

Bioassays of

Florida Power Corporation – Crystal River Power Plant

Crystal River, Citrus County, Florida

NPDES #FL0000159

Sampled 6/16/03

January 2004

Biology Section
Bureau of Laboratories
Division of Resource Assessment and Management

Quality Manual No. 870346G
NELAC Certification No. E31780

Florida Power Corporation Crystal River Power Plant, US Highway 19 and Powerline Road, Crystal River, Citrus County, Florida, NPDES #FL0000159. The tests for samples 1-4 were performed on 17 to 21 June 2003 and the tests for sample 5 were performed on 17 to 19 June 2003.

Introduction

This electric power generating plant has a design flow of 1897.9 MGD and an average flow of 1733.5 MGD (May 2002-May 2003). The facility consists of two fossil fuel-fired units (Units #1 and #2) and a nuclear fuel-fired unit (Unit #3). The facility has a combined nameplate generating capacity of 1854.8 megawatts. Effluent discharged through Outfalls D011 and D013 consists of once-through cooling water. Treatment of cooling water consists of filtration and chlorination (if necessary) prior to discharging to the on-site discharge canal. The effluent then flows to the Class III marine waters of the Gulf of Mexico.

The facility has an additional outfall (D-OF) that discharges the Nuclear Services and Decay Heat Seawater System effluent. This effluent includes effluents from internal outfalls: I-FE (Laundry and shower sump tank), I-FG (regeneration waste neutralization tank), ECST (Evaporator Condensate Storage Tank), and the condensate system (facility information provided by, Melissa Gunter, FDEP Southwest District, Tampa).

Samples and results discussed in this report were collected from Outfall D-0F. Samples were collected over a 24-hr period using an auto-sampler. Beginning on June 15, 2003, the auto-sampler took a sample every six hours. The samples were not composited, and correspond to Samples 1-4. Sample 5 was a grab sample collected on June 16, 2003.

Methods

Samples were collected by Melissa Gunter and Lori Pillsbury (DEP Southwest District) following DEP-SOP-001/01 FS 2400 Wastewater Sampling. All DEP SOP's are available on the web at: http://www.floridadep.org/labs/qa/sops.htm.

The toxicity tests discussed in this report were performed following internal DEP SOP's TA07_03 and TA07_04. All internal DEP SOP's are available on the web at: http://www.floridadep.org/labs/cgi-bin/sop/biosop.asp.

Toxicity Test Results

Sample 1

Americamysis bahia 96-hr acute screening bioassay – Not Toxic
Menidia beryllina 96-hr acute screening bioassay – Not Toxic

Sample 2

Americamysis bahia 96-hr acute screening bioassay – Not Toxic
Menidia beryllina 96-hr acute screening bioassay – Not Toxic

Sample 3

Americamysis bahia 96-hr acute screening bioassay – Not Toxic
Menidia beryllina 96-hr acute screening bioassay – Not Toxic

Sample 4
Americamysis bahia 96-hr acute screening bioassay – Not Toxic
Menidia beryllina 96-hr acute screening bioassay – Not Toxic

Sample 5
Americamysis bahia 48-hr acute screening bioassay – Not Toxic
Menidia beryllina 48-hr acute screening bioassay – Not Toxic

See Tables 1 through 5 for bioassay bench sheets.

Algal Growth Potential

The Algal Growth Potential (AGP), expressed as mg dry wt/L of *Dunaliella tertiolecta*, was less than the method detection limit (0.100 mg dry wt/L) for the sample collected from Outfall D-0F.

Chemistry Results

Total residual chlorine and total ammonia were not detected in the bioassay sample in the laboratory.

See Table 6 for results of analytes detected in the effluent.
See Table 7 for a complete list of chemical analyses performed.

Conclusion

The effluent samples collected from outfall D-0F for this facility on June 16, 2003, did not show acute toxicity to either test species during the 96-hour bioassay tests conducted on Samples 1–4. Sample 5 also did not show toxicity to either test species during the 48-hour acute bioassays conducted. The effluent AGP results were below the minimum detection limit.

Literature Cited

Raschke, R. L. and D. A. Schultz. 1987. The use of the algal growth potential test for data assessment. J. Wat. Poll. Cont. Fed. 59(4): 222-227.

Table 1a. Data recorded during the 96-hour acute screening bioassays of a sample of effluent from Outfall D-0F of the Florida Power Corporation Crystal River Power Plant, US Highway 19 and Powerline Road, Crystal River, Citrus County, Florida, NPDES# FL0000159, performed from 17 to 21 June 2003.

Sample 1 of 4

Facility:	**FPC Crystal River Power Plant Outfall D-0F**	**NPDES #:**	**FL0000159**	Facility Type:	**Power Plant**	**Analysts:**	Jacquelyn Champion
Location:	US Hwy 19 and Powerline Road, Crystal River	Contact/District:	Gunter/SW				Joshua Ayres
County:	Citrus	Test type:	static renewal acute screen				James Daniels
Sample Collection Date:	6/16/2003 Time: 0505*	# tests:	2	Receiving Water:	Discharge Canal to Gulf of Mexico		Marshall Faircloth
Test Beginning Date:	6/17/2003 Time: 1530	Chlorination Type:	chlorinated (as needed)				Christa Pierini
Test Ending Date:	6/21/2003 Time: 1030		received unchlorinated				
* Time last sample collected begins 36 hour hold time.		FDEP SOP#:	TA07_03 / 04		Page 1 of 2	Reviewer:	Rob Buda

Organism: ***Americamysis bahia*** Life stage: 5 days [A]Feeding: artemia Conductivity

Chamber size: 350mL Food Batch #: 01940425G Uncorrected

	Sample/Diluent	SURVIVAL # Alive			pH (standard units)			Temperature (oC)[B]			Dissolved Oxygen (mg/L)			mmhos/cm	
Concentrations	Volume(mL)	0 hr	24 hr	48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	48 hour
Control A	0/225	5	5	4	8.5	8.0	7.8	24.5	24.9	24.2	6.6	5.7	5.4	35.2	39.3
Control B	0/225	5	5	5	8.5	8.0	7.8	24.3	24.3	23.7	6.8	5.5	5.3	36.6	39.5
Control C	0/225	5	5	5	8.5	8.0	7.8	24.4	24.2	23.8	7.2	5.5	5.2	37.8	39.5
Control D	0/225	5	5	5	8.5	8.0	7.8	24.3	24.1	23.6	7.2	5.6	5.3	37.7	39.4
100% A	225/0	5	5	5	8.2	7.9	7.8	24.3	24.4	23.8	7.4	5.6	5.0	36.6	38.6
100% B	225/0	5	5	5	8.2	7.9	7.8	24.2	24.4	24.4	7.4	5.5	4.8	37.1	40.1
100% C	225/0	5	5	4	8.2	7.9	7.8	24.2	24.0	24.2	7.4	5.4	4.8	36.7	39.2
100% D	225/0	5	5	5	8.2	7.9	7.8	24.2	23.9	23.6	7.4	5.4	4.8	37.0	39.3

[A] Organisms were fed daily.

[B] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.
Room Temperature range for the test period was 25.0-26.5°C.
Incubator #3 temperature range for the test period was 25.-25.5°C.

