from entering. In case of large spills, follow all facility emergency response procedures.

Special Procedures

Remove soiled clothing and launder before reuse. Avoid all skin contact with the spilled material. Have emergency equipment readily available.

* * * Section 7 - Handling and Storage * * *

Handling Procedures

Do not breathe dust. Avoid all contact with skin and eyes. Use this product only with adequate ventilation. Wash thoroughly after handling. Avoid accumulation of dusts of this product. Remove contaminated clothing immediately. Keep in dust-tight containers. Keep away from all heat sources. **Individuals responsible for the procurement, use or application of Sodium Metabisulfite must familiarize themselves with the appropriate safety and handling precautions involved. Specifically, for the prevention of Black Spot on shrimp, Sodium Metabisulfite should only be used as a dilute (1.25%) solution and only in well-ventilated area. NEVER USE SODIUM METABISULFITE IN A DRY FORM DIRECTLY ON THE SHRIMP AND NEVER IN A CONFINED SPACE SUCH AS THE HOLD OF A SHRIMP BOAT OR A WALK-IN COOLER. DEADLY SULFUR DIOXIDE GAS CAN BE GENERATED AND ACCUMULATED IN CONFINED SPACES, CREATING AN EXTREMELY HAZARDOUS CONDITION WHICH CAN CAUSE SUFFOCATION LEADING TO DEATH.**

Storage Procedures

All employees who handle this material should be trained to handle it safely. Open containers slowly on a stable surface. Containers of this product must be properly labeled. Empty containers may contain residual amounts of this product; therefore, empty containers should be handled with care. Keep this product in an airtight container. Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Store away from incompatible materials (see Section 10, Stability and Reactivity). Keep container tightly closed when not in use. Inspect all incoming containers before storage to ensure containers are properly labeled and not damaged. Do not store this material in open or unlabeled containers. Limit quantity of material stored.

* * * Section 8 - Exposure Controls / Personal Protection * * *

Exposure Guidelines

A: General Product Information

Sulfur Dioxide, which is released slowly at ambient temperatures from this material, has established exposure limits as follows:

ACGIH: 5.2 mg/m^3 TWA
13 mg/m^3 STEL
OSHA: 13 mg/m^3 TWA; 5 mg/m^3(Vacated 1989 PEL)
13 mg/m^3 (Vacated 1989 PEL)
NIOSH: 5 mg/m^3 TWA
13 mg/m^3 STEL
100 ppm (IDLH)
DFG MAKs 5.3 mg/m^3 TWA (Inhalable fraction of the aerosol)
1•MAK 15 min., average value, 1-hr interval

B: Component Exposure Limits

The exposure limits given are for Sodium Metabisulfite (7681-57-4).

ACGIH: 5 mg/m^3 TWA
NIOSH: 5 mg/m^3 TWA

Engineering Controls

Use mechanical ventilation such as dilution and local exhaust, necessary for use in enclosed or confined spaces due to the slow release of sulfur dioxide. Use a corrosion-resistant ventilation system and exhaust directly to the outside. Treatment of exhaust gases may be required to prevent environmental contamination. Supply ample air replacement.

PERSONAL PROTECTIVE EQUIPMENT

The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132). Please reference applicable regulations and standards for relevant details.

Personal Protective Equipment: Eyes/Face

Wear safety glasses (or goggles). If necessary, refer to U.S. OSHA 29 CFR 1910.133.

Personal Protective Equipment: Skin

Wear impervious gloves, boots and coveralls to avoid skin contact. Gloves should be tested to determine their suitability for prolonged contact with this material. If necessary, refer to U.S. OSHA 29 CFR 1910.138.

* * * Section 8 - Exposure Controls / Personal Protection (Continued) * * *

Personal Protective Equipment: Respiratory

If airborne concentration is high, use an appropriate respirator or dust mask. If airborne concentrations are above the applicable exposure limits, use NIOSH-approved respiratory protection. If respiratory protection is needed, use only protection authorized in the U.S. Federal OSHA Standard (29 CFR 1910.134), applicable U.S. State regulations. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard (1910.134-1998).

Personal Protective Equipment: General

Wash hands thoroughly after handling material. Do not eat, drink or smoke in work areas. Have a safety shower or eyewash fountain available. Use good hygiene practices when handling this material, including changing and laundering work clothes after use. Discard contaminated shoes and leather goods.

* * * Section 9 - Physical & Chemical Properties * * *

Physical Properties: Additional Information

The data provided in this section are to be used for product safety handling purposes. Please refer to Product Data Sheets, Certificates of Conformity or Certificates of Analysis for chemical and physical data for determinations of quality and for formulation purposes.

Appearance:	White to yellowish crystalline powder	**Odor:**	Mild odor of rotten eggs (sulfurous)
Physical State:	Solid	**pH:**	4.5-5 (10% solution)
Vapor Pressure:	Not applicable	**Vapor Density:**	Not applicable
Boiling Point:	Not applicable	**Freezing/Melting Point:**	302 deg F (150 deg C)
Solubility (H2O):	40% @ 20 deg C	**Specific Gravity:**	1.4 (H2O = 1)
Softening Point:	Decomposes upon heating	**Particle Size:**	Not determined
Molecular Weight:	190.13	**Bulk Density:**	1.48 g/cc
		Chemical Formula:	Na2S2O5

* * * Section 10 - Chemical Stability & Reactivity Information * * *

Chemical Stability

Product is normally stable. Sodium Metabisulfite is air and moisture sensitive and releases sulfur dioxide slowly at ambient temperatures. Sodium Metabisulfite will decompose on heating to form sodium sulfate.

Chemical Stability: Conditions to Avoid

Avoid moisture, high temperatures, exposure to air and incompatible materials.

Incompatibility

This material is incompatible with strong oxidizers, sodium nitrite and alkalis. Sodium Metabisulfite may produce sulfur dioxide gas when in contact with acids and/or water and ice. Large-scale addition of solid sodium disulfite to an unstirred and too-concentrated solution of sodium nitrite may cause a vigorous exothermic reaction.

Hazardous Decomposition

Products of thermal decomposition include sodium sulfate, sulfur oxides, and sodium oxide. Products of hydrolysis include sodium dioxide.

Hazardous Polymerization

Will not occur.

* * * Section 11 - Toxicological Information * * *

Acute and Chronic Toxicity

A: General Product Information

May cause eye, skin, nose, throat and respiratory tract irritation. May be harmful if swallowed.

Chronic: Long term skin overexposure to this product may lead to dermatitis (red, itchy skin). Prolonged or repeated contact may cause allergic respiratory and skin reactions in sensitive individuals. Respiratory sensitization can be life-threatening in some cases.

B: Component Analysis - LD50/LC50

Sodium Metabisulfite (7681-57-4):

LD_{50}-Intravenous-rat: 115 mg/kg; LD_{50}-Parenteral-mouse: 910 mg/kg; LD_{50}-Oral-mouse: 5989 mg/kg; LDLo-Intravenous-mouse: 1220 mg/kg; LD_{50}-Intravenous-rabbit: 1220 mg/kg

* * * Section 11 - Toxicological Information (Continued) * * *

Acute and Chronic Toxicity (continued):

B: Component Analysis - TDLo/LDLo

Sodium Metabisulfite (7681-57-4):

LDLo-Intravenous-rabbit: 192 mg/kg; TDLo-Oral-rat: 75 mg/kg/15 days-continuous: Kidney, Urethra, Bladder: other changes; Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: phosphatases, Enzyme inhibition, induction, or change in blood or tissue levels:- dehydrogenases; TDLo - Oral - pig: 562 gm/kg/48 weeks-continuous: Liver: changes in liver weight Kidney, Urethra, Bladder: changes in bladder weight Nutritional and Gross Metabolic - weight loss or decreased weight gain; TDLo-Oral-rat: 20 gm/kg: multigenerations: Reproductive: Effects on Newborn: stillbirth; TDLo-Oral-rat: 40 gm/kg: multigenerations: Reproductive: Effects on Newborn: weaning or lactation index (e.g., # alive at weaning per # alive at day 4); Cytogenetic analysis-hamster Ovary: 180 µg/L; Sister chromatid exchange: Rodent-hamster Ovary: 200 µg/L; TDLo-Subcutaneous-mouse: 806 mg/kg/26 weeks-intermittent: Tumorigenic: equivocal tumorigenic agent by RTECS criteria Skin and Appendages: tumors; TDLo-Oral-mouse: 14 gm/kg: female 8-12 day(s) after conception: Reproductive: Effects on Newborn: other neonatal measures or effects; TDLo-Parenteral-mouse: 60 mg/kg: female 8 day(s) after conception: Reproductive: Effects on Embryo or Fetus: fetotoxicity (except death, e.g., stunted fetus), Specific Developmental Abnormalities: musculoskeletal system

Carcinogenicity

A: General Product Information

No information available.

B: Component Carcinogenicity

Sodium Metabisulfite (7681-57-4)

ACGIH: TLV-A4 - Not classifiable as a Human Carcinogen

Sulfur Dioxide (decomposition product)

ACGIH: TLV-A4 - Not classifiable as a Human Carcinogen

IARC: Group 3 - Not classifiable as to carcinogenicity in humans.

Epidemiology

Sodium metabisulfite has caused severe allergic reactions in asthmatics and sulfite sensitive individuals.

Neurotoxicity

Has not been identified.

Mutagenicity

Human mutation data are available for Sodium Metabisulfite, these data were obtained during clinical studies on specific human tissues exposed to high doses of this compound.

Teratogenicity

Clinical studies on test animals exposed to relatively high doses of Sodium Metabisulfite provided teratogenic data.

Other Toxicological Information

No information available.

* * * Section 12 - Ecological Information * * *

Ecotoxicity

A: General Product Information

This product is expected to be harmful to aquatic life in low concentration.

B: Ecotoxicity

No information available.

Environmental Fate

Sodium Metabisulfite:

Water Solubility = 470 g/L (20°C).

Chemical Oxygen Demand (COD) = 165 mg oxygen/g compound

* * * Section 13 - Disposal Considerations * * *

US EPA Waste Number & Descriptions

A: General Product Information

Sodium Metabisulfite is considered hazardous to the environment in aqueous solutions. EPA waste number for reactivity (D003) may be applicable to wastes of this product.

* * * Section 13 - Disposal Considerations (Continued) * * *

US EPA Waste Number & Descriptions (continued):

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions

All wastes must be handled in accordance with local, state and federal regulations or with regulations of Canada and its Provinces. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.

* * * Section 14 - Transportation Information * * *

NOTE: The shipping classification information in this section (Section 14) is meant as a guide to the overall classification of the product. However, transportation classifications may be subject to change with changes in package size. Consult shipper requirements under I.M.O., I.C.A.O. (I.A.T.A.) and 49 CFR to assure regulatory compliance.

US DOT Information

Shipping Name: Not Regulated
Hazard Class: Not Classified
UN/NA #: Not Classified
Packing Group: None
Required Label(s): None

International Air Transport Association (IATA)

For Shipments by Air transport: We classify this product as hazardous (Class 9) when shipped by air because 49 CFR 173.140 (a). "For the purposes of this subchapter, miscellaneous hazardous material (Class 9) means a material which presents a hazard during transportation, but which does not meet the definition of any other hazard class. This class includes: (a) Any material which has an anesthetic, noxious, or other similar property which could cause extreme annoyance or discomfort to a flight crew member so as to prevent the correct performance of assigned duties."

UN: UN 3077
Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s. (sodium metabisulfite)
Hazard Class: 9
Packing Group: III
Passenger & Cargo Aircraft Packing Instruction: 911
Passenger & Cargo Aircraft Maximum Net Quantity: 400 kg
Limited Quantity Packing Instruction (Passenger & Cargo Aircraft): Y911
Limited Quantity Maximum Net Quantity (Passenger & Cargo Aircraft): 30 kg
Special Provisions: A97 A 149
ERG Code: 9L

International Maritime Organization (I.M.O.) Classification

Sodium Metabisulfite is not regulated under I.M.O.

* * * Section 15 - Regulatory Information * * *

US Federal Regulations

A: General Product Information

No additional information.

B: Component Analysis

This material does not contain any chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

SARA 302 (EHS TPQ) There are no specific Threshold Planning Quantities for Sodium Metabisulfite. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lbs (4,540 kg) therefore applies, per 40 CFR 370.20.

C: Sara 311/312 Tier II Hazard Ratings:

Component	CAS #	Fire Hazard	Reactivity Hazard	Pressure Hazard	Immediate Health Hazard	Chronic Health Hazard
Sodium Metabisulfite	7681-57-4	No	Yes	No	Yes	Yes

* * * Section 15 - Regulatory Information (Continued) * * *

US Federal Regulations (continued)

U.S. State Regulations

A: General Product Information

California Proposition 65

Sodium Metabisulfite is not on the California Proposition 65 chemical lists.

B: Component Analysis - State

The following components appear on one or more of the following state hazardous substance lists:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Sodium Metabisulfite	7681-57-4	Yes	Yes	Yes	Yes	Yes	No

Other Regulations

A: General Product Information

No other information available.

B: Component Analysis - Inventory

Component	CAS #	TSCA	DSL	EINECS
Sodium Metabisulfite	7681-57-4	Yes	Yes	Yes

C: Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Sodium Metabisulfite	7681-57-4	1 percent

ANSI LABELING (Z129.1):

WARNING! MAY BE FATAL IF SWALLOWED. CAUSES SKIN AND EYE IRRITATION. HARMFUL IF INHALED. MAY CAUSE ALLERGIC SKIN AND SEVERE RESPIRATORY REACTION. RESPIRATORY REACTIONS MAY BE LIFE-THREATENING. Keep from contact with clothing. Do not taste or swallow. Do not get on skin or in eyes. Avoid breathing dusts or particulates. Avoid prolonged or repeated contact with skin. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Wear gloves, goggles, faceshields, suitable body protection, and NIOSH/MSHA-approved respiratory protection, as appropriate. **FIRST-AID:** In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If inhaled, remove to fresh air. If ingested, do not induce vomiting. Get medical attention. **IN CASE OF FIRE:** Use water fog, dry chemical, CO_2, or "alcohol" foam. **IN CASE OF SPILL:** Absorb spill with inert material. Place residue in suitable container. Consult Material Safety Data Sheet for additional information.

* * * Section 16 - Other Information * * *

Other Information

Chem One Ltd. ("Chem One") shall not be responsible for the use of any information, product, method, or apparatus herein presented ("Information"), and you must make your own determination as to its suitability and completeness for your own use, for the protection of the environment, and for health and safety purposes. You assume the entire risk of relying on this Information. In no event shall Chem One be responsible for damages of any nature whatsoever resulting from the use of this product or products, or reliance upon this Information. By providing this Information, Chem One neither can nor intends to control the method or manner by which you use, handle, store, or transport Chem One products. If any materials are mentioned that are not Chem One products, appropriate industrial hygiene and other safety precautions recommended by their manufacturers should be observed. Chem One makes no representations or warranties, either express or implied of merchantability, fitness for a particular purpose or of any other nature regarding this information, and nothing herein waives any of Chem One's conditions of sale. This information could include technical inaccuracies or typographical errors. Chem One may make improvements and/or changes in the product (s) and/or the program (s) described in this information at any time. If you have any questions, please contact us at Tel. 713-896-9966 or E-mail us at Safety@chemone.com.

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration

Contact: Sue Palmer-Koleman, PhD **Contact Phone:** (713) 896-9966

Revision Log

08/28/00 4:23 PM SEP Changed company name, Sect 1 and 16, from Corporation to Ltd.
06/02/01 9:31 AM HDF Checked exposure limits; made changes to Sect 9; overall review, add SARA 311/312 Haz Ratings.
08/20/01 3:20 PM CLJ Add Shipments by Air information to Section 14, Changed contact to Sue, non-800 Chemtrec Num.
02/18/02 11:13 AM HDF Up-date of SARA Hazard Ratings.
11/20/03 11:50 AM HDF General review and up-date of entire MSDS. Up-graded Section 10 Reactivity Information. Up-date of HMIS categories. Up-date of Section 8. Up-date of Section 14.
06/22/05 1:18 pm SEP Updated IATA Section 14
10/22/07 4:23 PM SEP Updated IATA Section 14

This is the end of MSDS # C1-143

Applied Specialties, Inc.
33555 Pin Oak Parkway
Avon Lake, Ohio 44012

AS-8861

052248861-1
August 12, 2005
Telephone (440) 933-9442
Emergency: (216) 973-6118

MATERIAL SAFETY DATA

SECTION 1 MATERIAL IDENTIFICATION

Signal/Level/Day

TRADE NAME OR	**AS-8861**
SYNONYMS	COOLING WATER SURFACTANT

SECTION 2 INGREDIENTS AND HAZARDS

COMPONENT	CAS. NUMBER	TWA/CEILING	REFERENCE
Nonylphenoxypolyethoxyethanol	127087-87-0	Not Established	Irritant
Poly(oxyethylene/oxypropylene) glycol	9003-11-6	Not Established	Eye and skin irritant

Emergency Overview: Clear liquid; mild odor. Caution! May cause eye, respiratory tract and skin irritation. Harmful if swallowed or absorbed through the skin.

SECTION 3 ENVIRONMENTAL INFORMATION

OSHA STATUS This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard
TSCA STATUS All components are listed
CERCLA REPORTABLE QUANTITY Not Listed
SARA TITLE III:
SECTION 302 (EXTREMELY HAZARDOUS SUBSTANCE) Not Listed
SECTION 311/312 (HAZARDOUS SUBSTANCES)
Classification Under Section 311/312 of SARA (40 CFR 370): Acute (Yes) Chronic (No) Fire (Yes) Reactive (No) Pressure (No)

SECTION 313 (TOXIC CHEMICALS) Not Listed
RCRA STATUS Not Regulated.
NTP, OSHA, ACGIH & IARC STATUS None of the ingredients are listed.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

HEALTH – 1* FIRE - 1 REACTIVITY - 0

0 MINIMAL
1 SLIGHT HAZARD
2 MODERATE HAZARD
3 SERIOUS HAZARD
4 SEVERE HAZARD

Chemical identity of some ingredients may be withheld as confidential as permitted by 29 CFR 1910.1200 and various State right to know laws.

SECTION 4 HEALTH HAZARD AND PROTECTION DATA

TARGET ORGANS

Eyes Skin Gastrointestinal System Respiratory System

ROUTES OF ENTRY INTO BODY

Inhalation Ingestion Skin Or Eye Contact Skin Absorption

SIGNS AND SYMPTOMS OF EXPOSURE

Eye & Skin irritation experienced as discomfort or pain, redness and swelling. Excess blinking and tear production. Chest pain and coughing. Harmful if swallowed. Headache Dizziness Nausea and/or Vomiting Drowsiness Ingestion of significant quantities may cause red blood cell Hemolysis.

PROTECTIVE EQUIPMENT REQUIRED:

Employees should be provided with and required to use long sleeved shirts and trousers, chemical resistant apron, chemical resistant gloves such as butyl, neoprene or nitrile rubber, splash goggles or safety glasses as a minimum and other appropriate protective clothing to prevent skin contact. Employees shall be provided with and required to use splash-proof safety goggles where the material may contact the eyes in addition to face shield. Clothing wet with product should be placed in a closed container until provisions are made for it to be discarded or laundered. If the clothing is to be laundered the person performing the laundering should be informed of the hazardous properties of the material. Any clothing that becomes wet with the material should be removed immediately and not reworn until the clothing has been properly cleaned. RESPIRATOR SELECTION - Use only in well ventilated areas. Where the potential for excessive exposures exists which cannot be controlled by mechanical means, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industrial recommendations. ESCAPE & FIRE FIGHTING - Self-contained breathing apparatus with a face-piece operated in pressure demand or other positive-pressure mode.

FIRST AID

SKIN CONTACT: Skin that becomes contaminated should be washed or showered with soap and water to remove any chemical from skin. Contaminated clothing should be removed and wash the skin with soap and water. Clothing should be washed before it is reused. If irritation is present, **get medical attention.**

EYE CONTACT: If material gets into the eyes, flush the eyes immediately with large amounts of water for at least 30 minutes, lifting the lower and upper lids occasionally. **Get MEDICAL attention immediately.** Contact lenses should not be worn when working with this substance or any other chemical.

INHALATION: If a person breathes in large amounts of product mist, move the person to fresh air. If breathing has stopped, perform artificial respiration. Keep the affected person warm and at rest. **Get medical attention as soon as possible.**

INGESTION: If a person swallows product, give large quantities of water and induce vomiting.
Get medical attention at once. Never give anything by mouth to an unconscious person.

SECTION 5 PHYSICAL DESCRIPTION

APPEARANCE AND ODOR	Clear liquid; mild odor.
BOILING POINT	Not determined
MELTING POINT	Not applicable
FLASH POINT	>200 ° F (Tag Closed Cup)
VAPOR PRESSURE	Not determined
SPECIFIC GRAVITY	1.010 +/- 0.02 g/ml
PRODUCT pH	3.70 +/- 0.50 standard pH units
SOLUBILITY IN WATER	Complete

SECTION 6 INCOMPATIBILITIES AND STORAGE

Hazardous polymerization will not occur.
Avoid contact with strong oxidizers, acids, alkalis, lime, ammonia, organic amines, Chlorine, sodium hydroxide.
Stable under normal conditions. Avoid high temperatures in the presence of strong bases.
Keep containers closed when not in use.
Store containers with labels visible and away from all sources of ignition.
Keep away from heat. Empty containers will retain product residue and vapors and should be handled as if they were full.

SECTION 7 REGULATIONS/OSHA

OSHA Standard 29 CFR 1910.1200	HAZARD COMMUNICATION
OSHA Standard 29 CFR 1910.1000	AIR CONTAMINANTS Table Z-1
OSHA Standard 29 CFR 1910.94	VENTILATION
OSHA Standard 29 CFR 1910.134	RESPIRATORY PROTECTION
OSHA Standard 29 CFR 1910.20	ACCESS TO EMPLOYEE EXPOSURE
OSHA Standard 29 CFR 1910.132	PERSONAL PROTECTIVE EQUIPMENT
OSHA Standard 29 CFR 1910.141	SANITATION
OSHA Standard 29 CFR 1910.151	MEDICAL SERVICES AND FIRST AID
OSHA Standard 29 CFR 1910.133	EYE AND FACE PROTECTION

SECTION 8 EMERGENCY HANDLING OF HAZARDOUS MATERIALS

IF MATERIAL IS ON FIRE OR INVOLVED IN FIRE:
Use alcohol foam or carbon dioxide CO_2 or dry chemical extinguishers or any agents suitable for surrounding fire.

IF MATERIAL IS NOT ON FIRE OR NOT INVOLVED IN FIRE:
Keep material out of water sources and sewers. Remove all sources of ignition.

PERSONAL DANGER SITUATION PROTECTION:
Keep upwind. Avoid breathing dust/vapors/fumes from material. Avoid bodily contact with material. Wear boots, protective gloves and gas-tight goggles. Wear full protective clothing (regular FIRE FIGHTERS' gear is inadequate).

SECTION 9 SPILL, LEAK AND DISPOSAL PROCEDURES

Persons not wearing protective equipment and clothing should be restricted from spill areas until clean up has been completed. If AS-8861 is spilled, take the following steps:

1. Ventilate the spill area. Eliminate all sources of ignition. Contain or dike the spill.
2. Collect spilled material using an approved liquid vacuum.
3. Apply an absorbing compound to any residual material and shovel into a disposal drum.
4. Discard any vacuumed material and the absorbant material in accordance to all FEDERAL, STATE AND LOCAL REGULATIONS.

NOTE: DO NOT wash or pour AS-8861 into any surface waters or streams or directly into sewers.

SECTION 10 SHIPPING AND TRANSPORTATION DATA

PROPER SHIPPING NAME	INDUSTRIAL WATER TREATING COMPOUND
HAZARD CLASS	NOT REGULATED
IDENTIFICATION NUMBER	NMFC 50227 SUB1
LABEL REQUIRED	NONE

Helvia García-Muñoz

This information is given without any warranty or representation. We do not assume any legal responsibility for same, nor do we give permission, inducement, or recommendation to practice any patented invention without a license. It is offered solely for your consideration, investigation and verification. Before using any product, read its label carefully and completely.

PENNSYLVANIA RIGHT-TO-KNOW INFORMATION:

The following comprises the CHEMICAL IDENTIFICATION list under PENNSYLVANIA RIGHT-TO-KNOW:

	CAS #
Nonylphenoxypolyethoxyethanol	127087-87-0
Poly(oxyethylene/oxypropylene) glycol	9003-11-6
Water	7732-18-5

NEW JERSEY RIGHT-TO-KNOW TOTAL INGREDIENTS LABEL:

	CAS #
Nonylphenoxypolyethoxyethanol	127087-87-0
Poly(oxyethylene/oxypropylene) glycol	9003-11-6
Water	7732-18-5

CALIFORNIA PROPOSITION 65:

This product does contain toxic chemicals currently on the California list of known carcinogens and reproductive toxins

Pursuant to the California Safe Drinking Water and Toxic Enforcement Act of 1986 (proposition 65), this information is provided. This law requires that " clear and reasonable warning " be provided to any individual, knowingly or intentionally exposed to any substances identified by the state as being cancer or reproductive hazards unless, it can be shown that the exposure poses "no significant risk". Based on available data, the following chemicals listed by Proposition 65 may be present in this product:

ETHYLENE OXIDE	Trace
1,4 DIOXANE	Trace

SAFETY DATA SHEET

ABC 3 ANTIFOULING

AMERON INTERNATIONAL

1. Identification of the preparation and of the company

Product name	: ABC 3 ANTIFOULING
SDS no.	: M-V0283SA
Area of application	**For professional use only.**
Product use	: TIN FREE SELF POLISHING ANTIFOULING
Supplier/Manufacturer	: Ameron B.V. Performance Coatings & Finishes J.F.Kennedylaan 7 P.O. Box 6, 4190 CA, Geldermalsen The Netherlands
Telephone no.	: +(31) 345 587 587
Fax no.	: +(31) 345 587 551
Emergency telephone number	: +(31) 345 587 587

2. Composition/information on ingredients

Substances presenting a health or environmental hazard within the meaning of the Dangerous Substances Directive 67/548/EEC.

Chemical name*	CAS number	%	EC number	Classification
dicopper oxide	1317-39-1	25 - 50	215-270-7	Xn; R22 N; R50/53
zinc oxide	1314-13-2	10 - 25	215-222-5	N; R50/53
Colophony	8050-09-7	2.5 - 10	232-475-7	R43
2-Methylpropan-1-ol	78-83-1	2.5 - 10	201-148-0	R10 Xi; R37/38, R41 R67
Xylene	1330-20-7	2.5 - 10	215-535-7	R10 Xn; R20/21 Xi; R38
ziram (ISO)	137-30-4	2.5 - 10	205-288-3	T+; R26 Xn; R22, R48/22 Xi; R37, R41 R43 N; R50/53
Ethylbenzene	100-41-4	1 - 2.5	202-849-4	F; R11 Xn; R20
See section 16 for the full text of the R-phrases declared above				

Occupational exposure limits, if available, are listed in section 8.

3. Hazards identification

The preparation is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification	: R10 T; R23 Xn; R22 Xi; R41 R43 N; R50/53
Physical/chemical hazards	: Flammable.
Human health hazards	: Harmful if swallowed. Toxic by inhalation. Risk of serious damage to eyes. May cause sensitisation by skin contact.
Environmental hazards	: Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

4. First-aid measures

First-aid measures

General	: In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
Inhalation	: Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Give nothing by mouth. If unconscious, place in recovery position and seek medical advice.
Skin contact	: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do not use solvents or thinners.
Eye contact	: Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open.
Ingestion	: If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do not induce vomiting.

5. Fire-fighting measures

Extinguishing media	: Recommended: alcohol-resistant foam, CO_2, powders, water spray. Not to be used : water jet.
Recommendations	: Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard. Appropriate breathing apparatus may be required. Cool closed containers exposed to fire with water. Do not release runoff from fire to sewers or waterways.

6. Accidental release measures

Personal precautions	: Exclude sources of ignition and ventilate the area. Avoid breathing vapour or mist. Refer to protective measures listed in sections 7 and 8.
Spill	: Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Do not allow to enter drains or watercourses. Preferably clean with a detergent. Avoid using solvents. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

Note: see section 8 for personal protective equipment and section 13 for waste disposal.

7. Handling and storage

Handling : Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. Prevent the creation of flammable or explosive concentrations of vapours in air and avoid vapour concentrations higher than the occupational exposure limits.

In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard.

To dissipate static electricity during transfer, earth drum and connect to receiving container with bonding strap. Operators should wear antistatic footwear and clothing and floors should be of the conducting type.

Keep container tightly closed. Keep away from heat, sparks and flame. No sparking tools should be used.

Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this preparation. Avoid inhalation of dust from sanding.

Eating, drinking and smoking should be prohibited in area where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.

Put on appropriate personal protective equipment (see section 8).

Never use pressure to empty. Container is not a pressure vessel. Always keep in containers made from the same material as the original one.

Comply with the health and safety at work laws.

7. Handling and storage

ventilation is unlikely to be sufficient to control particulates and solvent vapour in all cases. In such circumstances they should wear a compressed air-fed respirator during the spraying process and until such time as the particulates and solvent vapour concentration has fallen below the exposure limits.

Storage : Store in accordance with local regulations. Observe label precautions. Store between 5 to 40°C (41 to 104°F). Store in a cool, well-ventilated area away from incompatible materials and ignition sources.

Keep away from: oxidising agents, strong alkalis, strong acids.
No smoking. Prevent unauthorised access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.
Do not empty into drains..

8. Exposure controls/personal protection

Engineering measures : Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapours below the OEL, suitable respiratory protection must be worn.

Ingredient name	Occupational exposure limits
2-Methylpropan-1-ol	**EH40-WEL (United Kingdom (UK), 1/2005).** STEL: 231 mg/m³ 15 minute/minutes. Form: All forms STEL: 75 ppm 15 minute/minutes. Form: All forms TWA: 154 mg/m³ 8 hour/hours. Form: All forms TWA: 50 ppm 8 hour/hours. Form: All forms
Xylene	**EH40-WEL (United Kingdom (UK), 1/2005). Skin** STEL: 441 mg/m³ 15 minute/minutes. Form: All forms STEL: 100 ppm 15 minute/minutes. Form: All forms TWA: 220 mg/m³ 8 hour/hours. Form: All forms TWA: 50 ppm 8 hour/hours. Form: All forms
Ethylbenzene	**EH40-WEL (United Kingdom (UK), 1/2005). Skin** STEL: 552 mg/m³ 15 minute/minutes. Form: All forms STEL: 125 ppm 15 minute/minutes. Form: All forms TWA: 441 mg/m³ 8 hour/hours. Form: All forms TWA: 100 ppm 8 hour/hours. Form: All forms

Personal protective equipment

Respiratory system : If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators.

Dry sanding, flame cutting and/or welding of the dry paint film will give rise to dust and/or hazardous fumes. Wet sanding/flatting should be used wherever possible. If exposure cannot be avoided by the provision of local exhaust ventilation, suitable respiratory protective equipment should be used.

Skin and body : Personnel should wear antistatic clothing made of natural fibres or of high-temperature-resistant synthetic fibres.

Hands

Gloves : For prolonged or repeated handling, use gloves: nitrile.

Barrier creams may help to protect the exposed areas of the skin but should not be applied once exposure has occurred.

The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

Eyes : Use safety eyewear designed to protect against splash of liquids.

Environmental exposure controls

Do not allow to enter drains or watercourses.

9. Physical and chemical properties

Physical state : Liquid.

Odour : Solvent.

Colour :

Flash point : Closed cup: 25°C (77°F). (Setaflash.)

Viscosity : 100 - 120 KU @ 25°C ASTM D-562

Relative density : 1.95 g/cm³ (25°C / 77°F)

Vapour density : 2.6 (Air = 1)

9. Physical and chemical properties

Vapour pressure : 10.7 kPa (80.3 mm Hg) (at 20°C)

Solubility : Insoluble in cold water, hot water.

Auto-ignition temperature : The lowest known value is 414.85°C (778.7°F) (2-Methylpropan-1-ol).

10. Stability and reactivity

Stable under recommended storage and handling conditions (see section 7).

Hazardous decomposition products: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.

11. Toxicological information

There is no data available on the preparation itself. The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified for toxicological hazards accordingly. See sections 2 and 15 for details.

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Solvents may cause some of the above effects by absorption through the skin. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. If splashed in the eyes, the liquid may cause irritation and reversible damage.

Contains (Colophony, ziram (ISO)). May produce an allergic reaction.

12. Ecological information

There is no data available on the preparation itself.
Do not allow to enter drains or watercourses.

The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and is classified for eco-toxicological properties accordingly. See Sections 2 and 15 for details.

Ecotoxicity data

Product/ingredient name	Species	Period	Result
zinc oxide	Daphnia magna (EC50)	48 hour/hours	>1000 mg/l
	Oncorhynchus mykiss (LC50)	96 hour/hours	1.1 mg/l
	Lepomis macrochirus (LC50)	96 hour/hours	>320 mg/l
	Pimephales promelas (LC50)	96 hour/hours	2246 mg/l
2-Methylpropan-1-ol	Scenedesmus subspicatus (EC50)	48 hour/hours	230 mg/l
	Daphnia pulex (EC50)	48 hour/hours	1100 mg/l
	Scenedesmus subspicatus (EC50)	48 hour/hours	1250 mg/l
	Oncorhynchus mykiss (LC50)	96 hour/hours	1330 mg/l
	Pimephales promelas (LC50)	96 hour/hours	1430 mg/l
	Pimephales promelas (LC50)	96 hour/hours	1510 mg/l
Xylene	Oncorhynchus mykiss (LC50)	96 hour/hours	3.3 mg/l
	Oncorhynchus mykiss (LC50)	96 hour/hours	8.2 mg/l
	Lepomis macrochirus (LC50)	96 hour/hours	8.6 mg/l
	Lepomis macrochirus (LC50)	96 hour/hours	12 mg/l
	Lepomis macrochirus (LC50)	96 hour/hours	13.3 mg/l
	Pimephales promelas (LC50)	96 hour/hours	13.4 mg/l
ziram (ISO)	Daphnia magna (EC50)	48 hour/hours	0.048 mg/l
	Pimephales promelas (LC50)	96 hour/hours	0.008 mg/l
	Lepomis macrochirus (LC50)	96 hour/hours	0.0097 mg/l
	Oncorhynchus mykiss (LC50)	96 hour/hours	0.27 mg/l
	Poecilia reticulata (LC50)	96 hour/hours	0.75 mg/l

12. Ecological information

	(LC50)		
Ethylbenzene	Daphnia magna (EC50)	48 hour/hours	2.93 mg/l
	Daphnia magna (EC50)	48 hour/hours	2.97 mg/l
	Selenastrum capricornutum (EC50)	48 hour/hours	7.2 mg/l
	Oncorhynchus mykiss (LC50)	96 hour/hours	4.2 mg/l
	Pimephales promelas (LC50)	96 hour/hours	9.09 mg/l
	Poecilia reticulata (LC50)	96 hour/hours	9.6 mg/l

13. Disposal considerations

Do not allow to enter drains or watercourses.
Dispose of according to all federal, state and local applicable regulations.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

14. Transport information

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Land - road/railway

UN number	: UN1263
Transport document name	: Paint.
Special provision 640	: E
ADR/RID Class	: 3
HI/Kemler number	: 30
Packing group	: III
ADR/RID Label	: Exempted according to 2.2.3.1.5 (Viscous substance exemption)

Sea

UN number	: UN1263
Proper shipping name	: Paint.
IMDG Class	: 3
Packing group	: III
IMDG Label	: Exempted according to 2.3.2.5 (Viscous substance exemption)

Marine pollutant	: No.
Emergency schedules (EmS)	: F-E, S-E

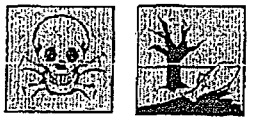
Air

UN number	: UN1263
Proper shipping name	: Paint.
ICAO/IATA Classification	: 3
Packing group	: III
ICAO/IATA label	:

15. Regulatory information

EU regulations : The product is classified and labelled for supply in accordance with the Directive 1999/45/EC as follows:

Hazard symbol/symbols :



Toxic, Dangerous for the environment.

