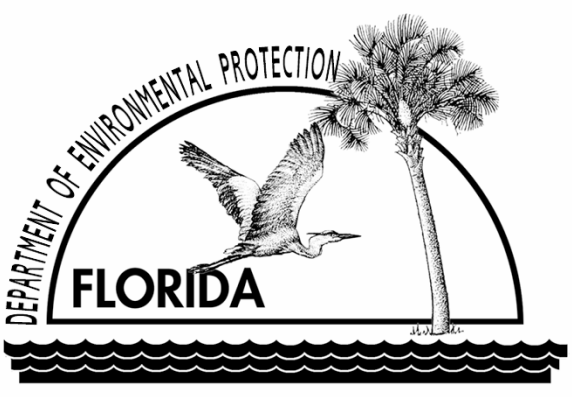


Effluent Quality Assessment

Florida Power & Light Lauderdale Plant

Broward County

NPDES #FL0001503

Sampled February 4, 2008

April 2008

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

Florida Power & Light-Lauderdale Plant, 4300 SW 42 Avenue, Ft. Lauderdale, Broward County, Florida, NPDES #FL0001503. Effluent samples for this facility were collected on February 4, 2008.

Introduction

Florida Power & Light-Lauderdale Plant is a power plant with a design flow of 800 million gallons per day (MGD). Effluent discharge is continuous. The annual average daily flow (AADF) from February 2007 through February 2008 was 720 MGD. Wastewater consists of:

- Once-through cooling water;
- Auxiliary equipment discharges,
- Boiler blowdown discharges;
- Construction and Maintenance related discharges;
- Stormwater runoff;
- Reverse Osmosis (R.O.) reject wastewater;
- Demineralizer regeneration wastewater;
- Low-Volume waste treatment effluent;
- Metal cleaning waste effluent.

Boiler blowdown, metal cleaning wastes, and pre-treated oily waste-streams are treated in the plant's wastewater treatment system prior to discharge to an on-site canal. Additional wastewater treatment includes chlorination with chlorine gas for once-through cooling water and auxiliary-equipment cooling water; pH-adjustment (if necessary) of R.O. reject-water, and neutralization of demineralizer-regeneration water. These wastewaters are discharged into an on-site canal, which in turn discharges into an on-site, Once-Through cooling pond. The Once-Through cooling pond discharges from Outfall D-001 through a culvert to the South Fork of New River, a Class III Marine surface water body. Additional permitted surface water discharges include stormwater through Outfall D-00B1 and intake-screen wastewater and strainer backwash water from Outfall D-009. Outfalls D-00B1 and D-009 discharge into the Dania Cutoff Canal.

The facility has no Administrative Orders or Consent Orders. The facility has no mixing zones. A review of Discharge Monitoring Report (DMR) data for the past year revealed no permit violations. (Facility information provided by Terry Davis of FDEP Southeast District.)

Methods

"The samples for the FYI were not taken at D-001 (EFF-3), the cooling pond discharge to the South Fork of New River due to the potential inclusion of pollutants from boats (yachts) docked just upstream of the sampling point. Since temperature is not an issue with the toxicity sampling, the samples were taken upstream where the discharge canal leaves the plant site and enters the cooling pond, located at approximately longitude 78º 02' 37" W and latitude 23º 54' 00" N, as determined on FDEP Consolidated Web Mapping Application (C/A MapDirect). The samples taken there would be more stringent than if taken at EFF-3 because there would not be the substantial dilution or attenuation afforded by the cooling pond" (email correspondence from Terry Davis). The samples were collected by Terry Davis of FDEP Southeast District following DEP-SOP-001/01 FS 2400 Wastewater Sampling. All DEP SOPs are available on the web at: http://www.floridadep.org/labs/qa/sops.htm.

See Appendix A for the completed chain of custody form.

The 48-hour acute screening toxicity tests and algal growth potential test were performed following internal DEP SOPs TA07_03, TA07_04, and TA08_01 through TA08_09. All internal DEP SOPs are available on the web at: http://www.floridadep.org/labs/cgi-bin/sop/biosop.asp. Although the 48-hour acute screening toxicity test does not reflect the required permit conditions, passing test results provide confidence that the required permit conditions would likely be met.

Toxicity Test Results

Tests were performed February 4 - 6, 2008.

Americamysis bahia 48-hour acute screening bioassay –	LC_{50} > 100%, 0% mortality* in 100% sample at 48 hours
Menidia beryllina 48-hour acute screening bioassay –	LC_{50} > 100%, 0% mortality* in 100% sample at 48 hours

The bioassay samples were not acutely toxic to the test organisms.

See Appendix B for bioassay bench sheets. See Appendix C for results of the last 20 standard reference toxicant (SRT) tests and the bench sheets and statistical analyses of the SRT tests that correspond to these facility tests. See Appendix D for test organism receipts.

*NOTE: In a 48-hour acute screening test of 100% effluent, mortality of <20% provides confidence that the effluent meets the acute toxicity criterion of Florida's Surface Water Quality Standards (Rule 62-302.500 (1)(a)4, F.A.C.). Mortality between 20-50% indicates low to moderate levels of toxicity, and further action may be required. Mortality of >50% indicates that the effluent fails to meet the minimum requirement to discharge to waters of the state (Rule 62-4.244(3)(a), F.A.C.).

Algal Growth Potential

The effluent Algal Growth Potential (AGP) was 3.3 mg dry wt/L of the saltwater species *Dunaliella tertiolecta.* Raschke and Shultz found that AGP values above 10.0 mg dry weight/L represent a "problem" threshold for marine receiving waters, implying nutrient enrichment (personal communication with Ron Raschke USEPA Region 4, 1987). The analytical chemistry suggests that the effluent is phosphorus-limited.

See Table 1 for AGP results.

Chemistry Results

Total residual chlorine and total ammonia were not detected in the bioassay sample in the laboratory. The total ammonia concentration in the sample collected and preserved for chemical analysis was 0.11 mg/L. Based on the pH, salinity, and temperature of the effluent as collected, the calculated unionized ammonia concentration was ≤ 0.02 mg/L.

Copper (8.4 µg/L) was detected in the effluent at levels that exceed the Class III Marine water quality criteria for copper (≤ 3.7 µg/L; 62-302.530(23), F.A.C.). Arsenic and iron were detected between the laboratory method detection limits (MDL) and practical quantitation limits (PQL).

See Table 2 for results of analytes detected in the effluent, and corresponding limits. See Appendix E for a complete list of chemical analyses performed.

Conclusion

The effluent sample collected from Outfall D00-1 for this facility on February 4, 2008, was not acutely toxic to either test species during the 48-hour acute screening bioassays. The effluent AGP result was less than the "problem" threshold for marine receiving waters. Effluent copper exceeded the Class III Marine water quality criterion for copper.

Literature Cited

Maloney, T. E., W. E. Miller, and D. T. Specht. 1974. The Marine Algal Assay Procedure: Bottle Test. National Environmental Research Center Office of Research and Development. U. S. EPA, Corvallis, Oregon. 43 p.

Table 1. Measured and predicted algal growth potential (AGP; mg dry weight/L) of the saltwater species *Dunaliella tertiolecta* and ratios of nitrogen to phosphorus for samples collected from the Florida Power and Light-Lauderdale Plant on February 4, 2008.