LIMS	
Job number:	TLH-2003-06-18-17-02
sample number:	682022

Data Transcription Verification
date: 10/22/03
by: Cathy Oaks / Brad Richardson

Total Residual CL2	mg/L	Method
Field:	-	-
Lab:	<0.03	Hach

Ammonia	Total (mg/L)	Unionized (mg/L)
Control water:	<0.054	<0.054
100% Sample:	<0.054	<0.054

Organism: ***Americamysis bahia*** Life stage: 5 days [C]Feeding: *artemia* Conductivity

Chamber size: 350mL Food Batch #: 01940425G Uncorrected

	Sample/Diluent	SURVIVAL # Alive			pH (standard units)			Temperature (°C)[B]			Dissolved Oxygen (mg/L)			mmhos/cm	
Concentrations	Volume(mL)	48 hr	72 hr	96 hr	48 hour	72 hour	96 hour	48 hour	72 hour	96 hour	48 hour	72 hour	96 hour	48 hour	96 hour
Control A	0/225	4	4	4	8.2	7.9	8.0	24.6	26.1	24.9	6.5	4.6	6.8	36.7	39.8
Control B	0/225	5	5	5	8.2	7.9	8.0	24.5	24.1	25.3	6.5	4.6	6.9	37.3	41.5
Control C	0/225	5	5	5	8.2	7.9	8.1	24.5	25.4	25.2	6.4	4.5	7.0	37.0	41.0
Control D	0/225	5	5	5	8.2	7.9	8.1	24.5	25.5	25.2	6.4	4.3	7.0	36.9	39.4
100% A	225/0	5	5	5	8.1	7.7	8.1	24.5	25.2	24.6	6.4	4.4	6.7	36.8	42.1
100% B	225/0	5	5	5	8.1	7.7	8.1	24.6	25.5	24.7	6.4	4.2	6.8	37.3	41.5
100 % C	225/0	4	4	4	8.1	7.7	8.1	24.6	26.1	26.4	6.5	3.5	7.0	37.6	45.7
100% D	225/0	5	5	5	8.1	7.7	8.1	24.5	25.6	25.5	6.5	3.6	7.0	37.6	44.9

Light Intensity during the test was 50-100 foot candles.
Photoperiod during the test was 16 hours of light : 8 hours of dark.

Alk & Hardness	Alkalinity (mg/L)	Hardness (mg/L)
Control water:	124	-
100% Sample:	135	-

Salinity [D]	ppt
Control water:	24.5
100% sample:	24.5

[D] Salinity based on temperature and conductivity.

Mortality	Percent
Control water (mysid):	5%
100% (mysid):	5%

"continued"

Table 1b. Data recorded during the 96-hour acute screening bioassays of a sample of effluent from Outfall D-0F of the Florida Power Corporation Crystal River Power Plant, US Highway 19 and Powerline Road, Crystal River, Citrus County, Florida, NPDES# FL0000159, performed from 17 to 21 June 2003.
concluded

Sample 1 of 4

Facility:	**FPC Crystal River Power Plant Outfall D-0F**	**NPDES #:**	**FL0000159**	Facility Type:	**Power Plant**	**Analysts:**	Jacquelyn Champion
Location:	US Hwy 19 and Powerline Road, Crystal River	Contact/District:	Gunter/SW				Joshua Ayres
County:	Citrus	Test type:	static renewal acute screen				James Daniels
Sample Collection Date:	6/16/2003 Time: 0505*	# tests:	2	Receiving Water:	Discharge Canal to Gulf of Mexico		Marshall Faircloth
Test Beginning Date:	6/17/2003 Time: 1540	Chlorination Type:	chlorinated (as needed)				Christa Pierini
Test Ending Date:	6/21/2003 Time: 1345		received unchlorinated				
* Time last sample collected begins 36 hour hold time.		FDEP SOP#:	TA07_03 / 04	Page 2 of 2		Reviewer:	Rob Buda

Organism: ***Menidia beryllina*** Life stage: 12 days [A]Feeding: artemia Conductivity
Chamber size: 1L Food Batch #: 01940425G Uncorrected

	Sample/Diluent	SURVIVAL # Alive			pH (standard units)			Temperature (oC)[B]			Dissolved Oxygen (mg/L)			mmhos/cm	
Concentrations	Volume(mL)	0 hr	24 hr	48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	48 hour
Control A	0/400	10	10	10	8.5	8.0	7.8	24.8	24.3	24.0	6.9	5.6	4.4	36.5	38.6
Control B	0/400	10	10	10	8.5	8.1	7.8	24.8	24.5	23.9	6.9	5.6	4.4	36.5	37.4
100% A	400/0	10	10	10	8.2	8.0	7.7	24.7	24.4	24.3	7.1	5.5	4.1	36.9	38.2
100% B	400/0	10	10	10	8.2	8.0	7.7	24.5	24.8	24.8	7.2	5.7	4.1	37.2	38.4

[A] Organisms were fed prior to loading and 2 hours prior to renewal.

[B] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.
Room Temperature range for the test period was 25.0-26.5°C.
Incubator #3 temperature range for the test period was 25.0-25.5°C.

LIMS	
Job number:	TLH-2003-06-18-17-02
sample number:	682022

Data Transcription Verification
date: 10/22/03
by: Cathy Oaks / Brad Richardson

Total Residual CL2	mg/L	Method
Field:	-	-
Lab:	<0.03	Hach

Organism: ***Menidia beryllina*** Life stage: 12 days [C]Feeding: *artemia* Conductivity
Chamber size: 1L Food Batch #: 01940425G Uncorrected

	Sample/Diluent	SURVIVAL # Alive			pH (standard units)			Temperature (°C)[B]			Dissolved Oxygen (mg/L)			mmhos/cm	
Concentrations	Volume(mL)	48 hr	72 hr	96 hr	48 hour	72 hour	96 hour	48 hour	72 hour	96 hour	48 hour	72 hour	96 hour	48 hour	96 hour
Control A	0/400	10	10	10	8.2	7.9	7.9	24.7	24.5	27.1	5.7	5.3	5.3	32.3	41.0
Control B	0/400	10	10	10	8.2	7.9	7.9	24.8	24.7	26.3	5.7	5.3	5.3	36.4	39.8
100 % C	400/0	10	10	10	8.1	7.6	7.8	24.8	24.6	25.7	5.9	5.3	5.5	35.0	41.7
100% D	400/0	10	10	10	8.1	7.6	7.8	24.8	25.3	26.8	6.0	5.0	5.7	37.2	40.4

Light Intensity during the test was 50-100 foot candles.
Photoperiod during the test was 16 hours of light : 8 hours of dark.

Ammonia	Total (mg/L)	Unionized (mg/L)
Control water:	<0.054	<0.054
100% Sample:	<0.054	<0.054

Alk & Hardness	Alkalinity (mg/L)	Hardness (mg/L)
Control water:	124	-
100% Sample:	135	-

Salinity [D]	ppt
Control water:	24.5
100% sample:	24.5

[D] Salinity based on temperature and conductivity.

Mortality	Percent
Control water (mysid):	0%
100% (mysid):	0%
Control water (fish):	0%
100 % (fish):	0%

Table 2a. Data recorded during the 96-hour acute screening bioassays of a sample of effluent from Outfall D-0F of the Florida Power Corporation Crystal River Power Plant, US Highway 19 and Powerline Road, Crystal River, Citrus County, Florida, NPDES# FL0000159, performed from 17 to 21 June 2003.