Risk phrases : R10- Flammable.
R23- Toxic by inhalation.
R22- Harmful if swallowed.
R41- Risk of serious damage to eyes.
R43- May cause sensitisation by skin contact.
R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases : S23- Do not breathe vapour / spray.
S24- Avoid contact with skin.
S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37/39- Wear suitable gloves and eye/face protection.
S38- In case of insufficient ventilation, wear suitable respiratory equipment.
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Contains : dicopper oxide
Colophony
ziram (ISO)

Industrial use : The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

This product does not contain organotin compounds acting as biocides and complies with the International Convention on the Control of Harmful Anti-fouling Systems as adopted by IMO in October 2001 (IMO document AFS/CONF/26)

Type of Antifouling System: Tin free self-polishing
Name of manufacturer: Ameron International
Name of paint: ABC3 Antifouling
Note: This name is shown on the product container. All Ameron International product containers carrying this name, comply with the IMO Convention (AFS/CONF/26). This applies to all colours of this product.
Active ingredient(s): Ziram (CAS no. 137-30-4)
Dicopperoxide (CAS no. 1317-39-1)

16. Other information

CEPE Classification : 1

Full text of R-phrases referred to in sections 2 and 3 - United Kingdom (UK) : R11- Highly flammable.
R10- Flammable.
R26- Very toxic by inhalation.
R23- Toxic by inhalation.
R20- Harmful by inhalation.
R20/21- Harmful by inhalation and in contact with skin.
R22- Harmful if swallowed.
R48/22- Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R37- Irritating to respiratory system.
R37/38- Irritating to respiratory system and skin.
R38- Irritating to skin.
R41- Risk of serious damage to eyes.
R43- May cause sensitisation by skin contact.
R67- Vapours may cause drowsiness and dizziness.
R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

The information in this Safety Data Sheet is required pursuant to EU Directive 91/155/EEC and its amendments.

Date of printing : 2/2/2006.

Date of issue : 1/17/2006.

16. Other information

Notice to reader

The information in this SDS is based on the present state of our knowledge and on current laws. The product is not to be used for purposes other than those specified under section 1 without first obtaining written handling instructions. It is always the responsibility of the user to take all necessary steps to fulfil the demands set out in the local rules and legislation. The information in this SDS is meant to be a description of the safety requirements for our product. It is not to be considered a guarantee of the product's properties.

PEF letter to FDEP NPDES Major Permit Mod Application September 11, 2009

Progress Energy

September 11, 2009

Mr. Marc Harris
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Crystal River Units 1,2 & 3
NPDES Permit No. FL0000159
Major Permit Modification
Helper Cooling Tower South

Dear Mr. Harris:

Progress Energy Florida Inc. (PEF) is in the process of performing an Extended Power Uprate (EPU) of the Crystal River Unit 3 nuclear plant. A result of this uprate will be an increase in thermal load to the discharge canal. In order to comply with the existing permitted thermal limit at the point of discharge, PEF must construct and operate a new cooling tower (Helper Cooling Tower South – HCTS) at the location of the unused clarification pond. A post certification submittal to the existing Crystal River Units 1,2 & 3 Conditions of Certification will be submitted to the Siting Office to allow construction of the HCTS and the associated stormwater system. Concurrently, PEF is requesting a modification to the NPDES permit referenced above to authorize two new outfalls to the site discharge canal and one relocated outfall to the site intake canal. The intake and discharge for the HCTS will be located on the site discharge canal. Additionally, associated with the new HCTS, there will be a new screen wash discharge outfall and a stormwater management system discharge outfall installed on the site discharge canal.

In order to facilitate the construction of the new tower at the site of the unused clarification pond, the existing industrial wastewater percolation pond emergency overflow (D-0C2) discharge will be moved from the existing location on the discharge canal to a location on the intake canal as indicated in the following documentation. Please see the attached FDEP required application forms and supporting documentation for specifics regarding the design and construction of the HCTS, the associated stormwater management system and the relocated industrial wastewater emergency overflow outfall. Also included is a check (#185481) for the required $7500.00 administrative processing fee.

If you have any questions or require additional information regarding this request, please contact Mr. Michael Shrader at 727-820-5588.

Sincerely,

Michael Shrader
Lead Environmental Specialist
Progress Energy Florida, Inc.

Enclosures

WASTEWATER FACILITY OR ACTIVITY PERMIT
APPLICATION FORM 1
GENERAL INFORMATION

I - IDENTIFICATION NUMBER:

Facility ID FL0000159

II - CHARACTERISTICS:

INSTRUCTIONS: Complete the questions below to determine whether you need to submit any permit application forms to the Department of Environmental Protection. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the blank in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements. See Section B of the instructions. See also, Section C of the instructions for definitions of the terms used here.

SPECIFIC QUESTIONS	YES	NO	FORM ATTACHED
A. Is this facility a domestic wastewater facility which results in a discharge to surface or ground waters?		X	
B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters?		X	
C. Does or will this facility (other than those describe in A. or B.) discharge process wastewater, or non-process wastewater regulated by effluent guidelines or new source performance standards, to surface waters?	X		2CS
D. Does or will this facility (other than those described in A. or B.) discharge process wastewater to ground waters?	X		N/A
E. Does or will this facility discharge non-process wastewater, not regulated by effluent guidelines or new source performance standards, to surface waters?		X	
F. Does or will this facility discharge non-process wastewater to ground waters?	X		N/A
G. Does or will this facility discharge stormwater associated with industrial activity to surface waters?	X		2F
H. Is this facility a non-discharging/closed loop recycle system?		X	
I. Is this facility a public water system whose primary purpose is the production of potable water for public consumption and which discharges demineralization concentrate to surface water or groundwater?		X	

III - NAME OF FACILITY: (80 characters and spaces)

Crystal River Power Plant Units 1, 2, 3

Facility ID FL0000159

IV - FACILITY CONTACT: (A. 30 characters and spaces)

A. Name and Title (Last, first, & title)	B. Phone (area code & no.)
Shrader, Michael, Lead Environ. Spec.	727-820-5588

V - FACILITY MAILING ADDRESS: (A. 30 characters and spaces; B. 25 characters and spaces)

A. Street or P.O. Box: P.O. Box 14042, PEF-903		
B. City or Town: St. Petersburg	State: FL	Zip Code: 33733

VI - FACILITY LOCATION: (A. 30 characters and spaces; B. 24 characters and spaces; C. 3 spaces (if known); D. 25 characters and spaces; E. 2 spaces; F. 9 spaces)

A. Street, Route or Other Specific Identifier: 15760 W. Powerline St.		
B. County Name: Citrus	C. County Code (if known):	
D. City or Town: Crystal River	E. State: FL	F. Zip Code: 34428

VII - SIC CODES: (4-digit, in order of priority)

1. Code #: 4911	(Specify) Electric Svc.	2. Code #:	(Specify)
3. Code #:	(Specify)	4. Code #:	(Specify)

VIII - OPERATOR INFORMATION: (A. 40 characters and spaces; B. 1 character; C. 1 character (if other, specify); D. 12 characters; E. 30 characters and spaces; F. 25 characters and spaces; G. 2 characters; H. 9 characters)

A. Name: Progress Energy Florida, Inc		B. Is the name in VIII A. the owner? ☒Yes ☐No	
C. Status of Operator: F = Federal; S = State; P = Private; O = Other; M = Public (other than F or S)	(code) P	(specify) Utility	D. Phone No.: 352-563-4484
E. Street or P. O. Box: 15760 W. Powerline St.			
F. City or Town: Crystal River		G. State: FL	H. Zip Code: 34428

IX - INDIAN LAND:

A. Is the facility located on Indian lands?	☐ Yes	☒ No

Facility ID FL0000159

X - EXISTING ENVIRONMENTAL PERMITS:

A. NPDES Permit No.	B. UIC Permit No.	C. Other (specify)	D. Other (specify)
FL0000159	N/A	FLA016960 - IWW	FLA118753 - DWW

XI - MAP: Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII - NATURE OF BUSINESS (provide a brief description)

Crystal River Units 1 & 2 are coal-fired steam electric generating facilities.

Crystal River Unit 3 is a nuclear-powered steam electric generating facility.

XIII - CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Larry Hatcher	FOR LARRY HATCHER
A. Name (type or print)	B. Signature
CR Fossil Plant Manager	9/10/09
Official Title (type or print)	C. Date Signed

FORM

2CS

WASTEWATER APPLICATION FOR PERMIT TO DISCHARGE PROCESS WASTEWATER FROM NEW OR EXISTING INDUSTRIAL WASTEWATER FACILITIES TO SURFACE WATERS

Facility I.D. Number: FL0000159

Please print or type information in the appropriate areas.

I OUTFALL LOCATION For each outfall, list the X,Y coordinates and the name of the receiving water.
(latitude/longitude to the nearest 15 seconds)

A. Outfall No. (List)	B. Latitude			C. Longitude			D. Name of Receiving Water
	Deg.	Min.	Sec.	Deg.	Min.	Sec.	
HCTS	28	57	31	82	42	20	Discharge Canal
D-0C2R	28	57	23	82	42	30	Intake Canal
Screen Wash	28	57	32	82	42	30	Discharge Canal

II OUTFALL DESIGN

A. Outfall No. (List)	B. Design Configuration and Construction Materials	C. Distance from shore	D. Diameter	E. Elevation of Discharge Invert (MSL)	F. Receiving Water Depth at POD (MSL)
HCTS	Concrete Flume	0	20'	0	-12'
D-0C2R	RCP	Approx. 60 ft.	24"	7.67'	-20'
Screen Wash	HDPE Pipe	0	24"	1'	-12'

Facility I.D. Number: FL0000159

III RECEIVING WATER INFORMATION

For each surface water that will receive effluent, supply the following information:

A. Name of Receiving Water	B. Check One		C. Classification (See Ch. 62-302, F.A.C.)	D. Type of Receiving Water (canal, river, lake, etc.)
	Fresh	Salt or Brackish		
Discharge Canal then to the Gulf of Mexico	☐	☒	Class III	Canal
Intake Canal	☐	☒	Class III	Canal
	☐	☐		
	☐	☐		
	☐	☐		
	☐	☐		

E. Minimum 7-day 10-year low flow of the receiving water at each outfall (if appropriate). N/A

F. Identify and describe the flow of effluent from each outfall to a major body of water. A suitably marked map or aerial photograph may be used. See Attachments 1A and 1B.

G. Do you request a mixing zone under Rule 62-4.244, F.A.C.? If yes, for what parameters or pollutants? No

IV FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of:

1. All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and stormwater runoff;

2. The average flow contributed by each operation; and

3. The treatment received by the wastewater.

See Attachment 2

Use the space on the next page. Continue on additional sheets, if necessary.

IV B. Contd:

Facility I.D. Number: FL0000159

(1) Outfall No. (List)	(2) Operation(s) Contributing Flow		(3) Treatment		
	(a) Operation (list)	(b) Avg. Flow & Units	(a) Description	(b) List Code from Table 2CS-1	
HCTS	Helper Cooling Tower South Once	460.8 MGD	See Attachement 2	4-A	
	through cooling water				
D-0C2R	Percolation Pond Emergency	0.0 MGD	See Attachement 2	4-A	
	Overflow				
Screen Wash	Screen Wash from HCTS	1.4 MGD	See Attachment 2	4-A	

C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal?
☐ Yes (complete the following table) ☒ No (go to D. below)

(1) Outfall No. (List)	(2) Operation(s) Contributing Flow (List)	(3) Frequency		(4) Flow				
		(a) Days per Week (specify avg.)	(b) Months per Yr. (specify avg.)	(a) Flow Rate (in mgd)		(b) Total Volume (specify with units)		(c) Duration (in days)
				Long Term Avg.	Max. Daily	Long Term Avg.	Max. Daily	

D. Describe practices to be followed to ensure adequate wastewater treatment during emergencies such as power loss and equipment failures causing shutdown of pollution abatement equipment of the proposed/permitted facilities.

See Attachment 2

E. List the method(s) and location(s) of flow measurement.

See Attachment 2

V PRODUCTION

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?

☒ Yes (complete Item V-B) ☐ No (go to Section VI)

B. Are the limitations in the applicable guideline expressed in terms of production (or other measure of operation)?

☐ Yes (complete Item V-C) ☒ No (go to Section VI)

C. If you answered "yes" to Item V-B, list the quantity which represents an actual measurement of your level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

1. AVERAGE DAILY PRODUCTION			2. Affected Outfalls
a. Quantity per Day	b. Units of Measure	c. Operation, Product, Materials, Etc. (specify)	(list outfall nos.)

Facility I.D. Number: FL0000159

VI IMPROVEMENTS

A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement order, enforcement compliance schedule letter, stipulations, court orders, and grant or loan conditions.

☐ Yes (complete the following table) ☒ No (go to Item VI-B)

1. Identification of Condition, Agreement, Etc.	2. Affected Outfalls		3. Brief Description of Project	4. Final Compliance Date	
	a. No.	b. Source of Discharge		a. Required	B. Projected

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs (or other environmental projects which may affect your discharges) you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction.

☐ Mark "X" if description of additional control programs is attached.

VII INTAKE AND EFFLUENT CHARACTERISTICS

A, B, & C: See instructions before proceeding--Complete one set of tables for each outfall -- Annotate the outfall number in the space provided. NOTE: Tables VII-A, VII-B, and VII-C are included on separate sheets number VII-1 through VII-9.

D. Use the space below to list any of the pollutants listed in Table 2CS-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. Pollutant	2. Source	1. Pollutant	2. Source
None			

Facility I.D. Number: FL0000159

VIII POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

Is any pollutant listed in Item VII-C a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or by-product?

☐ YES (list all such pollutants below) ☒ NO (go to IX)

IX BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☐ YES (identify the test(s) and describe their purposes below) ☒ NO (go to Section X)

All discharge indicated are proposed new discharges.

X CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item VII performed by a contract laboratory or consulting firm?

☐ YES (list the name, address, telephone number, and certification number of, and pollutants analyzed by each such laboratory or firm below) ☒ NO (go to Section XI)

A. Name	B. Address	C. Telephone (area code & no.)	D. Pollutants Analyzed (list)

Facility I.D. Number: FL0000159

XI CONNECTION TO REGIONAL POTW

A. Indicate the relationship between this project and area regional planning for wastewater treatment. List steps to be taken for this industrial wastewater facility to become part of an area-wide wastewater treatment system.

N/A

XII-A CERTIFICATIONS FOR NEW OR MODIFIED FACILITIES

This is to certify the engineering features of this pollution control project have been designed by me and found to be in conformity with sound engineering principles, applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules of the Department. It is also agreed that the undersigned, if authorized by the owner, will furnish the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Misty B. Day
Signature

MISTY B. DAY
Name (please type)

(Affix Seal)

MESA ASSOCIATES
Company Name

Address
10604 MURDOCK DRIVE
KNOXVILLE TN 37932

Florida Registration No.: #69469 / COA #7981

Telephone No.: 865-671-5400

Date 9/8/09

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Larry Hatcher, Crystal River Fossil Plant Manager
Name & Official Title (Please type or print)

Bobby A. Allen FOR LARRY HATCHER
Signature

352-563-4484
Telephone No. (area code & No.)

9/10/09
Date Signed

FORM

2F

APPLICATION FOR PERMIT FOR STORMWATER DISCHARGE ASSOCIATED WITH INDUSTRIAL ACTIVITY

Facility I.D. Number: FL0000159

Please type or print in black ink. If additional space is needed for your answer, use plain sheets and attach to the application form.

I. Outfall Location:

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. Outfall Number (list)	B. Latitude			C. Longitude			D. Receiving Water (Name)
HCTS Stormwater Pond	28	57	31	82	42	28	Discharge Canal

II. Improvements:

A. Are you now required by any Federal, State, or local authority to meet any implementation schedule for the construction, upgrading or operation of stormwater or wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions?

1. Identification of Conditions, Agreements	2. Affected Outfalls		3. Brief Description of Project	4. Final Compliance Date	
	No.	Source of Discharge		a. required	b. projected
None					

B. You may attach additional sheets describing any additional water pollution or other environmental projects which may affect your discharge that you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction. N/A

III. Site Drainage Map:

Attach a site map showing topography depicting the facility including each of its intake and discharge structures; the drainage area of each stormwater outfall; paved areas and buildings within the drainage area of each stormwater outfall; each known past or present areas used for outdoor storage or disposal of significant materials; each existing structural control measure to reduce pollutants in stormwater runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied; each of its hazardous waste treatment, storage or disposal units; each well where fluids from the facility are injected underground; springs, and other surface water bodies which receive stormwater discharges from the facility. Show hazardous waste storage or disposal areas that do not require a RCRA permit separate from those which do require a permit.

See Attachments - Note that the stormwater system is being authorized through a COC Post Certification Submittal.

Facility I.D. Number: FL0000159

IV. Narrative Description of Pollutant Sources:

A. For each outfall, provide an estimate of the area (include units) of impervious surfaces, including paved areas and building roofs, drained to the outfall, and an estimate of the total surface area drained by the outfall.

Outfall No.	Area of Impervious Surface (units)	Total Area Drained (units)	Outfall No.	Area of Impervious Surface (units)	Total Area Drained (units)
HCTS	3.25 Acres	6.02 Acres			

B. Provide a narrative description of significant materials that are currently, or in the past three years have been, treated, stored or disposed in a manner that allows exposure to stormwater; method of treatment, storage, or disposal; past and present materials management practices employed to minimize contact with stormwater runoff; materials loading and access areas; and the location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.

The facility has implemented a BMP which includes stormwater pollution prevention practices. There are no significant materials within this drainage area that will be exposed to stormwater.

C. For each outfall, provide the location and a description of existing structural and nonstructural control measures to reduce pollutants in stormwater runoff; and a description of the treatment the stormwater receives, including the schedule and type of maintenance for control and treatment measures and the ultimate disposal of any solid or fluid wastes other than by discharge.

Outfall No.	Treatment	Table 2F-1 Code
HCTS	The stormwater system will utilize a detention pond that discharges to the site discharge canal through a control structure.	1-V, 4-A

V. Non-stormwater Discharges:

A. I certify under penalty of law that the outfall(s) covered by this application have been tested or evaluated for the presence of non-stormwater discharges, and that all non-stormwater discharges from these outfall(s) are identified in either an accompanying DEP Form 62-620.910(5) or (7) (Forms 2CS or 2ES) application for the outfall.

Name and Official Title (type or print)	Signature	Date Signed
Michael Shrader, Lead Environmental Specialist		9/11/05

B. Provide a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test.

The proposed stormwater system is designed to receive non-contact stormwater only. No non-stormwater discharges will be released through this outfall.

Facility I.D. Number: FL0000159

VI. Significant Leaks or Spills:

Provide existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility in the last three years, including the approximate date and location of the spill or leak, and the type and amount of material released.

N/A

VII. Discharge Information:

A, B, C, & D: See instructions before proceeding. Complete one set of tables for each outfall. Annotate the outfall number in the space provided. Tables VII-A, VII-B, and VII-C are included on separate sheets numbered VII-1 and VII-2.

E. Potential discharges not covered by analysis - is any toxic pollutant listed in Table 2F-2, 2F-3, or 2F-4, a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or by-product?

☐ Yes (list all such pollutants below) ☒ No (go to section VIII)

VIII. Biological Toxicity Testing Data

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☐ Yes (list results below) ☒ No (go to Section IX)

IX. Contract Analysis Information

Were any of the analysis reported in item VII performed by a contract laboratory or consulting firm?

☐ Yes (list the name, address, and telephone number of, and pollutants analyzed by each such laboratory or firm below) ☒ No (go to Section X)

A. Name	B. Address	C. Area Code & Phone No.	D. Pollutants Analyzed

Facility I.D. Number: FL0000159

X-A. CERTIFICATIONS FOR NEW OR MODIFIED FACILITIES

I certify that the engineering features of this pollution control project have been designed by me and found to be in conformity with sound engineering principles, applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules of the Department. It is also agreed that the undersigned, if authorized by the owner, will furnish the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Misty B Day
Signature

MISTY B. DAY
Name (please type):

(Affix Seal)

MESA ASSOCIATES
Company Name:

Address: 10604 MURDOCK DRIVE
KNOXVILLE TN 37772

Florida Registration No.: #69469 / COA #7981

Telephone No.: 865-671-5400

Date: 9/8/09

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Larry Hatcher, Crystal River Fossil Plant Manager
Name & Official Title (type or print)

352-563-4484
Telephone No. (area code & no.)

FOR LARRY HATCHER
Signature

9/10/09
Date Signed

X-B. CERTIFICATIONS FOR PERMIT RENEWALS

I certify that the engineering features of this pollution control project have been examined by me and found to be in conformity with sound engineering principles, applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules of the Department.

Signature

Name (please type):

(Affix Seal)

Company Name:

Address:

Florida Registration No.:

Telephone No.:

Date:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name & Official Title (type or print)

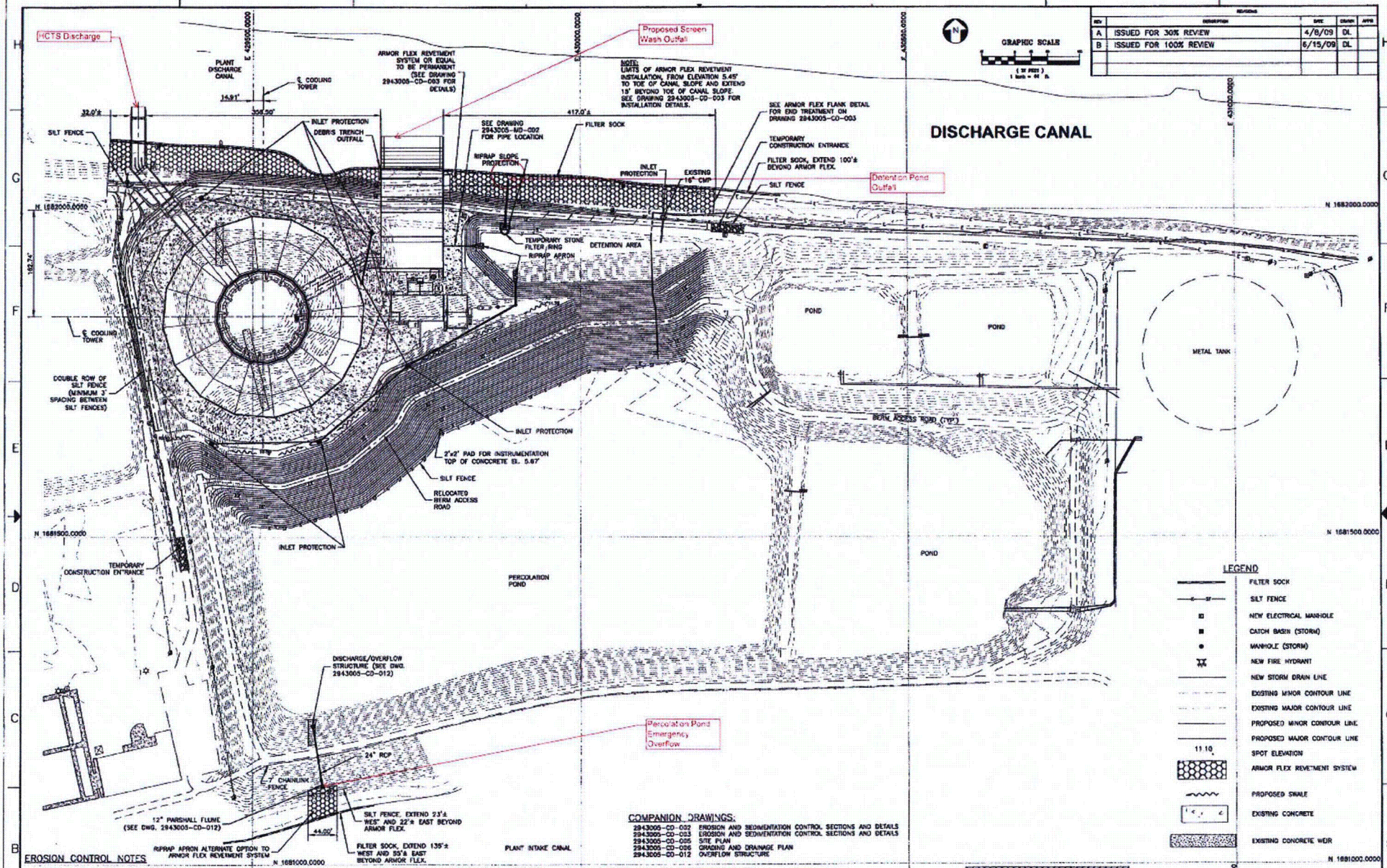
Telephone No. (area code & no.)

Signature

Date Signed

ATTACHMENT 1A - GENERAL LAYOUT AND DISCHARGE LOCATIONS

REV	DESCRIPTION	DATE	DRAWN	APPD
A	ISSUED FOR 30% REVIEW	4/8/09	DL	
B	ISSUED FOR 100% REVIEW	6/15/09	DL	



LEGEND

- FILTER SOCK
- SILT FENCE
- NEW ELECTRICAL MANHOLE
- CATCH BASIN (STORM)
- MANHOLE (STORM)
- NEW FIRE HYDRANT
- NEW STORM DRAIN LINE
- EXISTING MINOR CONTOUR LINE
- EXISTING MAJOR CONTOUR LINE
- PROPOSED MINOR CONTOUR LINE
- PROPOSED MAJOR CONTOUR LINE
- 11.10 SPOT ELEVATION
- ARMOR FLEX REVETMENT SYSTEM
- PROPOSED SWALE
- EXISTING CONCRETE
- EXISTING CONCRETE WEIR

EROSION CONTROL NOTES

1. ALL EROSION CONTROL DEVICES MUST BE INSTALLED PRIOR TO THE FIRST PHASE OF CONSTRUCTION AND WILL REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED.
2. ALL EROSION CONTROL DEVICES WILL BE MAINTAINED AT ALL TIMES THROUGHOUT CONSTRUCTION AND UNTIL PERMANENT GROUND COVER HAS BEEN ESTABLISHED ON ALL DISTURBED AREAS.
3. CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION AND SEDIMENT CONTROL DEVICES IN ACCORDANCE WITH FLORIDA LAND DEVELOPMENT MANUAL.
4. CONTRACTOR SHALL INSPECT SEDIMENT CONTROL STRUCTURES AFTER EACH RAINFALL THAT EXCEEDS 1/4 INCH OF PRECIPITATION IN 24 HOURS OR AT LEAST WEEKLY.
5. APPLY TEMPORARY SEEDING WHENEVER GRADING OPERATIONS ARE TEMPORARILY HALTED FOR OVER 7 DAYS AND FINAL GRADING OF EXPOSED SURFACES ARE TO BE COMPLETED WITHIN ONE YEAR.
6. APPLY TEMPORARY SEEDING TO ALL SOIL STOCKPILES AND INSTALL SILT FENCE AROUND PERIMETER OF STOCKPILE.
7. APPLY PERMANENT SEEDING WHENEVER GRADING OPERATIONS ARE COMPLETED AND CONSTRUCTION OPERATIONS WILL NOT IMPACT THE DISTURBED AREA. APPLY PERMANENT SEEDING TO ALL NON-CONSTRUCTION AREAS WHICH SHOW SIGNS OF EXCESSIVE EROSION.
8. ELECTRICAL LINES TO BE RELOCATED BY OREC.

COMPANION DRAWINGS:

2943005-CD-002	EROSION AND SEDIMENTATION CONTROL SECTIONS AND DETAILS
2943005-CD-003	EROSION AND SEDIMENTATION CONTROL SECTIONS AND DETAILS
2943005-CD-005	SITE PLAN
2943005-CD-006	GRADING AND DRAINAGE PLAN
2943005-CD-012	OVERFLOW STRUCTURE

REFERENCE:

2943005-CR-001	EROSION AND SEDIMENT CONTROL PLAN
2943005-CR-002	BERM CONSTRUCTION SEQUENCE PLAN
2943005-CC-003	STORMWATER RUNOFF AND BASIN VOLUME CALCULATION
2943005-CD-103	PERCOLATION BASIN CAPACITY AND STORAGE CALCULATION
2943005-CD-106	PERCOLATION BASIN DISCHARGE STRUCTURE CALCULATION

100% DESIGN REVIEW

		DATE
DRAWN	D. LYNN	3/25/09
DESIGNED	D. RADLAND	6/15/09
APPROVED		
PROJ ENGR	R. LANNING	
PROJ MGR	T. RANSEY	
USE CLIENT DWG NO	N/A	

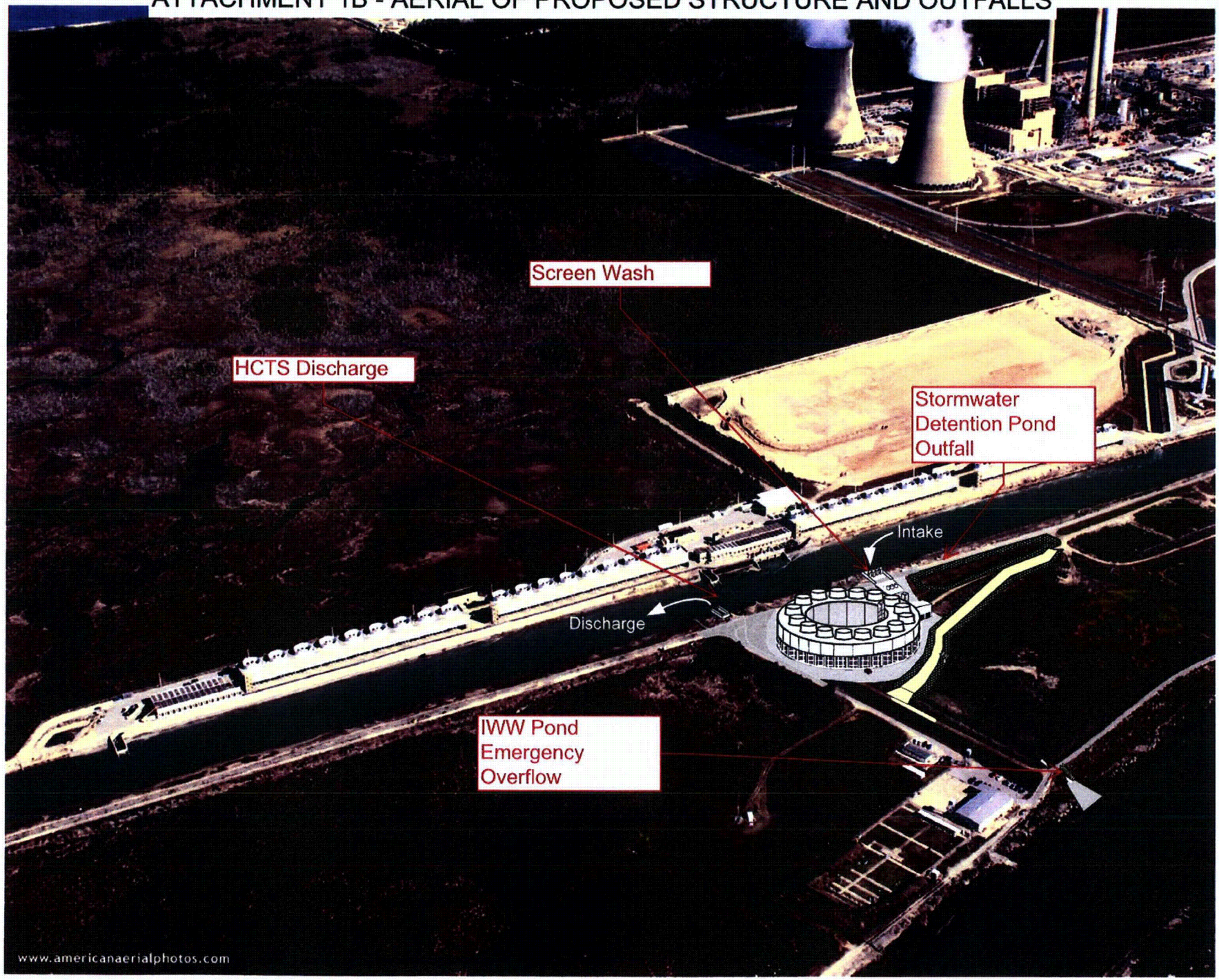
MESA ASSOCIATES, INC.
ENGINEERS AND CONSULTANTS
5300A MARKET OREE PRATVILLE, TN 37801 (865) 971-0484

CREC HELPER COOLING TOWER SOUTH
EROSION AND SEDIMENT CONTROL
PLAN AND NOTES

SIZE	DWG CODE	DWG NO	REV
E		2943005-CD-001	B

SCALE 1"=50' PROJECT NO. 2943005 SHEET 1 OF 1

ATTACHMENT 1B - AERIAL OF PROPOSED STRUCTURE AND OUTFALLS



ATTACHMENT 2

PROPOSED NEW DISCHARGE DESCRIPTION

HCTS

The new Helper Cooling Tower South (HCTS) will have an intake and discharge to the existing Crystal River Site discharge canal. Heated once through cooling water will be removed from the discharge canal via intake pumps. After cooling in the forced draft cooling tower, the water will then be discharged back into the discharge canal via a concrete flume structure. See the attached drawings for structural detail. No pollutants will be added to the discharge as the result of this process. The HCTS is designed for a maximum flow or 460.8 MGD.

- Method of Flow Measurement
  - Flow will be measured by pump curves and timers.

D-0C2R

There currently is a permitted discharge point for the existing permitted industrial waste water (IWW) pond system. This discharge is located after the unused clarification pond and is identified as D-0C2. The clarification pond will be removed and the HCTS will be built on the site. This will necessitate to relocation of D-0C2 to the location shown on Attachment 1 and designated as D-0C2R.

- Method of Flow Measurement
  - The discharge structure will be designed with a calibrated weir, from which an operator can manually read the flow. A control room alarm will let operations know if the pond is nearing an overflow condition.

HCTS Screen Wash

This discharge is produced when the screen wash pumps utilize water from the discharge canal to wash debris from the rotating traveling screens that will be installed to protect the HCTS intake pumps. The screen wash water is collected and conveyed back to the discharge canal.

- Method of Flow Measurement
  - Flow will be measured by pump curves and timers.