Florida Power & Light Company Lauderdale Plant			
Location	**AGP (measured)**	**Inorganic N:P ratio**	**Total N:P ratio**
Discharge Canal	3.3 A	21.8	46.9
A - Value reported is the mean of two or more determinations			

Table 2. Effluent limits, Class III Criteria for predominantly marine waters and chemical data for samples collected from the Florida Power and Light-Lauderdale Plant on February 4, 2008.

Florida Power & Light -Lauderdale Plant NPDES # FL0001503	Class III Criteria	Effluent Limits	Effluent	
Metals (µg/L unless otherwise noted)				
Aluminum	≤ 1,500	-	180	U
Arsenic	≤ 50	-	1.6	I
Cadmium	≤ 8.8	-	0.06	U
Calcium (mg/L)	-	-	258	
Chromium-III	-	-	3	U
Copper	≤ 3.7	-	8.4	
Iron	≤ 300	-	120	I
Lead	≤ 8.5	-	0.6	U
Magnesium (mg/L)	-	-	656	
Nickel	≤ 8.3	-	0.75	U
Selenium	≤ 71	-	1.5	U
Silver	≤ 2.3	-	0.075	U
Zinc	≤ 86	-	15	U
Nutrients (mg/L)				
Ortho-phosphate	-	-	0.017	I
Total Phosphorus	-	-	0.026	I
Total Ammonia	-	-	0.11	
Un-ionized Ammonia	-	-	≤ 0.02	c
Nitrate and Nitrite	-	-	0.26	
Total Kjeldahl Nitrogen	-	-	0.96	
Organic Nitrogen	-	-	0.85	c
Total Nitrogen	-	-	1.22	c
General Physical and Chemical Parameters				
Dissolved Oxygen (mg/L)	≥ 4.0	-	7.2	
pH (SU)	6.5 - 8.5	6.5 - 8.5	7.4	
Conductivity (µmhos/cm)	-	-	28,570	
Temperature °C	-	36 m	34.2	
Salinity	-	-	14.6	c
Sample Depth (m)	-	-	0.1	
Total Residual Chlorine (mg/L)	≤ 0.01	-	≤ 0.03	£
Chlorophyll a (µg/L) - Corrected	-	-	5	
Phaeophytin (µg/L)	-	-	1.7	
Total Dissolved Solids (mg/L)	-	-	18,000	
Flow (MGD)	-	800 a	720	a
Hardness (mg $CaCO_3$)	-	-	3345.63	c

Value exceeds the Class III Water Quality Criteria or permit limits

a - Annual average

m - Monthly Maximum Oct.- May

c - Value is calculated

A - Value reported is the mean of two or more determinations

I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit

U - Material analyzed for but not detected; value reported is the method detection limit

£- Measured in Central Lab

Florida Department of Environmental Protection

Central Laboratory Sample Submittal Form

Event ID *

Request Number: RQ-2008-02-04-39
FPL Lauderdale Plant

Requester: Jennifer Paris
Field Report Prepared By: Terry Davis

Customer: SE-DIST
Collected By: Terry Davis
Send Final Report To Terry Davis or Bill Theil

Project ID: FYI3
Sampling Agency: Southeast District

PMAS: 1143

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	D-001 *	☐ Comp ☒ Grab	Date 2/4/08 Time 1035 Central	Date Time Central	
	Field ID: SJ-FPLFTL-1	Tot Res Chlorine (mg/L)	Diss Oxygen ~~(mg/L)~~ 7.21	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc): Water Salt	Temp (C): 33.16	pH: 7.35	Sample Depth ☒ m ☐ ft: .1	☐ Salinity (PPTh) ☒ Sp Conductance (umho/cm): 28,570
	Latitude o ' "	Longitude o ' "	Comments		NPDES Number

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
	Blank	☐ Comp ☒ Grab	Date 2/4/08 Time 1130 Central	Date Time Central	
	Field ID: SJ-FPLFTL-2	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc): D. Iwater	Temp (C)	pH	Sample Depth ☒ m ☐ ft: .01	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) NPDES Number
	Latitude o ' "	Longitude o ' "	Comments		

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
		☐ Comp ☐ Grab	Date Time Central	Date Time Central	
	Field ID	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc):	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) NPDES Number
	Latitude o ' "	Longitude o ' "	Comments		

Lab ID *	Location	Comp / Grab	Collection (begin) Date Time Eastern Central	Collection (end) Date Time Eastern Central	Bottle Group(s)**
		☐ Comp ☐ Grab	Date Time Central	Date Time Central	
	Field ID	Tot Res Chlorine (mg/L)	Diss Oxygen (mg/L)	Storet Station Number	
	Matrix (Include type e.g. Salt, Fresh, etc):	Temp (C)	pH	Sample Depth ☐ m ☐ ft	☐ Salinity (PPTh) ☐ Sp Conductance (umho/cm) NPDES Number
	Latitude o ' "	Longitude o ' "	Comments		

2. biomass B. 2-5-08 10:09

Relinquished By:	Date/Time	Shipping Method:	Received By:	Date/Time	Relinquished By:	Date/Time	Received By:	Date/Time
T Davis	2/4/08 1345	DHL	ABJ	2-5-08 [illegible]				

* Shaded Areas for Lab use only.

** Please see reverse side for Bottle Group information.

last revised October 1, 2003

Page 1 of 3

* - Sample taken @ FPL property line due to other contributing sources downstream

FDEP Biology Laboratory - Acute Screen Bioassay Bench Sheets

Facility: Florida Power & Light Fort Lauderdale

Address: 4300 SW 42nd avenue

City: Ft. Lauderdale County: Broward

Contact/District: Terry Davis / Southeast

NPDES Permit #: FL 0001503

LIMS Job #: TLH-2008-02-05-02 LIMS Sample #: 1079730

Lims Data Entry: 2-13-08 MF Data Entry Verification: 2-14-08 BA

Sample Collection: Date: 2-4-08 Time: 10:35

Hold Time Start: Date: 2-4-08 Time: 10:35

Comments: Control water prepared by diluting 20 parts per thousand salinity artificial seawater with deionized water to approximate sample salinity of ≈18.3 parts per thousand. MF 2-5-08

Instructions (for below): Circle appropriate wording. If yes is circled, complete blanks.

Test Type: Screen

(Static) Static Renewal / Flow-through

Test Duration: (48) 96 Hours.