Sample 2 of 4

Facility:	**FPC Crystal River Power Plant Outfall D-0F**	**NPDES #: FL0000159**	Facility Type: **Power Plant**	**Analysts:**	Jacquelyn Champion
Location:	US Hwy 19 and Powerline Road, Crystal River	Contact/District:	Gunter/SW		Joshua Ayres
County:	Citrus	Test type:	static renewal acute screen		James Daniels
Sample Collection Date:	6/16/2003 Time: 0505*	# tests:	2	Receiving Water: Discharge Canal to Gulf of Mexico	Marshall Faircloth
Test Beginning Date:	6/17/2003 Time: 1530	Chlorination Type:	chlorinated (as needed)		Christa Pierini
Test Ending Date:	6/21/2003 Time: 1030		received unchlorinated		
* Time last sample collected begins 36 hour hold time.		FDEP SOP#:	TA07_03 / 04	Page 1 of 2	Reviewer: Rob Buda

Organism: ***Americamysis bahia*** Life stage: 5 days [A]Feeding: artemia Conductivity

Chamber size: 350mL Food Batch #: 01940425G Uncorrected

	Sample/Diluent	SURVIVAL # Alive			pH (standard units)			Temperature (oC)[B]			Dissolved Oxygen (mg/L)			mmhos/cm	
Concentrations	Volume(mL)	0 hr	24 hr	48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	48 hour
Control A	0/225	5	5	5	8.5	8.1	7.9	24.2	24.5	23.3	7.3	5.3	5.2	36.1	38.6
Control B	0/225	5	4	4	8.5	8.1	7.9	24.1	24.2	23.5	7.4	5.3	5.3	37.3	39.3
Control C	0/225	5	5	5	8.5	8.1	7.9	24.1	24.0	24.3	7.5	5.4	5.1	37.7	41.3
Control D	0/225	5	5	5	8.5	8.1	7.9	24.2	24.1	24.0	7.5	5.6	5.1	37.8	39.6
100% A	225/0	5	5	5	8.3	7.9	7.9	24.0	24.2	24.3	7.5	5.6	5.3	35.5	40.0
100% B	225/0	5	5	5	8.3	7.9	7.9	24.0	24.3	24.1	7.5	5.7	5.2	35.9	39.5
100% C	225/0	5	5	5	8.3	7.9	7.9	24.0	24.2	23.9	7.5	5.6	5.2	37.2	38.7
100% D	225/0	5	5	5	8.3	7.9	7.9	24.1	24.4	23.9	7.6	5.5	5.2	36.4	38.2

[A] Organisms were fed daily.

[B] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.
Room Temperature range for the test period was 25.0-26.5°C.
Incubator #3 temperature range for the test period was 25.-25.5°C.

Organism: ***Americamysis bahia*** Life stage: 5 days [C]Feeding: *artemia* Conductivity

Chamber size: 350mL Food Batch #: 01940425G Uncorrected

	Sample/Diluent	SURVIVAL # Alive			pH (standard units)			Temperature (°C)[B]			Dissolved Oxygen (mg/L)			mmhos/cm	
Concentrations	Volume(mL)	48 hr	72 hr	96 hr	48 hour	72 hour	96 hour	48 hour	72 hour	96 hour	48 hour	72 hour	96 hour	48 hour	96 hour
Control A	0/225	5	5	5	8.3	7.9	7.6	24.4	24.7	24.7	6.5	4.7	5.3	37.0	40.2
Control B	0/225	4	4	4	8.3	7.9	7.6	24.4	25.0	25.0	6.5	4.8	4.7	37.1	40.4
Control C	0/225	5	5	5	8.3	7.9	7.6	24.5	25.4	25.1	6.5	4.7	4.6	37.5	39.3
Control D	0/225	5	5	5	8.3	7.9	7.6	24.4	25.2	25.0	6.6	4.4	4.1	37.3	38.8
100% A	225/0	5	4	4	8.2	7.8	7.7	24.4	25.8	24.9	6.7	4.4	4.4	36.9	38.7
100% B	225/0	5	5	5	8.2	7.8	7.6	24.4	25.1	25.0	6.7	4.2	4.6	36.9	38.2
100 % C	225/0	5	5	5	8.2	7.8	7.5	24.4	24.9	24.9	6.9	4.2	4.4	36.9	38.0
100% D	225/0	5	5	5	8.2	7.8	7.5	24.4	25.4	24.8	6.9	4.2	4.4	36.9	39.4

Light Intensity during the test was 50-100 foot candles.
Photoperiod during the test was 16 hours of light : 8 hours of dark.

"continued"

LIMS	
Job number:	TLH-2003-06-18-17-03
sample number:	682023

Data Transcription Verification
date: 10/22/03
by: Cathy Oaks / Brad Richardson

Total Residual CL2	mg/L	Method
Field:	-	-
Lab:	<0.03	Hach

Ammonia	Total (mg/L)	Unionized (mg/L)
Control water:	<0.054	<0.054
100% Sample:	<0.054	<0.054

Alk & Hardness	Alkalinity (mg/L)	Hardness (mg/L)
Control water:	124	-
100% Sample:	135	-

Salinity [D]	ppt
Control water:	23
100% sample:	23

[D] Salinity based on temperature and conductivity.

Mortality	Percent
Control water (mysid):	5%
100% (mysid):	5%

Table 2b. Data recorded during the 96-hour acute screening bioassays of a sample of effluent from Outfall D-0F of the Florida Power Corporation Crystal River Power Plant, US Highway 19 and Powerline Road, Crystal River, Citrus County, Florida, NPDES# FL0000159, performed from 17 to 21 June 2003.

Sample 2 of 4

Facility:	**FPC Crystal River Power Plant Outfall D-0F**	**NPDES #:**	**FL0000159**	Facility Type:	**Power Plant**	**Analysts:**	Jacquelyn Champion
Location:	US Hwy 19 and Powerline Road, Crystal River	Contact/District:	Gunter/SW				Joshua Ayres
County:	Citrus	Test type:	static renewal acute screen				James Daniels
Sample Collection Date:	6/16/2003 Time: 0505*	# tests:	2	Receiving Water:	Discharge Canal to Gulf of Mexico		Marshall Faircloth
Test Beginning Date:	6/17/2003 Time: 1540	Chlorination Type:	chlorinated (as needed)				Christa Pierini
Test Ending Date:	6/21/2003 Time: 1030		received unchlorinated				
* Time last sample collected begins 36 hour hold time.		FDEP SOP#:	TA07 03 / 04		Page 2 of 2	Reviewer:	Rob Buda

Organism: ***Menidia beryllina*** Life stage: 12 days [A]Feeding: artemia Conductivity

Chamber size: 1L Food Batch #: 01940425G Uncorrected

	Sample/Diluent	SURVIVAL # Alive			pH (standard units)			Temperature (oC)[B]			Dissolved Oxygen (mg/L)			mmhos/cm	
Concentrations	Volume(mL)	0 hr	24 hr	48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	48 hour
Control A	0/400	10	10	10	8.5	8.0	7.9	24.8	24.2	24.0	7.2	5.9	4.4	36.8	37.7
Control B	0/400	10	10	10	8.5	8.1	7.9	24.7	24.5	24.7	7.1	5.8	4.3	36.4	38.0
100% A	400/0	10	10	10	8.3	8.0	7.8	24.6	24.3	24.1	7.3	5.8	4.5	36.3	38.1
100% B	400/0	10	10	9	8.3	8.0	7.8	24.6	24.5	24.2	7.4	5.8	4.6	36.6	38.0

[A] Organisms were fed prior to loading and 2 hours prior to renewal.

[B] Temperatures of room and test incubator were continuously recorded on a strip chart recorder. Room Temperature range for the test period was 25.0-26.5°C. Incubator #3 temperature range for the test period was 25.0-25.5°C.

LIMS	
Job number:	TLH-2003-06-18-17-03
sample number:	682023

Data Transcription Verification
date: 10/22/03
by: Cathy Oaks / Brad Richardson

Total Residual CL2	mg/L	Method
Field:	-	-
Lab:	<0.03	Hach

Organism: ***Menidia beryllina*** Life stage: 12 days [C]Feeding: *artemia* Conductivity

Chamber size: 1L Food Batch #: 01940425G Uncorrected

	Sample/Diluent	SURVIVAL # Alive			pH (standard units)			Temperature (°C)[B]			Dissolved Oxygen (mg/L)			mmhos/cm	
Concentrations	Volume(mL)	48 hr	72 hr	96 hr	48 hour	72 hour	96 hour	48 hour	72 hour	96 hour	48 hour	72 hour	96 hour	48 hour	96 hour
Control A	0/400	10	10	10	8.2	7.9	7.9	24.7	24.5	27.0	6.4	5.3	7.0	36.9	41.5
Control B	0/400	10	10	10	8.2	7.9	7.9	25.0	24.8	26.9	6.3	5.4	6.9	37.0	40.4
100 % C	400/0	10	10	10	8.2	7.9	7.9	24.8	24.7	25.9	6.4	5.4	5.8	36.8	40.2
100% D	400/0	9	9	9	8.1	7.9	7.9	24.7	24.6	25.8	6.1	5.3	5.7	36.6	40.1

Light Intensity during the test was 50-100 foot candles.
Photoperiod during the test was 16 hours of light : 8 hours of dark.