HCTS Stormwater Pond

The existing stormwater pond for the area will be enhanced and be designed as a detention pond. There will be intentional bleed off of the stormwater through a internal outfall structure and then through a pipe which discharges to the discharge canal. The pond receives non contact stormwater from impervious surfaces installed as part of HCTS construction. The design of the stormwater system will be reviewed and authorized through a Conditions of Certification – Post Certification Submittal.

- Method of Flow Measurement
  - By calculation if needed.

Attachment 2 (cont.)

Additional Information

2CS IV.D

In the unlikely event of a total power failure, there would be a cessation of discharges.

2CS VII

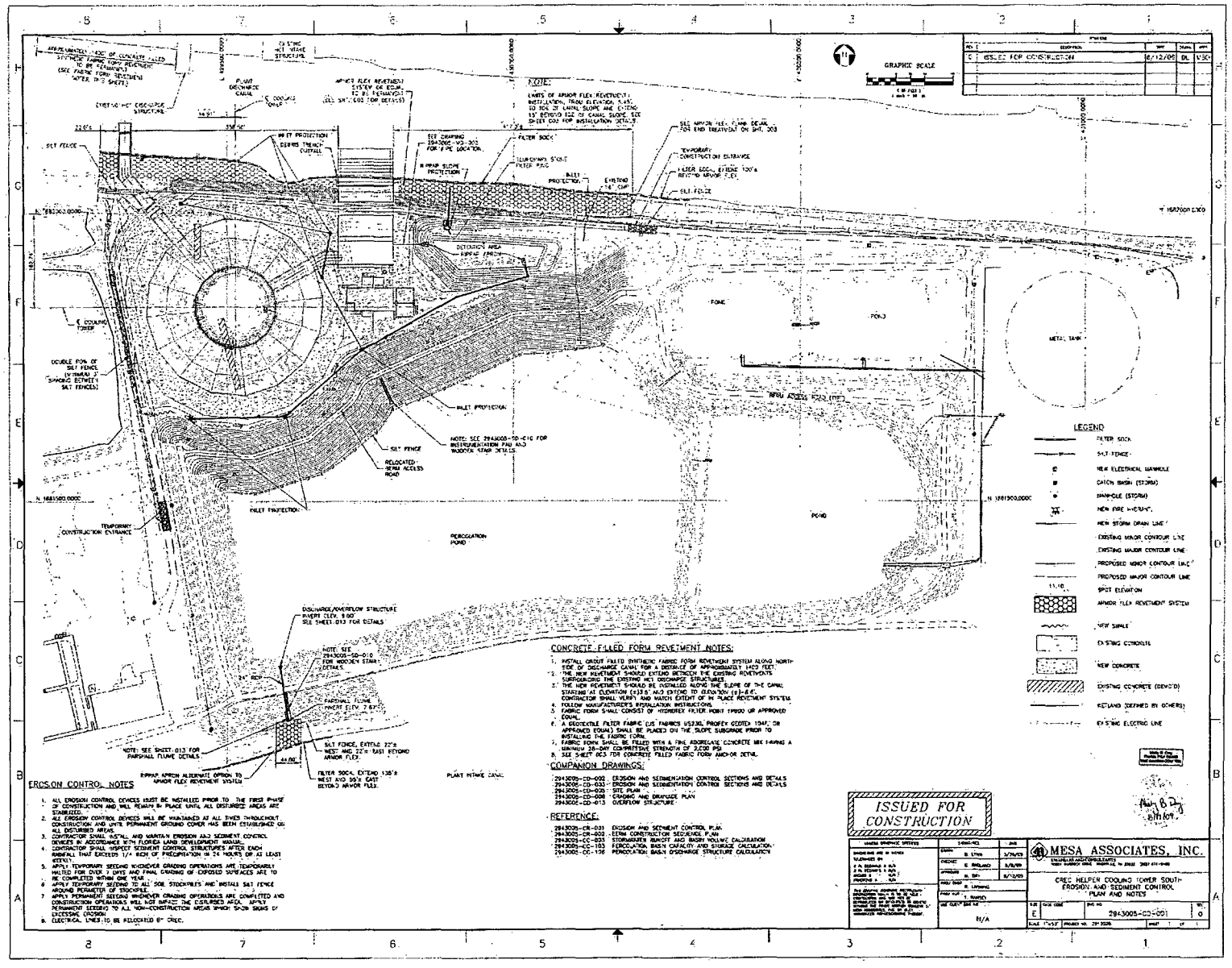
Constituent analysis for HCTS and HCTS Screen Wash discharges are estimates only. Estimates are based on previous analysis of outfall D-011. Neither the HCTS nor the HCTS Screen Wash discharges will introduce additional pollutants in to the receiving water body.

Since D-0C2R is a relocation of an existing outfall and is intended as an emergency outfall to the intake canal only, no 2CS VII form estimates are included.

DRAWINGS

&

PROCESS FLOW DIAGRAMS



EROSION CONTROL NOTES

1. ALL EROSION CONTROL DEVICES MUST BE INSTALLED PRIOR TO THE FIRST PHASE OF CONSTRUCTION AND WILL REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED.
2. ALL EROSION CONTROL DEVICES WILL BE MAINTAINED AT ALL TIMES THROUGHOUT CONSTRUCTION AND UNTIL PERMANENT GROUND COVER HAS BEEN ESTABLISHED ON ALL DISTURBED AREAS.
3. CONTRACTOR SHALL INSTALL AND MAINTAIN EROSION AND SEDIMENT CONTROL DEVICES IN ACCORDANCE WITH FLORIDA LAND DEVELOPMENT MANUAL.
4. CONTRACTOR SHALL INSPECT SEDIMENT CONTROL STRUCTURES AFTER EACH RAINFALL THAT EXCEEDS 1/4 INCH OF PRECIPITATION IN 24 HOURS OR AT LEAST WEEKLY.
5. APPLY TEMPORARY SEEDING WHENEVER GRADING OPERATIONS ARE TEMPORARILY HALTED FOR OVER 7 DAYS AND FINAL GRADING OF EXPOSED SURFACES ARE TO BE COMPLETED WITHIN ONE YEAR.
6. APPLY TEMPORARY SEEDING TO ALL SOIL STOCKPILES AND INSTALL SILT FENCE AROUND PERIMETER OF STOCKPILE.
7. APPLY PERMANENT SEEDING WHENEVER GRADING OPERATIONS ARE COMPLETED AND CONSTRUCTION OPERATIONS WILL NOT IMPACT THE DISTURBED AREA. APPLY PERMANENT SEEDING TO ALL NON-CONSTRUCTION AREAS WHICH SHOW SIGNS OF EXCESSIVE EROSION.
8. ELECTRICAL LINES TO BE RELOCATED 8" CREC.

CONCRETE-FILLED FORM REVETMENT NOTES:

1. INSTALL GROUT FILLED SYNTHETIC FABRIC FORM REVETMENT SYSTEM ALONG NORTH-FOOT OF DISCHARGE CANAL FOR A DISTANCE OF APPROXIMATELY 1400 FEET.
2. THE NEW REVETMENT SHOULD EXTEND BETWEEN THE EXISTING REVETMENTS SURROUNDING THE EXISTING HCI DISCHARGE STRUCTURES.
3. THE NEW REVETMENT SHOULD BE INSTALLED ALONG THE SLOPE OF THE CANAL STARTING AT ELEVATION (+)3.5 AND EXTEND TO ELEVATION (+)-6.6'. CONTRACTOR SHALL VERIFY AND MATCH EXTENT OF IN PLACE REVETMENT SYSTEM.
4. FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS.
5. FABRIC FORM SHALL CONSIST OF HYDROFLEX FILTER POINT TF1000 OR APPROVED EQUAL.
6. A GEOTEXTILE FILTER FABRIC (US FABRICS US330, PROFEX CODED 104F, OR APPROVED EQUAL) SHALL BE PLACED ON THE SLOPE SUBGRADE PRIOR TO INSTALLING THE FABRIC FORM.
7. FABRIC FORM SHALL BE FILLED WITH A FINE AGGREGATE CONCRETE MIX HAVING A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3,000 PSI.
8. SEE SHEET-003 FOR CONCRETE FILLED FABRIC FORM ANCHOR DETAIL.

COMPANION DRAWINGS:

- 2943005-CD-002 - EROSION AND SEDIMENTATION CONTROL SECTIONS AND DETAILS
- 2943005-CD-003 - EROSION AND SEDIMENTATION CONTROL SECTIONS AND DETAILS
- 2943005-CD-020 - SITE PLAN
- 2943005-CD-008 - GRADING AND DRAINAGE PLAN
- 2943005-CD-013 - OVERFLOW STRUCTURE

REFERENCE:

- 2943005-CR-031 - EROSION AND SEDIMENT CONTROL PLAN
- 2943005-CR-002 - TERM CONSTRUCTION SEQUENCE PLAN
- 2943005-CC-003 - STORMWATER RUNOFF AND BASIN VOLUME CALCULATION
- 2943005-CC-103 - PERCOLATION BASIN CAPACITY AND STORAGE CALCULATION
- 2943005-CC-106 - PERCOLATION BASIN DISCHARGE STRUCTURE CALCULATION

CIVIL GENERAL NOTES

A. GENERAL CONSIDERATIONS

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH DRAWINGS AND SPECIFICATIONS.
2. OBTAIN ALL APPLICABLE PERMITS PRIOR TO ANY CONSTRUCTION, DEMOLITION OR ANY LAND DISTURBING ACTIVITIES.
3. LOCATION OF UTILITIES SHOWN ARE APPROXIMATE. SEE NOTES IN SECTION C UTILITY CONSIDERATIONS. ALL FEATURES SHOWN WERE TAKEN FROM A FIELD SURVEY. UNDERGROUND UTILITIES MAY NOT BE SHOWN. THE CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITIES BEFORE STARTING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY INTERFERENCES OR DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.
4. LIMITS OF CONSTRUCTION AND EROSION CONTROL ARE APPROXIMATE.
5. ELEVATIONS & BENCHMARKS SHOWN ARE BASED ON THE GULFWEST SURVEYING, INC. SITE SPECIFIC SURVEY.
6. ALL DISTURBED AREAS NOT RECEIVING STRUCTURES OR PAVEMENT SHALL RECEIVE TOPSOIL AND TURF.
7. ASPHALT MIX DESIGN MUST BE SUBMITTED AND APPROVED BY THE ENGINEER-OF-RECORD.

B. DEMOLITION CONSIDERATIONS:

1. ALONG ALL EDGES WHERE ADJOINING PAVEMENT IS REMOVED, PROVIDE NEAT AND STRAIGHT FULL DEPTH SAW-CUTS OF BEFORE REMOVING PAVEMENT.
2. DISPOSAL OF DEMOLITION DEBRIS SHALL BE IN ACCORDANCE WITH STANDARD PROGRESS ENERGY PROCEDURES AND APPLICABLE FLORIDA STATE LAWS.
3. ALL DEMOLITION WORK SHALL BE PERFORMED IN ACCORDANCE WITH CONTRACTOR PROJECT DEMOLITION PROCEDURES. DEMOLITION PROCEDURES TO BE APPROVED BY OWNER.
4. ITEMS AND FEATURES NOT NOTED TO BE DEMOLISHED MUST BE PRESERVED IN WORKING ORDER DURING ALL PHASES OF CONSTRUCTION.
5. REFER TO ELECTRICAL AND MECHANICAL DRAWINGS FOR DEMOLITION OF EXISTING ELECTRICAL AND COMMUNICATION LINES, MECHANICAL FEATURES, AND ARCHITECTURAL FEATURES.

C. GRADING AND DRAINAGE CONSIDERATIONS:

1. THE CONTRACTOR SHALL OBTAIN AN EXCAVATING/DIGGING PERMIT PRIOR TO INITIATING ANY EXCAVATION OR DEMOLITION.
2. CONTOURS AND ELEVATIONS SHOWN ON THESE DRAWINGS REPRESENT FINISHED GRADES. THE CONTRACTOR SHALL ALLOW FOR PAVEMENT THICKNESS, TOPSOIL THICKNESS, SLABS, ETC. WHEN GRADING TO SUBGRADE.
3. CONTRACTOR SHALL MATCH ALL NEW PAVEMENT FLUSH WITH EXISTING.
4. CONTRACTOR SHALL GRADE ALL DISTURBED AREAS TO ENSURE POSITIVE DRAINAGE TO DRAINAGE STRUCTURES AND DITCHES. NATURAL FLOW OF SURROUNDING WATERS SHALL NOT BE DISTURBED DURING CONSTRUCTION.
5. CONTRACTOR SHALL SEED ALL DISTURBED AREAS WHICH ARE NOT PAVED OR PERMANENTLY STABILIZED. SODDING WILL BE PERFORMED WHEN REQUIRED.
6. COMPACTED FILL RECOMMENDATIONS ARE AS FOLLOWS:
   A. PRIOR TO PLACING FILL THE SITE SHOULD BE CLEARED OF SURFACE VEGETATION, TOP SOIL, AND OTHER DELETERIOUS MATERIAL, INCLUDING ROOTS, ORGANICS, PAVEMENT AND STRUCTURE REMNANTS. CLEARING SHOULD EXTEND A MINIMUM OF 10 FEET BEYOND THE BUILDING FOOTPRINTS AND NEW BERM AND TO A DEPTH NEEDED TO REMOVE DELETERIOUS MATERIAL.
   B. AFTER CLEARING, THE EXPOSED SUBGRADE SHOULD BE PROOF ROLLED TO DETERMINE IF ALL UNSUITABLE MATERIALS HAVE BEEN REMOVED. A GEOTECHNICAL PROFESSIONAL SHALL OBSERVE PROOF ROLLING ACTIVITIES. THE PROOF ROLLING SHOULD CONSIST OF COMPACTION USING A LARGE DIAMETER, HEAVY VIBRATORY DRUM ROLLER. THE VIBRATORY DRUM ROLLER SHALL HAVE A STATIC DRUM WEIGHT OF 8-10 TONS AND BE CAPABLE OF EXERTING A MINIMUM IMPACT FORCE OF 36,000 POUNDS. THE PROOF ROLLING EQUIPMENT SHOULD PERFORM A MINIMUM OF 8 PASSES WITH THE SUCCESSIVE PASSES ALIGNED PERPENDICULAR.
   C. THE NATURAL GROUND, TO A MINIMUM OF 1 FOOT BELOW STRIPPED GRADE, SHOULD BE COMPACTED TO A DRY DENSITY OF AT LEAST 95% OF THE MODIFIED PROCTOR MAXIMUM DENSITY.
   D. FILL SOILS SHOULD CONSIST OF FINE SANDS WITH LESS THAN 12% PASSING THE NO. 200 SIEVE, FREE OF RUBBLE, ORGANICS, CLAY, DEBRIS, AND OTHER UNSUITABLE MATERIAL. THE MATERIAL SHALL ALSO HAVE A MAXIMUM DRY DENSITY OF NO LESS THAN 95 POUNDS PER CUBIC FOOT (PCF).
   E. BEFORE FILLING OPERATIONS ARE SCHEDULED TO BEGIN, THE PROPOSED FILL SHOULD BE TESTED TO DETERMINE IF THE PROPOSED SOIL IS ACCEPTABLE AND FOR QUALITY CONTROL DURING FILL PLACEMENT. TESTING SHOULD INCLUDE MAXIMUM DRY DENSITY, OPTIMUM MOISTURE CONTENT, NATURAL MOISTURE CONTENT, AND PLASTICITY.
   F. FILL SOILS SHOULD BE PLACED IN LOOSE LIFTS NOT EXCEEDING 12 INCHES IN THICKNESS AND SHOULD BE COMPACTED TO A MINIMUM DENSITY OF 95% MODIFIED PROCTOR MAXIMUM DRY DENSITY.
   G. A GEOTECHNICAL ENGINEERING TECHNICIAN SHOULD OBSERVE FILL PLACEMENT AND VERIFY SPECIFIED COMPACTION LEVELS ARE ACHIEVED THROUGH FIELD DENSITY TESTING.
7. IN THE EVENT ANY UNFORESEEN CONDITIONS NOT COVERED BY THESE NOTES ARE ENCOUNTERED DURING GRADING OPERATIONS, THE OWNER OR OWNER'S REPRESENTATIVE SHALL BE IMMEDIATELY NOTIFIED FOR DIRECTION.
8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PERFORM ALL NECESSARY CUTS AND FILLS WITHIN THE LIMITS OF THE PROJECT TO GENERATE THE DESIRED SUBGRADE, FINISH GRADES, AND SLOPES SHOWN.
9. CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ALL EXCAVATION. ADEQUATE SHORING SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR TO PREVENT UNDERMINING OF ANY ADJACENT FEATURES OR FACILITIES AND/OR CAVING OF THE EXCAVATION.
10. CONTRACTOR SHALL GRADE TO THE LINES AND ELEVATIONS SHOWN ON THE PLANS WITHIN THE FOLLOWING HORIZONTAL AND VERTICAL TOLERANCES AND DEGREES OF COMPACTION, IN THE AREAS INDICATED:

	HORIZONTAL	VERTICAL	COMPACTION
A. PAVEMENT AREA SUBGRADE,	0.1'±	+0.1' TO -0.1'	SEE NOTE 6
B. ENGINEERED FILL	0.5'±	+0.1' TO -0.1'	SEE NOTE 6

COMPACTION TESTING WILL BE PERFORMED BY THE OWNER OR HIS REPRESENTATIVE.

11. ALL CUT AND FILL SLOPES SHALL BE PROTECTED UNTIL EFFECTIVE EROSION CONTROL HAS BEEN ESTABLISHED.
12. THE USE OF POTABLE WATER WITHOUT A SPECIAL PERMIT FOR BUILDING OR CONSTRUCTION PURPOSES INCLUDING CONSOLIDATION OF BACKFILL OR DUST CONTROL IS PROHIBITED. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION WATER.
13. THE CONTRACTOR SHALL MAINTAIN CREC ACCESS ROADS WITHIN THE PROJECT AREA IN A CLEAN, SAFE AND USEABLE CONDITION. ALL SPILLS OF SOIL, ROCK OR CONSTRUCTION DEBRIS SHALL BE PROMPTLY REMOVED FROM THE PROPERTY DURING CONSTRUCTION AND UPON COMPLETION OF THE PROJECT.
14. THE EXCAVATION SHALL CONSIST OF THE REMOVAL OF ALL MATERIALS NECESSARY FOR THE CONSTRUCTION OF STORM DRAINS, CULVERT PIPES, OTHER PIPE LINES AND ALL DRAINAGE STRUCTURES, SUCH AS MANHOLES, CATCH BASINS, JUNCTION BOXES, HEAD WALLS, WING WALLS AND CONCRETE COLLARS.
15. EXCAVATION SHALL BE MADE IN OPEN CUTS UNLESS SHOWN OTHERWISE ON THE PLANS. EXCAVATION SHALL BE MADE TO THE LINES AND GRADES SHOWN ON THE PLANS OR ESTABLISHED BY THE ENGINEER-OF-RECORD. THE WIDTH OF TRENCHES SHALL BE SUFFICIENT TO PERMIT SATISFACTORY JOINTING OF THE PIPE AND PERMIT THOROUGH TAMPING AROUND THE PIPE, BUT SHALL NOT EXCEED THE WIDTH SPECIFIED FOR THE CLASS OF BEDDING SPECIFIED. THE BOTTOM OF THE TRENCHES SHALL BE CAREFULLY CUT TO THE REQUIRED GRADE OF THE PIPE EXCEPT WHERE BEDDING MATERIAL OR CRADLES ARE SHOWN, IN WHICH CASE THE EXCAVATION SHALL EXTEND TO THE BOTTOM OF THE BEDDING OR CRADLES AS SHOWN ON THE PLANS. EXCAVATIONS AROUND MANHOLES, CATCH BASINS, JUNCTION BOXES, AND END WALLS SHALL BE SUCH AS TO ALLOW PROPER COMPACTION AROUND THE STRUCTURE.
16. ANY UNSATISFACTORY MATERIAL SHALL BE EXCAVATED BELOW THE GRADES SHOWN ON THE PLANS AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE, AND BACKFILLED WITH BEDDING MATERIAL OR OTHER APPROVED MATERIAL AND COMPACTED.
17. ANY EXCAVATION BELOW THE ELEVATIONS SHOWN ON THE PLANS OTHER THAN FOR UNSUITABLE MATERIAL AS DESIGNATED BY THE ENGINEER-OF-RECORD AND BACKFILLED WITH BEDDING SHALL BE FILLED AT THE CONTRACTOR'S EXPENSE WITH PROPERLY COMPACTED BEDDING MATERIAL OR LEAN CONCRETE.
18. IN ALL CASES WHERE MATERIALS ARE DEPOSITED ALONG OPEN TRENCHES THEY SHALL BE PLACED SO THAT NO DAMAGE WILL RESULT TO THE WORK AND/OR ADJACENT PROPERTY IN CASE OF RAIN OR OTHER SURFACE WASH.

D. UTILITY CONSIDERATIONS:

1. COORDINATE UTILITY INTERRUPTIONS IN ACCORDANCE WITH CREC FACILITIES STAFF. INTERRUPTIONS OF UTILITIES SERVING FACILITIES SURROUNDING THE SITE SHALL BE HELD TO A MINIMUM.
2. THE CONTRACTOR SHALL PROVIDE ALL TEES, PLUGS, AIR VENTS OR SADDLES REQUIRED FOR PRESSURE TESTING OF ANY NEW WATERLINE PIPING AND ASSOCIATED THRUST RESTRAINTS.
3. THE CONTRACTOR SHALL USE SHORING, SHEETING AND LAYBACK, FOR ALL UTILITY CONSTRUCTION, TO ASSURE NOT TO UNDERMINE ANY EXISTING PAVEMENT, UTILITIES AND STRUCTURES THAT ARE NOT CALLED OUT TO BE DEMOLISHED.
4. ALL TRENCHES SHALL BE EXCAVATED AND MAINTAINED TO MEET OSHA 29 CFR PART 1926 SUBPART P-EXCAVATIONS CRITERIA FOR SLOPES OR SHORING AND AS DETAILED AND NOTED HEREWITH.
5. THESE DRAWINGS DENOTE EXISTING UTILITIES, ROUTING, AND LOCATIONS AS MAPPED DURING AN UNDERGROUND SURVEY PERFORMED BY GEOVIEW, APRIL 2009. THIS INFORMATION SHALL ONLY BE CONSIDERED AS APPROXIMATE, AND ANY ENTITY PERFORMING PHYSICAL WORK IN THIS PLANT AREA IS RESPONSIBLE FOR DETERMINING IN-SITU LOCATIONS OF UNDERGROUND UTILITIES.
6. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF THE LOCATION AND ELEVATION OF EXISTING UTILITIES. ALL EXCAVATION AND ASSOCIATED UNDERGROUND CONSTRUCTION WORK MUST BE AUTHORIZED IN WRITING BY CREC PLANT FACILITIES STAFF PRIOR TO THE COMMENCEMENT OF ANY PHYSICAL WORK BY THE CONTRACTOR.
7. ALL EXISTING WATER LINES, UNDERGROUND CONDUITS, TELEPHONE LINES, ELECTRIC LINES, OR OTHER UTILITIES OR STRUCTURES IN THE VICINITY SHALL BE CAREFULLY PROTECTED BY THE CONTRACTOR FROM DAMAGE AT ALL TIMES.
8. CONTRACTOR SHALL COMPLY WITH LOCAL UTILITY REGULATIONS AND STANDARDS PERTAINING TO THE INSTALLATION OF UNDERGROUND UTILITIES.
9. EXISTING ELECTRIC POWER LINES ARE TO BE REROUTED BY CREC PERSONNEL.

PAINT:

1. ALL AREA DRAIN GRATES AND MANHOLE COVERS LOCATED IN PAVED AREAS SHALL BE PAINTED WITH YELLOW TRAFFIC MARKING PAINT CONFORMING TO MPI NO. 97.
2. SEE SHEET 2943005-SD-001 FOR ALL OTHER PAINT SPECIFICATIONS.

COMPANION DRAWING LIST:

2943005-CD-001	EROSION AND SEDIMENT CONTROL PLAN AND NOTES
2943005-CD-002	EROSION AND SEDIMENT CONTROL SECTIONS AND DETAILS
2943005-CD-003	EROSION AND SEDIMENT CONTROL SECTIONS AND DETAILS
2943005-CD-005	SITE PLAN
2943005-CD-006	GRADING AND DRAINAGE PLAN
2943005-CD-007	ROAD PROFILE
2943005-CD-008	STORM SEWER PROFILES
2943005-CD-009	SITE EXCAVATION SECTIONS AND DETAILS
2943005-CD-010	DETENTION AREA SECTIONS AND DETAILS
2943005-CD-011	DETENTION STRUCTURE SECTIONS AND DETAILS
2943005-CD-012	STORM SEWER DETAILS
2943005-CD-013	PERCOLATION POND OVERFLOW STRUCTURE

REFERENCE CALCULATIONS

2943005-CC-003	STORMWATER RUNOFF AND BASIN VOLUME CALCULATION
2943005-CC-103	PERCOLATION BASIN CAPACITY AND STORAGE CALCULATION
2943005-CC-108	PERCOLATION POND DISCHARGE STRUCTURE CALCULATION
2943005-CC-012	MOUNDING CALCULATION

REFERENCE DOCUMENTS

2943005-CR-001	EROSION AND SEDIMENT CONTROL PLAN
2943005-CR-002	BERM CONSTRUCTION SEQUENCE PLAN

CONCRETE:

1. ALL CONCRETE WORK INCLUDING MATERIALS, CONSTRUCTION PROCESSES, WORKMANSHIP, TESTING, QA/QC AND REPAIRS SHALL MEET THE REQUIREMENTS OF ACI 301-99 (SPECIFICATIONS FOR STRUCTURAL CONCRETE), EXCEPT AS MODIFIED BY THE PROJECT SPECIFICATIONS AND/OR DRAWINGS. A COPY OF ACI 301-99 SHALL BE MAINTAINED IN THE CONTRACTOR'S FIELD OFFICE, ALONG WITH THE PROJECT SPECIFICATIONS, FOR READY REFERENCE.
2. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 5000 PSI WITH A 4" SLUMP (+/- 1" TOLERANCE) FOR STRUCTURAL CONCRETE AND 3000 PSI FOR ROADWAY CURB CONCRETE. MAXIMUM WATER/CEMENT RATIO SHALL BE .40 FOR STRUCTURAL CONCRETE AND .50 FOR ROADWAY CURB CONCRETE.
3. PORTLAND CEMENT IN CONCRETE MIX SHALL CONFORM TO ASTM C-150, TYPE II.
4. TO ENHANCE DURABILITY AND MINIMIZE CRACKING, ALL CONCRETE SHALL INCLUDE GROUND GRANULATED BLAST FURNACE SLAG (GGBS) AND/OR FLY ASH (CLASS F) TO A MINIMUM OF 20 PERCENT OF TOTAL CEMENTITIOUS MATERIAL.
5. COARSE AGGREGATE GRADATION SHALL BE IN ACCORDANCE WITH FDOT SECTION 348-2.4. THE LARGEST SIZE MATERIAL (SIZE NO.-67) IS PREFERRED AND CONSIDERATION FOR ENHANCING THE GRADATION BY BLENDING WITH A SMALLER SIZE IS SUGGESTED.
6. A HIGH RANGE WATER-REDUCING ADMIXTURE (HRWRA), ASTM C494 TYPE F (POLYCARBOXYLATE-BASED), SHALL BE USED IN ALL CONCRETE.
7. ENTRAINED AIR SHALL BE 1.0 TO 6.0 PERCENT CONSISTENT WITH FDOT 346-3.1.
8. MAXIMUM CHLORIDE CONTENT SHALL BE 0.40 LB/YD³.
9. IN INSTANCES WHERE PRACTICABLE MEASURES FAIL TO HOLD THE TEMPERATURE OF THE CONCRETE TO 85°F OR UNDER AT TIME OF PLACEMENT, THE WORK SHALL PROCEED IN STRICT ACCORDANCE WITH ACI 305, HOT WEATHER CONCRETING. WHERE CONCRETE TEMPERATURES ARE 86° TO 100°F, CONCRETE WITH PLACEMENT TEMPERATURE EXCEEDING 100°F SHALL BE UNACCEPTABLE.
10. PROPOSED MIX DESIGNS SHALL BE DEVELOPED AND SUBMITTED ALONG WITH SUPPORTING TEST DATA FOR WRITTEN APPROVAL BY THE ENGINEER-OF-RECORD PRIOR TO BEGINNING CONCRETE WORK. INCLUDED SHALL BE DATA ON SLUMPS BOTH BEFORE AND AFTER ADDITION OF THE HRWRA.
11. CONCRETE MIXING OPERATIONS SHALL CONFORM TO ASTM C-94. ALL CONCRETE SHALL BE VIBRATED.
12. TESTING OF CONCRETE SHALL BE PER ACI 301 SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS; MINIMUM THREE STRENGTH TEST FOR EACH 100 CUBIC YARDS EACH DAY OR FROM EACH DAY'S POUR IF LESS THAN 100 CUBIC YARDS, FOR EACH MIX DESIGN. AT LEAST ONE AIR TEST SHALL BE MADE FOR EACH 100 CUBIC YARDS OF CONCRETE, PROVIDED FURTHER THAT NO LESS THAN 2 AIR TEST SHALL BE MADE FOR EACH DAY'S POUR IF LESS THAN 100 CUBIC YARDS, FOR EACH MIX DESIGN. SAMPLING, PREPARATION, STORING, SHIPPING, AND TESTING OF THE CYLINDERS SHALL BE THE RESPONSIBILITY OF AN INDEPENDENT TESTING LABORATORY.
13. ALL REINFORCING BARS, INSERTS, SLEEVES, CONDUITS, WATERSTOPS, ANCHORS, AND OTHER EMBEDDED ITEMS OR RECESSES SHALL BE SECURED IN POSITION PRIOR TO PLACING CONCRETE. LOCATIONS AND SIZES FOR EMBEDDED ITEMS AND RECESSES REQUIRED FOR OTHER DISCIPLINES, BUT SHOWN ON STRUCTURAL DRAWINGS, SHALL BE REGARDED AS APPROXIMATE AND FOR INFORMATION ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING MECHANICAL, PIPING, PLUMBING, HVAC, ELECTRICAL, AND I&C DRAWINGS ALONG WITH PERTINENT VENDOR DRAWINGS FOR REQUIREMENTS ON EMBEDDED ITEMS AND RECESSES, AND OBTAIN A POUR RELEASE FROM THE OWNER'S SITE ENGINEER BEFORE PLACING CONCRETE.
14. GROUT USED SHALL BE CEMENT BASED, NON-SHRINK, NON-METALLIC GROUT. THE GROUT SHALL EXHIBIT NO SHRINKAGE IN ACCORDANCE WITH ASTM C827, "TEST METHOD FOR EARLY VOLUME CHANGE OF CEMENTITIOUS MIXTURES", AND SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5000 PSI (UNLESS NOTED OTHERWISE) WHEN TESTED IN ACCORDANCE WITH ASTM C109, "TEST METHOD FOR COMPRESSIVE STRENGTH OF HYDRAULIC CEMENT MORTARS".

CONCRETE REINFORCING STEEL:

1. REINFORCING BARS SHALL CONFORM TO MATERIAL REQUIREMENTS OF ASTM A615, GRADE 60, UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO MATERIAL REQUIREMENTS OF ASTM A185, UNLESS NOTED OTHERWISE.
2. DETAILING OF CONCRETE REINFORCEMENT SHALL BE IN ACCORDANCE WITH THE ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, AND ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.
3. REINFORCING BARS SHALL BE FREE OF RUST, GREASE, OR OTHER MATERIALS THAT COULD LIKELY IMPAIR THEIR BONDING ABILITY TO CONCRETE. ALL REINFORCING BAR BENDS SHALL BE MADE COLD. REINFORCING BARS SHALL NOT BE HEATED OR WELDED.
4. PROVIDE THE FOLLOWING MINIMUM CONCRETE COVER FOR REINFORCEMENT BASED ON THE USE OF #57 STONE AGGREGATE SIZE IN THE CONCRETE MIX DESIGN, UNLESS NOTED OTHERWISE ON SPECIFIC DRAWING DETAILS:

CONC. SUBMERGED OR EXPOSED TO MARINE ATMOSPHERE	2.5"
CONC. IN SPLASH ZONE OR EXPOSED TO SEAWATER SPRAY	3.0"
CONC. CAST AGAINST EARTH	3.0"

STIRRUPS MAY HAVE 0.5" LESS COVER THAN THE MINIMUM FOR REINFORCEMENT.

5. DEVELOPMENT LENGTH AND SPLICES OF REINFORCING BARS SHALL CONFORM TO REQUIREMENTS OF ACI 318, CLASS B TENSION LAPS.
6. WELDED WIRE FABRIC SHALL LAP A MINIMUM OF 8" AND BE SECURELY WIRED AT EACH SIDE AND END.
7. WHERE REINFORCING IS SHOWN CONTINUOUS THROUGH CONSTRUCTION JOINTS, MECHANICAL BAR SPLICE DEVICES MAY BE USED. SIZES AND TYPES SHALL BE SELECTED TO DEVELOP THE FULL TENSION STRENGTH OF THE BAR, AND SUBMITTED TO THE ENGINEER-OF-RECORD FOR APPROVAL PRIOR TO FABRICATION.
8. REINFORCING STEEL SHALL BE STORED ABOVE GROUND ON PLATFORMS, SKIDS, OR RACKS, AND PROTECTED FROM PROLONGED EXPOSURE TO WEATHER.
9. POSITION OF REINFORCING STEEL HAS PRIORITY OVER CONDUIT, DUCT WORK, OR PIPING. LARGE OPENINGS REQUIRED FOR CERTAIN SERVICES SHALL BE SPECIALLY DESIGNED.
10. PLACING TOLERANCES FOR THE REINFORCING STEEL SHALL NOT BE MORE THAN 1/2 OF AN INCH FOR STRUCTURAL SLABS AND 1/2 OF AN INCH FOR OTHER MEMBERS SUCH AS BEAMS, WALLS, ETC. WELDED WIRE MESH SHALL BE PLACED AT 2/5 OF THE SLAB THICKNESS FROM THE BOTTOM OF THE SLAB UNLESS SPECIFIED OTHERWISE ON THE DRAWINGS.