Test 1 validation: **Test 1:** SOP TA 07_03

Control survival ≥90%: (Yes) No

Temperature Range ≤3°C: (Yes) No

Test 2 validation: **Test 2:** SOP TA 07_04

Control survival ≥90%: (Yes) No

Temperature Range ≤3°C: (Yes) No

Initial sample handling:

PH adjustment : yes (no) Initial pH: ____ NaOH N HCl N ____ Drops mL Final pH: ____

Aeration : yes (no) Initial DO: ____mg/L Final DO: ____mg/L Duration: ____minutes Rate: ~____bubbles/min

Salinity adjusted (Test 1): yes (no) Initial Salinity: ____ Final Salinity: ____ Salts Hypersaline brine

Salinity adjusted (Test 2): yes (no) Initial Salinity: ____ Final Salinity: ____ Salts Hypersaline brine

Dechlorination: yes (no) ____mL of 0.025N Sodium Thiosulfate per liter of sample. Final TRC: ____

Sample Validation:

Temperature: Shipped ≤6°C (Yes) No Hand Delivered: Cooling (received °C < collected °C) Yes No

Holding Time: ≤36 Hours (Yes) No (Composite-end of collection; grab-when collected; 4 in 24 - time last sample collected)

Light Intensity : 50 - 100 ft. candles

Photoperiod : 16 light 8 dark

Temperature Range °C:

Incubator # 2 min. 25.9 max. 26.4 mean 26.2

Incubator # ____ min. ____ max. ____ mean ____

Room B246 min. 23.7 max. 25.2 mean 24.5

Investigators' Signatures

Bruce Robertson

Marshall Faircloth

James Daniels

Loretta C. Wolfe

REVIEWER

Water Quality Parameters	20% DMW	Moderately Hard Water/ Well Water	Salt Water (ASW) NSW Test 1	Salt Water (ASW) NSW Test 2	Other:	Original Sample	Method	Measured by	Verified by
Field Total Residual Cl_2 (mg/L):	N/A	N/A	N/A	N/A		—	Not measured		MF
Lab Total Residual Cl_2 (mg/L):			<0.03	<0.03		<0.03	HACH	MF	BA
Alkalinity (mg/L as $CaCO_3$):			220	220		213	HACH	BA	MF
Hardness (mg/L as $CaCO_3$):			—	—		—	HACH	—	—
Total Ammonia (mg/L as N):			<0.034	<0.034		<0.034	DENVER	MF	BA
Salinity (ppth):			18.3	18.3		18.3	YSI / (Mettler)	BA	MF

V 1.4 9/12/05

Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 1079730 Test #: 1082 SOP#:TA 07_03 Test Started: Date 2.5.08 Time: 1300
Organism/Batch/Age: A. bahia /2-5-08/5days Test Ended: Date 2-7-08 Time: 1400
Chamber/Test Volume: 350 / 250 ml Diluent/ Batch: ASW / 2-4-08
Food/Batch: YCT — P.sub — Artemia 0hr — 24hr — 48hr — 72hr — Artemia Lot# 651-536-40
Feeding (Prior to Test) Prior to Renewal (Daily)

Concentration	Replicate	Chamber #	Test Hour: 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Ctrl	A	C13	5	5	5			
	B	C14	5	5	5			
	C	C15	5	5	5			
	D	C16	5	5	5			
100%	A	C17	5	5	5			
	B	C18	5	5	5			
	C	C19	5	5	5			
	D	C20	5	5	5			
Loaded/Verified by: JD / MF		Checked by:	JD	JD	JD			

m = missing d = dead BR/AR = Before/After Renewal

Comments:

Test Results:

Screening Tests: Report LC50 as >100%, =100%, or <100%.
% mortality in 100% sample: 0 LC50: >100
If Calculated: 95% CI______ Method______

Substitue highest test concentration used if other than 100% (example: Ocean outfall tested at 30% concentration).

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Appendix B. (continued)

FDEP Biology Laboratory - Bioassay Survival Bench Sheet

LIMS Sample #: 1079730 Test #: 2052 SOP#:TA 07 04 Test Started: Date 2-5-08 Time: 1315

Organism/Batch/Age: M. beryllina/2-5-08/13 days Test Ended: Date 2-7-08 Time: 1250

Chamber/Test Volume: 1000 / 500 ml Diluent/ Batch: ASW / 2-4-08

Food/Batch: YCT – P.sub – (Artemia) 0hr 10-08 24hr – 48hr – 72hr – Artemia Lot# 651.536.90

Feeding: (Prior to Test) Prior to Renewal (Daily) MF

Concentration	Replicate	Chamber #	Test Hour 0 hr	24 hr	48 hr BR	48 hr AR	72 hr	96 hr
Ctrl	A	D1	5	5	5			
	B	D2	5	5	5			
	C	D3	5	5	5			
	D	D4	5	5	5			
100%	A	D5	5	5	5			
	B	D6	5	5	5			
	C	D7	5	5	5			
	D	D8	5	5	5			
Loaded/Verified by: JD/MF	Checked by:		JD	JD	JD			

m = missing d = dead BR/AR = Before/After Renewal

Comments:

Test Results:

Screening Tests: Report LC50 as >100%, =100%, or <100%.

% mortality in 100% sample: 0 LC50: >100

If Calculated: 95% CI_____ Method_____

Substitue highest test concentration used if other than 100% (example: Ocean outfall tested at 30% concentration).

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FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1079730 Test #: 1 of 2

TEST SOP #: TA07_ 03 Test Species: *Ceriodaphnia dubia* *Cyprinella leedsi* *Pimephales promelas* (*Americamysis bahia*) *Menidia beryllina* Other:_____

Concentration Ctrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M	B	C			
pH (S.U.)	8.3	8.1	8.0			
Temperature °C	24.0	24.9	24.2			
Dissolved Oxygen mg/L	6.6	4.5	5.1			
Conductivity µmhos (mmhos)	29.7	28.5	29.3			
(initials) Measured by:	BA	JD	JD			
(initials) Recorded by:	BA	JD	JD			

Comments: m = meter mal

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M	B	C			
pH (S.U.)	7.8	7.9	7.9			
Temperature °C	24.0	24.6	24.3			
Dissolved Oxygen mg/L	6.5	4.6	4.8			
Conductivity µmhos (mmhos)	29.8	28.4	29.3			
(initials) Measured by:	BA	JD	JD			
(initials) Recorded by:	BA	JD	JD			

Comments:

Concentration	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate						
pH (S.U.)						
Temperature °C						
Dissolved Oxygen mg/L						
Conductivity µmhos mmhos						
(initials) Measured by:						
(initials) Recorded by:						

Comments:

Concentration	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate						
pH (S.U.)						
Temperature °C						
Dissolved Oxygen mg/L						
Conductivity µmhos mmhos						
(initials) Measured by:						
(initials) Recorded by:						

Comments:

000024

V 2.0 2/24/04

FDEP Biology Laboratory - Bioassay Parameter Bench Sheet

LIMS Sample # : 1079730 **Test #:** 2 of 2

TEST SOP #: TA07_04 **Test Species:** *Ceriodaphnia dubia* *Cyprinella leedsi* *Pimephales promelas* *Americamysis bahia* (*Menidia beryllina*) Other:_____

Concentration Cfrl	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M	B	C			
pH (S.U.)	8.3	8.2	8.1			
Temperature °C	24.0	25.0	24.1			
Dissolved Oxygen mg/L	6.6	5.0	5.8			
Conductivity µmhos (mmhos)	29.7	28.4	29.0			
(initials) Measured by:	BA	JD	JD			
(initials) Recorded by:	BA	JD	JD			

Comments: m = meta vial

Concentration 100%	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate	M	B	C			
pH (S.U.)	7.8	8.0	8.0			
Temperature °C	24.0	24.6	24.2			
Dissolved Oxygen mg/L	6.6	5.3	5.7			
Conductivity µmhos (mmhos)	29.8	28.5	29.4			
(initials) Measured by:	BA	JD	JD			
(initials) Recorded by:	BA	JD	JD			

Comments:

Concentration	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate						
pH (S.U.)						
Temperature °C						
Dissolved Oxygen mg/L						
Conductivity µmhos mmhos						
(initials) Measured by:						
(initials) Recorded by:						

Comments:

Concentration	0 Hr.	24 Hr.	48 Hr. before renewal	48 Hr. after renewal	72 Hr.	96 Hr.
Replicate						
pH (S.U.)						
Temperature °C						
Dissolved Oxygen mg/L						
Conductivity µmhos mmhos						
(initials) Measured by:						
(initials) Recorded by:						

Comments:

V 2.0 2/24/04

Appendix C. SRT Bench Sheets and Statistical Analysis

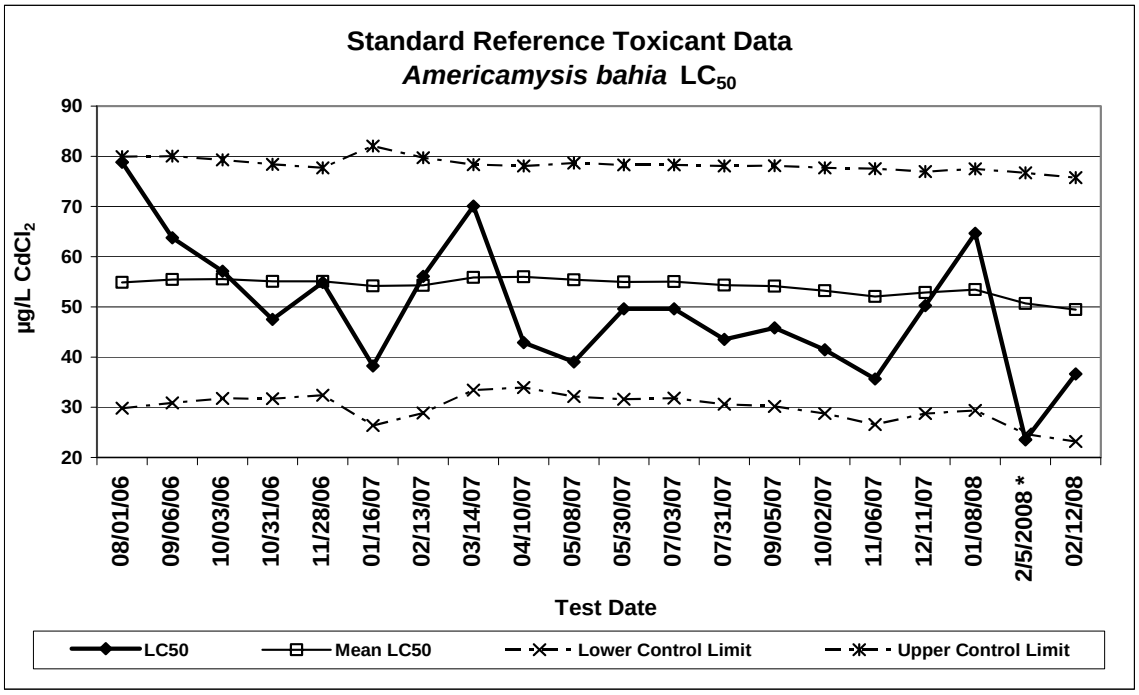
Florida Department of Environmental Protection
Bureau of Laboratories

Standard Reference Toxicant (SRT) Test Data - 48-hour Acute Toxicity
Americamysis bahia (mysid shrimp) - Cadmium Chloride ($CdCl_2$)

Date	LC50	Mean LC50	Std Dev	Lower Control Limit	Upper Control Limit
08/01/06	78.84	54.85	12.54	29.78	79.92
09/06/06	63.78	55.44	12.30	30.85	80.04
10/03/06	57.10	55.55	11.89	31.77	79.32
10/31/06	47.52	55.07	11.67	31.73	78.42
11/28/06	54.87	55.06	11.33	32.41	77.71
01/16/07	38.23	54.18	13.92	26.33	82.03
02/13/07	56.06	54.27	12.71	28.85	79.69
03/14/07	70.07	55.86	11.23	33.40	78.32
04/10/07	42.91	56.00	11.04	33.91	78.08
05/08/07	39.00	55.42	11.63	32.16	78.68
05/30/07	49.64	54.95	11.67	31.62	78.29
07/03/07	49.64	55.04	11.62	31.80	78.27
07/31/07	43.54	54.34	11.88	30.58	78.10
09/05/07	45.79	54.15	11.99	30.17	78.13
10/02/07	41.44	53.25	12.24	28.76	77.73
11/06/07	35.65	52.06	12.76	26.55	77.57
12/11/07	50.27	52.86	12.06	28.75	76.98
01/08/08	64.65	53.42	12.03	29.36	77.48
2/5/2008 *	23.52	50.68	13.02	24.64	76.72
02/12/08	36.63	49.45	13.14	23.17	75.74

Lower Confidence Limit = mean - 2 * Std Dev
Upper Confidence Limit = mean + 2 * Std Dev

CV = 26.57
EPA reference 75th quartile CV = 26%



* Test result exceeded control limits on 2/5/2008. Test repeated on 2/12/2008.

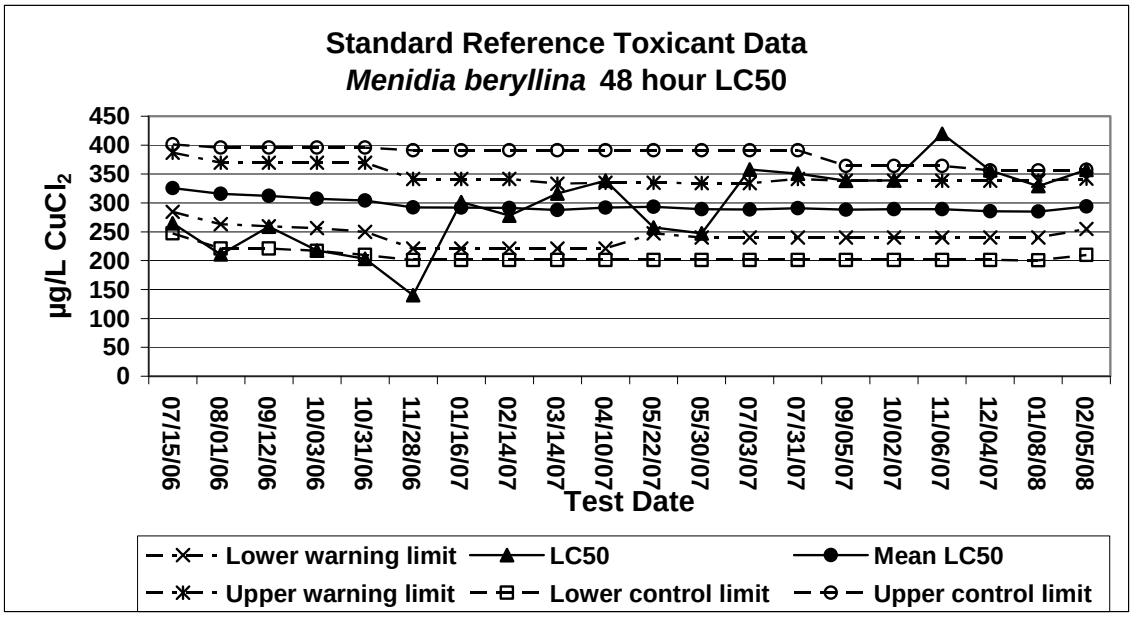
Appendix C. (continued)

Florida Department of Environmental Protection
Bureau of Laboratories

Standard Reference Toxicant (SRT) Test Data - Acute Toxicity
Menidia beryllina (Inland silverside) - Copper Chloride ($CuCl_2$)