Ammonia	Total (mg/L)	Unionized (mg/L)
Control water:	<0.054	<0.054
100% Sample:	<0.054	<0.054

Alk & Hardness	Alkalinity (mg/L)	Hardness (mg/L)
Control water:	124	-
100% Sample:	135	-

Salinity [D]	ppt
Control water:	23
100% sample:	23

[D] Salinity based on temperature and conductivity.

Mortality	Percent
Control water (mysid):	0%
100% (mysid):	5%
Control water (fish):	0%
100 % (fish):	5%

Table 3a. Data recorded during the 96-hour acute screening bioassays of a sample of effluent from Outfall D-0F of the Florida Power Corporation Crystal River Power Plant, US Highway 19 and Powerline Road, Crystal River, Citrus County, Florida, NPDES# FL0000159, performed from 17 to 21 June 2003.

Sample 3 of 4

Facility:	**FPC Crystal River Power Plant Outfall D-0F**	**NPDES #: FL0000159**	Facility Type: **Power Plant**	**Analysts:**	Jacquelyn Champion
Location:	US Hwy 19 and Powerline Road, Crystal River	Contact/District:	Gunter/SW		Joshua Ayres
County:	Citrus	Test type:	static renewal acute screen		James Daniels
Sample Collection Date:	6/16/2003 Time: 0505*	# tests:	2	Receiving Water: Discharge Canal to Gulf of Mexico	Marshall Faircloth
Test Beginning Date:	6/17/2003 Time: 1530	Chlorination Type:	not chlorinated		Christa Pierini
Test Ending Date:	6/21/2003 Time: 1030				
* Time last sample collected begins 36 hour hold time.		FDEP SOP#:	TA07_03 / 04	Page 1 of 2	Reviewer: Rob Buda

Organism: ***Americamysis bahia*** Life stage: 5 days [A]Feeding: artemia Conductivity

Chamber size: 350mL Food Batch #: 01940425G Uncorrected

	Sample/Diluent	SURVIVAL # Alive			pH (standard units)			Temperature (oC)[B]			Dissolved Oxygen (mg/L)			mmhos/cm	
Concentrations	Volume(mL)	0 hr	24 hr	48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	48 hour
Control A	0/225	5	5	5	8.5	8.1	7.9	24.1	24.6	23.7	6.8	5.2	5.3	37.1	39.8
Control B	0/225	5	5	5	8.5	8.1	7.9	24.2	24.1	24.1	6.9	5.4	5.3	37.8	41.8
Control C	0/225	5	5	5	8.5	8.1	7.9	24.3	23.9	23.5	7.2	5.6	5.4	38.0	41.1
Control D	0/225	5	5	5	8.5	8.1	7.9	24.4	23.9	23.9	7.2	5.7	5.5	38.0	40.6
100% A	225/0	5	5	5	8.2	8.0	7.9	24.3	24.1	24.0	7.3	5.8	5.3	37.4	40.1
100% B	225/0	5	5	5	8.2	8.0	7.9	24.2	24.1	23.8	7.3	5.8	5.3	37.6	41.1
100% C	225/0	5	5	5	8.2	8.0	7.9	24.1	24.1	24.1	7.3	5.8	5.1	37.2	40.0
100% D	225/0	5	5	5	8.2	8.0	7.9	24.2	24.2	23.9	7.3	5.7	5.1	37.3	39.2

[A] Organisms were fed daily.

[B] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.
Room Temperature range for the test period was 25.0-26.5°C.
Incubator #3 temperature range for the test period was 25.-25.5°C.

LIMS	
Job number:	TLH-2003-06-18-17-04
sample number:	682024

Data Transcription Verification
date: 10/22/03
by: Cathy Oaks / Brad Richardson

Total Residual CL2	mg/L	Method
Field:	-	-
Lab:	<0.03	Hach

Ammonia	Total (mg/L)	Unionized (mg/L)
Control water:	<0.054	<0.054
100% Sample:	<0.054	<0.054

Alk & Hardness	Alkalinity (mg/L)	Hardness (mg/L)
Control water:	124	-
100% Sample:	135	-

Organism: ***Americamysis bahia*** Life stage: 5 days [C]Feeding: *artemia* Conductivity

Chamber size: 350mL Food Batch #: 01940425G Uncorrected

	Sample/Diluent	SURVIVAL # Alive			pH (standard units)			Temperature (°C)[B]			Dissolved Oxygen (mg/L)			mmhos/cm	
Concentrations	Volume(mL)	48 hr	72 hr	96 hr	48 hour	72 hour	96 hour	48 hour	72 hour	96 hour	48 hour	72 hour	96 hour	48 hour	96 hour
Control A	0/225	5	5	5	8.4	7.9	7.7	24.3	26.0	25.4	6.8	4.3	5.8	38.4	39.8
Control B	0/225	5	5	5	8.4	7.9	8.0	24.4	25.9	25.1	6.9	4.1	5.6	39.2	42.6
Control C	0/225	5	5	5	8.4	7.9	8.0	24.4	25.4	24.8	6.8	4.2	5.6	39.3	42.8
Control D	0/225	5	5	5	8.4	7.9	7.9	24.5	24.9	25.6	6.8	4.7	6.1	39.2	42.4
100% A	225/0	5	5	5	8.1	7.8	7.9	24.5	25.5	25.6	6.7	4.4	5.7	38.5	42.7
100% B	225/0	5	5	5	8.1	7.8	8.1	24.5	25.7	25.1	6.7	3.7	5.7	38.4	43.5
100 % C	225/0	5	4	4	8.1	7.8	7.9	24.8	25.6	24.5	6.8	3.8	6.1	38.4	43.3
100% D	225/0	5	5	5	8.1	7.8	8.1	24.7	24.7	25.1	6.9	4.4	6.3	38.3	40.7

Light Intensity during the test was 50-100 foot candles.
Photoperiod during the test was 16 hours of light : 8 hours of dark.

Salinity [D]	ppt
Control water:	25
100% sample:	25

[D] Salinity based on temperature and conductivity.

Mortality	Percent
Control water (mysid):	0%
100% (mysid):	0%

"continued"

Table 3b. Data recorded during the 96-hour acute screening bioassays of a sample of effluent from Outfall D-0F of the Florida Power Corporation Crystal River Power Plant, US Highway 19 and Powerline Road, Crystal River, Citrus County, Florida, NPDES# FL0000159, performed from 17 to 21 June 2003.

Sample 3 of 4

Facility:	**FPC Crystal River Power Plant Outfall D-0F**	**NPDES #:**	**FL0000159**	Facility Type:	**Power Plant**	**Analysts:**	Jacquelyn Champion
Location:	US Hwy 19 and Powerline Road, Crystal River	Contact/District:	Gunter/SW				Joshua Ayres
County:	Citrus	Test type:	static renewal acute screen				James Daniels
Sample Collection Date:	6/16/2003 Time: 0505*	# tests:	2	Receiving Water:	Discharge Canal to Gulf of Mexico		Marshall Faircloth
Test Beginning Date:	6/17/2003 Time: 1540	Chlorination Type:	chlorinated (as needed)				Christa Pierini
Test Ending Date:	6/21/2003 Time: 1030		received unchlorinated				
* Time last sample collected begins 36 hour hold time.		FDEP SOP#:	TA07_03 / 04		Page 2 of 2	Reviewer:	Rob Buda

Organism: ***Menidia beryllina*** Life stage: 12 days [A]Feeding: artemia Conductivity

Chamber size: 1L Food Batch #: 01940425G Uncorrected

	Sample/Diluent	SURVIVAL # Alive			pH (standard units)			Temperature (oC)[B]			Dissolved Oxygen (mg/L)			mmhos/cm	
Concentrations	Volume(mL)	0 hr	24 hr	48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	48 hour
Control A	0/400	10	10	10	8.5	8.1	7.9	24.7	24.0	24.6	7.1	5.7	4.6	38.4	40.8
Control B	0/400	10	10	10	8.5	8.1	7.9	24.6	24.1	23.9	7.1	5.6	4.6	37.4	39.1
100% A	400/0	10	10	10	8.2	8.1	7.8	24.6	24.6	24.7	7.2	5.7	4.4	37.6	39.0
100% B	400/0	10	10	10	8.2	8.0	7.8	24.5	25.1	24.4	7.2	5.7	4.2	37.7	38.9

[A] Organisms were fed prior to loading and 2 hours prior to renewal.