REV	DESCRIPTION	DATE	DRAWN	APPR
0	ISSUED FOR CONSTRUCTION	06/12/09	JAW	MRD

LEGEND

- FILTER SOCK
- SILT FENCE
- CB ■ CATCH BASIN (STORM)
- MANHOLE (STORM)
- NEW FIRE HYDRANT
- E NEW ELECTRICAL MANHOLE
- NEW STORM DRAIN LINE
- EXISTING MINOR CONTOUR LINE
- EXISTING MAJOR CONTOUR LINE
- PROPOSED MINOR CONTOUR LINE
- PROPOSED MAJOR CONTOUR LINE
- EXISTING ELECTRIC LINE
- EXISTING POWER POLE
- PROPOSED POWER POLE
- 11.10 SPOT ELEVATION
- PROPOSED SWALE
- (18) PROPOSED COORDINATE POINT NUMBER
- EXISTING CONCRETE
- PROPOSED CONCRETE
- EXISTING CONCRETE (DEMO'D)
- WETLAND

ABBREVIATIONS:

AASHTO	= THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
A.D.	= ALGEBRAIC DIFFERENCE IN GRADES
APPROX	= APPROXIMATELY
ASTM	= AMERICAN SOCIETY OF TESTING AND MATERIALS
BLDG	= BUILDING
CMP	= CORRUGATED METAL PIPE
CONC.	= CONCRETE
CY	= CUBIC YARD
Δ	= DELTA
DIA	= DIAMETER
DWG.	= DRAWING
E	= EAST
ELEV	= ELEVATION
EP	= ELECTRIC POWER UTILITY LINES
EXIST.	= EXISTING
FDN	= FOUNDATION
F.F.E.	= FINISHED FLOOR ELEVATION
FRP	= FIBERGLASS REINFORCED PLASTIC
FT.	= FEET
FW	= FIRE WATER
GA	= GAUGE
GAS	= NATURAL GAS UTILITY LINES
HDPE	= HIGH DENSITY POLYETHYLENE PIPE MATERIAL
H.P.	= HIGH POINT
INV.	= INVERT ELEVATION
IN.	= INCHES
K	= VERTICAL CURVE CONSTANT BASED ON DESIGN SPEED
L.P.	= LOW POINT
MAX.	= MAXIMUM
MIN.	= MINIMUM
MISC.	= MISCELLANEOUS
N	= NORTH
N.T.S.	= NOT TO SCALE
OSHA	= OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PC	= POINT OF CURVATURE
PI	= POINT OF INTERSECTION
PT	= POINT OF TANGENCY
P.V.C.	= POLYVINYL CHLORIDE PIPE MATERIAL
PVC	= POINT OF VERTICAL CURVATURE
PVI	= POINT OF VERTICAL INTERSECTION
PVT	= POINT OF VERTICAL TANGENCY
RCP	= REINFORCED CONCRETE PIPE
SIM.	= SIMILAR
SS	= SANITARY SEWER
SQ. FT.	= SQUARE FEET
STA	= STATION
STD	= STANDARD
TYP.	= TYPICAL
UG	= UNDERGROUND
UNO	= UNLESS NOTED OTHERWISE
VC	= VERTICAL CURVE
WSY	= WATER SUPPLY UTILITY LINES
W/	= WITH
W.S.	= WATERSTOP
YD	= YARD

ISSUED FOR CONSTRUCTION

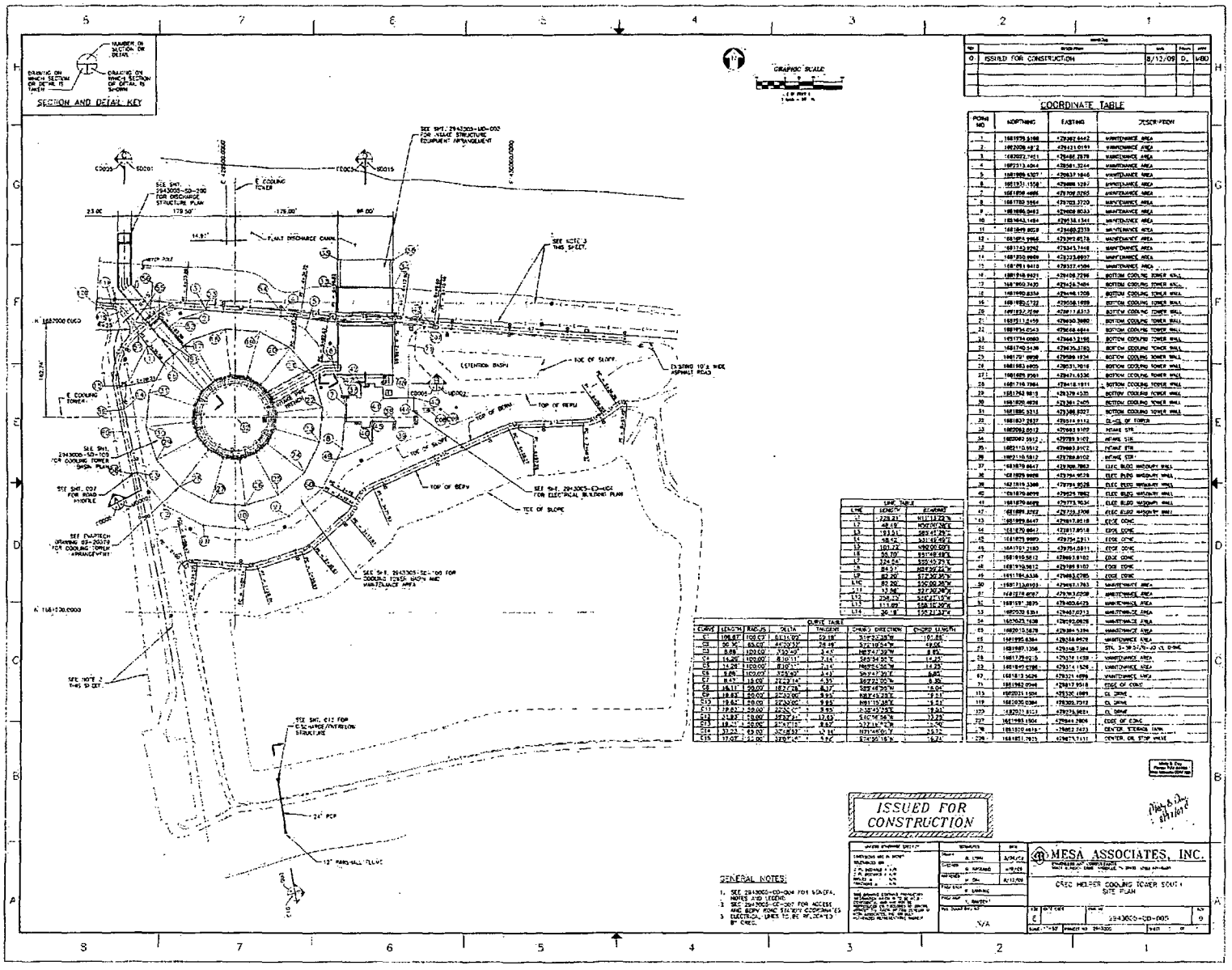
MESA ASSOCIATES, INC.
ENGINEERS AND CONSULTANTS

CREC HELPER COOLING TOWER SOUTH
CIVIL SITE GENERAL NOTES

SIZE	DWG NO	REV
E	2943005-CD-004	0

SCALE: NONE | PROJECT NO: 2943005 | SHEET 1 OF 1

N/A



REV	REVISION	DATE	PREPD	APPD
0	ISSUED FOR CONSTRUCTION	8/12/09	DL	WBD

COORDINATE TABLE

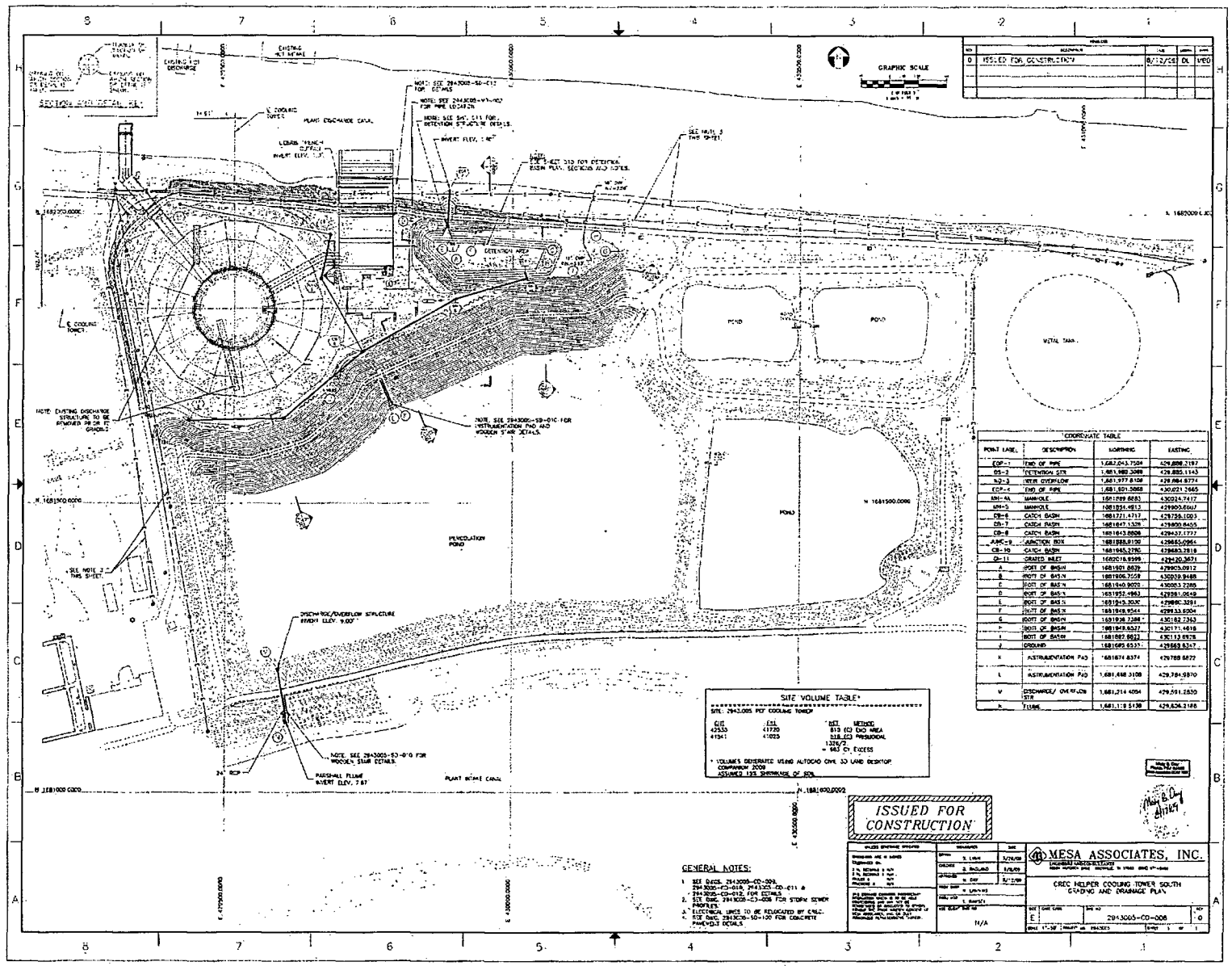
POINT NO	NORTHING	EASTING	DESCRIPTION
1	1681979.3188	429867.6442	MAINTENANCE AREA
2	1682008.4812	429431.0191	MAINTENANCE AREA
3	1682072.7451	429486.2878	MAINTENANCE AREA
4	1682313.4064	429561.3244	MAINTENANCE AREA
5	1681999.5307	429637.1846	MAINTENANCE AREA
6	1681931.1558	429888.1287	MAINTENANCE AREA
7	1681898.4486	429708.0765	MAINTENANCE AREA
8	1681782.3554	429703.2720	MAINTENANCE AREA
9	1681696.0483	429600.8033	MAINTENANCE AREA
10	1681443.1484	429516.1341	MAINTENANCE AREA
11	1681349.8019	429480.2339	MAINTENANCE AREA
12	1681354.9966	429393.8578	MAINTENANCE AREA
13	1681742.9292	429345.7448	MAINTENANCE AREA
14	1681850.8969	429373.8907	MAINTENANCE AREA
15	1681751.9418	429337.4584	MAINTENANCE AREA
16	1681948.9921	429408.7296	BOTTOM COOLING TOWER WALL
17	1681950.7430	429426.7484	BOTTOM COOLING TOWER WALL
18	1681949.8334	429446.1208	BOTTOM COOLING TOWER WALL
19	1681952.2722	429558.1959	BOTTOM COOLING TOWER WALL
20	1681952.7298	429611.8313	BOTTOM COOLING TOWER WALL
21	1681911.1459	429630.3880	BOTTOM COOLING TOWER WALL
22	1681934.4543	429668.4844	BOTTOM COOLING TOWER WALL
23	1681774.0080	429663.2198	BOTTOM COOLING TOWER WALL
24	1681740.5438	429635.3183	BOTTOM COOLING TOWER WALL
25	1681731.8908	429589.1834	BOTTOM COOLING TOWER WALL
26	1681683.8955	429531.7618	BOTTOM COOLING TOWER WALL
27	1681629.8261	429471.6536	BOTTOM COOLING TOWER WALL
28	1681716.7984	429418.1811	BOTTOM COOLING TOWER WALL
29	1681753.9813	429379.4535	BOTTOM COOLING TOWER WALL
30	1681835.4878	429384.2405	BOTTOM COOLING TOWER WALL
31	1681886.9313	429348.8907	BOTTOM COOLING TOWER WALL
32	1681837.2637	429314.9112	CL-CL OF TOWER
33	1682062.0012	429963.9102	HOME STR.
34	1682062.0012	429789.9102	HOME STR.
35	1682110.0012	429963.9102	HOME STR.
36	1682110.0012	429789.9102	HOME STR.
37	1681979.8647	429709.7863	ELEC BLDG MASONRY WALL
38	1681929.9908	429794.9528	ELEC BLDG MASONRY WALL
39	1681919.3388	429794.9528	ELEC BLDG MASONRY WALL
40	1681879.8899	429624.7882	ELEC BLDG MASONRY WALL
41	1681879.8899	429773.9634	ELEC BLDG MASONRY WALL
42	1681889.3292	429733.3706	ELEC BLDG MASONRY WALL
43	1681889.8447	429817.8518	EDGE CONC
44	1681870.8647	429817.8518	EDGE CONC
45	1681870.8899	429754.2811	EDGE CONC
46	1681731.2180	429754.8811	EDGE CONC
47	1681910.5812	429963.9102	EDGE CONC
48	1681910.5812	429789.9102	EDGE CONC
49	1681784.6336	429963.2785	EDGE CONC
50	1681713.8193	429963.3783	MAINTENANCE AREA
51	1681218.4257	429963.2098	MAINTENANCE AREA
52	1681181.3875	429403.6435	MAINTENANCE AREA
53	1680939.6351	429467.0313	MAINTENANCE AREA
54	1680923.1838	429492.0828	MAINTENANCE AREA
55	1680910.5879	429384.5394	MAINTENANCE AREA
56	1681395.6364	429384.8928	MAINTENANCE AREA
57	1681887.1356	429348.7384	STA. 3+39.57/R-40 CL DRIVE
58	1681729.6215	429339.1438	MAINTENANCE AREA
59	1681897.5788	429314.1526	MAINTENANCE AREA
60	1681812.5426	429321.4899	MAINTENANCE AREA
71	1681962.2946	429437.9918	EDGE OF CONC
113	1682021.1504	429330.1889	CL DRIVE
119	1682030.0384	429303.7312	CL DRIVE
120	1682021.8131	429274.9031	CL DRIVE
123	1681993.1904	429944.2906	EDGE OF CONC
124	1681910.4418	429862.7433	CENTER, EXTENDED TANK
125	1681851.7975	429873.7137	CENTER, OIL STOP VALVE

LINE TABLE

LINE	LENGTH	BEARING
L1	228.21'	N11°13'24"W
L2	48.18'	N00°00'00"E
L3	19.33'	S89°41'29"
L4	58.12'	S31°49'49"E
L5	101.72'	N90°00'00"E
L6	55.70'	S51°48'48"E
L7	124.54'	S35°55'29"E
L8	84.37'	N24°02'22"W
L9	82.20'	S12°30'30"W
L10	57.70'	S50°00'30"W
L11	13.38'	S27°30'30"W
L12	236.13'	S16°41'19"W
L13	113.69'	S58°16'30"W
L14	36.18'	S55°21'34"W

CURVE TABLE

CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD DIRECTION	CHORD LENGTH
C1	106.87'	100.00'	61°14'02"	59.18'	S19°32'28"W	101.86'
C2	90.30'	65.00'	47°09'37"	48.48'	S22°18'24"W	88.00'
C3	8.89'	100.00'	5°02'07"	4.45'	N63°47'39"W	8.89'
C4	14.26'	100.00'	8°10'11"	7.14'	S65°54'50"E	14.25'
C5	14.26'	100.00'	8°10'11"	7.14'	N65°54'50"W	14.25'
C6	8.89'	100.00'	5°02'07"	4.45'	S63°47'39"E	8.89'
C7	8.47'	15.00'	32°33'14"	4.35'	S62°21'30"W	8.36'
C8	16.11'	20.00'	46°12'28"	8.57'	S69°46'55"W	15.64'
C9	18.83'	20.00'	53°56'06"	9.93'	N88°45'23"E	18.15'
C10	19.62'	20.00'	56°20'00"	10.68'	N81°15'55"E	18.83'
C11	19.62'	20.00'	56°20'00"	10.68'	S25°45'55"W	18.83'
C12	21.87'	20.00'	62°37'21"	12.43'	S16°04'56"E	20.79'
C13	18.31'	20.00'	52°43'15"	9.87'	S27°18'42"W	17.67'
C14	37.23'	63.00'	33°51'33"	19.16'	S71°45'07"E	36.70'
C15	37.07'	62.00'	34°15'14"	19.07'	S74°30'18"E	36.51'



NO.	REVISION	DATE	DRWN	APPR
0	ISSUED FOR CONSTRUCTION	8/12/08	DL	VED

COORDINATE TABLE

POINT LABEL	DESCRIPTION	NORTHING	EASTING
CDP-1	END OF PIPE	1,682,043.7504	429,898.2197
DS-2	DETENTION STR	1,681,980.3089	429,885.1143
SO-3	RIVER OVERFLOW	1,681,977.8108	429,884.8774
CDP-4	END OF PIPE	1,681,801.3868	430,021.2465
MH-MA	MANHOLE	1681289.8683	430014.7417
MH-5	MANHOLE	1681054.4813	429905.6607
CB-6	CATCH BASIN	1681721.4717	429755.1003
CB-7	CATCH BASIN	1681847.1328	429800.8455
CB-8	CATCH BASIN	1681843.8806	429837.1777
JBC-9	JUNCTION BOX	1681888.8100	429865.0964
CB-10	CATCH BASIN	1681945.2780	429883.2818
GI-11	GRATED INLET	1682018.9599	429420.3671
A	FOOT OF BASIN	1681901.8639	429903.0912
B	FOOT OF BASIN	1681906.7059	430039.9488
C	FOOT OF BASIN	1681940.9020	430083.2285
D	FOOT OF BASIN	1681953.4963	429981.0549
E	FOOT OF BASIN	1681943.3006	429880.3291
F	FOOT OF BASIN	1681958.9544	429933.6904
G	FOOT OF BASIN	1681938.3388	430182.7363
H	FOOT OF BASIN	1681849.6527	430171.4618
I	FOOT OF BASIN	1681882.6623	430113.6878
J	GROUND	1681095.8331	429868.5267
K	INSTRUMENTATION PAD	1681874.8374	429788.8872
L	INSTRUMENTATION PAD	1,681,448.3108	429,784.9870
M	DISCHARGE/ OVERFLOW STR	1,681,214.4054	429,591.2830
N	FLUME	1,681,118.5138	429,604.3188

SITE VOLUME TABLE*

SITE: 2943.005 PDF COOLING TOWER

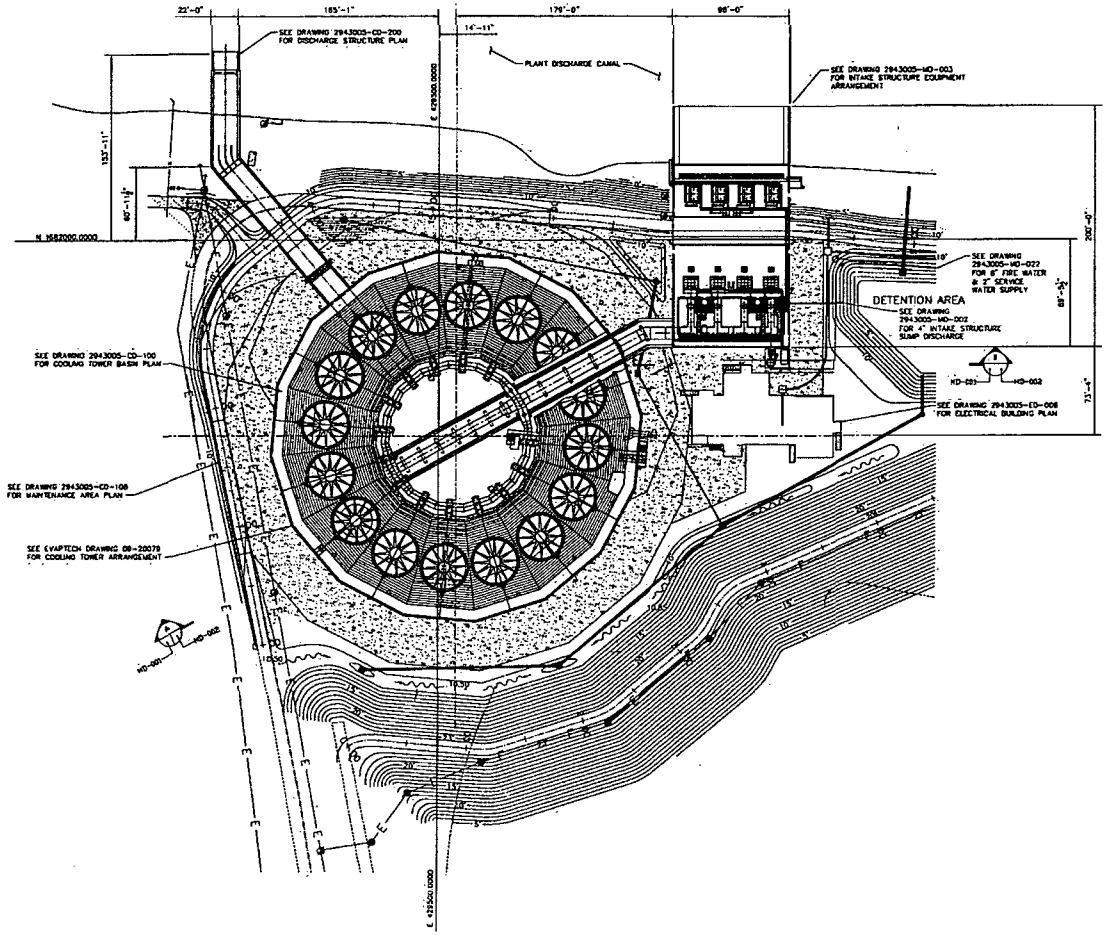
CUT	FILL	NET	METHOD
42533	41720	813 (C)	CKD AREA
41341	41023	318 (C)	PRISMOIDAL
		1326/2	
		= 663 CY EXCESS	

* VOLUME'S DERIVATED USING AUTOCAD CIVIL 3D LAND DESKTOP COMPANION 2008
ASSUMED 15% SHRINKAGE OF SOIL

GENERAL NOTES:

1. SEE DWGS. 2943005-CD-009, 2943005-CD-010, 2943005-CD-011 & 2943005-CD-012, FOR DETAILS
2. SEE DWG. 2943005-CD-006 FOR STORM SEWER PROFILES.
3. ELECTRICAL LINES TO BE RELOCATED BY CREC.
4. SEE DWG. 2943005-SD-100 FOR CONCRETE PAVEMENT DETAILS.

REV	DESCRIPTION	DATE	DRAWN	APPR
A	ISSUED FOR INFORMATION	6/12/09	JAF	
B	ISSUED FOR 60% REVIEW	6/24/09	JAF	
C	ISSUED FOR PERMIT	8/6/09	JEB	



OVERALL SITE PLAN

COMPANION DRAWING LIST

2943005-MD-002 OVERALL SITE PLAN SECTIONS
2943005-MD-003 INTAKE STRUCTURE EQUIPMENT ARRANGEMENT PLAN VIEW AT ELEVATION 11'-6"
2943005-MD-004 INTAKE STRUCTURE EQUIPMENT ARRANGEMENT PLAN VIEW AT ELEVATION 9'-6"
2943005-MD-005 INTAKE STRUCTURE EQUIPMENT ARRANGEMENT SECTIONS
2943005-MD-006 COOLING TOWER DISTRIBUTION HEADER, DETAIL AND SECTIONS
2943005-MD-007 INTAKE STRUCTURE PIPING ARRANGEMENT PLAN VIEW AT ELEVATION 11'-6"
2943005-MD-008 INTAKE STRUCTURE PARTIAL PLAN 1
2943005-MD-009 INTAKE STRUCTURE PARTIAL PLAN 2
2943005-MD-010 INTAKE STRUCTURE PARTIAL PLAN 3
2943005-MD-011 INTAKE STRUCTURE PARTIAL PLAN 4
2943005-MD-012 INTAKE STRUCTURE PIPING SECTION
2943005-MD-013 INTAKE STRUCTURE PIPING SECTION
2943005-MD-014 INTAKE STRUCTURE PIPING SECTION
2943005-MD-015 INTAKE STRUCTURE PIPING SECTION
2943005-MD-016 TANK DATA SHEET
2943005-MD-017 INTAKE PUMP DISCHARGE SPOOL DATA SHEET
2943005-MD-018 INTAKE STRUCTURE PIPING SUPPORTS
2943005-MD-019 INTAKE STRUCTURE PIPING SUPPORTS
2943005-MD-022 INTAKE STRUCTURE UNDERGROUND UTILITIES SITE PLAN
2943005-MD-023 INTAKE STRUCTURE UNDERGROUND UTILITIES SECTION DETAILS
2943005-MD-024 HVAC SYSTEM GENERAL LAYOUT
2943005-MD-025 HVAC SYSTEM DETAILS, NOTES AND BOM
2943005-MD-026 HVAC SYSTEM NOTES AND BOM

MECHANICAL SPECIFICATIONS

2943005-MS-001 INTAKE PUMP SPECIFICATION
2943005-MS-002 TRAVELING SCREEN SPECIFICATION
2943005-MS-003 FRP PIPING SPECIFICATION
2943005-MS-005 VALVE SPECIFICATION (LARGE BORE)
2943005-MS-006 HORIZONTAL CENTRIFUGAL PUMP SPECIFICATION
2943005-MS-007 VACUUM PRIMING SPECIFICATION
2943005-MS-008 PROJECT PIPE SPECIFICATION

MECHANICAL CALCULATIONS

2943005-MC-001 DISCHARGE CANAL STUDY/CALCULATION
2943005-MC-002 INTAKE STRUCTURE CALCULATION
2943005-MC-003 INTAKE LIFT PUMP CALCULATION – PRELIMINARY
2943005-MC-004 INTAKE LIFT PUMP CALCULATION – FINAL
2943005-MC-005 SCREEN WASH/PRIMING PUMP CALCULATION
2943005-MC-006 INTAKE STRUCTURE LARGE BORE PIPE STRESS CALCULATION
2943005-MC-007 LINE SIZING CALCULATION
2943005-MC-008 BUILDING HEAT LOAD CALCULATION

MECHANICAL COMPONENTS

2943005-MF-001 MOTOR LIST
2943005-MF-002 PIPE LINE LIST
2943005-MF-003 VALVE LIST
2943005-MF-004 FUNCTIONAL SPECIFICATION

NOT FOR CONSTRUCTION FOR PERMIT APPLICATION ONLY

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON
3 PL DECIMALS ± .005
2 PL DECIMALS ± .010
FRACTIONS ± 1/32
THIS DRAWING CONTAINS PROPRIETARY INFORMATION WHICH IS TO BE HELD CONFIDENTIAL AND SHALL NOT BE REPRODUCED OR DISCLOSED TO OTHERS WITHOUT THE PRIOR WRITTEN CONSENT OF MESA ASSOCIATES, INC. OF SELF HARBINGER REPRESENTATIVE PRIOR

CONTRACT	DATE
DRAWN J. FRANKLIN	12/28/09
CHECKED	
APPROVED	
PROJ ENGR S. LANDING	
PROJ MGR T. BARTLEY	
SEE PLOT SHEET FOR	N/A

MESA ASSOCIATES, INC.
ENGINEERS AND CONSULTANTS
NASHVILLE, TENNESSEE

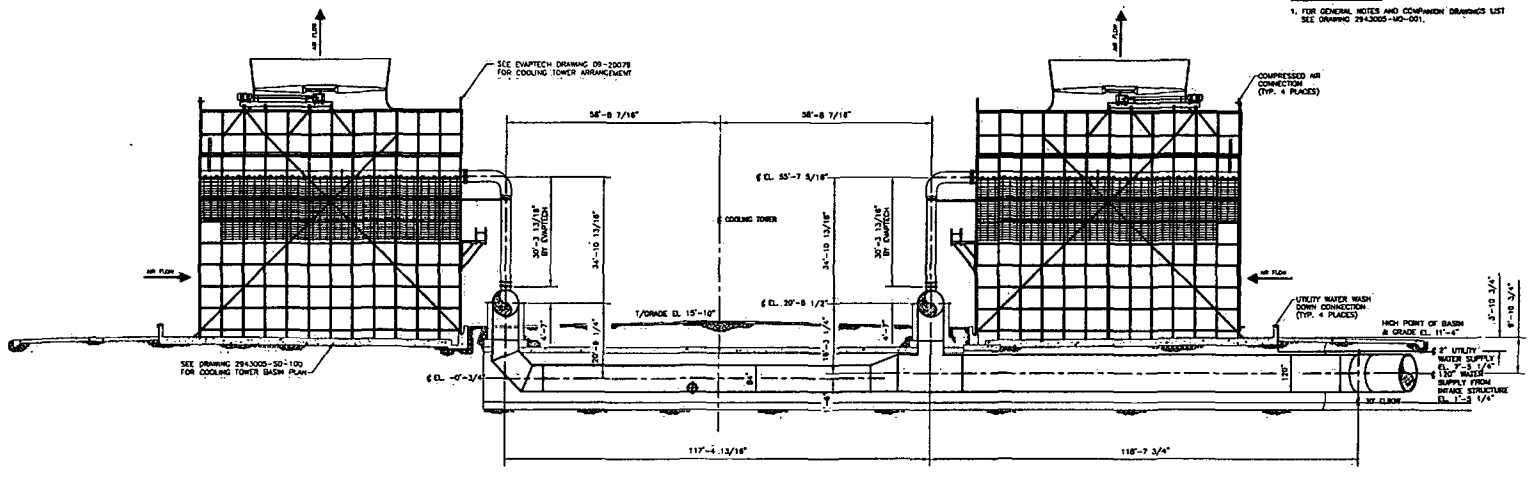
CREC HELPER COOLING TOWER SOUTH
OVERALL SITE PLAN

SIZE E | CAGE CODE | DWG NO 2943005-MD-001 | REV C
SCALE 1/32"=1" | PROJECT NO. 2943005 | SHEET 1 OF 1

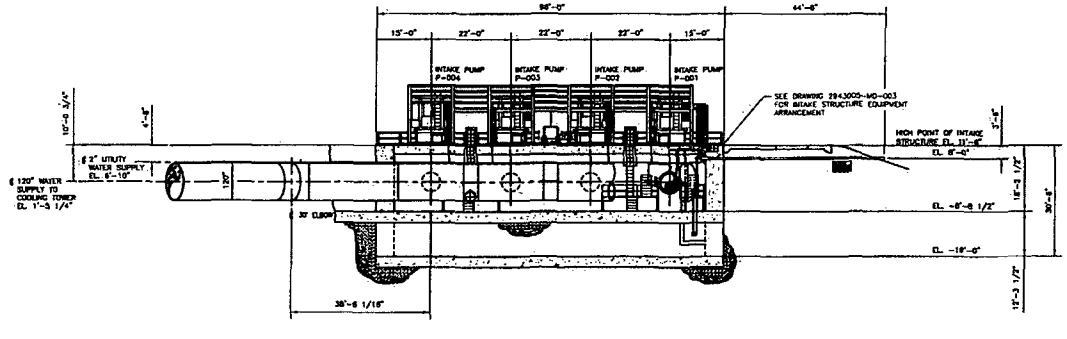
REV	DESCRIPTION	DATE	DRWN	APPR
A	ISSUED FOR 30% REVIEW	4/8/09	JMF	
B	ISSUED FOR BID (GENERAL REVISION)	5/4/09	JMF	
C	ISSUED FOR INFORMATION	5/12/09	JMF	
D	ISSUED FOR 60% REVIEW	5/24/09	JMF	
E	ISSUED FOR PERMIT	9-8-09	JEB	

GENERAL NOTES:

1. FOR GENERAL NOTES AND COMPANION DRAWINGS LIST SEE DRAWING 2943005-MD-001.



SECTION A
MD-001 MD-002



SECTION B
MD-001 MD-002

NOT FOR CONSTRUCTION FOR PERMIT APPLICATION ONLY

MESA ASSOCIATES, INC.