Date	LC50	Mean LC50	Lower control limit	Lower warning limit	Upper warning limit	Upper control limit
07/15/06	264.59	325.48	247.2	284.4	387.2	401.5
08/01/06	210.80	316.05	221.3	263.4	369.7	395.6
09/12/06	258.82	312.50	221.3	259.6	369.7	395.6
10/03/06	217.64	307.20	217.0	256.6	369.7	395.6
10/31/06	203.06	304.28	210.0	249.7	369.7	395.6
11/28/06	140.31	292.22	201.0	221.3	341.2	391.4
01/16/07	301.29	291.93	201.0	221.3	341.2	391.4
02/14/07	278.00	291.27	201.0	221.3	341.2	391.4
03/14/07	316.16	287.74	201.0	221.3	333.3	391.4
04/10/07	338.35	291.67	201.0	221.3	334.8	391.4
05/22/07	257.44	293.42	201.0	247.5	334.8	391.4
05/30/07	247.36	289.10	201.0	239.9	334.4	391.4
07/03/07	357.65	288.79	201.0	239.9	334.4	391.4
07/31/07	350.68	290.88	201.0	239.9	341.4	391.4
09/05/07	338.18	288.38	201.0	239.9	338.2	363.8
10/02/07	338.90	289.15	201.0	239.9	338.4	363.8
11/06/07	419.55	289.15	201.0	239.9	338.4	363.8
12/04/07	356.07	285.50	201.0	239.9	338.4	356.2
01/08/08	329.03	285.29	200.9	239.9	338.5	356.2
02/05/08	357.47	294.07	210.0	254.9	341.9	357.5

Means are of the last 20 SRT tests.
Upper warning and control limits are the 75th and 90th percentiles, respectively, of the past 20 LC50s.
Lower warning and control limits are the 25th and 10th percentiles, respectively, of the past 20 LC50s.
EPA reference 75th quartile CV = 21% **CV = 23.05**



Appendix C. (continued)

[redacted]

FDEP Biology Laboratory - Acute SRT Bench Sheet

Test Organism: *Americamysis bahia* Method 2007.0 | *Menidia beryllina* Method 2006.0 | *Hyalella azteca* Method 100.1 EPA-600-R-99-064
Ceriodaphnia dubia Method 2002.0 | *Cyprinella leedsi* | *Pimephales promelas* Method 2000.0 | Other: _____

Method from EPA-821-R-02-012
Test Type: 48 hour non-renewal / (96) hour renewal
Test Page 1 of 2

Diluent/ Batch #: ASW / 2.4.08
Toxicant/ Batch#: $CdCl_2$ / 2.4.08

Test Beginning: Date: 2.12.08 Time: 1230
Test Ending: Date: 2-16-08 Time: 10:28

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	JD
Alkalinity (mg/L as $CaCO_3$):	220	Hach	BA
Hardness (mg.L as $CaCO_3$):	—	Hach	—
Total Ammonia (mg/L as N):	0.034	Denver	MF
Salinity (ppth):	~20	Mettler	JD

Organism Batch #/ Age: 2.4.08 / 1 to 24hrs
Feeding: (Prior to test) / (Prior to renewal) / (Daily)
Food: YCT P.subcapitata Artemia: Lot # 651-537-90
Food Batch: — — 0hr 24-08 24hr 25-08 48hr 26-08 72hr 27-08
Chamber size: 350 mL
Test volume: 250 mL per replicate

Conc. g/L (µg/L) mg/L	Rep.	Chamber #	Number Live 0 hr / 24 hr / 48 hr			pH (SU) 0 hr / 24 hr / 48 hr			Temperature (°C) 0 hr / 24 hr / 48 hr			D.O. (mg/L) 0 hr / 24 hr / 48 hr			Uncorrected Conductivity µmhos/cm (mmhos/cm) 0 hr / 24 hr / 48 hr		
			48 hr	72 hr	96 hr	48 hr	72 hr	96 hr	48 hr	72 hr	96 hr	48 hr	72 hr	96 hr	48 hr	72 hr	96 hr
Control	A	tox 1	5	5	5	8.4			24.5			7.0			31.0		
	B	tox 2	5	5	5		8.2			24.0			4.7			33.0	
	C	tox 3	5	5	5			8.1			24.0			4.8			33.4
	D	tox 4	5	5	5												
20	A	tox 5	5	5	5	8.4			24.8			7.1			31.1		
	B	tox 6	5	4D	4		8.2			24.1			4.8			32.9	
	C	tox 7	5	5	5			8.0			24.0			4.8			33.3
	D	tox 8	5	5	5												
30	A	tox 9	5	5	5	8.4			24.7			7.1			30.9		
	B	tox 10	5	5	3D		8.2			24.3			4.4			32.1	
	C	tox 11	5	5	5			8.0			24.1			4.0			33.2
	D	tox 12	5	5	5												
48	A	tox 13	5	5	1D	8.4			24.7			7.1			31.0		
	B	tox 14	5	5	0D		8.2			24.4			4.5			33.3	
	C	tox 15	5	5	0D			8.1			24.1			4.7			33.2
	D	tox 16	5	5	1D												
67 60 (JD)	A	tox 17	5	5	0D	8.4			24.6			7.0			31.1		
	B	tox 18	5	4D	0D		8.1			24.2			4.7			33.1	
	C	tox 19	5	5	0D			8.1			24.1			4.9			33.5
	D	tox 20	5	5	0D												
100	A	tox 21	5	5	0D	8.4			25.0			7.0			31.3		
	B	tox 22	5	5	0D		8.1			24.3			4.5			33.3	
	C	tox 23	5	4D	0D			8.1			24.2			5.1			33.4
	D	tox 24	5	5	0D												
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD
Recorded by:			JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD	JD

Investigators' Signatures
James Daniels
Marshall Patrick
Paul Hahn
Loretta C. Wolfe
REVIEWER

Concentrations prepared by: JD
Loading verified by: BA
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 25.7 max. 26.7 mean 26.0
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min. 22.7 max. 25.1 mean 23.9

Comments:
Repeat of 2-5-08 Test due to 2-5-08 results exceeding ±2 S.D. limits. MF 2-12-08

Statistics: Method: Spearman-Karber
48 / 96 hour LC_{50}: 36.53
95% Confidence Interval: lower 33.62 upper 39.69

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Appendix C. (continued)

FDEP Biology Laboratory - Acute SRT Bench Sheet

Test Organism: *Americamysis bahia* Method 2007.0 | (*Menidia beryllina* Method 2006.0) | *Hyalella azteca* Method 100.1 EPA-600-R-99-064
Ceriodaphnia dubia Method 2002.0 | *Cyprinella leedsi* Method 2000.0 | *Pimephales promelas* Method 2000.0 | Other: _____

Method from EPA-821-R-02-012
Test Type: 48 hour non-renewal | (96 hour renewal)
Test Page 1 of 2

Diluent/ Batch #: ASW 12-4-08
Toxicant/ Batch#: $CuCl_2$ 12-4-08

Test Beginning: Date: 2-5-08 Time: 1350
Test Ending: Date: 2-9-08 Time: 1050

Water Quality Parameters	Diluent	Method	Initials
Total Residual Cl_2 (mg/L):	<0.03	Hach	MF
Alkalinity (mg/L as $CaCO_3$):	220	Hach	BA
Hardness (mg.L as $CaCO_3$):	—	Hach	—
Total Ammonia (mg/L as N):	<0.034	Denver	MF
Salinity (ppth):	≈ 20	Mettler	BA