[B] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.
Room Temperature range for the test period was 25.0-26.5°C.
Incubator #3 temperature range for the test period was 25.0-25.5°C.

Organism: ***Menidia beryllina*** Life stage: 12 days [C]Feeding: *artemia* Conductivity

Chamber size: 1L Food Batch #: 01940425G Uncorrected

	Sample/Diluent	SURVIVAL # Alive			pH (standard units)			Temperature (°C)[B]			Dissolved Oxygen (mg/L)			mmhos/cm	
Concentrations	Volume(mL)	48 hr	72 hr	96 hr	48 hour	72 hour	96 hour	48 hour	72 hour	96 hour	48 hour	72 hour	96 hour	48 hour	96 hour
Control A	0/400	10	10	10	8.3	7.9	7.9	24.8	24.3	26.3	6.3	5.3	5.8	38.5	43.4
Control B	0/400	10	10	10	8.3	7.9	7.9	24.7	24.8	26.3	6.3	5.3	5.5	32.9	42.1
100 % C	400/0	10	10	10	8.1	7.9	7.9	24.8	24.7	25.9	6.2	5.4	5.4	38.1	41.0
100% D	400/0	10	10	10	8.0	7.9	7.9	24.9	25.0	25.7	6.4	5.3	5.4	38.3	41.4

Light Intensity during the test was 50-100 foot candles.
Photoperiod during the test was 16 hours of light : 8 hours of dark.

LIMS	
Job number:	TLH-2003-06-18-17-04
sample number:	682024

Data Transcription Verification
date: 10/22/03
by: Cathy Oaks / Brad Richardson

Total Residual CL2	mg/L	Method
Field:	-	-
Lab:	<0.03	Hach

Ammonia	Total (mg/L)	Unionized (mg/L)
Control water:	<0.054	<0.054
100% Sample:	<0.054	<0.054

Alk & Hardness	Alkalinity (mg/L)	Hardness (mg/L)
Control water:	124	-
100% Sample:	135	-

Salinity [D]	ppt
Control water:	25
100% sample:	25

[D] Salinity based on temperature and conductivity.

Mortality	Percent
Control water (mysid):	0%
100% (mysid):	0%
Control water (fish):	0%
100 % (fish):	0%

Table 4a. Data recorded during the 96-hour acute screening bioassays of a sample of effluent from Outfall D-0F of the Florida Power Corporation Crystal River Power Plant, US Highway 19 and Powerline Road, Crystal River, Citrus County, Florida, NPDES# FL0000159, performed from 17 to 21 June 2003.

Sample 4 of 4

Facility:	**FPC Crystal River Power Plant Outfall D-0F**	**NPDES #: FL0000159**	Facility Type: **Power Plant**	**Analysts:**	Jacquelyn Champion
Location:	US Hwy 19 and Powerline Road, Crystal River	Contact/District:	Gunter/SW		Joshua Ayres
County:	Citrus	Test type:	static renewal acute screen		James Daniels
Sample Collection Date:	6/16/2003 Time: 0505*	# tests:	2 Receiving Water: Discharge Canal to Gulf of Mexico		Marshall Faircloth
Test Beginning Date:	6/17/2003 Time: 1530	Chlorination Type:	chlorinated (as needed)		Christa Pierini
Test Ending Date:	6/21/2003 Time: 1030		received unchlorinated		
* Time last sample collected begins 36 hour hold time.		FDEP SOP#:	TA07 03 / 04 Page 1 of 2	Reviewer:	Rob Buda

Organism: ***Americamysis bahia*** Life stage: 5 days [A]Feeding: artemia Conductivity

Chamber size: 350mL Food Batch #: 01940425G Uncorrected

	Sample/Diluent	SURVIVAL # Alive			pH (standard units)			Temperature (oC)[B]			Dissolved Oxygen (mg/L)			mmhos/cm	
Concentrations	Volume(mL)	0 hr	24 hr	48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	48 hour
Control A	0/225	5	5	5	8.5	8.1	7.9	24.2	24.4	24.2	7.3	5.7	5.2	34.5	36.8
Control B	0/225	5	5	5	8.5	8.1	7.9	24.3	24.6	24.3	7.6	5.7	5.3	34.8	38.3
Control C	0/225	5	5	5	8.5	8.1	7.9	24.3	24.5	24.1	7.4	5.7	5.3	35.1	36.8
Control D	0/225	5	5	5	8.5	8.1	7.9	24.3	24.6	24.7	7.4	5.6	5.3	35.4	38.1
100% A	225/0	5	5	5	8.3	7.9	7.9	24.1	24.5	24.4	7.5	5.6	5.3	34.5	36.9
100% B	225/0	5	5	5	8.2	7.9	7.9	23.9	24.4	23.7	7.5	5.5	5.2	34.6	38.7
100% C	225/0	5	5	5	8.2	7.9	7.9	23.9	24.6	23.9	7.6	5.6	5.2	34.6	36.7
100% D	225/0	5	5	4	8.2	7.9	7.9	23.9	24.9	24.2	7.6	5.5	5.3	34.5	37.2

[A] Organisms were fed daily.

[B] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.
Room Temperature range for the test period was 25.0-26.5°C.
Incubator #3 temperature range for the test period was 25.0-25.5°C.

LIMS	
Job number:	TLH-2003-06-18-17-05
sample number:	682025

Data Transcription Verification
date: 10/22/03
by: Cathy Oaks / Brad Richardson

Total Residual CL2	mg/L	Method
Field:	-	-
Lab:	<0.03	Hach

Ammonia	Total (mg/L)	Unionized (mg/L)
Control water:	<0.054	<0.054
100% Sample:	<0.054	<0.054

Alk & Hardness	Alkalinity (mg/L)	Hardness (mg/L)
Control water:	124	-
100% Sample:	136	-

Organism: ***Americamysis bahia*** Life stage: 5 days [C]Feeding: *artemia* Conductivity

Chamber size: 350mL Food Batch #: 01940425G Uncorrected

	Sample/Diluent	SURVIVAL # Alive			pH (standard units)			Temperature (°C)[B]			Dissolved Oxygen (mg/L)			mmhos/cm	
Concentrations	Volume(mL)	48 hr	72 hr	96 hr	48 hour	72 hour	96 hour	48 hour	72 hour	96 hour	48 hour	72 hour	96 hour	48 hour	96 hour
Control A	0/225	5	5	5	8.3	7.8	7.8	24.4	24.7	24.5	6.8	4.7	5.3	35.4	39.0
Control B	0/225	5	5	5	8.3	7.8	7.7	24.4	24.9	24.7	6.7	4.6	5.1	35.4	37.1
Control C	0/225	5	5	5	8.3	7.8	7.7	24.4	25.2	24.7	6.7	4.6	4.6	36.0	39.3
Control D	0/225	5	5	5	8.3	7.8	7.7	24.5	25.1	24.5	6.8	4.5	4.6	36.1	38.3
100% A	225/0	5	5	5	8.2	7.9	7.6	24.5	25.0	24.5	6.8	4.7	5.3	35.3	38.2
100% B	225/0	5	5	5	8.2	7.8	7.6	24.5	25.1	24.9	6.8	4.5	5.2	35.8	37.4
100 % C	225/0	5	5	5	8.2	7.8	7.6	24.4	24.4	24.9	6.8	4.5	4.7	35.6	38.0
100% D	225/0	4	4	4	8.2	7.8	7.6	24.4	25.3	25.0	6.8	4.4	4.6	35.6	37.9

Light Intensity during the test was 50-100 foot candles.
Photoperiod during the test was 16 hours of light : 8 hours of dark.