CREC HELPER COOLING TOWER SOUTH
OVERALL SITE PLAN
SECTIONS

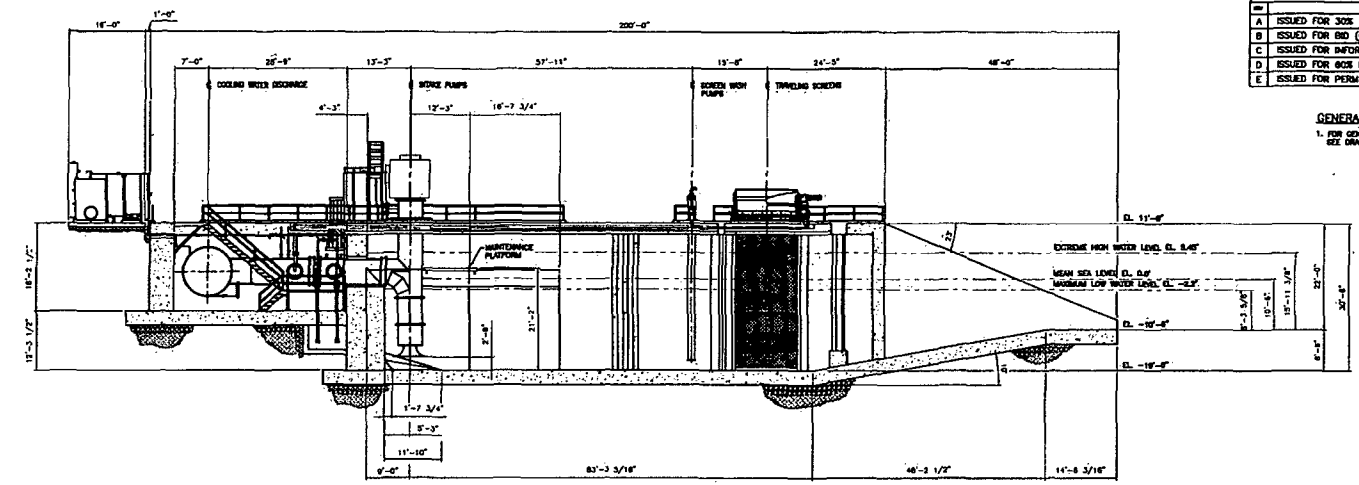
E | 2943005-MD-002 | E

N/A

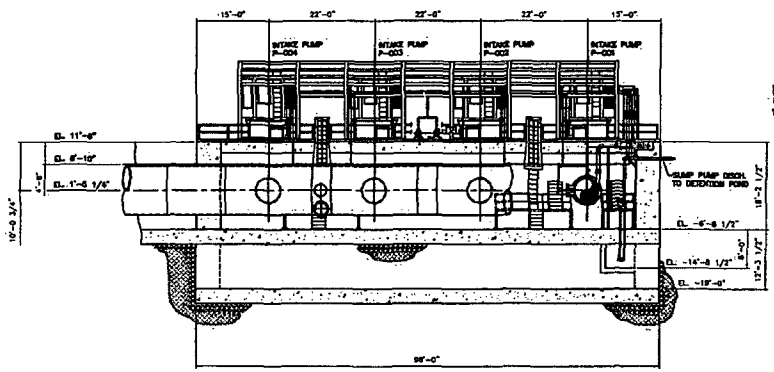
REV	DESCRIPTION	DATE	DRAWN	APPR
A	ISSUED FOR 30% REVIEW	4/8/09	JMF	
B	ISSUED FOR BID (GENERAL REVISION)	5/4/09	JMF	
C	ISSUED FOR INFORMATION	5/12/09	JMF	
D	ISSUED FOR 60% REVIEW	5/24/09	JMF	
E	ISSUED FOR PERMIT	6/6/09	JEB	

GENERAL NOTES:

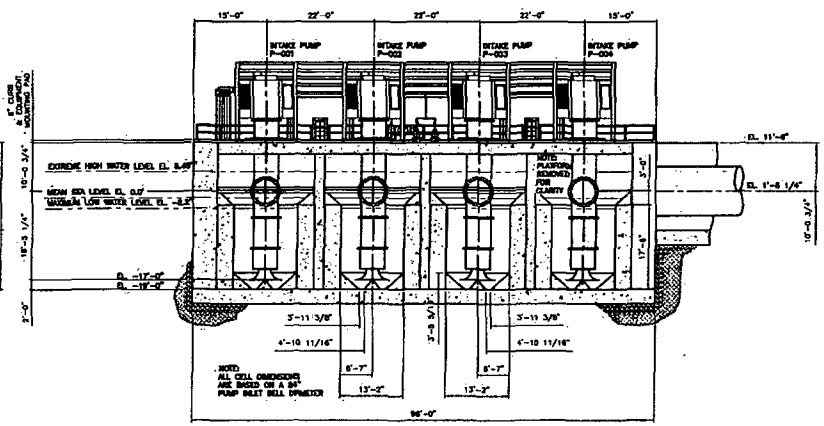
1. FOR GENERAL NOTES AND COMPANION DRAWINGS LIST SEE DRAWING 2943005-MD-001.



SECTION A (MD-003, MD-004, MD-005)



SECTION B (MD-003, MD-004, MD-005)



SECTION C (MD-003, MD-004, MD-005)

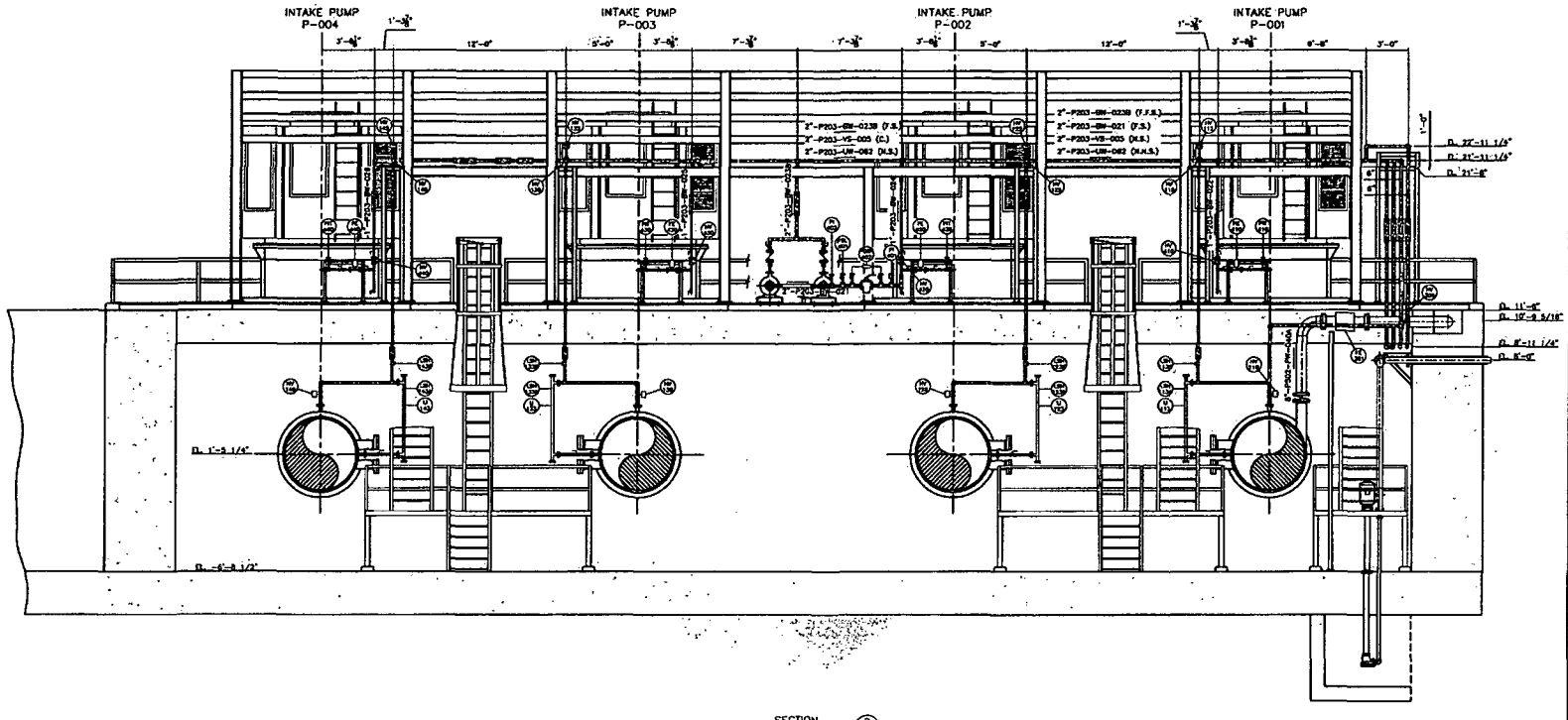
NOT FOR CONSTRUCTION FOR PERMIT APPLICATION ONLY

MESA ASSOCIATES, INC.

CREC HELPER COOLING TOWER SOUTH
INTAKE STRUCTURE EQUIPMENT ARRANGEMENT
SECTIONS

E | 2943005-MD-005 | E

REV	DESCRIPTION	DATE	DRAWN	APPR
A	ISSUED FOR INFORMATION	8/17/09	JEB	
B	ISSUED FOR 60% REVIEW	8/24/09	JMF	
C	ISSUED FOR PERMIT	8/6/09	JEB	



SECTION D
SCALE 3/8"=1'-0"
MD-007 MD-011

NOT FOR CONSTRUCTION FOR PERMIT APPLICATION ONLY

GENERAL NOTES:

1. FOR GENERAL NOTES AND COMPANION DRAWINGS LIST SEE DRAWING 2943005-MD-001.

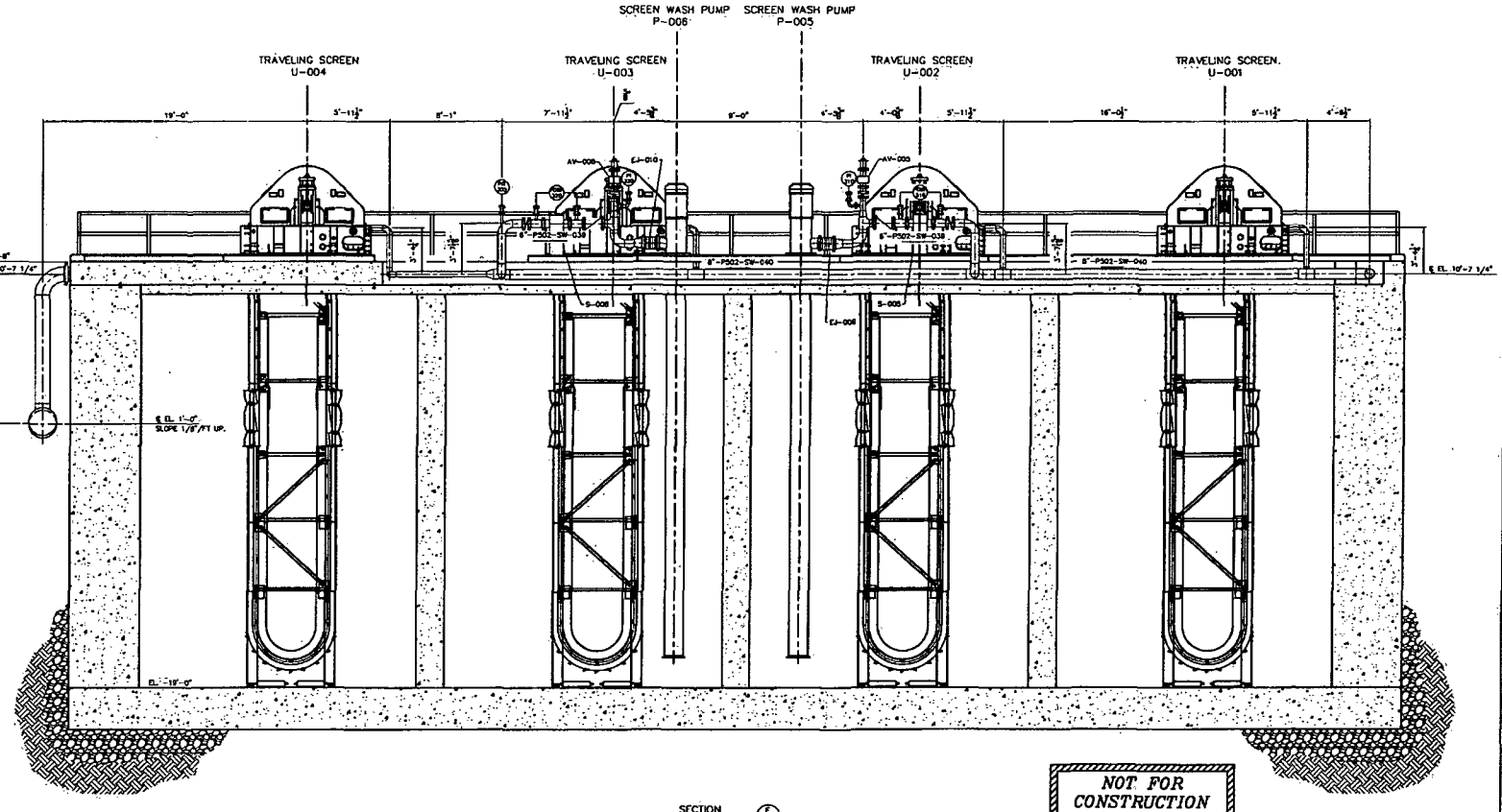
MESA ASSOCIATES, INC.
ENGINEERS AND CONSULTANTS

CREC HELPER COOLING TOWER SOUTH
INTAKE STRUCTURE PIPING ARRANGEMENT
SECTION D-D

E | 2943005-MD-011 | C

N/A

REV	DESCRIPTION	DATE	DRAWN	APPR
A	ISSUED FOR INFORMATION	8/17/09	JEB	
B	ISSUED FOR 60% REVIEW	8/24/09	JMF	
C	ISSUED FOR PERMIT	8/6/09	JEB	



SECTION E
SCALE: 3/8"=1'-0"
MD-007 MD-012

NOT FOR CONSTRUCTION FOR PERMIT APPLICATION ONLY

GENERAL NOTES:

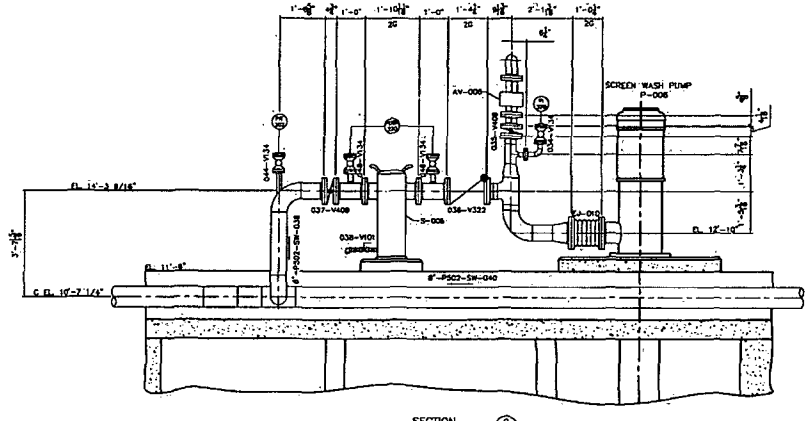
1. FOR GENERAL NOTES AND COMPANION DRAWINGS LIST SEE DRAWING 2943005-MD-001.

MESA ASSOCIATES, INC.
ENGINEERS AND CONSULTANTS

CREC HELPER COOLING TOWER SOUTH
INTAKE STRUCTURE PIPING ARRANGEMENT
SECTION E-E

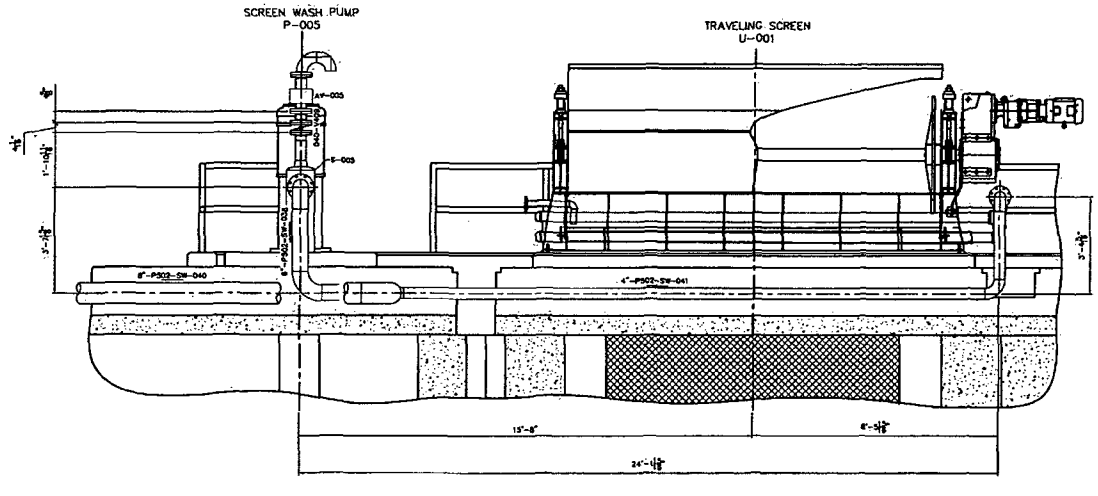
E | 2943005-MD-012 | C

REV	DESCRIPTION	DATE	DRAWN	APPR
A	ISSUED FOR 60% REVIEW	6/10/09	JEB	
B	ISSUED FOR PERMIT	8/8/09	JEB	



SECTION G
SCALE: 3/4"=1'-0"
MD-007 MD-014

SCREEN WASH P-006 SHOWN
SCREEN WASH P-003 OPPOSITE HAND



SECTION H
SCALE: 3/4"=1'-0"
MD-007 MD-014

NOT FOR CONSTRUCTION FOR PERMIT APPLICATION ONLY

GENERAL NOTES:

1. FOR GENERAL NOTES AND COMPANION DRAWINGS LIST SEE DRAWING 2943005-MD-001.

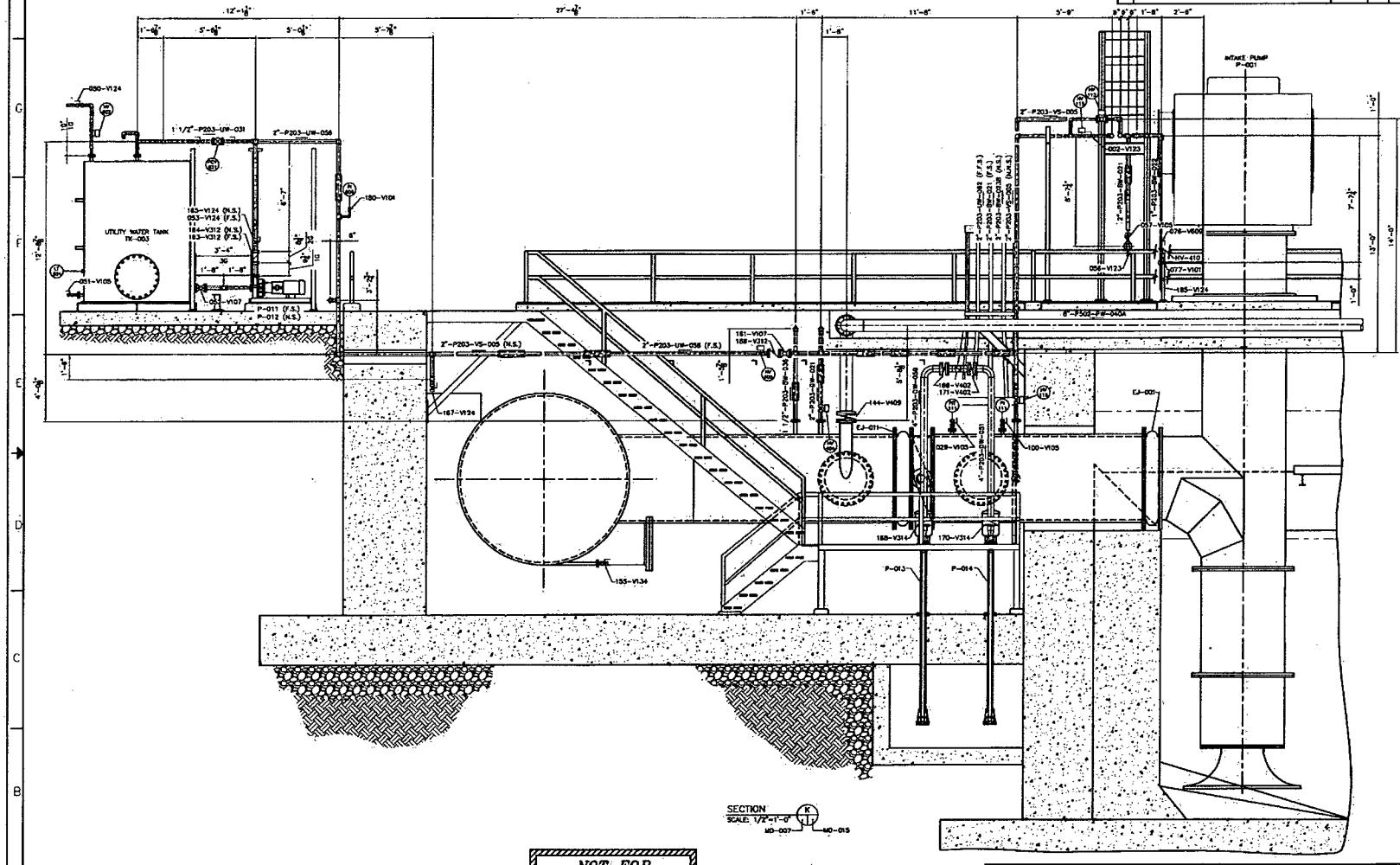
MESA ASSOCIATES, INC.
ENGINEERS AND CONSULTANTS

CREC HELPER COOLING TOWER SOUTH
INTAKE STRUCTURE PIPING ARRANGEMENT
SECTIONS G-G & H-H

N/A

E 2943005-MD-014 B

REVISIONS				
NO	DESCRIPTION	DATE	DRAWN	APP.
A	ISSUED FOR 60% REVIEW	8/10/09	JEB	
B	ISSUED FOR PERMIT	8/8/09	JEB	



NOT FOR CONSTRUCTION FOR PERMIT APPLICATION ONLY

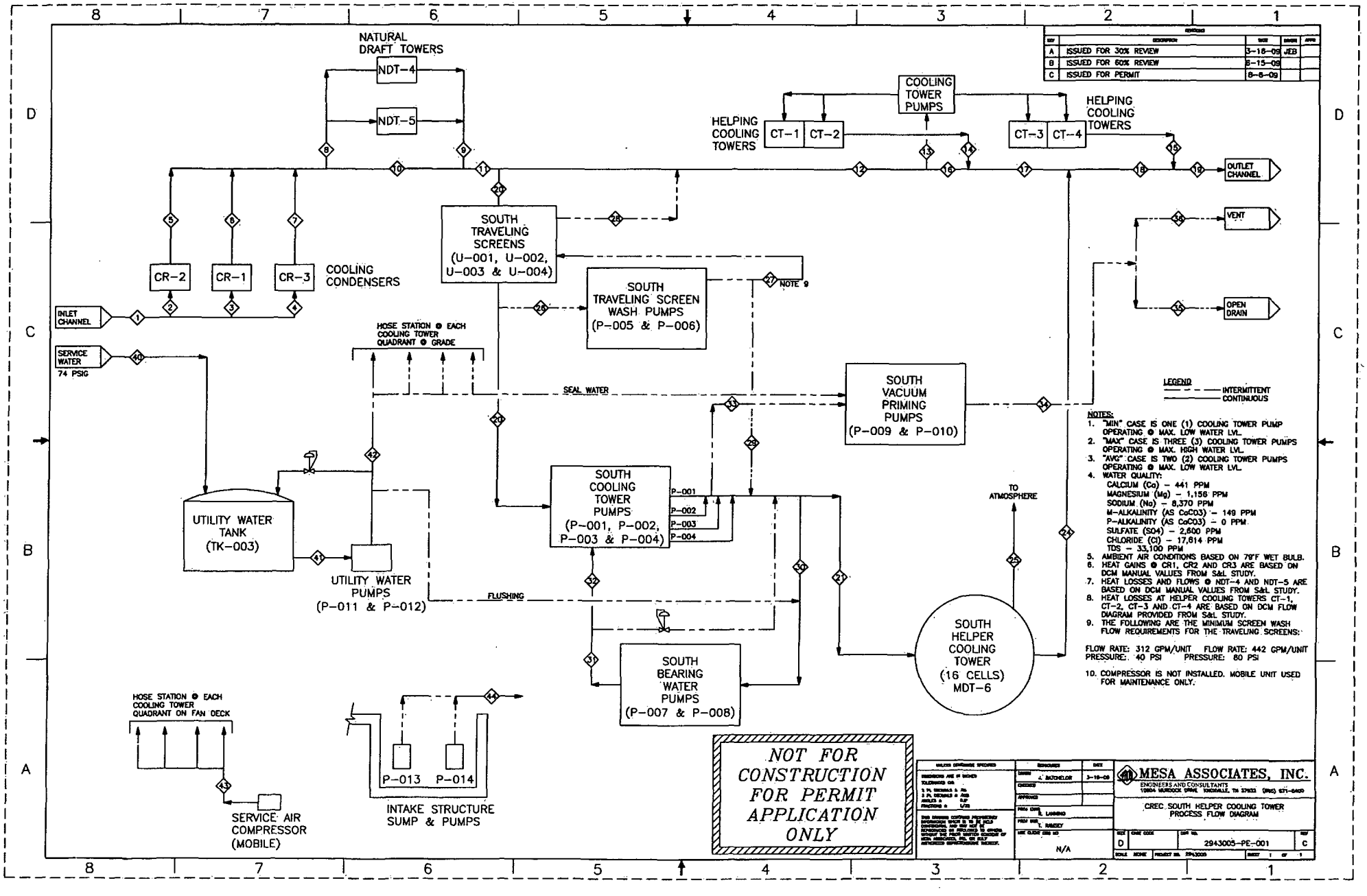
GENERAL NOTES:

1. FOR GENERAL NOTES AND COMPANION DRAWINGS LIST SEE DRAWING 2943005-MD-001.

MESA ASSOCIATES, INC.
CONSULTING ENGINEERS

CREC HELPER COOLING TOWER SOUTH
INTAKE STRUCTURE EQUIPMENT ARRANGEMENT
PLAN VIEW AT ELEVATION 8'-0"

SIZE E | DWG NO. 2943005-MD-015 | REV B


NATURAL DRAFT TOWERS
NDT-4
NDT-5
COOLING TOWER PUMPS
HELPING COOLING TOWERS
CT-1
CT-2
CT-3
CT-4
HELPING COOLING TOWERS
OUTLET CHANNEL
VENT
OPEN DRAIN
SOUTH TRAVELING SCREENS (U-001, U-002, U-003 & U-004)
SOUTH TRAVELING SCREEN WASH PUMPS (P-005 & P-006)
NOTE 9
CR-2
CR-1
CR-3
COOLING CONDENSERS
INLET CHANNEL
SERVICE WATER
74 PSIG
HOSE STATION @ EACH COOLING TOWER QUADRANT @ GRADE
SEAL WATER
SOUTH VACUUM PRIMING PUMPS (P-009 & P-010)
UTILITY WATER TANK (TK-003)
UTILITY WATER PUMPS (P-011 & P-012)
SOUTH COOLING TOWER PUMPS (P-001, P-002, P-003 & P-004)
P-001
P-002
P-003
P-004
FLUSHING
TO ATMOSPHERE
SOUTH HELPER COOLING TOWER (16 CELLS) MDT-6
SOUTH BEARING WATER PUMPS (P-007 & P-008)
HOSE STATION @ EACH COOLING TOWER QUADRANT ON FAN DECK
SERVICE AIR COMPRESSOR (MOBILE)
P-013
P-014
INTAKE STRUCTURE SUMP & PUMPS
NOT FOR CONSTRUCTION FOR PERMIT APPLICATION ONLY
LEGEND
INTERMITTENT
CONTINUOUS
NOTES:
1. "MIN" CASE IS ONE (1) COOLING TOWER PUMP OPERATING @ MAX. LOW WATER LVL.
2. "MAX" CASE IS THREE (3) COOLING TOWER PUMPS OPERATING @ MAX. HIGH WATER LVL.
3. "AVG" CASE IS TWO (2) COOLING TOWER PUMPS OPERATING @ MAX. LOW WATER LVL.
4. WATER QUALITY:
CALCIUM (Ca) – 441 PPM
MAGNESIUM (Mg) – 1,156 PPM
SODIUM (Na) – 8,370 PPM
M-ALKALINITY (AS CaCO3) – 149 PPM
P-ALKALINITY (AS CaCO3) – 0 PPM
SULFATE (SO4) – 2,600 PPM
CHLORIDE (Cl) – 17,614 PPM
TDS – 33,100 PPM
5. AMBIENT AIR CONDITIONS BASED ON 79°F WET BULB.
6. HEAT GAINS @ CR1, CR2 AND CR3 ARE BASED ON DCM MANUAL VALUES FROM S&L STUDY.
7. HEAT LOSSES AND FLOWS @ NDT-4 AND NDT-5 ARE BASED ON DCM MANUAL VALUES FROM S&L STUDY.
8. HEAT LOSSES AT HELPER COOLING TOWERS CT-1, CT-2, CT-3 AND CT-4 ARE BASED ON DCM FLOW DIAGRAM PROVIDED FROM S&L STUDY.
9. THE FOLLOWING ARE THE MINIMUM SCREEN WASH FLOW REQUIREMENTS FOR THE TRAVELING SCREENS:
FLOW RATE: 312 GPM/UNIT FLOW RATE: 442 GPM/UNIT
PRESSURE: 40 PSI PRESSURE: 80 PSI
10. COMPRESSOR IS NOT INSTALLED. MOBILE UNIT USED FOR MAINTENANCE ONLY.
REVISIONS
A ISSUED FOR 30% REVIEW 3-18-09 JEB
B ISSUED FOR 60% REVIEW 6-15-09
C ISSUED FOR PERMIT 8-6-09
MESA ASSOCIATES, INC.
ENGINEERS AND CONSULTANTS
CREC SOUTH HELPER COOLING TOWER PROCESS FLOW DIAGRAM
2943005-PE-001
N/A

REV	DESCRIPTION	DATE	DRWN	APPR
A	ISSUED FOR 30% REVIEW	3-16-09	JEB	
B	ISSUED FOR 60% REVIEW	6-15-09		
C	ISSUED FOR PERMIT	8-6-09		

ITEM NO.	1	2	3	4	5	6	7	8	9	10	11	12
DESCRIPTION	INLET CHANNEL	INTAKE CR-2 FROM INLET CHANNEL	INTAKE CR-1 FROM INLET CHANNEL	INTAKE CR-3 FROM INLET CHANNEL	DISCHARGE CR-2 TO OUTLET CHANNEL	DISCHARGE CR-1 TO OUTLET CHANNEL	DISCHARGE CR-3 TO OUTLET CHANNEL	INTAKE NDT-4/NDT-5 FROM OUTLET CHANNEL	DISCHARGE NDT-4/NDT-5 TO OUTLET CHANNEL	OUTLET CHANNEL BETWEEN NDT INTAKE AND NDT DISCHARGE	OUTLET CHANNEL BETWEEN NDT DISCHARGE & SOUTH TRAVELING SCREEN WASH PUMPS INTAKE	OUTLET CHANNEL BETWEEN SOUTH TRAVELING SCREENS DISCHARGE & COOLING TOWER PUMPS INTAKE
FLUID	SEA WATER	SEA WATER	SEA WATER	SEA WATER	SEA WATER	SEA WATER	SEA WATER	SEA WATER	SEA WATER	SEA WATER	SEA WATER	SEA WATER
	MAX.	MAX.	MAX.	MAX.	MAX.	MAX.	MAX.	MAX.	MAX.	MAX.	MAX.	MAX.
FLOW (LIQUID GPM)	1,318,000	328,000	310,000	680,000	329,000	311,000	683,000	20,000	7,000	1,302,000	1,309,000	977,900
FLOW (GAS ACFM)												
FLOW (LB/HOUR)	658,300,000	163,300,000	154,400,000	338,600,000	163,320,000	154,360,000	338,590,000	9,940,000	3,480,000	646,340,000	649,800,000	485,300,000
PRESSURE (PSIG)	0	0	0	0	0	0	0		0	0	0	0
TEMPERATURE (°F)	91	91	91	91	105	102	111	107	94	107.32	106	106
SPECIFIC GRAVITY	1.025	1.025	1.025	1.025	1.022	1.02279	1.021	1.022	1.022	1.022	1.022	1.022
DENSITY (PCF)												

ITEM NO.	13	14	15	16	17	18	19	20			21		
DESCRIPTION	INTAKE COOLING TOWER PUMPS FROM OUTLET CHANNEL	DISCHARGE CT-1/CT-2 TO OUTLET CHANNEL	DISCHARGE CT-3/CT-4 TO OUTLET CHANNEL	OUTLET CHANNEL BETWEEN COOLING TOWER PUMPS INTAKE AND CT-1/CT-2 DISCHARGE	OUTLET CHANNEL BETWEEN CT-1/CT-2 DISCHARGE & SOUTH HELPER COOLING TOWER MDT-6 DISCHARGE	OUTLET CHANNEL BETWEEN SOUTH HELPER COOLING TOWER MDT-6 DISCHARGE & CT-3/CT-4 DISCHARGE	OUTLET CHANNEL AFTER CT-3/CT-4 DISCHARGE	INTAKE SOUTH COOLING TOWER PUMPS FROM OUTLET CHANNEL			INTAKE SOUTH HELPER COOLING TOWER MDT-6 FROM DISCHARGE SOUTH COOLING TOWER PUMPS		
FLUID	SEA WATER	SEA WATER	SEA WATER	SEA WATER	SEA WATER	SEA WATER	SEA WATER	SEA WATER			SEA WATER		
	MAX.	MAX.	MAX.	MAX.	MAX.	MAX.	MAX.			MAX.			MAX.
FLOW (LIQUID GPM)	680,000	338,900	338,900	297,900	636,800	963,200	1,302,000			346,812			346,812
FLOW (GAS ACFM)													
FLOW (LB/HOUR)	337,500,000	168,700,000	168,700,000	147,800,000	316,600,000	479,100,000	647,900,000			164,500,000			164,500,000
PRESSURE (PSIG)	0	0	0	0	0	0	0			0			30.4
TEMPERATURE (°F)	106	92	92	106	99	96	95			106			106
SPECIFIC GRAVITY	1.022	1.025	1.025	1.022	1.023	1.024	1.024			1.022			1.022
DENSITY (PCF)													

ITEM NO.	24			25			26				27		
DESCRIPTION	DISCHARGE SOUTH HELPER COOLING TOWER MDT-6 TO OUTLET CHANNEL			DISCHARGE SOUTH HELPER COOLING TOWER MDT-6 TO ATMOSPHERE			INTAKE SOUTH TRAVELING SCREEN WASH PUMPS FROM SOUTH COOLING TOWER PUMPS INTAKE				INTAKE SOUTH TRAVELING SCREENS FROM SOUTH TRAVELING SCREEN WASH PUMPS DISCHARGE		
FLUID	SEA WATER			WATER VAPOR			SEA WATER				SEA WATER		
			MAX.			MAX.				MAX.			MAX.
FLOW (LIQUID GPM)			341,712			5,100				988			988
FLOW (GAS ACFM)													
FLOW (LB/HOUR)			162,600,000			2,530,000							
PRESSURE (PSIG)			0			0				45			45
TEMPERATURE (°F)			90			90				106			106
SPECIFIC GRAVITY			1.02176							1.03			1.03
DENSITY (PCF)													

ITEM NO.	28			29			30				31		
DESCRIPTION	DISCHARGE SOUTH TRAVELING SCREENS TO OUTLET CHANNEL			INTERMITTENT LINE BETWEEN SOUTH TRAVELING SCREEN WASH PUMPS DISCHARGE & SOUTH COOLING TOWER PUMP DISCHARGE			BEARING WATER PUMP SUCTION				BEARING WATER PUMP DISCHARGE		
FLUID	SEA WATER			SEA WATER			SEA WATER				SEA WATER		
			MAX.	START-UP						MAX.			MAX.
FLOW (LIQUID GPM)			988	3,000						36			36
FLOW (GAS ACFM)													
FLOW (LB/HOUR)													
PRESSURE (PSIG)			0	5						30.4			47
TEMPERATURE (°F)			106	106						106			106
SPECIFIC GRAVITY			1.03	1.03						1.022			1.03
DENSITY (PCF)													

NOT FOR CONSTRUCTION FOR PERMIT APPLICATION ONLY

UNLESS OTHERWISE SPECIFIED

DIMENSIONS ARE IN INCHES
TOLERANCES ON:
3 PL DECIMALS ± .05
2 PL DECIMALS ± .030
FRACS ± 1/32
ANGLES ± 1/2°

THIS DRAWING CONTAINS PROPRIETARY INFORMATION WHICH IS TO BE HELD CONFIDENTIAL AND NOT NOT TO BE REPRODUCED OR DISCLOSED TO OTHERS WITHOUT THE PRIOR WRITTEN CONSENT OF MESA ASSOCIATES, INC. OR ITS DULY AUTHORIZED REPRESENTATIVE AGENCY.