Organism Batch #/ Age: 2-5-08/ 13days
Feeding: (Prior to test) (Prior to renewal) Daily
Food: YCT *P.subcapitata* (Artemia) Lot # 651-536-90
Food Batch: — — — 0hr 20-22 24hr — 48hr 22-24 72hr —
Chamber size: 1000 mL
Test volume: 500 mL per replicate

Conc. g/L (µg/L) mg/L	Rep.	Chamber #	Number Live 0 hr / 24 hr / 48 hr			pH (SU) 0 hr / 24 hr / 48 hr			Temperature (°C) 0 hr / 24 hr / 48 hr			D.O. (mg/L) 0 hr / 24 hr / 48 hr			Uncorrected Conductivity µmhos/cm (mmhos/cm) 0 hr / 24 hr / 48 hr		
			48 hr	72 hr	96 hr	48 hr	72 hr	96 hr	48 hr	72 hr	96 hr	48 hr	72 hr	96 hr	48 hr	72 hr	96 hr
Control	A	C1 (A)	5/10	10	10	8.3		8.2	24.3		24.9	6.7		5.5	33.7		31.8
	B	C2	5/10	10	10		8.2			25.9			5.3			33.0	
	C		5														
	D		5														
100	A	C3	5/10	8/10	8	8.3		8.2	24.5		24.9	6.8		5.7	34.0		31.4
	B	C4	5/10	10	10		8.2			25.9			5.2		31.0 BA	32.6	
	C		5														
	D		5														
200	A	C5	5/10	10	10	8.3		8.2	24.5		24.9	6.8		5.7	34.0		33.2
	B	C6	5/10	9/10	9		8.2			25.9			5.3			32.8	
	C		5														
	D		5														
300	A	C7	5/10	10	10	8.3		8.1	24.4		24.7	6.7		5.7	33.9		33.2
	B	C8	5/10	7/10	4/10		8.2			25.9			5.3			32.6	
	C		5														
	D		5														
400	A	C9	5/10	6/10	5/10	8.3		8.1	24.3		24.6	6.8		5.7	33.9		33.2
	B	C10	5/10	4/10	3/10		8.2			25.9			5.2			32.8	
	C		5														
	D		5														
500	A	C11	5/10	4/10	3/10	8.3		8.1	24.2		24.6	6.8		5.7	33.9		33.5
	B	C12	5/10	2/10	0/10		8.2			25.9			5.3			32.7	
	C		5														
	D		5														
	A																
	B																
	C																
	D																
Loaded / measured by:			JD	JD	JD	BA	JD	JD	BA	JD	JD	BA	JD	JD	BA	JD	JD
Recorded by:			BA	JD	JD	BA	JD	JD	BA	JD	JD	BA	JD	JD	BA	JD	JD

Investigators' Signatures
Bruce Abel
Marshall Faircloth
James Daniel
Loretta M. Wolfe
REVIEWER

Concentrations prepared by: BA
Loading verified by: MF
Light Intensity: 50-100 Ft. candles
Photoperiod: 16 hours Light / 8 hours dark
Temperature Range °C:
Incubator # 2 min. 25.6 max. 26.0 mean 26.0
Incubator # ___ min. ___ max. ___ mean ___
Room B246 min 23.6 max 25.2 mean 24.4

Comments:
(A) wrong # transcribed BA 2-5-08

Statistics: Method: Spearman-Karber
(48)/ 96 hour LC_{50}: 357.47
95% Confidence Interval: lower 314.66 upper 406.1

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Appendix C. (continued)

DATE: 2-12-08 TEST NUMBER: 1 DURATION: 48 h
TOXICANT : CdCl2
SPECIES: *Americamysis bahia*

RAW DATA: Concentration (ug/L)	Number Exposed	Mortalities
.00	20	0
20.00	20	1
30.00	20	2
45.00	20	18
67.00	20	20
100.00	20	20

SPEARMAN-KARBER TRIM: 5.00%

SPEARMAN-KARBER ESTIMATES: LC50: 36.53
95% LOWER CONFIDENCE: 33.62
95% UPPER CONFIDENCE: 39.69

DATE: 2-5-08 TEST NUMBER: 1 DURATION: 48 h
TOXICANT : CuCl2
SPECIES: *Menidia beryllina*

RAW DATA: Concentration (ug/L)	Number Exposed	Mortalities
.00	20	0
100.00	20	2
200.00	20	1
300.00	20	6
400.00	20	12
500.00	20	17

SPEARMAN-KARBER TRIM: 15.00%

SPEARMAN-KARBER ESTIMATES: LC50: 357.47
95% LOWER CONFIDENCE: 314.66
95% UPPER CONFIDENCE: 406.10

NOTE: MORTALITY PROPORTIONS WERE NOT MONOTONICALLY INCREASING.
ADJUSTMENTS WERE MADE PRIOR TO SPEARMAN-KARBER ESTIMATION.

Appendix D. Test Organism Receipts

MBL Aquaculture
4569 Samuel Street
Sarasota, Florida 34233
TEL: (800) 889-0384
FAX: (941) 922-3874
EMAIL: sales@mblaquaculture.com
WEB: www.MBLAquaculture.com

NELAC Accredited

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 2/4/08

Shipped to: FDEP

P.O. No: N/A

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia	150	4 DAYS	MS080131	25°C	20 ‰
Menidia beryllina	150	12 DAYS	SS080123	25°C	20 ‰
Cyprinella leedsi	200	9 DAYS	CL080126	25°C	
Pimephales promelas	150	10 days	FM080125	25°C	

Packed by:

Shipped Via: FedEx

Notes:

Thank you for your order.

Appendix D. (continued)

MBL Aquaculture
4569 Samuel Street
Sarasota, Florida 34233
TEL: (800) 889-0384
FAX: (941) 922-3874
EMAIL: sales@mblaquaculture.com
WEB: www.MBLAquaculture.com

NELAC Accredited

Organism Shipment Record

State of Florida Aquaculture Certificate Number AQ0668007

Date: 2/11/08

Shipped to: FDEP

P.O. No: N/A

Species	Quantity	Age	Brood Number	Temperature	Salinity
Mysidopsis bahia	150	4 DAYS	MS080207	25°C	20 °/oo
	50	6 DAYS	MS080205	25°C	20‰
Menidia beryllina					
Cyprinella leedsi	100	11 days	CL080131	25°C	
Pimephales promelas					

Packed by: D.C.

Shipped Via: FedEx

Notes:

Thank you for your order.

Appendix E. Chemical Analyses performed on the effluent from the Florida Power and Light- Lauderdale Plant Outfall D-001, sampled on February 4, 2008.