Salinity [D]	ppt
Control water:	22.5
100% sample:	22.5

[D] Salinity based on temperature and conductivity.

Mortality	Percent
Control water (mysid):	0%
100% (mysid):	5%

"continued"

Table 4b. Data recorded during the 96-hour acute screening bioassays of a sample of effluent from Outfall D-0F of the Florida Power Corporation Crystal River Power Plant, US Highway 19 and Powerline Road, Crystal River, Citrus County, Florida, NPDES# FL0000159, performed from 17 to 21 June 2003.

Sample 4 of 4

Facility:	**FPC Crystal River Power Plant Outfall D-0F**	**NPDES #:**	**FL0000159**	Facility Type:	**Power Plant**	**Analysts:**	Jacquelyn Champion
Location:	US Hwy 19 and Powerline Road, Crystal River	Contact/District:	Gunter/SW				Joshua Ayres
County:	Citrus	Test type:	static renewal acute screen				James Daniels
Sample Collection Date:	6/16/2003 Time: 0505*	# tests:	2	Receiving Water:	Discharge Canal to Gulf of Mexico		Marshall Faircloth
Test Beginning Date:	6/17/2003 Time: 1540	Chlorination Type:	chlorinated (as needed)				Christa Pierini
Test Ending Date:	6/21/2003 Time: 1030		received unchlorinated				
* Time last sample collected begins 36 hour hold time.		FDEP SOP#:	TA07_03 / 04	Page 2 of 2		Reviewer:	Rob Buda

Organism: ***Menidia beryllina*** Life stage: 12 days [A]Feeding: artemia Conductivity

Chamber size: 1L Food Batch #: 01940425G Uncorrected

	Sample/Diluent	SURVIVAL # Alive			pH (standard units)			Temperature (oC)[B]			Dissolved Oxygen (mg/L)			mmhos/cm	
Concentrations	Volume(mL)	0 hr	24 hr	48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour
Control A	0/400	10	10	10	8.5	8.1	7.9	24.5	25.6	25.9	7.5	5.2	4.0	35.1	37.2
Control B	0/400	10	10	10	8.5	8.1	7.9	24.5	25.7	25.1	7.5	5.0	4.0	35.2	37.1
100% A	400/0	10	10	10	8.3	8.0	7.8	24.3	25.8	25.5	7.5	5.3	4.0	34.5	36.7
100% B	400/0	10	10	10	8.3	8.0	7.8	24.1	25.1	25.3	7.5	5.4	4.1	34.5	36.8

[A] Organisms were fed prior to loading and 2 hours prior to renewal.

[B] Temperatures of room and test incubator were continuously recorded on a strip chart recorder. Room Temperature range for the test period was 25.0-26.5°C. Incubator #3 temperature range for the test period was 25.0-25.5°C.

LIMS	
Job number:	TLH-2003-06-18-17-05
sample number:	682025

Data Transcription Verification
date: 10/22/03
by: Cathy Oaks / Brad Richardson

Total Residual CL2	mg/L	Method
Field:	-	-
Lab:	<0.03	Hach

Organism: ***Menidia beryllina*** Life stage: 12 days [C]Feeding: *artemia* Conductivity

Chamber size: 1L Food Batch #: 01940425G Uncorrected

	Sample/Diluent	SURVIVAL # Alive			pH (standard units)			Temperature (°C)[B]			Dissolved Oxygen (mg/L)			mmhos/cm	
Concentrations	Volume(mL)	48 hr	72 hr	96 hr	48 hour	72 hour	96 hour	48 hour	72 hour	96 hour	48 hour	72 hour	96 hour	48 hour	96 hour
Control A	0/400	10	10	10	8.2	7.9	7.9	24.8	24.9	25.5	6.5	5.3	5.6	35.4	37.5
Control B	0/400	10	10	10	8.2	7.9	7.9	24.9	24.9	25.9	6.4	5.3	5.6	35.6	38.5
100 % C	400/0	10	10	10	8.1	7.9	7.9	24.8	24.8	26.0	6.2	5.3	5.7	35.0	37.9
100% D	400/0	10	10	10	8.1	7.9	7.9	24.8	25.0	26.2	6.1	5.2	5.6	35.4	39.0

Light Intensity during the test was 50-100 foot candles.

Photoperiod during the test was 16 hours of light : 8 hours of dark.

Ammonia	Total (mg/L)	Unionized (mg/L)
Control water:	<0.054	<0.054
100% Sample:	<0.054	<0.054

Alk & Hardness	Alkalinity (mg/L)	Hardness (mg/L)
Control water:	124	-
100% Sample:	136	-

Salinity [D]	ppt
Control water:	22.5
100% sample:	22.5

[D] Salinity based on temperature and conductivity.

Mortality	Percent
Control water (mysid):	0%
100% (mysid):	5%
Control water (fish):	0%
100 % (fish):	0%

Table 5. Data recorded during the 96-hour acute screening bioassays of a sample of effluent from Outfall D-0F of the Florida Power Corporation Crystal River Power Plant, US Highway 19 and Powerline Road, Crystal River, Citrus County, Florida, NPDES# FL0000159, performed from 17 to 19 June 2003.

Sample 1 of 1

Facility:	**FPC Crystal River Power Plant Outfall D-0F**	**NPDES #: FL0000159**		Facility Type:	**Power Plant**	**Analysts:**	Jacquelyn Champion
Location:	US Hwy 19 and Powerline Road, Crystal River	Contact/District:	Gunter/SW				Joshua Ayres
County:	Citrus	Test type:	static acute screen				James Daniels
Sample Collection Date:	6/16/2003 Time: 1150	# tests:	2	Receiving Water:	Discharge Canal to Gulf of Mexico		Marshall Faircloth
Test Beginning Date:	6/17/2003 Time: 1530	Chlorination Type:	chlorinated (as needed)				Christa Pierini
Test Ending Date:	6/19/2003 Time: 1345		received unchlorinated				
		FDEP SOP#:	TA07_03 / 04		Page 1 of 1	Reviewer:	Rob Buda

Organism: ***Americamysis bahia*** Life stage: 5 days [A]Feeding: artemia Conductivity

Chamber size: 350mL Food Batch #: 01940425G Uncorrected

	Sample/Diluent	SURVIVAL # Alive			pH (standard units)			Temperature (oC)[B]			Dissolved Oxygen (mg/L)			mmhos/cm	
Concentrations	Volume(mL)	0 hr	24 hr	48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	48 hour
Control A	0/225	5	5	5	8.5	8.1	7.9	24.3	24.6	24.2	6.4	5.2	5.2	36.5	38.8
Control B	0/225	5	5	5	8.5	8.1	7.9	24.3	24.2	24.3	6.7	5.4	5.2	37.0	40.2
Control C	0/225	5	5	5	8.5	8.1	7.9	24.1	24.4	24.1	7.1	5.5	5.2	36.6	40.6
Control D	0/225	5	5	5	8.5	8.1	7.9	24.0	24.5	24.4	7.1	5.4	5.2	36.7	39.8
100% A	225/0	5	5	5	8.2	7.9	7.9	24.1	24.1	24.1	7.1	5.4	5.3	36.0	38.8
100% B	225/0	5	5	5	8.2	7.9	7.9	24.4	24.3	24.4	7.1	5.5	5.2	36.6	38.9
100% C	225/0	5	5	5	8.2	7.9	7.9	24.2	24.6	24.1	7.0	5.4	5.1	36.4	39.4
100% D	225/0	5	5	5	8.2	7.9	7.9	24.1	24.6	24.2	7.2	5.4	5.2	36.1	38.9

[A] Organisms were fed daily.