REVISIONS		DATE
DRAWN	J. BATCHELOR	3-16-09
CHECKED		
APPROVED		
PROJ ENGR	R. LANNING	
PROJ MGR	T. NANSEY	
USE CLIENT CODE ID	N/A	

MESA ASSOCIATES, INC.
ENGINEERS AND CONSULTANTS
10804 MURDOCK DRIVE KNOXVILLE, TN 37932 (865) 671-6400

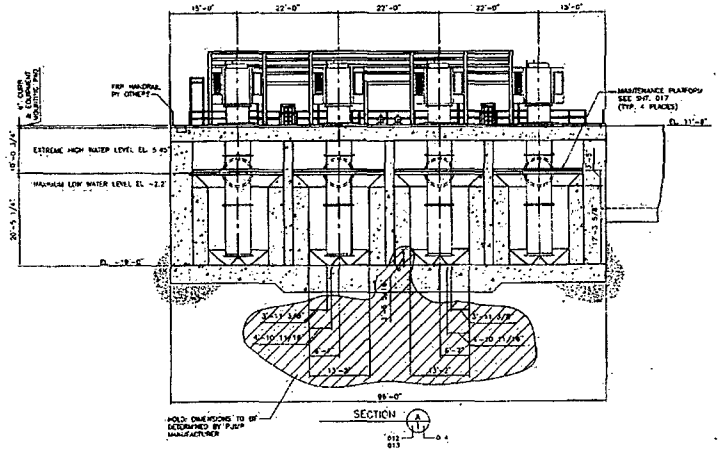
CREC HELPER COOLING TOWER SOUTH
PROCESS FLOW DIAGRAM

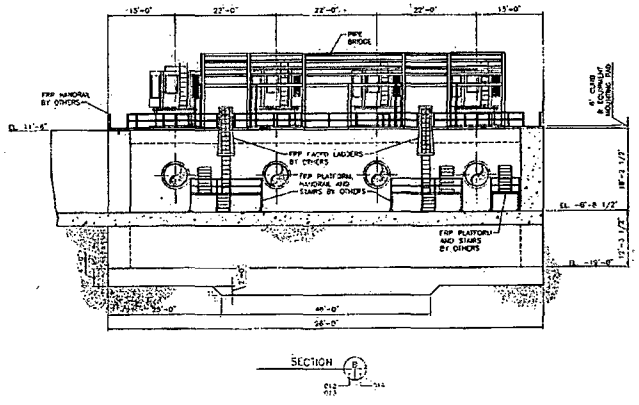
SIZE	CAGE CODE	DWG NO.	REV
D		2943005-PE-002 SHT 1	C

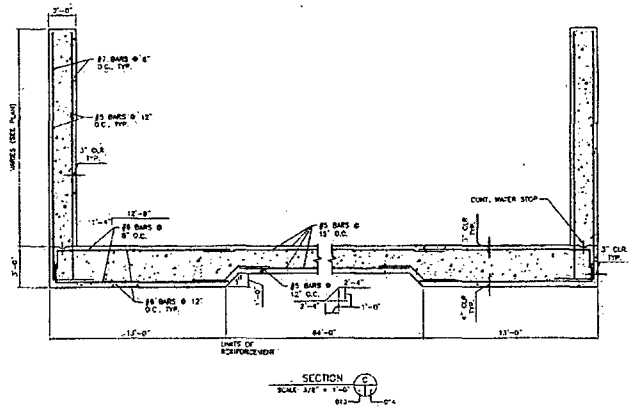
SCALE NONE | PROJECT NO. 000 | SHEET 1 OF 2

REV	DESCRIPTION	DATE	DRAWN	APPR
A	ISSUED FOR 30% REVIEW	4/8/09	JAW	
B	ISSUED FOR 60% REVIEW	6/18/09	JAW	
C	FOR PERMIT APPLICATION ONLY	8/12/09	JAW	

SECTION AND DETAIL KEY







NOT FOR CONSTRUCTION FOR PERMIT APPLICATION ONLY

NOTES

1. SEE DWG. 2943005-SD-001 FOR GENERAL NOTES THAT APPLY.
2. SEE DWG. 2943005-CD-005 FOR SITE LAYOUT.

MESA ASSOCIATES, INC.

CREC HELPER COOLING TOWER SOUTH INTAKE STRUCTURE SECTIONS

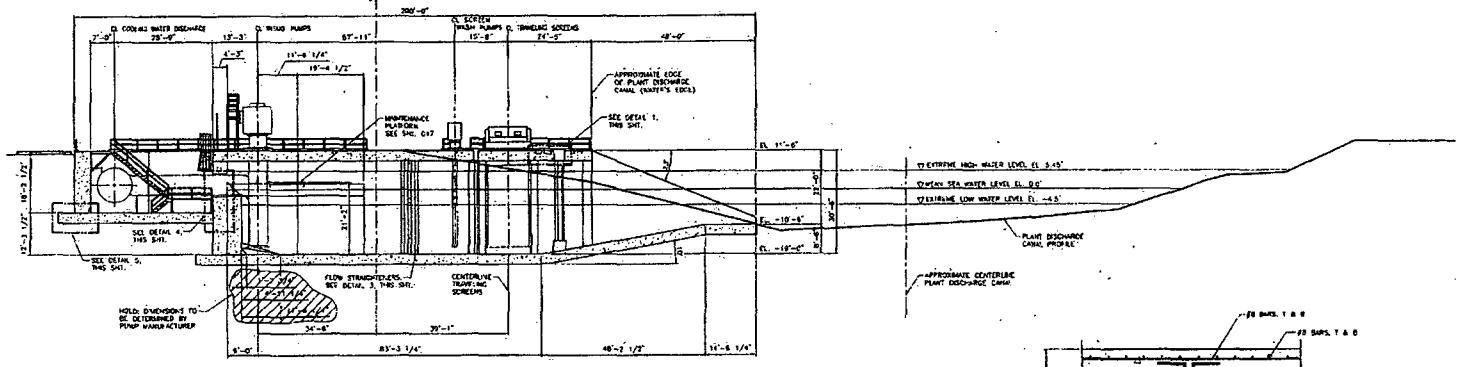
SIZE E | 2943005-SD-014 | REV C

DRAWN J. WATSON 4/27/09

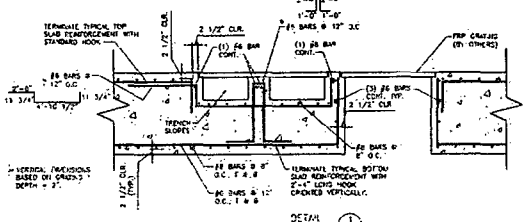
N/A

REV	DESCRIPTION	DATE	DRAWN	APPR
A	ISSUED FOR 60% REVIEW	8/18/09	JAW	
B	FOR PERMIT APPLICATION ONLY	8/12/09	JAW	

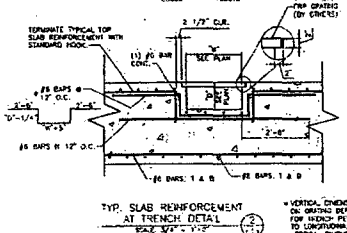
SECTION AND DETAIL KEY



SECTION

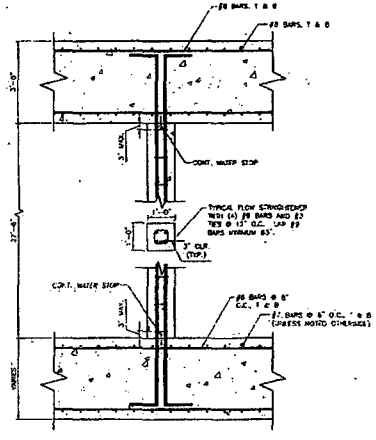


DETAIL

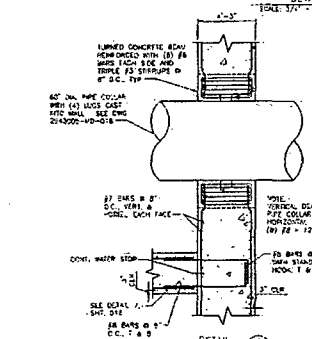


TYP. SLAB REINFORCEMENT AT TRENCH DETAIL

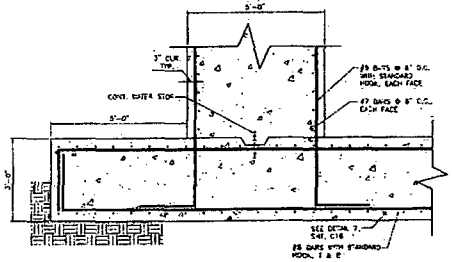
* VERTICAL DIMENSIONS BASED ON GRATING DEPTH = 3'. FOR HINGES PERPENDICULAR TO LONGITUDINAL STEEL VERTICAL DIMENSION = "D"-1'



TYP. FLOW STRAIGHTENER DETAIL



DETAIL



DETAIL

REFERENCE DRAWINGS:

DRAWING NUMBER	DRAWING TITLE
1474-C5010-C5003	SITE - REVETMENT AREA PLAN, SECTIONS AND DETAILS

NOTES

1. SEE DWG 2943005-SD-C01 FOR GENERAL NOTES THAT APPLY.

NOT FOR CONSTRUCTION FOR PERMIT APPLICATION ONLY

MESA ASSOCIATES, INC.
ENGINEERS AND CONSULTANTS

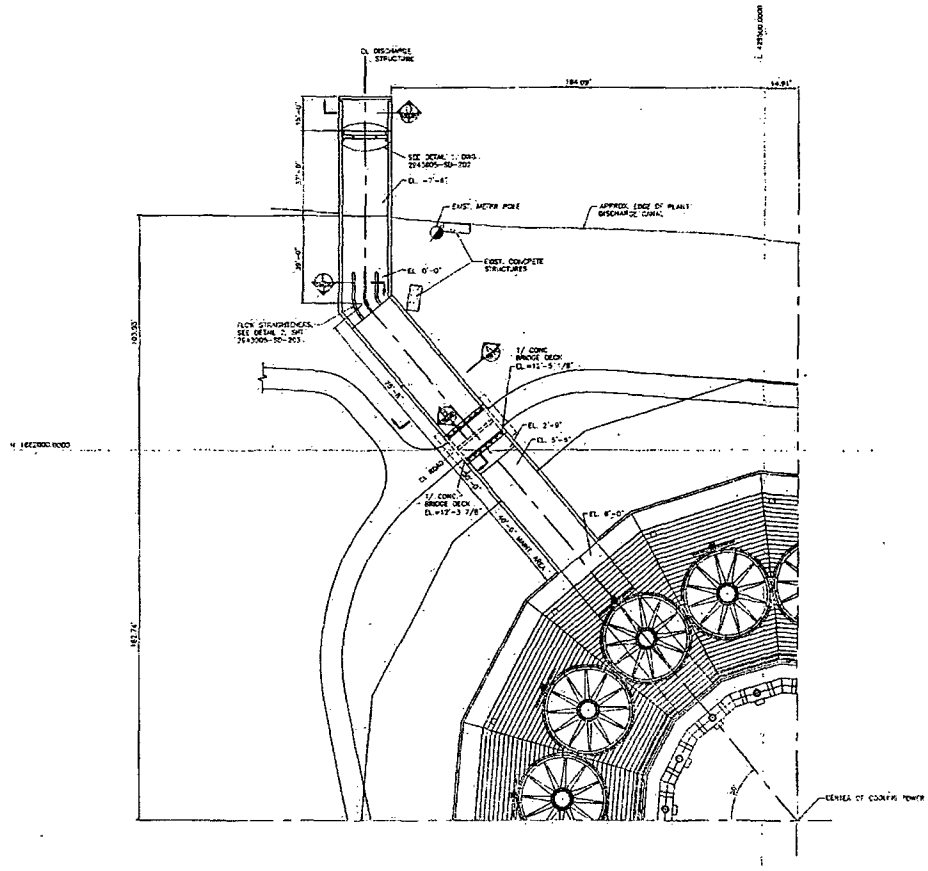
CREC HELPER COOLING TOWER SOUTH
INTAKE STRUCTURE
CANAL SECTION

SIZE E | DWG NO. 2943005-SD-015 | REV B

N/A

REV	DESCRIPTION	DATE	DRAWN	APPR
A	ISSUED FOR 30% REVIEW	4/8/09	JAW	
B	ISSUED FOR 60% REVIEW	6/18/09	JAW	
C	FOR PERMIT APPLICATION ONLY	8/12/09	JAW	

SECTION AND DETAIL KEY



PLAN VIEW

NOT FOR CONSTRUCTION FOR PERMIT APPLICATION ONLY

NOTES
1. SEE DWG. 2943005-SD-001 FOR GENERAL NOTES THAT APPLY.
2. SEE DWG. 2943005-SD-005 FOR SITE LAYOUT.

DRAWN	J. WATSON	3/25/09
CHECKED	J. COLLETT	8/18/09
PROJ. ENGR.	R. SAPUPO	
PROJ. MGR.	S. MARCO	
REF. DWG.	N/A	

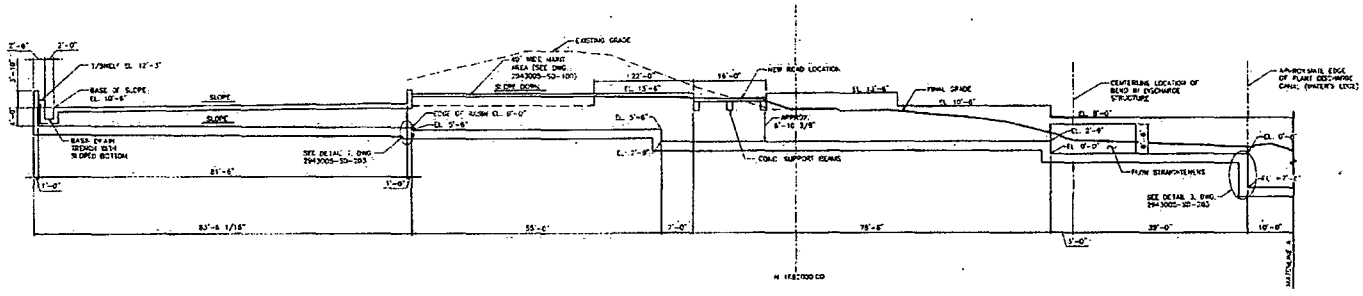
MESA ASSOCIATES, INC.
ENGINEERING AND CONSULTANTS

CREC HELPER COOLING TOWER-SOUTH
DISCHARGE STRUCTURE
PLAN VIEW

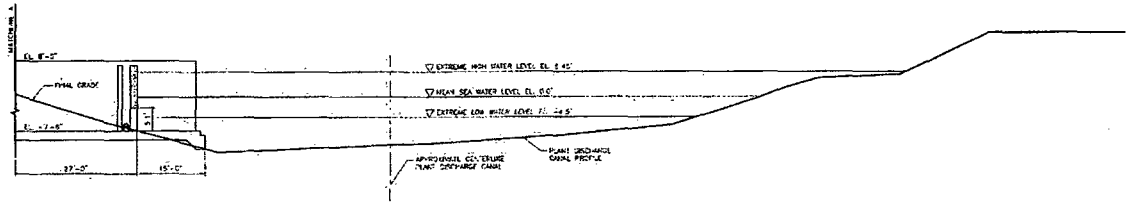
SIZE	DWG. NO.	REV
E	2943005-SD-200	C

REV	DESCRIPTION	DATE	DRAWN	APPR
A	ISSUED FOR 30% REVIEW	4/8/09	JAW	
B	ISSUED FOR 60% REVIEW	5/14/09	JAW	
C	FOR PERMIT APPLICATION ONLY	8/12/09	JAW	

SECTION AND DETAIL KEY



SECTION



SECTION (CONT.)

NOT FOR CONSTRUCTION FOR PERMIT APPLICATION ONLY

NOTES
1. SEE DWG. 2943005-SD-001 FOR GENERAL NOTES THAT APPLY.

REFERENCE DRAWINGS:
HEAD-OF-ALBATS 12/PR-CSHD-S.C.02 — (Drawing title) SK - REVETMENT AREA PLAN, SECTIONS AND DETAILS

DESIGNED	A. BARSON	3/30/09
DRAWN	J. DELETT	8/18/09
APPROVED		
PROJ MGR	B. LANYON	
PROJ MGR	L. BRADY	
VAL BLDG DWG NO	N/A	

MESA ASSOCIATES, INC.
ENGINEERS AND CONSULTANTS

CREC HELPER COOLING TOWER SOUTH
DISCHARGE STRUCTURE
SECTION

SIZE	DWG NO	REV
E	2943005-SD-201	C

SCALE 1/8"=1' | DATE/SIZE NO. 2943005 | SHEET 1 OF 1

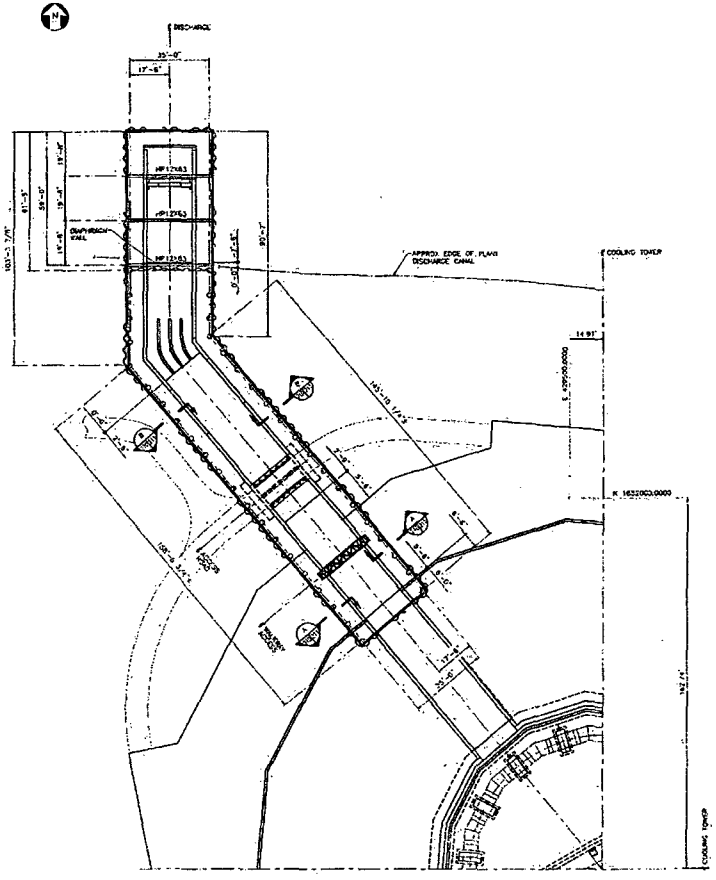
REV	DESCRIPTION	DATE	DRAWN	APP
A	ISSUED FOR 90% REVIEW	6/18/09	SSB	
B	FOR PERMIT APPLICATION ONLY	8/12/09	JAW	

SECTION AND DETAIL KEY

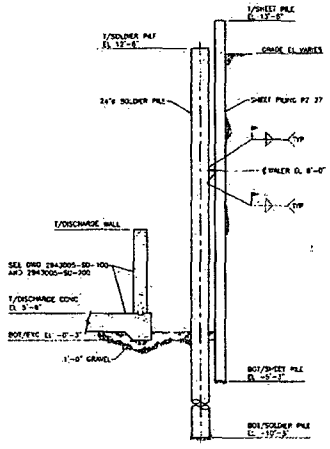
DRAWING ON WHICH SECTION OR DETAIL IS TAKEN

ALWAYS 12 SECTION OR DETAIL

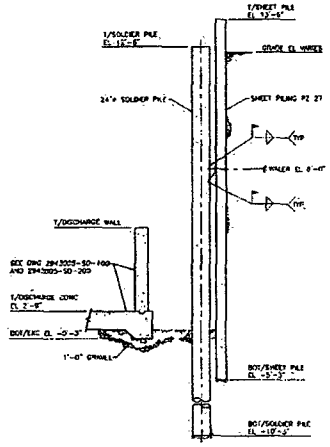
DRAWING ON WHICH SECTION OR DETAIL IS SHOWN



PLAN – DISCHARGE STRUCTURE COFFERDAM
SCALE: 1/16"=1'-0"



SECTION A
SCALE 3/4" = 1'-0"
210 — 211



SECTION B
SCALE 3/4" = 1'-0"
210 — 210

NOT FOR CONSTRUCTION FOR PERMIT APPLICATION ONLY

NOTE:
1. SEE DWG 2943005-SO-001 FOR GENERAL NOTES THAT APPLY.

MESA ASSOCIATES, INC.
ENGINEERS AND CONSULTANTS

CREC HELPER COOLING TOWER SOUTH COFFERDAM – DISCHARGE STRUCTURE PLAN

DRAWN	3/3/94
CHECKED	
APPROVED	
FIELD CHIEF	K. LAWSON
FIELD AIDE	S. BURKEY
L.E. CLOCK NO.	R/A

SIZE E | DWG NO. 2943005-SO-210 | REV B

SCALE 1/16"=1" | PROJECT NO. 2943005 | SHEET 1 OF 1

PEF letter to FDEP NPDES Monitoring Report Units 4&5 September 25, 2008

Progress Energy

Larry E. Hatcher
Plant Manager
Crystal River Fossil Plant & Fuel Operations

September 25, 2008

Florida Department of Environmental Protection
Mail Station 3551
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Sir:

Re: Progress Energy Florida, Inc.
Crystal River Units 4 & 5
Permit ID# PA 77-09 and NPDES FL0036366-Major

Enclosed is the monitoring report for the month of August 2008, in accordance with the requirements of the above-cited permits.

If you should have any questions concerning these reports, please contact Cyndy Wilkinson of my staff at (352) 563-4396 or Doug Yowell at (727) 820-5228.

Sincerely,

Larry E. Hatcher

Larry E. Hatcher
Manager, Crystal River Fossil Plant & Fuel Operations

Enclosure

CERTIFIED

xc: Florida Department of Environmental Protection
Southwest District Office
Industrial Wastewater
13051 N. Telecom Parkway
Temple Terrace, FL 33637

Progress Energy Florida, Inc.
Crystal River Steam Plant
15760 W. Powerline Street
Crystal River, FL 34428

cc: Pat Garner – PEB903
File: 12520B

CERTIFIED MAIL: ARTICLE NUMBER: 7008 0150 0002 9283 5897 (Temple Terrace)
7008 0150 0002 9283 5903 (Tallahassee)

J:/Environmental/CR 4&5 NPDES/NPDES CR 4&5 DMR cover letters.doc

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section MS 3550, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

PERMITTEE NAME: Progress Energy Florida, Inc.
MAILING: P.O. Box 14042 MAC CN77
Crystal River, FL 33733-4042
ATTN: Larry E. Hatcher

FACILITY: Crystal River - Units 4 & 5
LOCATION: 15760 W. Powerline Street Crystal River, FL 34428-6708
COUNTY: Citrus

PERMIT NUMBER: FL0036366
MONITORING PERIOD--From: 2008/08/01 To: 2008/08/31
LIMIT: Final
CLASS SIZE: Major

REPORT: Monthly
GROUP: Industrial

GMS ID No.:
DISCHARGE POINT NUMBER: D-074
PLANT SIZE/TREATMENT TYPE:

NO DISCHARGE FROM SITE: ☐

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
Flow	Sample Measurement	97.9	****	MGD	****	****	****	****	0	Continuous	Pump Logs
PARM 50050 7 Mon. Site No INT-1	Permit Requirement	Report (Inst. Max)	****		****	****	****			Continuous	Pump Logs
Flow	Sample Measurement	42.3	40.1	MGD	****	****	****	****	0	Continuous	Recorder
PARM 50050 1 Mon. Site No EFF-1	Permit Requirement	Report (Inst. Max)	Report (Daily Avg)		****	****	****			Continuous	Recorder
Temperature (F), Water	Sample Measurement	****	****	****	98.3	98.1	****	Deg F	0	Continuous	Recorder
PARM 00011 1 Mon. Site No EFF-3A	Permit Requirement	****	****		Report (Inst. Max)	Report (Daily Max)	****			Continuous	Recorder
Oxidants, Total Residual	Sample Measurement	****	****	****	<0.01	****	****	mg/l	0	Continuous	Recorder
PARM 34044 P Mon. Site No EFF-3B	Permit Requirement	****	****		0.05 (Inst. Max)	****	****			Continuous	Recorder
Oxidants, Total Residual	Sample Measurement	****	****	****	MNR	****	****	mg/L	0	Annually	Grab
PARM 34044 1 Mon. Site No EFF-3	Permit Requirement	****	****		0.01 (Daily Max)	****	****			Annually	Grab
Solids, Total Dissolved (TDS)	Sample Measurement	****	****	****	34,775.0	****	****	mg/l	0	Weekly	Grab
PARM 70295 1 Mon. Site No EFF-1	Permit Requirement	****	****		Report (Daily Max)	****	****			Weekly	Grab
Solids, Total Dissolved (Intake)	Sample Measurement	****	****	****	33,256.0	****	****	mg/l	0	Weekly	Grab
PARM 70295 7 Mon. Site No INT-1	Permit Requirement	****	****		Report (Daily Max)	****	****			Weekly	Grab

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein; and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Name/Title of Principal Executive Officer or Authorized Agent (Type or Print)	Signature of Principal Executive Officer or Authorized Agent	Telephone No. (incl. area code)	Date (yy/mm/dd)
Larry E. Hatcher Manager, Crystal River Fossil Plant & Fuel Operations	Larry E. Hatch	(352) 563-4484	9/26/08

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section MS 3550, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

PERMITTEE NAME: Progress Energy Florida, Inc.
MAILING: P.O. Box 14042 MAC CN77
Crystal River, FL 33733-4042
ATTN: Larry E. Hatcher

FACILITY: Crystal River - Units 4 & 5
LOCATION: 15760 W. Powerline Stree Crystal River, FL 34428-6708
COUNTY: Citrus

PERMIT NUMBER: FL0036366
MONITORING PERIOD - From: 2008/08/01 To: 2008/08/31
LIMIT: Final
CLASS SIZE: Major
REPORT: Monthly
GROUP: Industrial

GMS ID No.:
DISCHARGE POINT NUMBER: D-074
PLANT SIZE/TREATMENT TYPE:

NO DISCHARGE FROM SITE: ☐

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
Chlorine, Total Residual (Dsg. Time)	Sample Measurement	****	****	****	0.0	****	****	min/day	0	Daily	Logs
PARM 00208 1 Mon. Site No EFF-3B	Permit Requirement	****	****		120.0 (Inst. Max)	****	****			Daily	Logs
Cycles of Concentration	Sample Measurement	1.2	****	Cycles	****	****	****	****	0	Weekly	Calculation
PARM 82629 1 Mon. Site No EFF-1	Permit Requirement	Report (Inst. Max)	****		****	****	****			Weekly	Calculation
Free Available Oxidants	Sample Measurement	****	****	****	****	0.0	0.1	mg/L	0	2/Per Application	Grab
PARM 34045 1 Mon. Site No EFF-3B	Permit Requirement	****	****		****	0.2 (Average)	0.5 (Inst. Max)			2/Per Application	Grab
pH (Effluent)	Sample Measurement	****	****	****	8.3	8.2	****	SU	0	Daily	Grab
PARM 00400 1 Mon. Site No EFF-1	Permit Requirement	****	****		8.5 (Maximum)	6.5 (Minimum)	****			Daily	Grab
Biocide (PCL-361)	Sample Measurement	****	****	****	MNR	****	****	ug/L	0	1/Per Application	Calculated
PARM 01289 1 Mon. Site No EFF-2	Permit Requirement	****	****		Report Maximum	****	****			1/Per Application	Calculated
Biocide (CL-4400)	Sample Measurement	****	****	****	MNR	****	****	ug/L	0	1/Per Application	Calculated
PARM 01289 P Mon. Site No EFF-2	Permit Requirement	****	****		Report Maximum	****	****			1/Per Application	Calculated
Biocide (CL-1355)	Sample Measurement	****	****	****	MNR	****	****	ug/L	0	1/Per Application	Grab
PARM 01289 Q Mon. Site No EFF-2	Permit Requirement	****	****		Report Maximum	****	****			1/Per Application	Grab

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here).

DEP Form 62-620.910(10), Effective November 29, 1994

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section MS 3550, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

PERMITTEE NAME: Progress Energy Florida, Inc.
MAILING: P.O. Box 14042 MAC CN77
Crystal River, FL 33733-4042
ATTN: Larry E. Hatcher

PERMIT NUMBER: FL0036366
MONITORING PERIOD--From: 2008/08/01 To: 2008/08/31
LIMIT: Final
CLASS SIZE: Major
REPORT: Monthly
GROUP: Industrial

FACILITY: Crystal River - Units 4 & 5
LOCATION: 15760 W. Powerline Stree Crystal River, FL 34428-6708
COUNTY: Citrus

GMS ID No.:
DISCHARGE POINT NUMBER: D-074
PLANT SIZE/TREATMENT TYPE:

NO DISCHARGE FROM SITE: ☐

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
Biocide (CT-907)	Sample Measurement	****	****	****	MNR	****	****	ug/L	0	1/Per Application	Grab
PARM 01289 R Mon. Site No EFF-2	Permit Requirement	****	****		Report Maximum	****	****			1/Per Application	Grab
BD1500	Sample Measurement	****	****	****	NOD	****	****	ug/l	0	1/Per Application	Grab
PARM 01289 S Mon. Site No EFF-2	Permit Requirement	****	****		Report Maximum	****	****			1/Per Application	Grab
LC50 Statre 96Hour Acute Menidia Beryllina (Routine)	Sample Measurement	****	****	****	****	MNR	****	%	0	1/Per Application	Multiple Grab
PARM TAN6B P Mon. Site No EFF-1	Permit Requirement	****	****		****	100.0 Daily Minimum	****			1/Per Application	Multiple Grab
LC50 Statre 96Hour Acute Menidia Beryllina (Additional)	Sample Measurement	****	****	****	****	MNR	****	%	0	As required	Multiple Grab
PARM TAN6B Q Mon. Site No EFF-1	Permit Requirement	****	****		****	100.0 Daily Minimum	****			As required	Multiple Grab
LC50 Statre 96Hour Acute Mysidopsis Bahia (Routine)	Sample Measurement	****	****	****	****	MNR	****	%	0	1/Per Application	Multiple Grab
PARM TAN3E P Mon. Site No EFF-1	Permit Requirement	****	****		****	100.0 Daily Minimum	****			1/Per Application	Multiple Grab
LC50 Statre 96Hour Acute Mysidopsis Bahia (Additional)	Sample Measurement	****	****	****	****	MNR	****	%	0	As required	Multiple Grab
PARM TAN3E Q Mon. Site No EFF-1	Permit Requirement	****	****		****	100.0 Daily Minimum	****			As required	Multiple Grab

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

DEP Form 62-620.910(10), Effective November 29, 1994

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

WHEN COMPLETED, MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section MS 3550, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

PERMITTEE NAME: Progress Energy Florida, Inc.
MAILING: P.O. Box 14042 MAC CN77
Crystal River, FL 33733-4042
ATTN: Larry E. Hatcher

FACILITY: Crystal River - Units 4 & 5
LOCATION: 15760 W. Powerline Stree Crystal River, FL 34428-6708
COUNTY: Citrus

PERMIT NUMBER: FL0036366
MONITORING PERIOD--From: 2008/08/01 To: 2008/08/31
LIMIT: Final
CLASS SIZE: Major

REPORT: Monthly
GROUP: Industrial

GMS ID No.:
DISCHARGE POINT NUMBER: D-075
PLANT SIZE/TREATMENT TYPE:

NO DISCHARGE FROM SITE: ☐

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
Flow	Sample Measurement	97.9	****	MGD	****	****	****	****	0	Continuous	Pump Logs
PARM 50050 7 Mon. Site No INT-1	Permit Requirement	Report (Inst. Max)	****		****	****	****			Continuous	Pump Logs
Flow	Sample Measurement	43.1	41.9	MGD	****	****	****	****	0	Continuous	Recorder
PARM 50050 1 Mon. Site No EFF-2	Permit Requirement	Report (Inst. Max)	Report (Daily Avg)		****	****	****			Continuous	Recorder
Temperature (F), Water	Sample Measurement	****	****	****	98.3	98.1	****	Deg F	0	Continuous	Recorder
PARM 00011 1 Mon. Site No EFF-3A	Permit Requirement	****	****		Report (Inst. Max)	Report (Daily Max)	****			Continuous	Recorder
Oxidants, Total Residual	Sample Measurement	****	****	****	<0.01	****	****	mg/l	0	Continuous	Recorder
PARM 34044 P Mon. Site No EFF-3B	Permit Requirement	****	****		0.05 (Inst. Max)	****	****			Continuous	Recorder
Oxidants, Total Residual	Sample Measurement	****	****	****	MNR	****	****	mg/L	0	Annually	Grab
PARM 34044 1 Mon. Site No EFF-3	Permit Requirement	****	****		0.01 (Daily Max)	****	****			Annually	Grab
Solids, Total Dissolved (TDS)	Sample Measurement	****	****	****	35,359	****	****	mg/L	0	Weekly	Grab
PARM 70295 1 Mon. Site No EFF-2	Permit Requirement	****	****		Report (Daily Max)	****	****			Weekly	Grab
Chlorine, Total Residual (Dsg. Time)	Sample Measurement	****	****	****	0.0	****	****	min/day	0	Daily	Logs
PARM 00208 1 Mon. Site No EFF-3B	Permit Requirement	****	****		120.0 (Inst. Max)	****	****			Daily	Logs

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein; and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Name/Title of Principal Executive Officer or Authorized Agent (Type or Print)	Signature of Principal Executive Officer or Authorized Agent	Telephone No. (incl. area code)	Date (yy/mm/dd)
Larry E. Hatcher Manager, Crystal River Fossil Plant & Fuel Operations	Larry E. Hatcher	(352) 563-4484	9/26/08

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

DEP Form 62-620.910(10) Effective November 29, 1994

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section MS 3550, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

PERMITTEE NAME: Progress Energy Florida, Inc.
MAILING: P.O. Box 14042 MAC CN77
Crystal River, FL 33733-4042
ATTN: Larry E. Hatcher

PERMIT NUMBER: FL0036366
MONITORING PERIOD--From: 2008/08/01 To: 2008/08/31
LIMIT: Final
CLASS SIZE: Major

REPORT: Monthly
GROUP: Industrial

FACILITY: Crystal River - Units 4 & 5
LOCATION: 15760 W. Powerline Street Crystal River, FL 34428-6708
COUNTY: Citrus

GMS ID No.:
DISCHARGE POINT NUMBER: D-075
PLANT SIZE/TREATMENT TYPE:

NO DISCHARGE FROM SITE: ☐

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
Cycles of Concentration	Sample Measurement	1.2	****	Cycles	****	****	****	****	0	Weekly	Calculation
PARM 82629 Mon. Site No EFF-2 1	Permit Requirement	Report (Inst. Max)	****		****	****	****			Weekly	Calculation
Free Available Oxidants	Sample Measurement	****	****	****	****	0.0	0.1	mg/L	0	2/Per Application	Grab
PARM 34045 Mon. Site No EFF-3B 1	Permit Requirement	****	****		****	0.2 (Average)	0.5 (Inst. Max)			2/Per Application	Grab
pH (Effluent)	Sample Measurement	****	****	****	8.3	8.3	****	SU	0	Daily	Grab
PARM 00400 Mon. Site No EFF-2 1	Permit Requirement	****	****		8.5 (Maximum)	6.5 (Minimum)	****			Daily	Grab
Biocide (PCL-361)	Sample Measurement	****	****	****	MNR	****	****	ug/L	0	1/Per Application	Calculated
PARM 01289 Mon. Site No EFF-2 1	Permit Requirement	****	****		Report Maximum	****	****			1/Per Application	Calculated
Biocide (CL-4400)	Sample Measurement	****	****	****	MNR	****	****	ug/L	0	1/Per Application	Calculated
PARM 01289 Mon. Site No EFF-2 P	Permit Requirement	****	****		Report Maximum	****	****			1/Per Application	Calculated
Biocide (CL-1355)	Sample Measurement	****	****	****	MNR	****	****	ug/L	0	1/Per Application	Grab
PARM 01289 Mon. Site No EFF-2 Q	Permit Requirement	****	****		Report Maximum	****	****			1/Per Application	Grab
Biocide (CT-907)	Sample Measurement	****	****	****	MNR	****	****	ug/L	0	1/Per Application	Grab
PARM 01289 Mon. Site No EFF-2 R	Permit Requirement	****	****		Report Maximum	****	****			1/Per Application	Grab

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section MS 3550, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

PERMITTEE NAME: Progress Energy Florida, Inc.
MAILING: P.O. Box 14042 MAC CN77
Crystal River, FL 33733-4042
ATTN: Larry E. Hatcher

PERMIT NUMBER: FL0036366
MONITORING PERIOD--From: 2008/08/01 To: 2008/08/31
LIMIT: Final
CLASS SIZE: Major

REPORT: Monthly
GROUP: Industrial

FACILITY: Crystal River - Units 4 & 5
LOCATION: 15760 W. Powerline Street Crystal River, FL 34428-6708
COUNTY: Citrus

GMS ID No.:
DISCHARGE POINT NUMBER: D-075
PLANT SIZE/TREATMENT TYPE:

NO DISCHARGE FROM SITE: ☐

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
LC50 STATRE 96HOUR ACUTE Menidia Beryllina (Routine)	Sample Measurement	****	****	****	****	MNR	****	%	0	1/Per Application	Multiple Grab
PARM TAN6B P Mon. Site No EFF-2	Permit Requirement	****	****		****	100.0 (Daily Minimum)	****			1/Per Application	Multiple Grab
BD1500	Sample Measurement	****	****	****	NOD	****	****	ug/l	0	1/Per Application	Grab
PARM 01289 S Mon. Site No EFF-2	Permit Requirement	****	****		Report Maximum	****	****			1/Per Application	Grab
LC50 STATRE 96HOUR ACUTE Menidia Beryllina (Additional)	Sample Measurement	****	****	****	****	MNR	****	%	0	As required	Multiple Grab
PARM TAN6B Q Mon. Site No EFF-2	Permit Requirement	****	****		****	100.0 (Daily Minimum)	****			As required	Multiple Grab
LC50 STATRE 96HOUR ACUTE Mysidopsis Bahia (Routine)	Sample Measurement	****	****	****	****	MNR	****	%	0	1/Per Application	Multiple Grab
PARM TAN3E P Mon. Site No EFF-2	Permit Requirement	****	****		****	100.0 (Daily Minimum)	****			1/Per Application	Multiple Grab
LC50 STATRE 96HOUR ACUTE Mysidopsis Bahia (Additional)	Sample Measurement	****	****	****	****	MNR	****	%	0	As required	Multiple Grab
PARM TAN3E Q Mon. Site No EFF-2	Permit Requirement	****	****		****	100.0 (Daily Minimum)	****			As required	Multiple Grab

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

DEP Form 62-620.910(10), Effective November 29, 1994

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section, MS 3550, 2600 Blair Stone Road, Tallahassee, FL

PERMITTEE NAME: Progress Energy Florida, Inc.
MAILING: P.O. Box 14042, MAC CN77
Crystal River, FL 33733-4042
ATTN: Larry E. Hatcher

PERMIT NUMBER: FL0036366
MONITORING PERIOD--From: 2008/08/01 To: 2008/08/31
LIMIT: Final
CLASS SIZE: Major

REPORT: Monthly
GROUP: Industrial

FACILITY: Crystal River - Units 4 & 5
LOCATION: 15760 W. Powerline Street, Crystal River, FL 34428-6708
COUNTY: Citrus

GMS ID No.: 1037M25518
DISCHARGE POINT NUMBER: D-0C0
PLANT SIZE/TREATMENT TYPE:

NO DISCHARGE FROM SITE: ☐

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
Flow	Sample Measurement	****	12.47	MGD	****	****	****	****	0	Per Discharge	Wier Reading
PARM 50050 1 Mon. Site No EFF-4	Permit Requirement	****	Report (Inst. Max)		****	****	****			Per Discharge	Wier Reading
Length of Discharge Period	Sample Measurement	****	84	Hours	****	****	****	****	0	Per Discharge	Logs
PARM 81381 1 Mon. Site No EFF-4	Permit Requirement	****	Report (Inst. Max)		****	****	****			Per Discharge	Logs
Zinc, Total Recoverable	Sample Measurement	****	****	****	****	****	94	ug/L	0	Per Discharge	Grab
PARM 01094 1 Mon. Site No EFF-4	Permit Requirement	****	****		****	****	86.0 (Inst. Max)			Per Discharge	Grab
Vanadium, Total Recoverable	Sample Measurement	****	****	****	****	****	8.3	ug/L	0	Per Discharge	Grab
PARM 01128 1 Mon. Site No EFF-4	Permit Requirement	****	****		****	****	Report (Inst. Max)			Per Discharge	Grab
Selenium, Total Recoverable	Sample Measurement	****	****	****	****	****	2.6	ug/L	0	Per Discharge	Grab
PARM 00981 1 Mon. Site No EFF-4	Permit Requirement	****	****		****	****	71.0 (Inst. Max)			Per Discharge	Grab
Nickel, Total Recoverable	Sample Measurement	****	****	****	****	****	.98	ug/L	0	Per Discharge	Grab
PARM 01074 1 Mon. Site No EFF-4	Permit Requirement	****	****		****	****	8.3 (Inst. Max)			Per Discharge	Grab
Mercury, Total Recoverable	Sample Measurement	****	****	****	****	****	.024	ug/L	0	Per Discharge	Grab
PARM 71901 1 Mon. Site No EFF-4	Permit Requirement	****	****		****	****	0.025 (Inst. Max)			Per Discharge	Grab

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein; and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Name/Title of Principal Executive Officer or Authorized Agent (Type or Print)	Signature of Principal Executive Officer or Authorized Agent	Telephone No. (incl. area code)	Date (yy/mm/dd)
Larry E. Hatcher **Manager, Crystal River Fossil Plant & Fuel Operations**	Larry E. Hatcher	(352) 563-4484	9/26/08

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Overflow at outfall was caused by tropical storm and excessive rain fall on 8/22/08.

DEP Form 62-620.910(10), Effective November 29, 1994

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section, MS 3550, 2600 Blair Stone Road, Tallahassee, FL

PERMITTEE NAME: Progress Energy Florida, Inc.
MAILING: P.O. Box 14042, MAC CN77
Crystal River, FL 33733-4042
ATTN: Larry E. Hatcher

FACILITY: Crystal River - Units 4 & 5
LOCATION: 15760 W. Powerline Street, Crystal River, FL 34428-6708
COUNTY: Citrus

PERMIT NUMBER: FL0036366
MONITORING PERIOD--From: 2008/08/01 To: 2008/08/31
LIMIT: Final
CLASS SIZE: Major

REPORT: Monthly
GROUP: Industrial

GMS ID No.: 1037M25518
DISCHARGE POINT NUMBER: D-0C0
PLANT SIZE/TREATMENT TYPE:

NO DISCHARGE FROM SITE: ☐

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
Lead, Total Recoverable	Sample Measurement	****	****	****	****	****	1.3	ug/L	0	Per Discharge	Grab
PARM 01114 1 Mon. Site No EFF-4	Permit Requirement	****	****		****	****	8.5 (Inst. Max)			Per Discharge	Grab
Iron, Total Recoverable	Sample Measurement	****	****	****	****	****	0.87	mg/L	0	Per Discharge	Grab
PARM 00980 1 Mon. Site No EFF-4	Permit Requirement	****	****		****	****	0.3 (Inst. Max)			Per Discharge	Grab
Copper, Total Recoverable	Sample Measurement	****	****	****	****	****	2.5	ug/L	0	Per Discharge	Grab
PARM 01119 1 Mon. Site No EFF-4	Permit Requirement	****	****		****	****	3.7 (Inst. Max)			Per Discharge	Grab
Chromium, Hexavalent Total Recoverable	Sample Measurement	****	****	****	****	****	MNP	ug/L	0	Per Discharge	Grab
PARM 78247 1 Mon. Site No EFF-4	Permit Requirement	****	****		****	****	50.0 (Inst. Max)			Per Discharge	Grab
Chromium, Total Recoverable	Sample Measurement	****	****	****	****	****	5.2	mg/L	0	Per Discharge	Grab
PARM 01118 1 Mon. Site No EFF-4	Permit Requirement	****	****		****	****	673.05 (Inst. Max)			Per Discharge	Grab
Cadmium, Total Recoverable	Sample Measurement	****	****	****	****	****	.22	ug/L	0	Per Discharge	Grab
PARM 01113 1 Mon. Site No EFF-4	Permit Requirement	****	****		****	****	9.3 (Inst. Max)			Per Discharge	Grab
Arsenic, Total Recoverable	Sample Measurement	****	****	****	****	****	6.1	ug/L	0	Per Discharge	Grab
PARM 00978 1 Mon. Site No EFF-4	Permit Requirement	****	****		****	****	50.0 (Inst. Max)			Per Discharge	Grab

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Overflow at outfall was caused by tropical storm and excessive rain fall on 8/22/08.

DEP Form 62-620.910(10), Effective November 29, 1994.

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section, MS 3550, 2600 Blair Stone Road, Tallahassee, FL

PERMITTEE NAME: Progress Energy Florida, Inc.
MAILING: P.O. Box 14042, MAC CN77
Crystal River, FL 33733-4042
ATTN: Larry E. Hatcher

PERMIT NUMBER: FL0036366
MONITORING PERIOD--From: 2008/08/01 To: 2008/08/31
LIMIT: Final
CLASS SIZE: Major
REPORT: Monthly
GROUP: Industrial

FACILITY: Crystal River - Units 4 & 5
LOCATION: 15760 W. Powerline Street, Crystal River, FL 34428-6708
COUNTY: Citrus

GMS ID No.: 1037M25518
DISCHARGE POINT NUMBER: D-0C0
PLANT SIZE/TREATMENT TYPE:

NO DISCHARGE FROM SITE: ☐

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
pH	Sample Measurement	****	****	****	****		8.2	SU	1	Per Discharge	Grab
PARM 00400 1 Mon. Site No EFF-4	Permit Requirement	****	****		****	6.5 (Daily Min)	8.5 (Inst. Max)			Per Discharge	Grab
Oil and Grease	Sample Measurement	****	****	****	****	****	1.2	mg/L	0	Per Discharge	Grab
PARM 00556 1 Mon. Site No EFF-4	Permit Requirement	****	****		****	****	5.0 (Inst. Max)			Per Discharge	Grab
Solids, Total Suspended	Sample Measurement	****	****	****	****	****	5.0	mg/L	0	Per Discharge	Grab
PARM 00530 1 Mon. Site No EFF-4	Permit Requirement	****	****		****	****	50.0 (Inst. Max)			Per Discharge	Grab

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Overflow at outfall was caused by tropical storm and excessive rain fall on 8/22/08.

DEP Form 62-620.910(10), Effective November 29, 1994

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section, MS 3550, 2600 Blair Stone Road, Tallahassee, FL

PERMITTEE NAME: Progress Energy Florida, Inc.
MAILING: P.O. Box 14042, MAC CN77
Crystal River, FL 33733-4042
ATTN: Larry E. Hatcher

PERMIT NUMBER: FL0036366
MONITORING PERIOD--From: 2008/08/01 To: 2008/08/31
LIMIT: Final
CLASS SIZE: Major
REPORT: Monthly
GROUP: Industrial

FACILITY: Crystal River - Units 4 & 5
LOCATION: 15760 W. Powerline Street, Crystal River, FL 34428-6708
COUNTY: Citrus

GMS ID No.:
DISCHARGE POINT NUMBER: I-C40
PLANT SIZE/TREATMENT TYPE:

NO DISCHARGE FROM SITE: ☐

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
Flow	Sample Measurement	****	.54	MGD	****	****	****	****	0	Per Discharge	Wier Reading
PARM 50050 1 Mon. Site No OUI-2	Permit Requirement	****	Report (Daily Max)		****	****	****			Per Discharge	Wier Reading
Total Suspended Solids	Sample Measurement	****	****	****	****	****	3.6	mg/L	0	Per Discharge	Grab
PARM 00530 1 Mon. Site No OUI-2	Permit Requirement	****	****		****	****	50.0 (Daily Max)			Per Discharge	Grab
Length of Discharge Period	Sample Measurement	****	****	****	****	****	4	Hours	0	Per Discharge	Logs
PARM 81381 1 Mon. Site No OUI-2	Permit Requirement	****	****		****	****	Report (Daily Max)			Per Discharge	Logs
Zinc, Total Recoverable	Sample Measurement	****	****	****	****	****	19	ug/L	0	Per Discharge	Grab
PARM 01094 1 Mon. Site No OUI-2	Permit Requirement	****	****		****	****	Report (Daily Max)			Per Discharge	Grab
Vanadium, Total Recoverable	Sample Measurement	****	****	****	****	****	16	ug/L	0	Per Discharge	Grab
PARM 01128 1 Mon. Site No OUI-2	Permit Requirement	****	****		****	****	Report (Daily Max)			Per Discharge	Grab
Selenium, Total Recoverable	Sample Measurement	****	****	****	****	****	2.6	ug/L	0	Per Discharge	Grab
PARM 00981 1 Mon. Site No OUI-2	Permit Requirement	****	****		****	****	Report (Daily Max)			Per Discharge	Grab
Nickel, Total Recoverable	Sample Measurement	****	****	****	****	****	.98	ug/L	0	Per Discharge	Grab
PARM 01074 1 Mon. Site No OUI-2	Permit Requirement	****	****		****	****	Report (Daily Max)			Per Discharge	Grab

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein; and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Name/Title of Principal Executive Officer or Authorized Agent (Type or Print)	Signature of Principal Executive Officer or Authorized Agent	Telephone No. (incl. area code)	Date (yy/mm/dd)
Larry E. Hatcher Manager, Crystal River Fossil Plant & Fuel Operations	Larry E. Hatcher	(352) 563-4484	9/26/08

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Overflow at outfall was caused by tropical storm and excessive rain fall on 8/22/08. Flow and time duration were estimated for this outfall due to equipment malfunction.

DEP Form 62-620.910(10), Effective November 29, 1994

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section, MS 3550, 2600 Blair Stone Road, Tallahassee, FL

PERMITTEE NAME: Progress Energy Florida, Inc.
MAILING: P.O. Box 14042, MAC CN77
Crystal River, FL 33733-4042
ATTN: Larry E. Hatcher

PERMIT NUMBER: FL0036366
MONITORING PERIOD--From: 2008/08/01 To: 2008/08/31
LIMIT: Final
CLASS SIZE: Major

REPORT: Monthly
GROUP: Industrial

FACILITY: Crystal River - Units 4 & 5
LOCATION: 15760 W. Powerline Street, Crystal River, FL 34428-6708
COUNTY: Citrus

GMS ID No.:
DISCHARGE POINT NUMBER: I-C40
PLANT SIZE/TREATMENT TYPE:

NO DISCHARGE FROM SITE: ☐

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
Mercury, Total Recoverable	Sample Measurement	****	****	****	****	****	.024	ug/L	0	Per Discharge	Grab
PARM 71901 1 Mon. Site No OUI-2	Permit Requirement	****	****		****	****	Report (Daily Max)			Per Discharge	Grab
Lead, Total Recoverable	Sample Measurement	****	****	****	****	****	1.3	ug/L	0	Per Discharge	Grab
PARM 01114 1 Mon. Site No OUI-2	Permit Requirement	****	****		****	****	Report (Daily Max)			Per Discharge	Grab
Iron, Total Recoverable	Sample Measurement	****	****	****	****	****	1.0	mg/L	0	Per Discharge	Grab
PARM 00980 1 Mon. Site No OUI-2	Permit Requirement	****	****		****	****	Report (Daily Max)			Per Discharge	Grab
Copper, Total Recoverable	Sample Measurement	****	****	****	****	****	2.5	ug/L	0	Per Discharge	Grab
PARM 01119 1 Mon. Site No OUI-2	Permit Requirement	****	****		****	****	Report (Daily Max)			Per Discharge	Grab
Chromium, Trivalent Total Recoverable	Sample Measurement	****	****	****	****	****	MNP	ug/L	0	Per Discharge	Grab
PARM 04262 1 Mon. Site No OUI-2	Permit Requirement	****	****		****	****	Report (Daily Max)			Per Discharge	Grab
Cadmium, Total Recoverable	Sample Measurement	****	****	****	****	****	1.8	ug/L	0	Per Discharge	Grab
PARM 01113 1 Mon. Site No OUI-2	Permit Requirement	****	****		****	****	Report (Daily Max)			Per Discharge	Grab
Arsenic, Total Recoverable	Sample Measurement	****	****	****	****	****	6.1	ug/L	0	Per Discharge	Grab
PARM 00978 1 Mon. Site No OUI-2	Permit Requirement	****	****		****	****	Report (Daily Max)			Per Discharge	Grab

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Overflow at outfall was caused by tropical storm and excessive rain fall on 8/22/08. Flow and time duration were estimated for this outfall due to equipment malfunction.

DEP Form 62-620.910(10), Effective November 29, 1994

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section, MS 3550, 2600 Blair Stone Road, Tallahassee, FL

PERMITTEE NAME: Progress Energy Florida, Inc.
MAILING: P.O. Box 14042, MAC CN77
Crystal River, FL 33733-4042
ATTN: Larry E. Hatcher

PERMIT NUMBER: FL0036366
MONITORING PERIOD--From: 2008/08/01 To: 2008/08/31
LIMIT: Final
CLASS SIZE: Major

REPORT: Monthly
GROUP: Industrial

FACILITY: Crystal River - Units 4 & 5
LOCATION: 15760 W. Powerline Street, Crystal River, FL 34428-6708
COUNTY: Citrus

GMS ID No.:
DISCHARGE POINT NUMBER: I-CH0
PLANT SIZE/TREATMENT TYPE:

NO DISCHARGE FROM SITE: ☐

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
Flow	Sample Measurement	****	1.2	MGD	****	****	****	****	0	Per Discharge	Wier Reading
PARM 50050 1 Mon. Site No OUI-1	Permit Requirement	****	Report (Daily Max)		****	****	****			Per Discharge	Wier Reading
Solids, Total Suspended	Sample Measurement	****	****	****	****	****	3.2	mg/L	0	Per Discharge	Grab
PARM 00530 1 Mon. Site No OUI-1	Permit Requirement	****	****		****	****	50.0 (Daily Max)			Per Discharge	Grab
Length of Discharge Period	Sample Measurement	****	****	****	****	****	24	Hours	0	Per Discharge	Logs
PARM 81381 1 Mon. Site No OUI-1	Permit Requirement	****	****		****	****	Report (Daily Max)			Per Discharge	Logs
Arsenic, Total Recoverable	Sample Measurement	****	****	****	****	****	6.1	ug/L	0	Per Discharge	Grab
PARM 00978 P Mon. Site No OUI-1	Permit Requirement	****	****		****	****	Report (Daily Max)			Per Discharge	Grab
Cadmium, Total Recoverable	Sample Measurement	****	****	****	****	****	.27	ug/L	0	Per Discharge	Grab
PARM 01113 P Mon. Site No OUI-1	Permit Requirement	****	****		****	****	Report (Daily Max)			Per Discharge	Grab
Chromium, Total Recoverable	Sample Measurement	****	****	****	****	****	14	ug/L	0	Per Discharge	Grab
PARM 01118 P Mon. Site No OUI-1	Permit Requirement	****	****		****	****	Report (Daily Max)			Per Discharge	Grab
Copper, Total Recoverable	Sample Measurement	****	****	****	****	****	4.4	ug/L	0	Per Discharge	Grab
PARM 01119 P Mon. Site No OUI-1	Permit Requirement	****	****		****	****	Report (Daily Max)			Per Discharge	Grab

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein; and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Name/Title of Principal Executive Officer or Authorized Agent (Type or Print)	Signature of Principal Executive Officer or Authorized Agent	Telephone No. (incl. area code)	Date (yy/mm/dd)
Larry E. Hatcher Manager, Crystal River Fossil Plant & Fuel Operations	Larry E. Hatch	(352) 563-4484	9/26/08

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Overflow at outfall was caused by tropical storm and excessive rain fall on 8/22/08. Flow and time duration were estimated for this outfall due to equipment malfunction.

DEP Form 62-620.910(10). Effective November 29, 1994

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section, MS 3550, 2600 Blair Stone Road, Tallahassee, FL

PERMITTEE NAME: Progress Energy Florida, Inc.
MAILING: P.O. Box 14042, MAC CN77
Crystal River, FL 33733-4042
ATTN: Larry E. Hatcher

FACILITY: Crystal River - Units 4 & 5
LOCATION: 15760 W. Powerline Street, Crystal River, FL 34428-6708
COUNTY: Citrus

PERMIT NUMBER: FL0036366
MONITORING PERIOD--From: 2008/08/01 To: 2008/08/31
LIMIT: Final
CLASS SIZE: Major
REPORT: Monthly
GROUP: Industrial

GMS ID No.:
DISCHARGE POINT NUMBER: I-CH0
PLANT SIZE/TREATMENT TYPE:
NO DISCHARGE FROM SITE: ☐

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
Iron, Total Recoverable	Sample Measurement	****	****	****	****	****	4.3	mg/L	0	Per Discharge	Grab
PARM 00980 P Mon. Site No OUI-1	Permit Requirement	****	****		****	****	Report (Daily Max)			Per Discharge	Grab
Lead, Total Recoverable	Sample Measurement	****	****	****	****	****	1.3	ug/L	0	Per Discharge	Grab
PARM 01114 P Mon. Site No OUI-1	Permit Requirement	****	****		****	****	Report (Daily Max)			Per Discharge	Grab
Mercury, Total Recoverable	Sample Measurement	****	****	****	****	****	.048	ug/L	0	Per Discharge	Grab
PARM 71901 P Mon. Site No OUI-1	Permit Requirement	****	****		****	****	Report (Daily Max)			Per Discharge	Grab
Nickel, Total Recoverable	Sample Measurement	****	****	****	****	****	4.7	ug/L	0	Per Discharge	Grab
PARM 01074 P Mon. Site No OUI-1	Permit Requirement	****	****		****	****	Report (Daily Max)			Per Discharge	Grab
Selenium, Total Recoverable	Sample Measurement	****	****	****	****	****	2.6	ug/L	0	Per Discharge	Grab
PARM 00981 P Mon. Site No OUI-1	Permit Requirement	****	****		****	****	Report (Daily Max)			Per Discharge	Grab
Vanadium, Total Recoverable	Sample Measurement	****	****	****	****	****	35	ug/L	0	Per Discharge	Grab
PARM 01128 P Mon. Site No OUI-1	Permit Requirement	****	****		****	****	Report (Daily Max)			Per Discharge	Grab
Zinc, Total Recoverable	Sample Measurement	****	****	****	****	****	50	ug/L	0	Per Discharge	Grab
PARM 01094 P Mon. Site No OUI-1	Permit Requirement	****	****		****	****	Report (Daily Max)			Per Discharge	Grab

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

Overflow at outfall was caused by tropical storm and excessive rain fall on 8/22/08. Flow and time duration were estimated for this outfall due to equipment malfunction.

DEP Form 62-620.910(10), Effective November 29, 1994

WATER QUALITY TEST RESULTS

GMS32

TESTSITE ID:
009 1
Cooling Tower Blowdown from Unit 4

PERMIT ID: PA 77-09

RELATED FACILITY:
PROGRESS ENERGY, FLORIDA, INC.
Crystal River North Plant - Units 4 & 5
Crystal River, FL

SAMPLE DATE:
SAMPLE DEPTH:
DATE TESTED:
LAB ID:
SAMPLE TYPE: Effluent Point Sample
COMMENTS: August 2008

SEE ATTACHED CERTIFICATION STATEMENT

(SIGNATURE, TITLE AND TELEPHONE NUMBER OF PERSON COMPLETING THIS FORM)

I CERTIFY THAT I AM FAMILIAR WITH THE INFORMATION CONTAINED IN THIS REPORT AND THAT TO MY KNOWLEDGE AND BELIEF SUCH INFORMATION IS TRUE, COMPLETE AND ACCURATE.

PARAMETER	STORET #	RESULTS	UNITS	REMARKS
SPEC. COND. (MO MAX)	000095	45,488	UMHOS/CM	
TOT. DIS. SOLIDS (MO MAX)	070304	34,775	MG/L	
FLOW (MO MAX)	900187	42.320	MGD	
PH (MO MIN)	N/A	8.2	STD. UN.	
TEMPERATURE, WATER DEG. FAHF	000011	98.1	DEG. F	
TRO (INST MAX)	050060	<0.01	MG/L	
PH (MO MAX)	000400	8.3	STD. UN.	

WATER QUALITY TEST RESULTS

GMS32

TESTSITE ID:
010 1
Cooling Tower Blowdown from Unit 5

SAMPLE DATE:
SAMPLE DEPTH:

DATE TESTED: LAB ID:

COMMENTS: August 2008

PERMIT ID: PA 77-09

RELATED FACILITY:
PROGRESS ENERGY, FLORIDA, INC.
Crystal River North Plant - Units 4 & 5
Crystal River, FL

SAMPLE TYPE: Effluent Point Sample

SEE ATTACHED CERTIFICATION STATEMENT

(SIGNATURE, TITLE AND TELEPHONE NUMBER OF PERSON COMPLETING THIS FORM)

I CERTIFY THAT I AM FAMILIAR WITH THE INFORMATION CONTAINED IN THIS REPORT AND THAT TO MY KNOWLEDGE AND BELIEF SUCH INFORMATION IS TRUE, COMPLETE AND ACCURATE.

PARAMETER	STORET #	RESULTS	UNITS	REMARKS
SPEC. COND. (MO MAX)	000095	32,811	UMHOS/CM	
TOT. DIS. SOLIDS (MO MAX)	070304	35,359	MG/L	
FLOW (MO MAX)	900187	43.100	MGD	
PH (MO MIN)	N/A	8.3	STD. UN.	
TEMPERATURE, WATER DEG. FAHF	000011	98.1	DEG. F	
TRO (INST MAX)	050060	<0.01	MG/L	
PH (MO MAX)	000400	8.3	STD. UN.	

WATER QUALITY TEST RESULTS

GMS32

TESTSITE ID:
WELL FLOW
WELLFIELD FLOW TO UNITS 4 & 5

PERMIT ID: PA 77-09

RELATED FACILITY:
PROGRESS ENERGY, FLORIDA, INC.
Crystal River North Plant - Units 4 & 5
Crystal River, FL

SAMPLE DATE:
SAMPLE DEPTH:
DATE TESTED:
COMMENTS: August 2008

LAB ID:

SAMPLE TYPE: Effluent Point Sample

SEE ATTACHED CERTIFICATION STATEMENT

(SIGNATURE, TITLE AND TELEPHONE NUMBER OF PERSON COMPLETING THIS FORM)

I CERTIFY THAT I AM FAMILIAR WITH THE INFORMATION CONTAINED IN THIS REPORT AND THAT TO MY KNOWLEDGE AND BELIEF SUCH INFORMATION IS TRUE, COMPLETE AND ACCURATE.

PARAMETER	STORET #	RESULTS	UNITS	REMARKS
FLOW FROM WELLFIELD (MO TOT)	900186	29.700	MG	

PEF letter to FDEP NPDES Monitoring Report September 2004

Progress Energy

Michael Olive
Plant Manager
Crystal River Fossil Plant

October 25, 2004

Florida Department of Environmental Protection
Wastewater Facilities Regulation Section
Twin Towers Office Buildings
2600 Blair Stone Road, Mail Station 3550
Tallahassee, FL 32399-2400

Dear Sir:

Re: Progress Energy Florida
Crystal River Units 1, 2
Permit ID# NPDES FL0000159-001-IW1S

Enclosed are the monitoring reports for the month of September 2004, in accordance with the requirements of the above-cited permits.

If you should have any questions concerning these reports, please contact Ron Johnson of my staff at (352) 563-4568 or Mike Shrader at (727) 826-4050.

Sincerely,

Michael Olive
Manager, Crystal River Fossil Plant

Enclosures

Progress Energy Florida, Inc.
Crystal River Steam Plant
15760 W. Powerline Street
Crystal River, FL 34428

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section MS 3550, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

UNIT 1 - ONCE THROUGH COOLING WATER

PERMITTEE NAME: Progress Energy Florida

MAILING: P.O. Box 14042 MAC CN77
St. Petersburg FL 33733
ATTN: Michael Olive

FACILITY: Crystal River South Plant - Units 1, 2
LOCATION: 15760 W. Powerline St. Crystal River, FL 34428
COUNTY: Citrus

PERMIT NUMBER: FL0000159-001-1W1S
LIMIT: Final
CLASS SIZE: Major
DISCHARGE POINT NUMBER: D-011
PLANT SIZE/TREATMENT TYPE:
NO DISCHARGE FROM SITE: ☐

WAFR Site No.:
GMS ID No.: 1037M25518
GMS Test Site No.:
REPORT: Monthly
GROUP: Industrial

MONITORING PERIOD--From: 2004/09/01 To: 2004/09/30

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
Flow	Sample Measurement	1,661.1	1,774.8	MGD	****	****	****	****	0	Continuous	Pump Log
STORET No. 50050 1 Mon. Site No EFF-2	Permit Requirement	Report DAILY AVG	1,897.9 DAILY MAX		****	****	****			Continuous	Pump Log
Temperature, Intake	Sample Measurement	****	****	****	****	82.1	88.4	Deg F	0	Continuous	Recorders
STORET No. 00011 7 Mon. Site No INT-3A	Permit Requirement	****	****		****	Report DAILY AVG	Report DAILY MAX			Continuous	Recorders
Temperature, Discharge	Sample Measurement	****	****	****	****	92.0	101.9	Deg F	1	Continuous	Recorders
STORET No. 00011 1 Mon. Site No EFF-3D	Permit Requirement	****	****		****	Report DAILY AVG	96.5 DAILY MAX			Continuous	Recorders
Temperature Rise	Sample Measurement	****	****	****	****	10.1	13.4	Deg F	0	Continuous	Recorders
STORET No. 61576 1 Mon. Site No ENV	Permit Requirement	****	****		****	Report DAILY AVG	Report DAILY MAX			Continuous	Recorders
Total Residual Oxidants	Sample Measurement	****	****	****	****	NODI=9	NODI=9	mg/L	0	2/Week	Multiple Grabs
STORET No. 34044 1 Mon. Site No EFF-1A	Permit Requirement	****	****		****	Report DAILY AVG	0.01 DAILY MAX			2/Week	Multiple Grabs
Total Residual Oxidants, Time of Discharge	Sample Measurement	****	****	****	****	****	0.0	mins/day/unit	0	2/Week	Logs
STORET No. 04223 P Mon. Site No EFF-1A	Permit Requirement	****	****		****	****	60.0 DAILY MAX			2/Week	Logs

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Name/Title of Principal Executive Officer or Authorized Agent (Type or Print)	Signature of Principal Executive Officer or Authorized Agent	Telephone No. (incl. area code)	Date (yy/mm/dd)
Michael Olive Manager Crystal River Fossil Plant	Michael Olive	(352) 563-4484	04/10/25

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

See Addendum

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

UNIT 2 - ONCE THROUGH COOLING WATER

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section MS 3550, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

PERMITTEE NAME: Progress Energy Florida

MAILING: P.O. Box 14042 MAC CN77, St. Petersburg FL 33733, ATTN: Michael Olive

FACILITY: Crystal River South Plant - Units 1, 2

LOCATION: 15760 W. Powerline St. Crystal River, FL 34428

COUNTY: Citrus

PERMIT NUMBER: FL0000159-001-1W1S

LIMIT: Final

CLASS SIZE: Major

DISCHARGE POINT NUMBER: D-012

PLANT SIZE/TREATMENT TYPE:

NO DISCHARGE FROM SITE: ☐

WAFR Site No.:

GMS ID No.: 1037M25518

GMS Test Site No.:

REPORT: Monthly

GROUP: Industrial

MONITORING PERIOD--From: 2004/09/01 To: 2004/09/30

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
Temperature, Intake	Sample Measurement	****	****	****	****	82.1	88.4	Deg F	0	Continuous	Recorders
STORET No. 00011 7 Mon. Site No INT-3B	Permit Requirement	****	****		****	Report DAILY AVG	Report DAILY MAX			Continuous	Recorders
Temperature, Discharge	Sample Measurement	****	****	****	****	92.0	101.9	Deg F	1	Continuous	Recorders
STORET No. 00011 1 Mon. Site No EFF-3D	Permit Requirement	****	****		****	Report DAILY AVG	96.5 DAILY MAX			Continuous	Recorders
Temperature Rise	Sample Measurement	****	****	****	****	10.1	13.4	Deg F	0	Continuous	Recorders
STORET No. 61576 1 Mon. Site No ENV	Permit Requirement	****	****		****	Report DAILY AVG	Report DAILY MAX			Continuous	Recorders
Total Residual Oxidants	Sample Measurement	****	****	****	****	NODI=9	NODI=9	mg/L	0	2/Week	Multiple Grabs
STORET No. 34044 1 Mon. Site No EFF-1B	Permit Requirement	****	****		****	Report DAILY AVG	0.01 DAILY MAX			2/Week	Multiple Grabs
Total Residual Oxidants, Time of Discharge	Sample Measurement	****	****	****	****	****	0.0	mins/day/ unit	0	2/Week	Logs
STORET No. 04223 1 Mon. Site No EFF-1B	Permit Requirement	****	****		****	****	60.0 DAILY MAX			2/Week	Logs

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Name/Title of Principal Executive Officer or Authorized Agent (Type or Print)	Signature of Principal Executive Officer or Authorized Agent	Telephone No. (incl. area code)	Date (yy/mm/dd)
Michael Olive **Manager Crystal River Fossil Plant**	Michael Olive	(352) 563-4484	04/10/25

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

See Addendum

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section MS 3550, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

HCT EFFLUENT (Units 1 & 2)

PERMITTEE NAME: Progress Energy Florida

MAILING: P.O. Box 14042 MAC CN77, St. Petersburg FL 33733, ATTN: Michael Olive

FACILITY: Crystal River South Plant - Units 1, 2

LOCATION: 15760 W. Powerline St. Crystal River, FL 34428

COUNTY: Citrus

PERMIT NUMBER: FL0000159-001-1W1S

LIMIT: Final

CLASS SIZE: Major

DISCHARGE POINT NUMBER: D-071

PLANT SIZE/TREATMENT TYPE:

NO DISCHARGE FROM SITE: ☐

WAFR Site No.:

GMS ID No.: 1037M25518

GMS Test Site No.:

REPORT: Monthly

GROUP: Industrial

MONITORING PERIOD--From: 2004/09/01 To: 2004/09/30

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
Flow, Intake	Sample Measurement	251.140	504.000	MGD	****	****	****	****	0	Continuous	Pump Log
STORET No. 50050 7 Mon. Site No INT-10A	Permit Requirement	Report DAILY AVG	Report DAILY MAX		****	****	****			Continuous	Pump Log
Total Residual Oxidants	Sample Measurement	****	****	****	****	NODI=9	NODI=9	mg/L	0	Continuous	Recorders
STORET No. 34044 1 Mon. Site No EFF-10B	Permit Requirement	****	****		****	Report DAILY AVG	0.01 DAILY MAX			Continuous	Recorders
Total Residual Oxidants, Time of Discharge	Sample Measurement	****	****	****	****	****	0.0	mins/day/unit	0	Continuous	Recorders
STORET No. 04223 1 Mon. Site No EFF-10B	Permit Requirement	****	****		****	****	60.0 DAILY MAX			Continuous	Recorders
pH (Background)	Sample Measurement	****	****	****	8.0	****	8.0	SU	0	1/Quarter	Logs
STORET No. 00400 7 Mon. Site No INT-3D	Permit Requirement	****	****		Report DAILY MIN	****	Report DAILY MAX			1/Quarter	Logs
pH (Effluent)	Sample Measurement	****	****	****	8.0	****	8.0	SU	0	1/Quarter	Logs
STORET No. 00400 P Mon. Site No EFF-10	Permit Requirement	****	****		Report DAILY MIN	****	Report DAILY MAX			1/Quarter	Logs
pH (Calculated Limit)	Sample Measurement	****	****	****	7.0	****	8.5	SU	0	1/Quarter	Logs
STORET No. 00400 Q Mon. Site No EFF-10	Permit Requirement	****	****		Report DAILY MIN	****	Report DAILY MAX			1/Quarter	Logs
pH (Exceedance of Calculated Limit)	Sample Measurement	****	****	****	1.0	****	-0.5	SU	0	1/Quarter	Logs
STORET No. 00400 R Mon. Site No EFF-10	Permit Requirement	****	****		0.0 DAILY MIN	****	0.0 DAILY MAX			1/Quarter	Logs

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Name/Title of Principal Executive Officer or Authorized Agent (Type or Print)	Signature of Principal Executive Officer or Authorized Agent	Telephone No. (incl. area code)	Date (yy/mm/dd)
Michael Olive **Manager Crystal River Fossil Plant**	Michael Olive	(352) 563-4484	04/10/25

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section MS 3550, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

HCT EFFLUENT (Units 3 & 4)

PERMITTEE NAME: Progress Energy Florida

MAILING: P.O. Box 14042 MAC CN77
St. Petersburg FL 33733
ATTN: Michael Olive

FACILITY: Crystal River South Plant - Units 1, 2
LOCATION: 15760 W. Powerline St. Crystal River, FL 34428
COUNTY: Citrus

PERMIT NUMBER: FL0000159-001-1W1S
LIMIT: Final
CLASS SIZE: Major
DISCHARGE POINT NUMBER: D-072
PLANT SIZE/TREATMENT TYPE:
NO DISCHARGE FROM SITE: ☐

WAFR Site No.:
GMS ID No.: 1037M25518
GMS Test Site No.:
REPORT: Monthly
GROUP: Industrial

MONITORING PERIOD--From: 2004/09/01 To: 2004/09/30

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
Flow, Intake	Sample Measurement	170.720	504.000	MGD	****	****	****	****	0	Continuous	Pump Log
STORET No. 50050 7	Permit Requirement	Report DAILY AVG	Report DAILY MAX		****	****	****			Continuous	Pump Log
Mon. Site No INT-11A											
Total Residual Oxidants	Sample Measurement	****	****	****	****	NODI=9	NODI=9	mg/L	0	Continuous	Recorders
STORET No. 34044 1	Permit Requirement	****	****		****	Report DAILY AVG	0.01 DAILY MAX			Continuous	Recorders
Mon. Site No EFF-11B											
Total Residual Oxidants, Time of Discharge	Sample Measurement	****	****	****	****	****	0.0	mins/day/unit	0	Continuous	Recorders
STORET No. 04223 1	Permit Requirement	****	****		****	****	60.0 DAILY MAX			Continuous	Recorders
Mon. Site No EFF-11B											
pH (Background)	Sample Measurement	****	****	****	8.0	****	8.0	SU	0	1/Quarter	Logs
STORET No. 00400 7	Permit Requirement	****	****		Report DAILY MIN	****	Report DAILY MAX			1/Quarter	Logs
Mon. Site No INT-3D											
pH (Effluent)	Sample Measurement	****	****	****	8.0	****	8.0	SU	0	1/Quarter	Logs
STORET No. 00400 P	Permit Requirement	****	****		Report DAILY MIN	****	Report DAILY MAX			1/Quarter	Logs
Mon. Site No EFF-11											
pH (Calculated Limit)	Sample Measurement	****	****	****	7.0	****	8.5	SU	0	1/Quarter	Logs
STORET No. 00400 Q	Permit Requirement	****	****		Report DAILY MIN	****	Report DAILY MAX			1/Quarter	Logs
Mon. Site No EFF-11											
pH (Exceedance of Calculated Limit)	Sample Measurement	****	****	****	1.0	****	-0.5	SU	0	1/Quarter	Logs
STORET No. 00400 R	Permit Requirement	****	****		0.0 DAILY MIN	****	0.0 DAILY MAX			1/Quarter	Logs
Mon. Site No EFF-11											

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Name/Title of Principal Executive Officer or Authorized Agent (Type or Print)	Signature of Principal Executive Officer or Authorized Agent	Telephone No. (incl. area code)	Date (yy/mm/dd)
Michael Olive **Manager Crystal River Fossil Plant**	Michael Olive	(352) 563-4484	04/10/25

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section MS 3550, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

NORTH ASHPOND DISCHARGE

PERMITTEE NAME: Progress Energy Florida

MAILING: P.O. Box 14042 MAC CN77
St. Petersburg FL 33733
ATTN: Michael Olive

FACILITY: Crystal River South Plant - Units 1, 2
LOCATION: 15760 W. Powerline St. Crystal River, FL 34428
COUNTY: Citrus

PERMIT NUMBER: FL0000159-001-1W1S
LIMIT: Final
CLASS SIZE: Major
DISCHARGE POINT NUMBER: D-0C1
PLANT SIZE/TREATMENT TYPE:
NO DISCHARGE FROM SITE: [X]

WAFR Site No.:
GMS ID No.: 1037M25518
GMS Test Site No.:
REPORT: Monthly
GROUP: Industrial

MONITORING PERIOD--From: 2004/09/01 To: 2004/09/30

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
Flow	Sample Measurement	NODI=C	NODI=C	MGD	****	****	****	****	0	1/Day of Discharge	Calculation
STORET No. 50050 1 Mon. Site No EFF-5	Permit Requirement	Report DAILY AVG	Report DAILY MAX		****	****	****			1/Day of Discharge	Calculation
Oil and Grease	Sample Measurement	****	****	****	****	****	NODI=C	mg/L	0	1/Week	Grab
STORET No. 00556 1 Mon. Site No EFF-5	Permit Requirement	****	****		****	****	5.0 DAILY MAX			1/Week	Grab
Total Suspended Solids	Sample Measurement	****	****	****	****	NODI=9	NODI=9	mg/L	0	3/Week	Grab
STORET No. 00530 1 Mon. Site No EFF-5	Permit Requirement	****	****		****	30.0 DAILY AVG	100.0 DAILY MAX			3/Week	Grab
Arsenic, Total Recoverable	Sample Measurement	****	****	****	****	****	NODI=9	ug/L	0	1/Month	Grab
STORET No. 00978 1 Mon. Site No EFF-5	Permit Requirement	****	****		****	****	50.0 DAILY MAX			1/Month	Grab
Cadmium, Total Recoverable	Sample Measurement	****	****	****	****	****	NODI=9	ug/L	0	1/Month	Grab
STORET No. 01113 1 Mon. Site No EFF-5	Permit Requirement	****	****		****	****	5.0 DAILY MAX			1/Month	Grab
Chromium, Total Recoverable	Sample Measurement	****	****	****	****	****	NODI=9	ug/L	0	1/Month	Grab
STORET No. 01118 1 Mon. Site No EFF-5	Permit Requirement	****	****		****	****	50.0 DAILY MAX			1/Month	Grab
Copper, Total Recoverable	Sample Measurement	****	****	****	****	****	NODI=9	ug/L	0	1/Month	Grab
STORET No. 01119 1 Mon. Site No EFF-5	Permit Requirement	****	****		****	****	2.9 DAILY MAX			1/Month	Grab

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Name/Title of Principal Executive Officer or Authorized Agent (Type or Print)	Signature of Principal Executive Officer or Authorized Agent	Telephone No. (incl. area code)	Date (yy/mm/dd)
Michael Olive Manager Crystal River Fossil Plant	Michael Olive	(352) 563-4484	04/10/25

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

NORTH ASHPOND DISCHARGE

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section MS 3550, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

PERMITTEE NAME: Progress Energy Florida

MAILING: P.O. Box 14042 MAC CN77
St. Petersburg FL 33733
ATTN: Michael Olive

FACILITY: Crystal River South Plant - Units 1, 2
LOCATION: 15760 W. Powerline St. Crystal River, FL 34428
COUNTY: Citrus

PERMIT NUMBER: FL0000159-001-1W1S
LIMIT: Final
CLASS SIZE: Major
DISCHARGE POINT NUMBER: D-0C1
PLANT SIZE/TREATMENT TYPE:
NO DISCHARGE FROM SITE: [X]

WAFR Site No.:
GMS ID No.: 1037M25518
GMS Test Site No.:
REPORT: Monthly
GROUP: Industrial

MONITORING PERIOD--From: 2004/09/01 To: 2004/09/30

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
Iron, Total Recoverable	Sample Measurement	****	****	****	****	****	NODI=9	ug/L	0	1/Month	Grab
STORET No. 00980 1 Mon. Site No EFF-5	Permit Requirement	****	****		****	****	300.0 DAILY MAX			1/Month	Grab
Lead, Total Recoverable	Sample Measurement	****	****	****	****	****	NODI=9	ug/L	0	1/Month	Grab
STORET No. 01114 1 Mon. Site No EFF-5	Permit Requirement	****	****		****	****	5.6 DAILY MAX			1/Month	Grab
Mercury, Total Recoverable	Sample Measurement	****	****	****	****	****	NODI=9	ug/L	0	1/Month	Grab
STORET No. 71901 1 Mon. Site No EFF-5	Permit Requirement	****	****		****	****	0.025 DAILY MAX			1/Month	Grab
Nickel, Total Recoverable	Sample Measurement	****	****	****	****	****	NODI=9	ug/L	0	1/Month	Grab
STORET No. 01074 1 Mon. Site No EFF-5	Permit Requirement	****	****		****	****	100.0 DAILY MAX			1/Month	Grab
Selenium, Total Recoverable	Sample Measurement	****	****	****	****	****	NODI=9	ug/L	0	1/Month	Grab
STORET No. 00981 1 Mon. Site No EFF-5	Permit Requirement	****	****		****	****	25.0 DAILY MAX			1/Month	Grab
Zinc, Total Recoverable	Sample Measurement	****	****	****	****	****	NODI=9	ug/L	0	1/Month	Grab
STORET No. 01094 1 Mon. Site No EFF-5	Permit Requirement	****	****		****	****	86.0 DAILY MAX			1/Month	Grab
pH (Background)	Sample Measurement	****	****	****	NODI=C	****	NODI=C	SU	0	1/Day of Discharge	Grab
STORET No. 00400 7 Mon. Site No INT-3D	Permit Requirement	****	****		Report DAILY MIN	****	Report DAILY MAX			1/Day of Discharge	Grab

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section MS 3550, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

NORTH ASHPOND DISCHARGE

PERMITTEE NAME: Progress Energy Florida

MAILING: P.O. Box 14042 MAC CN77
St. Petersburg FL 33733
ATTN: Michael Olive

FACILITY: **Crystal River South Plant - Units 1, 2**

LOCATION: 15760 W. Powerline St Crystal River, FL 34428

COUNTY: Citrus

PERMIT NUMBER: FL0000159-001-1W1S

LIMIT: Final

CLASS SIZE: Major

DISCHARGE POINT NUMBER: D-0C1

PLANT SIZE/TREATMENT TYPE:

NO DISCHARGE FROM SITE: [X]

WAFR Site No.:

GMS ID No.: 1037M25518

GMS Test Site No.:

REPORT: Monthly

GROUP: Industrial

MONITORING PERIOD--From: 2004/09/01 To: 2004/09/30

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
pH (Effluent)	Sample Measurement	****	****	****	NODI=C	****	NODI=C	SU	0	1/Day of Discharge	Grab
STORET No. 00400 P Mon. Site No EFF-5	Permit Requirement	****	****		Report DAILY MIN	****	Report DAILY MAX			1/Day of Discharge	Grab
pH (Calculated Limit)	Sample Measurement	****	****	****	NODI=C	****	NODI=C	SU	0	1/Day of Discharge	Grab
STORET No. 00400 Q Mon. Site No EFF-5	Permit Requirement	****	****		Report DAILY MIN	****	Report DAILY MAX			1/Day of Discharge	Grab
pH (Exceedance of Calculated Limit)	Sample Measurement	****	****	****	NODI=C	****	NODI=C	SU	0	1/Day of Discharge	Grab
STORET No. 00400 R Mon. Site No EFF-5	Permit Requirement	****	****		0.0 DAILY MIN	****	0.0 DAILY MAX			1/Day of Discharge	Grab

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section MS 3550, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

SOUTH ASHPOND DISCHARGE

PERMITTEE NAME: Progress Energy Florida

MAILING: P.O. Box 14042 MAC CN77, St. Petersburg FL 33733, ATTN: Michael Olive

FACILITY: Crystal River South Plant - Units 1, 2

LOCATION: 15760 W. Powerline St. Crystal River, FL 34428

COUNTY: Citrus

PERMIT NUMBER: FL0000159-001-1W1S

LIMIT: Final

CLASS SIZE: Major

DISCHARGE POINT NUMBER: D-0C2

PLANT SIZE/TREATMENT TYPE:

NO DISCHARGE FROM SITE: [X]

WAFR Site No.:

GMS ID No.: 1037M25518

GMS Test Site No.:

REPORT: Monthly

GROUP: Industrial

MONITORING PERIOD--From: 2004/09/01 To: 2004/09/30

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
Flow	Sample Measurement	NODI=C	NODI=C	MGD	****	****	****	****	0	1/Day of Discharge	Calculation
STORET No. 50050 1	Permit Requirement	Report DAILY AVG	Report DAILY MAX		****	****	****			1/Day of Discharge	Calculation
Oil and Grease	Sample Measurement	****	****	****	****	****	NODI=C	mg/L	0	1/Week	Grab
STORET No. 00556 1	Permit Requirement	****	****		****	****	5.0 DAILY MAX			1/Week	Grab
Total Suspended Solids	Sample Measurement	****	****	****	****	NODI=9	NODI=9	mg/L	0	3/Week	Grab
STORET No. 00530 1	Permit Requirement	****	****		****	30.0 DAILY AVG	100.0 DAILY MAX			3/Week	Grab
Arsenic, Total Recoverable	Sample Measurement	****	****	****	****	****	NODI=9	ug/L	0	1/Month	Grab
STORET No. 00978 1	Permit Requirement	****	****		****	****	50.0 DAILY MAX			1/Month	Grab
Cadmium, Total Recoverable	Sample Measurement	****	****	****	****	****	NODI=9	ug/L	0	1/Month	Grab
STORET No. 01113 1	Permit Requirement	****	****		****	****	5.0 DAILY MAX			1/Month	Grab
Chromium, Total Recoverable	Sample Measurement	****	****	****	****	****	NODI=9	ug/L	0	1/Month	Grab
STORET No. 01118 1	Permit Requirement	****	****		****	****	50.0 DAILY MAX			1/Month	Grab
Copper, Total Recoverable	Sample Measurement	****	****	****	****	****	NODI=9	ug/L	0	1/Month	Grab
STORET No. 01119 1	Permit Requirement	****	****		****	****	2.9 DAILY MAX			1/Month	Grab

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Name/Title of Principal Executive Officer or Authorized Agent (Type or Print)	Signature of Principal Executive Officer or Authorized Agent	Telephone No. (incl. area code)	Date (yy/mm/dd)
Michael Olive **Manager Crystal River Fossil Plant**	Michael Olive	(352) 563-4484	04/10/25

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section MS 3550, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

SOUTH ASHPOND DISCHARGE

PERMITTEE NAME: Progress Energy Florida

MAILING: P.O. Box 14042 MAC CN77
St. Petersburg FL 33733
ATTN: Michael Olive

FACILITY: Crystal River South Plant - Units 1, 2
LOCATION: 15760 W. Powerline St. Crystal River, FL 34428
COUNTY: Citrus

PERMIT NUMBER: FL0000159-001-1W1S
LIMIT: Final
CLASS SIZE: Major
DISCHARGE POINT NUMBER: D-0C2
PLANT SIZE/TREATMENT TYPE:
NO DISCHARGE FROM SITE: [X]

WAFR Site No.:
GMS ID No.: 1037M25518
GMS Test Site No.:
REPORT: Monthly
GROUP: Industrial

MONITORING PERIOD--From: 2004/09/01 To: 2004/09/30

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
Iron, Total Recoverable	Sample Measurement	****	****	****	****	****	NODI=9	ug/L	0	1/Month	Grab
STORET No. 00980 1 Mon. Site No EFF-6	Permit Requirement	****	****		****	****	300.0 DAILY MAX			1/Month	Grab
Lead, Total Recoverable	Sample Measurement	****	****	****	****	****	NODI=9	ug/L	0	1/Month	Grab
STORET No. 01114 1 Mon. Site No EFF-6	Permit Requirement	****	****		****	****	5.6 DAILY MAX			1/Month	Grab
Mercury, Total Recoverable	Sample Measurement	****	****	****	****	****	NODI=9	ug/L	0	1/Month	Grab
STORET No. 71901 1 Mon. Site No EFF-6	Permit Requirement	****	****		****	****	0.025 DAILY MAX			1/Month	Grab
Nickel, Total Recoverable	Sample Measurement	****	****	****	****	****	NODI=9	ug/L	0	1/Month	Grab
STORET No. 01074 1 Mon. Site No EFF-6	Permit Requirement	****	****		****	****	100.0 DAILY MAX			1/Month	Grab
Selenium, Total Recoverable	Sample Measurement	****	****	****	****	****	NODI=9	ug/L	0	1/Month	Grab
STORET No. 00981 1 Mon. Site No EFF-6	Permit Requirement	****	****		****	****	25.0 DAILY MAX			1/Month	Grab
Zinc, Total Recoverable	Sample Measurement	****	****	****	****	****	NODI=9	ug/L	0	1/Month	Grab
STORET No. 01094 1 Mon. Site No EFF-6	Permit Requirement	****	****		****	****	86.0 DAILY MAX			1/Month	Grab
pH (Background)	Sample Measurement	****	****	****	NODI=C	****	NODI=C	SU	0	1/Day of Discharge	Grab
STORET No. 00400 7 Mon. Site No INT-3D	Permit Requirement	****	****		Report DAILY MIN	****	Report DAILY MAX			1/Day of Discharge	Grab

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section MS 3550, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

SOUTH ASHPOND DISCHARGE

PERMITTEE NAME: Progress Energy Florida

MAILING: P.O. Box 14042 MAC CN77
St. Petersburg FL 33733
ATTN: Michael Olive

FACILITY: **Crystal River South Plant - Units 1, 2**

LOCATION: 15760 W. Powerline St. Crystal River FL 34428

COUNTY: Citus

PERMIT NUMBER: FL0000159-001-1W1S

LIMIT: Final

CLASS SIZE: Major

DISCHARGE POINT NUMBER: D-0C2

PLANT SIZE/TREATMENT TYPE:

NO DISCHARGE FROM SITE: [X]

WAFR Site No.:

GMS ID No.: 1037M25518

GMS Test Site No.:

REPORT: Monthly

GROUP: Industrial

MONITORING PERIOD--From: **2004/09/01** To: **2004/09/30**

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
pH (Effluent)	Sample Measurement	****	****	****	NODI=C	****	NODI=C	SU	0	1/Day of Discharge	Grab
STORET No. 00400 P Mon. Site No EFF-5	Permit Requirement	****	****		Report DAILY MIN	****	Report DAILY MAX			1/Day of Discharge	Grab
pH (Calculated Limit)	Sample Measurement	****	****	****	NODI=C	****	NODI=C	SU	0	1/Day of Discharge	Grab
STORET No. 00400 Q Mon. Site No EFF-6	Permit Requirement	****	****		Report DAILY MIN	****	Report DAILY MAX			1/Day of Discharge	Grab
pH (Exceedance of Calculated Limit)	Sample Measurement	****	****	****	NODI=C	****	NODI=C	SU	0	1/Day of Discharge	Grab
STORET No. 00400 R Mon. Site No EFF-6	Permit Requirement	****	****		0.0 DAILY MIN	****	0.0 DAILY MAX			1/Day of Discharge	Grab

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section, MS 3550, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

COAL PILE RUNOFF

PERMITTEE NAME: Progress Energy Florida

MAILING: P.O. Box 14042, MAC CN77
St. Petersburg, FL 33733
ATTN: Michael Olive

FACILITY: Crystal River South Plant - Units 1, 2
LOCATION: 15760 W. Powerline St., Crystal River, FL 34428
COUNTY: Citrus

PERMIT NUMBER: FL0000159-001-1W1S
LIMIT: Final
CLASS SIZE: Major
DISCHARGE POINT NUMBER: D-0H
PLANT SIZE/TREATMENT TYPE:
NO DISCHARGE FROM SITE: ☐

WAFR Site No.:
GMS ID No.: 1037M25518
GMS Test Site No.:
REPORT: Monthly
GROUP: Industrial

MONITORING PERIOD--From: 2004/09/01 To: 2004/09/30

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
Flow	Sample Measurement	****	0.5	MGD	****	****	****	****	0	1/Day of Discharge	Calculation
STORET No. 50050 1 Mon. Site No. EFF-9	Permit Requirement	****	Report DAILY MAX		****	****	****			1/Day of Discharge	Calculation
Total Suspended Solids	Sample Measurement	****	****	****	****	****	17.0	mg/L	0	1/Day of Discharge	Grab
STORET No. 00530 1 Mon. Site No. EFF-9	Permit Requirement	****	****		****	****	50.0 DAILY MAX			1/Day of Discharge	Grab
Arsenic, Total Recoverable	Sample Measurement	****	****	****	****	****	1.6	ug/L	0	1/Day of Discharge	Grab
STORET No. 00978 1 Mon. Site No. EFF-9	Permit Requirement	****	****		****	****	50.0 DAILY MAX			1/Day of Discharge	Grab
Cadmium, Total Recoverable	Sample Measurement	****	****	****	****	****	3.6	ug/L	0	1/Day of Discharge	Grab
STORET No. 01113 1 Mon. Site No. EFF-9	Permit Requirement	****	****		****	****	9.3 DAILY MAX			1/Day of Discharge	Grab
Chromium, Total Recoverable	Sample Measurement	****	****	****	****	****	13.0	ug/L	0	1/Day of Discharge	Grab
STORET No. 01118 1 Mon. Site No. EFF-9	Permit Requirement	****	****		****	****	50.0 DAILY MAX			1/Day of Discharge	Grab
Copper, Total Recoverable	Sample Measurement	****	****	****	****	****	260.0	ug/L	1	1/Day of Discharge	Grab
STORET No. 01119 1 Mon. Site No. EFF-9	Permit Requirement	****	****		****	****	2.9 DAILY MAX			1/Day of Discharge	Grab
Iron, Total Recoverable	Sample Measurement	****	****	****	****	****	77,000.0	ug/L	1	1/Day of Discharge	Grab
STORET No. 00980 1 Mon. Site No. EFF-9	Permit Requirement	****	****		****	****	300.0 DAILY MAX			1/Day of Discharge	Grab

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein; and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitt information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Name/Title of Principal Executive Officer or Authorized Agent (Type or Print)	Signature of Principal Executive Officer or Authorized Agent	Telephone No. (incl. area code)	Date (yy/mm/dd)
Michael Olive Manager Crystal River Fossil Plant	Michael Olive	(352) 563-4484	04/10/25

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

See Addendum

DEP Form 62-620.910(10), Effective November 29, 1994

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section, MS 3550, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

COAL PILE RUNOFF

PERMITTEE NAME: Progress Energy Florida

MAILING: P.O. Box 14042, MAC CN77
St. Petersburg, FL 33733
ATTN: Michael Olive

FACILITY: Crystal River South Plant - Units 1, 2
LOCATION: 15760 W. Powerline St., Crystal River, FL 34428
COUNTY: Citrus

PERMIT NUMBER: FL0000159-001-1W1S
LIMIT: Final
CLASS SIZE: Major
DISCHARGE POINT NUMBER: D-0H
PLANT SIZE/TREATMENT TYPE:
NO DISCHARGE FROM SITE: ☐

WAFR Site No.:
GMS ID No.: 1037M25518
GMS Test Site No.:
REPORT: Monthly
GROUP: Industrial

MONITORING PERIOD--From: 2004/09/01 To: 2004/09/30

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
Lead, Total Recoverable	Sample Measurement	****	****	****	****	****	2.2	ug/L	0	1/Day of Discharge	Grab
STORET No. 01114 1 Mon. Site No. EFF-9	Permit Requirement	****	****		****	****	5.6 DAILY MAX			1/Day of Discharge	Grab
Mercury, Total Recoverable	Sample Measurement	****	****	****	****	****	0.1 U	ug/L	0	1/Day of Discharge	Grab
STORET No. 71901 1 Mon. Site No. EFF-9	Permit Requirement	****	****		****	****	0.0125 DAILY MAX			1/Day of Discharge	Grab
Nickel, Total Recoverable	Sample Measurement	****	****	****	****	****	360.0	ug/L	1	1/Day of Discharge	Grab
STORET No. 01074 1 Mon. Site No. EFF-9	Permit Requirement	****	****		****	****	8.3 DAILY MAX			1/Day of Discharge	Grab
Selenium, Total Recoverable	Sample Measurement	****	****	****	****	****	1.5	ug/L	0	1/Day of Discharge	Grab
STORET No. 00981 1 Mon. Site No. EFF-9	Permit Requirement	****	****		****	****	71.0 DAILY MAX			1/Day of Discharge	Grab
Zinc, Total Recoverable	Sample Measurement	****	****	****	****	****	820.0	ug/L	0	1/Day of Discharge	Grab
STORET No. 01094 1 Mon. Site No. EFF-9	Permit Requirement	****	****		****	****	86.0 DAILY MAX			1/Day of Discharge	Grab
Vanadium, total Recoverable	Sample Measurement	****	****	****	****	****	10.U	ug/L	0	1/Day of Discharge	Grab
STORET No. 01128 1 Mon. Site No. EFF-9	Permit Requirement	****	****		****	****	Report DAILY MAX			1/Day of Discharge	Grab
pH (Background)	Sample Measurement	****	****	****	8.0	****	8.0	SU	0	1/Day of Discharge	Grab
STORET No. 00400 7 Mon. Site No. INT-3D	Permit Requirement	****	****		Report DAILY MIN	****	Report DAILY MAX			1/Day of Discharge	Grab

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

See Addendum

DEP Form 62-620.910(10), Effective November 29, 1994

DEPARTMENT OF ENVIRONMENTAL PROTECTION DISCHARGE MONITORING REPORT - PART A

WHEN COMPLETED MAIL THIS REPORT TO: Department of Environmental Protection, Wastewater Facilities Regulation Section, MS 3550, 2600 Blair Stone Road, Tallahassee, FL 32399-2400

COAL PILE RUNOFF

PERMITTEE NAME: Progress Energy Florida

MAILING: P.O. Box 14042, MAC CN77
St. Petersburg, FL 33733
ATTN: Michael Olive

FACILITY: Crystal River South Plant - Units 1, 2

LOCATION: 15760 W. Powerline St., Crystal River, FL 34428

COUNTY: Citrus

PERMIT NUMBER: FL0000159-001-1W1S
LIMIT: Final
CLASS SIZE: Major
DISCHARGE POINT NUMBER: D-0H
PLANT SIZE/TREATMENT TYPE:
NO DISCHARGE FROM SITE: ☐

WAFR Site No.:
GMS ID No.: 1037M25518
GMS Test Site No.:
REPORT: Monthly
GROUP: Industrial

MONITORING PERIOD--From: 2004/09/01 To: 2004/09/30

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX.	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
pH (Effluent)	Sample Measurement	****	****	****	2.7	****	2.7	SU	0	1/Day of Discharge	Grab
STORET No. 00400 P Mon. Site No. EFF-9	Permit Requirement	****	****		Report DAILY MIN	****	Report DAILY MAX			1/Day of Discharge	Grab
pH (Calculated Limit)	Sample Measurement	****	****	****	7.0	****	8.5	SU	0	1/Day of Discharge	Grab
STORET No. 00400 Q Mon. Site No. EFF-9	Permit Requirement	****	****		Report DAILY MIN	****	Report DAILY MAX			1/Day of Discharge	Grab
pH (Exceedance of Calculated Limit)	Sample Measurement	****	****	****	-4.3	****	-5.8	SU	1	1/Day of Discharge	Grab
STORET No. 00400 R Mon. Site No. EFF-9	Permit Requirement	****	****		0.0 DAILY MIN	****	0.0 DAILY MAX			1/Day of Discharge	Grab

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

See Addendum

DEP Form 62-620.910(10), Effective November 29, 1994

Addendum
September 2004

Discharge Monitoring Report
Crystal River South Plant – Units 1, 2
FL0000159-001-1W1S

Addendum is comprised of the attached letter (Progress Energy Corporation to Ms. Ilea Balcom, Industrial Wastewater Program, Southwest District, Florida Department of Environmental Protection) dated October 5, 2004. The attached letter summarizes events associated with Hurricane Charlie and Hurricane Frances which impacted limitations associated with this permit.

Progress Energy

Michael Olive
Plant Manager
Crystal River Fossil Plant

October 5, 2004

Ms. Ilea Balcom
Industrial Wastewater Program
Southwest District
3804 Coconut Palm Drive
Tampa, FL 33619-8318

Dear Ms. Balcom:

Re: Progress Energy Florida, Inc. - Crystal River Energy Complex
Hurricane Charley and Hurricane Frances Events Follow Up Notification
Permits: FL0000159 and FL0036366

As you requested, the following is a description of events that occurred at the Crystal River Energy Complex during the Hurricane Charley and Hurricane Frances storm events.

Point of Discharge (POD) thermal exceedances event description:

a. Event description: Helper Cooling Towers (HCT) were removed from service and secured for oncoming Hurricane Frances. This resulted in an exceedance of the 3hr average POD temperature limit of 96.5 °F.

b. All HCT cells were removed from service by 0700 on 9/3/04. Towers were then secured.

c. The POD temperature limit was initially exceeded on 9/3/04 at 09:40.

d. Time frames durations and maximum values for exceedances to date are as follows:

   1. 9/3/04, 09:40, 43 hours 30 minutes, 101.91 °F.
   2. 9/5/04, 11:40, 2 hours 40 minutes, 96.85 °F.
   3. 9/5/04, 18:30, 3 hours 30 minutes, 97.14 °F.
   4. 9/12/04, 12:00, 13 hours 50 minutes, 98.68 °F.

e. Cooling gulf inlet temperatures due to the storm, and CR3 going off line, also due to the storm, prevented additional exceedances between 9/5/04 and 9/12/04. CR3 came back on line about midnight on 9/12/04.

Progress Energy Florida, Inc.
Crystal River Steam Plant
15760 W. Powerline Street
Crystal River, FL 34428

As communicated to you via email on September 2, 2004, it was necessary to bypass the Helper Cooling Towers to prevent damage from Hurricanes Charley and Frances. During the period of bypass, the electrical generation provided by Crystal River Units 1, 2, and 3 was critical to maintaining the electrical system stability and reliability.

Coal Pile Runoff (Outfall D-0H) unintentional bypass event description:

a. Event description: Water retained in the coal pile runoff basin overflowed the perimeter road on the west side of the pond and flowed into the adjacent wetlands area.
b. Event began sometime on 9/6/04.
c. Event ended late in day on 9/7/04.
d. Event duration is estimated at 24 hours.
e. Flow rate is estimated at 350 gpm or 0.5 MGD.
f. Samples collected as required by permit condition I.A.7 at about 1:00 PM on 9/7/04, for parameters of TSS, and Total Recoverable Metals. The following parameters exceeded permit limits:
    - Copper: 260 mg/l
    - Iron: 77,000 mg/l
    - Nickel: 360 mg/l
    - Zinc: 820 mg/l
g. Sampled collected for pH analysis in chemistry lab. Result = 2.7 pH.
h. The 10 year 24 hour storm event for this area is 6.5 inches. The Crystal River Unit 3 recorded a 24 hour rainfall event of 6.88 inches on September 6.

Crystal River North Storm Water Outfalls

a. Event Description: On 9/6/04, the internal storm water collection system outfalls I-CH0 and I-C40 recorded discharges. The required analysis was performed and the following parameters exceeded permit limitations:
    - TSS - 196 mg/l at outfall I-C4O
    - TSS – 960 mg/l at outfall I-CHO.

    Please note that per the permit (section I.A.2.a., footnote 1); the TSS limits for each of these outfalls apply for rain fall less than a 10 year, 24-hour event. See the notation listed below, on 9/6/04 the rain fall exceeded that threshold.
b. Event Description: On 9/6/04, the storm water runoff collection system outfall D-0C0 recorded a discharge to the discharge canal. The required analysis was performed and the following parameters exceeded permit limitations
    - Zinc: 0.13 mg/l
c. The 10 year 24 hour storm event for this area is 6.5 inches. The Crystal River Unit 3 recorded a 24 hour rainfall event of 6.88 inches on September 6.

Crystal River North Sewage Treatment Plant Water Transfer

a. Event Description: The large rainfall event caused by Hurricane Frances resulted in a potential for overflow of the Crystal River North Sewage Treatment Plant. Authorization to pump treated domestic wastewater to the adjacent industrial waste water pond was given by the Department.

As a consequence of storm preparation for Hurricane Jeanne, all cooling towers were once again secured. The fossil fueled units at the site are on reduced load due to fuel inventory challenges; therefore, no POD thermal limits were exceeded. Subsequently all towers have been returned to full available status. It is important to note that the Executive Order 04-192 was in affect during these events.

Progress Energy Florida appreciates your cooperation in this matter. If you have any questions regarding this event, please contact Mr. Michael Shrader (727) 826-4050 or Mr. Ron Johnson (352) 422 8909.

Sincerely,

Michael Olive

Michael Olive
Manager, Crystal River Fossil Plant