Date Sampled	Field ID	Analysis Group	Components	Result	Remarks	Units	MDL	PQL
2/4/2008 10:35	EFFLUENT	AGP/LN	Algal Growth Potential	3.33	A	mg DryWt/L	3	3
2/4/2008 10:35	EFFLUENT	Chlorophyll/Grain Size/BOD	Phaeophytin-a	1.7		ug/L	0.24	0.71
2/4/2008 10:35	EFFLUENT	Chlorophyll/Grain Size/BOD	Chlorophyll-a, Corrected	5		ug/L	0.55	1.7
2/4/2008 10:35	EFFLUENT	Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	100	L	LC50		
2/4/2008 10:35	EFFLUENT	Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	100	L	LC50		
2/4/2008 10:35	EFFLUENT	Metals	Calcium	258		mg/L	0.22	0.9
2/4/2008 10:35	EFFLUENT	Metals	Chromium	3	U	ug/L	3	12
2/4/2008 10:35	EFFLUENT	Metals	Copper	8.4		ug/L	1.5	6
2/4/2008 10:35	EFFLUENT	Metals	Cadmium	0.06	U	ug/L	0.06	0.24
2/4/2008 10:35	EFFLUENT	Metals	Selenium	1.5	U	ug/L	1.5	6
2/4/2008 10:35	EFFLUENT	Metals	Lead	0.6	U	ug/L	0.6	2.4
2/4/2008 10:35	EFFLUENT	Metals	Nickel	0.75	U	ug/L	0.75	3
2/4/2008 10:35	EFFLUENT	Metals	Silver	0.075	U	ug/L	0.075	0.3
2/4/2008 10:35	EFFLUENT	Metals	Aluminum	180	U	ug/L	180	720
2/4/2008 10:35	EFFLUENT	Metals	Arsenic	1.6	I	ug/L	1.5	6
2/4/2008 10:35	EFFLUENT	Metals	Iron	120	I	ug/L	90	360
2/4/2008 10:35	EFFLUENT	Metals	Zinc	15	U	ug/L	15	60
2/4/2008 10:35	EFFLUENT	Metals	Magnesium	656		mg/L	0.8	3.2
2/4/2008 10:35	EFFLUENT	Nutrients	O-Phosphate-P	0.017	I	mg P/L	0.008	0.02
2/4/2008 10:35	EFFLUENT	Nutrients	Total-P	0.026	I	mg P/L	0.02	0.06
2/4/2008 10:35	EFFLUENT	Nutrients	NO2NO3-N	0.26		mg N/L	0.004	0.01
2/4/2008 10:35	EFFLUENT	Nutrients	Kjeldahl Nitrogen	0.96		mg N/L	0.08	0.2
2/4/2008 10:35	EFFLUENT	Nutrients	Ammonia-N	0.11		mg N/L	0.01	0.02
2/4/2008 10:35	EFFLUENT	Nutrients	TDS	18000		mg/L	600	2400
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	12
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Phenol	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Pyrene	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	beta-BHC	1.5	U	ug/L	1.5	5.8
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	delta-BHC	1.5	U	ug/L	1.5	5.8
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.8
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	4-Nitrophenol	15	U	ug/L	15	58
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Benzo(a)pyrene	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Di-n-butyl phthalate	4.9	U	ug/L	4.9	19

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Components	Result	Remarks	Units	MDL	PQL
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Di-n-octyl phthalate	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Endrin	1.5	U	ug/L	1.5	5.8
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Fluoranthene	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	12
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	U	ug/L	2.9	12
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.8
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	2,4-Dichlorophenol	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	4,4'-DDE	1.5	U	ug/L	1.5	5.8
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Anthracene	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Benzo(a)anthracene	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Butyl benzyl phthalate	4.9	U	ug/L	4.9	19
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Dieldrin	1.5	U	ug/L	1.5	5.8
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Endosulfan sulfate	1.5	U	ug/L	1.5	5.8
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Heptachlor epoxide	1.5	U	ug/L	1.5	5.8
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	12
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	2-Nitrophenol	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Dimethyl phthalate	9.7	U	ug/L	9.7	39
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Hexachlorobenzene	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Naphthalene	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	2-Chlorophenol	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Heptachlor	1.5	U	ug/L	1.5	5.8
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.8
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Phenanthrene	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	3,3'-Dichlorobenzidine	39	UJ	ug/L	39	160
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	4,4'-DDT	1.5	U	ug/L	1.5	5.8
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Aldrin	1.5	U	ug/L	1.5	5.8
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Endosulfan I	3.9	U	ug/L	3.9	16
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.8
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.97	U	ug/L	0.97	3.9

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Components	Result	Remarks	Units	MDL	PQL
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	2,4-Dinitrophenol	15	U	ug/L	15	58
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	12
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	4,4'-DDD	1.5	U	ug/L	1.5	5.8
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Acenaphthene	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Benzidine	97	U	ug/L	97	390
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Endrin aldehyde	3.9	UJ	ug/L	3.9	16
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Chrysene	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Diethyl phthalate	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Endosulfan II	3.9	U	ug/L	3.9	16
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Fluorene	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2.9	12
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	alpha-BHC	1.5	U	ug/L	1.5	5.8
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	gamma-BHC	1.5	U	ug/L	1.5	5.8
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	2,4-Dimethylphenol	9.7	U	ug/L	9.7	39
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	2,4-Dinitrotoluene	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	2,6-Dinitrotoluene	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	2-Chloronaphthalene	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Acenaphthylene	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Benzo(b)fluoranthene	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Benzo(k)fluoranthene	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	12
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	15	U	ug/L	15	58
2/4/2008 10:35	EFFLUENT	Priority Organic Pollutants	Isophorone	0.97	U	ug/L	0.97	3.9
2/4/2008 10:35	EFFLUENT	Field Parameter	Temperature	34.16		C		
2/4/2008 10:35	EFFLUENT	Field Parameter	Specific Conductance	28570		umhos/cm		
2/4/2008 10:35	EFFLUENT	Field Parameter	Sample Depth	0.1		m		
2/4/2008 10:35	EFFLUENT	Field Parameter	Dissolved Oxygen	7.21		mg/L		
2/4/2008 10:35	EFFLUENT	Field Parameter	pH	7.35				
2/4/2008 11:30	BLANK	Metals	Iron	30	U	ug/L	30	120
2/4/2008 11:30	BLANK	Metals	Copper	0.5	U	ug/L	0.5	2
2/4/2008 11:30	BLANK	Metals	Selenium	0.5	U	ug/L	0.5	2
2/4/2008 11:30	BLANK	Metals	Nickel	0.25	U	ug/L	0.25	1
2/4/2008 11:30	BLANK	Metals	Arsenic	0.5	U	ug/L	0.5	2