[B] Temperatures of room and test incubator were continuously recorded on a strip chart recorder.
Room Temperature range for the test period was 25.0-26.5°C.
Incubator #3 temperature range for the test period was 25.0-25.5°C.

Organism: ***Menidia beryllina*** Life stage: 12 days [C]Feeding: *artemia* Conductivity

Chamber size: 1L Food Batch #: 01940425G Uncorrected

	Sample/Diluent	SURVIVAL # Alive			pH (standard units)			Temperature (°C)[B]			Dissolved Oxygen (mg/L)			mmhos/cm	
Concentrations	Volume(mL)	0 hr	24 hr	48 hr	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	24 hour	48 hour	0 hour	48 hour
Control A	0/400	10	10	10	8.5	8.1	7.8	24.0	26.1	25.4	7.2	5.0	4.4	35.7	38.2
Control B	0/400	10	10	10	8.5	8.1	7.8	24.3	25.8	24.9	7.2	5.1	4.3	36.8	38.9
100 % A	400/0	10	10	10	8.3	8.0	7.8	24.5	25.9	25.9	7.1	5.2	4.1	36.0	37.3
100% B	400/0	10	10	10	8.3	7.9	7.8	24.6	25.7	25.1	7.0	5.2	4.1	36.8	38.5

[C] Organisms were fed prior to loading.
Light Intensity during the test was 50-100 foot candles.
Photoperiod during the test was 16 hours of light : 8 hours of dark.

LIMS	
Job number:	TLH-2003-06-18-17-01
sample number:	682021

Data Transcription Verification
date: 10/22/03
by: Cathy Oaks / Brad Richardson

Total Residual CL2	mg/L	Method
Field:	-	-
Lab:	<0.03	Hach

Ammonia	Total (mg/L)	Unionized (mg/L)
Control water:	<0.054	<0.054
100% Sample:	<0.054	<0.054

Alk & Hardness	Alkalinity (mg/L)	Hardness (mg/L)
Control water:	124	-
100% Sample:	134	-

Salinity [D]	ppt
Control water:	24
100% sample:	24

[D] Salinity based on conductivity and temperature.

Mortality	Percent
Control water (mysid):	0%
100% (mysid):	0%
Control water (menidia):	0%
100% (menidia):	0%

Table 6. Results of chemical analyses on the effluent from the Florida Power Corporation Crystal River Power Plant outfall D-0F sampled on June 16, 2003.

Metals

Aluminum	169 ug/L	
Calcium	305 mg/L	
Copper	10 ug/L	AJ
Iron	280 ug/L	
Lead	0.59 ug/L	I
Magnesium	914 mg/L	

Pesticides and Herbicides

None detected

Nutrients

Ammonia-N	0.082 mg N/L	
Nitrate+Nitrite	0.012 mg N/L	AV
Total Kjeldahl Nitrogen	0.61 mg N/L	J
Ortho-Phosphate	0.009 mg P/L	I
Total Phosphorus	0.063 mg P/L	

Base, Neutral, & Acid Extractable Organics

None detected

Oil and Grease

Oil and Grease	0.9 mg/L	I

[A] The reported value is an average of two or more values.
[I] The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
[J] Estimated value.

Table 7. Chemical Analyses performed on the effluent from the Florida Power Corporation Crystal River Power Plant Outfall D-0F, sampled on June 16, 2003.

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
6/16/2003 5:05	D-0F	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	100	LC50	L		
6/16/2003 5:05	D-0F	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	100	LC50	L		
6/16/2003 17:05	D-0F	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	100	LC50	L		
6/16/2003 17:05	D-0F	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	100	LC50	L		
6/16/2003 10:55	Field Blank	BNA-Water	1,2,4,5-Tetrachlorobenzene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	1,2,4-Trichlorobenzene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	1,2-Dichlorobenzene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	1,3,5-Trinitrobenzene	3.8	ug/L	U	3.8	15
6/16/2003 10:55	Field Blank	BNA-Water	1,3-Dichlorobenzene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	1,3-Dinitrobenzene	1.9	ug/L	U	1.9	7.6
6/16/2003 10:55	Field Blank	BNA-Water	1,4-Dichlorobenzene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	1,4-Naphthoquinone	19	ug/L	UJ	19	76
6/16/2003 10:55	Field Blank	BNA-Water	1-Naphthylamine	9.5	ug/L	UJ	9.5	38
6/16/2003 10:55	Field Blank	BNA-Water	2,3,4,6-Tetrachlorophenol	1.9	ug/L	U	1.9	7.6
6/16/2003 10:55	Field Blank	BNA-Water	2,4,5-Trichlorophenol	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	2,4,6-Trichlorophenol	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	2,4-Dichlorophenol	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	2,4-Dimethylphenol	48	ug/L	U	48	190
6/16/2003 10:55	Field Blank	BNA-Water	2,4-Dinitrophenol	14	ug/L	U	14	57
6/16/2003 10:55	Field Blank	BNA-Water	2,4-Dinitrotoluene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	2,6-Dichlorophenol	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	2,6-Dinitrotoluene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	2-Acetylaminofluorene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	2-Chloronaphthalene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	2-Chlorophenol	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	2-Methyl-4,6-dinitrophenol	2.8	ug/L	U	2.8	11
6/16/2003 10:55	Field Blank	BNA-Water	2-Methylnaphthalene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	2-Naphthylamine	9.5	ug/L	U	9.5	38
6/16/2003 10:55	Field Blank	BNA-Water	2-Nitroaniline	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	2-Nitrophenol	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	2-Picoline	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	3,3'-Dichlorobenzidine	38	ug/L	U	38	150
6/16/2003 10:55	Field Blank	BNA-Water	3,3'-Dimethylbenzidine	19	ug/L	UJ	19	76
6/16/2003 10:55	Field Blank	BNA-Water	3-Methylcholanthrene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	3-Nitroaniline	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	4,4'-DDD	1.4	ug/L	U	1.4	5.7
6/16/2003 10:55	Field Blank	BNA-Water	4,4'-DDE	1.4	ug/L	U	1.4	5.7
6/16/2003 10:55	Field Blank	BNA-Water	4,4'-DDT	1.4	ug/L	U	1.4	5.7
6/16/2003 10:55	Field Blank	BNA-Water	4-Aminobiphenyl	3.8	ug/L	U	3.8	15
6/16/2003 10:55	Field Blank	BNA-Water	4-Bromophenyl phenyl ether	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	4-Chloro-3-methylphenol	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	4-Chloroaniline	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	4-Chlorophenyl phenyl ether	1.9	ug/L	U	1.9	7.6
6/16/2003 10:55	Field Blank	BNA-Water	4-Nitroaniline	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	4-Nitrophenol	14	ug/L	U	14	57
6/16/2003 10:55	Field Blank	BNA-Water	5-Nitro-o-toluidine	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	7,12-Dimethylbenz(a)anthracene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Acenaphthene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Acenaphthylene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Acetophenone	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Aldrin	1.4	ug/L	U	1.4	5.7
6/16/2003 10:55	Field Blank	BNA-Water	Aniline	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Anthracene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Azobenzene/1,2-Diphenylhydrazine	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Benzidine	95	ug/L	U	95	380
6/16/2003 10:55	Field Blank	BNA-Water	Benzo(a)anthracene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Benzo(a)pyrene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Benzo(b)fluoranthene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Benzo(g,h,i)perylene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Benzo(k)fluoranthene	0.95	ug/L	U	0.95	3.8