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Components	Result	Remarks	Units	MDL	PQL
2/4/2008 11:30	BLANK	Metals	Aluminum	60	U	ug/L	60	240
2/4/2008 11:30	BLANK	Metals	Calcium	0.075	U	mg/L	0.075	0.3
2/4/2008 11:30	BLANK	Metals	Zinc	5	U	ug/L	5	20
2/4/2008 11:30	BLANK	Metals	Cadmium	0.02	U	ug/L	0.02	0.08
2/4/2008 11:30	BLANK	Metals	Magnesium	0.04	U	mg/L	0.04	0.16
2/4/2008 11:30	BLANK	Metals	Chromium	1	U	ug/L	1	4
2/4/2008 11:30	BLANK	Metals	Silver	0.025	U	ug/L	0.025	0.1
2/4/2008 11:30	BLANK	Metals	Lead	0.2	U	ug/L	0.2	0.8
2/4/2008 11:30	BLANK	Nutrients	Ammonia-N	0.01	U	mg N/L	0.01	0.02
2/4/2008 11:30	BLANK	Nutrients	NO2NO3-N	0.004	U	mg N/L	0.004	0.01
2/4/2008 11:30	BLANK	Nutrients	Kjeldahl Nitrogen	0.08	U	mg N/L	0.08	0.2
2/4/2008 11:30	BLANK	Nutrients	O-Phosphate-P	0.004	U	mg P/L	0.004	0.01
2/4/2008 11:30	BLANK	Nutrients	Total-P	0.02	U	mg P/L	0.02	0.06
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Benzo(b)fluoranthene	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Bis(2-chloroethoxy)methane	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Bis(2-chloroethyl)ether	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Di-n-butyl phthalate	4.8	U	ug/L	4.8	19
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Dieldrin	1.4	U	ug/L	1.4	5.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Endrin aldehyde	3.8	UJ	ug/L	3.8	15
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Nitrobenzene	1.9	U	ug/L	1.9	7.7
2/4/2008 11:30	BLANK	Priority Organic Pollutants	1,2,4-Trichlorobenzene	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	2,4-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	4-Chlorophenyl phenyl ether	1.9	U	ug/L	1.9	7.7
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Dimethyl phthalate	9.6	U	ug/L	9.6	38
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Endosulfan I	3.8	U	ug/L	3.8	15
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Endrin	1.4	U	ug/L	1.4	5.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Pentachlorophenol	2.9	U	ug/L	2.9	12
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Phenanthrene	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	alpha-BHC	1.4	U	ug/L	1.4	5.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	2-Chloronaphthalene	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	4-Nitrophenol	14	U	ug/L	14	58
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Benzidine	96	U	ug/L	96	380
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Benzo(g,h,i)perylene	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Bis(2-chloroisopropyl)ether	2.9	U	ug/L	2.9	12
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Di-n-octyl phthalate	0.96	U	ug/L	0.96	3.8

Appendix E. (continued)

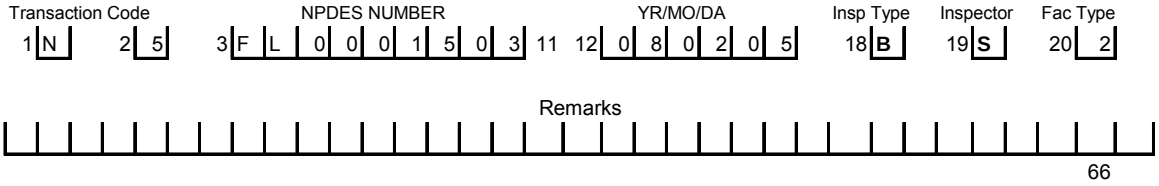
Date Sampled	Field ID	Analysis Group	Components	Result	Remarks	Units	MDL	PQL
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Fluorene	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Heptachlor	1.4	U	ug/L	1.4	5.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Hexachlorocyclopentadiene	2.9	U	ug/L	2.9	12
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Hexachloroethane	2.9	U	ug/L	2.9	12
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Isophorone	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	2,4,6-Trichlorophenol	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	2,4-Dimethylphenol	9.6	U	ug/L	9.6	38
2/4/2008 11:30	BLANK	Priority Organic Pollutants	2-Chlorophenol	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	4-Bromophenyl phenyl ether	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Acenaphthene	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Benzo(a)pyrene	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Indeno(1,2,3-cd)pyrene	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Naphthalene	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	gamma-BHC	1.4	U	ug/L	1.4	5.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	3,3'-Dichlorobenzidine	38	UJ	ug/L	38	150
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Benzo(k)fluoranthene	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Bis(2-ethylhexyl)phthalate	14	U	ug/L	14	58
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Chrysene	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Hexachlorobutadiene	2.9	U	ug/L	2.9	12
2/4/2008 11:30	BLANK	Priority Organic Pollutants	beta-BHC	1.4	U	ug/L	1.4	5.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	4,4'-DDD	1.4	U	ug/L	1.4	5.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Aldrin	1.4	U	ug/L	1.4	5.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Benzo(a)anthracene	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Dibenzo(a,h)anthracene	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Diethyl phthalate	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Endosulfan II	3.8	U	ug/L	3.8	15
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Endosulfan sulfate	1.4	U	ug/L	1.4	5.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Hexachlorobenzene	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	N-Nitrosodimethylamine	1.9	U	ug/L	1.9	7.7
2/4/2008 11:30	BLANK	Priority Organic Pollutants	2,4-Dichlorophenol	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	2,4-Dinitrophenol	14	U	ug/L	14	58
2/4/2008 11:30	BLANK	Priority Organic Pollutants	2-Methyl-4,6-dinitrophenol	2.9	U	ug/L	2.9	12
2/4/2008 11:30	BLANK	Priority Organic Pollutants	2-Nitrophenol	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	4,4'-DDE	1.4	U	ug/L	1.4	5.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	4,4'-DDT	1.4	U	ug/L	1.4	5.8

Appendix E. (continued)

Date Sampled	Field ID	Analysis Group	Components	Result	Remarks	Units	MDL	PQL
2/4/2008 11:30	BLANK	Priority Organic Pollutants	4-Chloro-3-methylphenol	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Butyl benzyl phthalate	4.8	U	ug/L	4.8	19
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Fluoranthene	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Heptachlor epoxide	1.4	U	ug/L	1.4	5.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	N-Nitrosodi-n-propylamine	1.9	U	ug/L	1.9	7.7
2/4/2008 11:30	BLANK	Priority Organic Pollutants	N-Nitrosodiphenylamine/ Diphenylamine	2.9	U	ug/L	2.9	12
2/4/2008 11:30	BLANK	Priority Organic Pollutants	delta-BHC	1.4	U	ug/L	1.4	5.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	2,6-Dinitrotoluene	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Acenaphthylene	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Anthracene	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Phenol	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Priority Organic Pollutants	Pyrene	0.96	U	ug/L	0.96	3.8
2/4/2008 11:30	BLANK	Nutrients	Sample Depth	0.01		m		

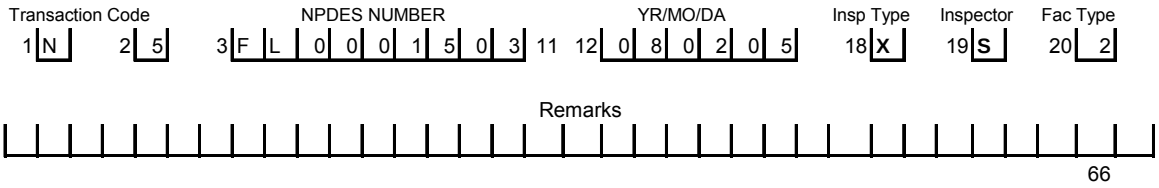
The Bioassay of FPL-Lauderdale Plant effluent sampled on February 5, 2008. NPDES #FL0001503.

Fill Out This Section For All Surface Water Discharger Inspections(CEI, CSI, CBI, PAI, XSI-RI Optional)



The Priority Pollutants Analysis of FPL-Lauderdale Plant effluent sampled on February 5, 2008. NPDES #FL0001503.

Fill Out This Section For All Surface Water Discharger Inspections(CEI, CSI, CBI, PAI, XSI-RI Optional)



Biological Analyses of FPL FPL-Lauderdale Plant effluent sampled on February 5, 2008. NPDES #FL0001503.

Fill Out This Section For All Surface Water Discharger Inspections(CEI, CSI, CBI, PAI, XSI-RI Optional)