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
6/16/2003 10:55	Field Blank	BNA-Water	Benzyl alcohol	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Bis(2-chloroethoxy)methane	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Bis(2-chloroethyl)ether	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Bis(2-chloroisopropyl)ether	2.8	ug/L	U	2.8	11
6/16/2003 10:55	Field Blank	BNA-Water	Bis(2-ethylhexyl)phthalate	14	ug/L	U	14	57
6/16/2003 10:55	Field Blank	BNA-Water	Butyl benzyl phthalate	4.8	ug/L	U	4.8	19
6/16/2003 10:55	Field Blank	BNA-Water	Chrysene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Di-n-butyl phthalate	4.8	ug/L	U	4.8	19
6/16/2003 10:55	Field Blank	BNA-Water	Di-n-octyl phthalate	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Dibenzo(a,h)anthracene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Dibenzofuran	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Dieldrin	1.4	ug/L	U	1.4	5.7
6/16/2003 10:55	Field Blank	BNA-Water	Diethyl phthalate	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Dimethyl phthalate	48	ug/L	U	48	190
6/16/2003 10:55	Field Blank	BNA-Water	Dimethylaminoazobenzene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Dinoseb	3.8	ug/L	U	3.8	15
6/16/2003 10:55	Field Blank	BNA-Water	Diphenylamine	2.8	ug/L	U	2.8	11
6/16/2003 10:55	Field Blank	BNA-Water	Endosulfan I	3.8	ug/L	U	3.8	15
6/16/2003 10:55	Field Blank	BNA-Water	Endosulfan II	3.8	ug/L	U	3.8	15
6/16/2003 10:55	Field Blank	BNA-Water	Endosulfan sulfate	1.4	ug/L	U	1.4	5.7
6/16/2003 10:55	Field Blank	BNA-Water	Endrin	1.4	ug/L	U	1.4	5.7
6/16/2003 10:55	Field Blank	BNA-Water	Endrin aldehyde	3.8	ug/L	U	3.8	15
6/16/2003 10:55	Field Blank	BNA-Water	Ethyl methanesulfonate	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Fluoranthene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Fluorene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Heptachlor	1.4	ug/L	U	1.4	5.7
6/16/2003 10:55	Field Blank	BNA-Water	Heptachlor epoxide	1.4	ug/L	U	1.4	5.7
6/16/2003 10:55	Field Blank	BNA-Water	Hexachlorobenzene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Hexachlorobutadiene	2.8	ug/L	U	2.8	11
6/16/2003 10:55	Field Blank	BNA-Water	Hexachlorocyclopentadiene	2.8	ug/L	U	2.8	11
6/16/2003 10:55	Field Blank	BNA-Water	Hexachloroethane	2.8	ug/L	U	2.8	11
6/16/2003 10:55	Field Blank	BNA-Water	Hexachloropropene	1.9	ug/L	U	1.9	7.6
6/16/2003 10:55	Field Blank	BNA-Water	Indeno(1,2,3-cd)pyrene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Isophorone	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Isosafrole	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Methapyrilene	3.8	ug/L	UJ	3.8	15
6/16/2003 10:55	Field Blank	BNA-Water	Methyl methanesulfonate	0.95	ug/L	UJ	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	N-Nitrosodi-n-butylamine	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	N-Nitrosodi-n-propylamine	1.9	ug/L	U	1.9	7.6
6/16/2003 10:55	Field Blank	BNA-Water	N-Nitrosodiethylamine	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	N-Nitrosodimethylamine	1.9	ug/L	U	1.9	7.6
6/16/2003 10:55	Field Blank	BNA-Water	N-Nitrosodiphenylamine	2.8	ug/L	U	2.8	11
6/16/2003 10:55	Field Blank	BNA-Water	N-Nitrosomethylethylamine	1.9	ug/L	U	1.9	7.6
6/16/2003 10:55	Field Blank	BNA-Water	N-Nitrosomorpholine	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	N-Nitrosopiperidine	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	N-Nitrosopyrrolidine	1.9	ug/L	U	1.9	7.6
6/16/2003 10:55	Field Blank	BNA-Water	Naphthalene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Nitrobenzene	1.9	ug/L	U	1.9	7.6
6/16/2003 10:55	Field Blank	BNA-Water	Nitroquinoline-1-oxide	19	ug/L	UJ	19	76
6/16/2003 10:55	Field Blank	BNA-Water	Pentachlorobenzene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Pentachloroethane	48	ug/L	U	48	190
6/16/2003 10:55	Field Blank	BNA-Water	Pentachloronitrobenzene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Pentachlorophenol	2.8	ug/L	U	2.8	11
6/16/2003 10:55	Field Blank	BNA-Water	Phenacetin	3.8	ug/L	U	3.8	11
6/16/2003 10:55	Field Blank	BNA-Water	Phenanthrene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Phenol	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Pyrene	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	Pyridine	3.8	ug/L	UJ	3.8	15
6/16/2003 10:55	Field Blank	BNA-Water	Safrole	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	BNA-Water	alpha-BHC	1.4	ug/L	U	1.4	5.7

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
6/16/2003 10:55	Field Blank	BNA-Water	beta-BHC	1.4	ug/L	U	1.4	5.7
6/16/2003 10:55	Field Blank	BNA-Water	delta-BHC	1.4	ug/L	U	1.4	5.7
6/16/2003 10:55	Field Blank	BNA-Water	gamma-BHC	1.4	ug/L	U	1.4	5.7
6/16/2003 10:55	Field Blank	BNA-Water	m,p-Cresols	1.9	ug/L	U	1.9	7.6
6/16/2003 10:55	Field Blank	BNA-Water	o-Cresol	1.9	ug/L	U	1.9	7.6
6/16/2003 10:55	Field Blank	BNA-Water	o-Toluidine	0.95	ug/L	U	0.95	3.8
6/16/2003 10:55	Field Blank	GC-Water	Alachlor	0.57	ug/L	U	0.57	2.28
6/16/2003 10:55	Field Blank	GC-Water	Ametryn	0.048	ug/L	U	0.048	0.192
6/16/2003 10:55	Field Blank	GC-Water	Atrazine	0.048	ug/L	U	0.048	0.192
6/16/2003 10:55	Field Blank	GC-Water	Azinphos Methyl	0.048	ug/L	U	0.048	0.192
6/16/2003 10:55	Field Blank	GC-Water	Bromacil	0.19	ug/L	U	0.19	0.76
6/16/2003 10:55	Field Blank	GC-Water	Butylate	0.19	ug/L	U	0.19	0.76
6/16/2003 10:55	Field Blank	GC-Water	Chlorpyrifos Ethyl	0.048	ug/L	U	0.048	0.192
6/16/2003 10:55	Field Blank	GC-Water	Chlorpyrifos Methyl	0.095	ug/L	U	0.095	0.38
6/16/2003 10:55	Field Blank	GC-Water	Diazinon	0.048	ug/L	U	0.048	0.192
6/16/2003 10:55	Field Blank	GC-Water	Ethion	0.048	ug/L	U	0.048	0.192
6/16/2003 10:55	Field Blank	GC-Water	Ethoprop	0.095	ug/L	U	0.095	0.38
6/16/2003 10:55	Field Blank	GC-Water	Fenamiphos	0.19	ug/L	U	0.19	0.76
6/16/2003 10:55	Field Blank	GC-Water	Fonofos	0.095	ug/L	U	0.095	0.38
6/16/2003 10:55	Field Blank	GC-Water	Hexazinone	0.095	ug/L	U	0.095	0.38
6/16/2003 10:55	Field Blank	GC-Water	Malathion	0.14	ug/L	U	0.14	0.56
6/16/2003 10:55	Field Blank	GC-Water	Metalaxyl	0.24	ug/L	U	0.24	0.96
6/16/2003 10:55	Field Blank	GC-Water	Metolachlor	0.48	ug/L	U	0.48	1.92
6/16/2003 10:55	Field Blank	GC-Water	Metribuzin	0.095	ug/L	U	0.095	0.38
6/16/2003 10:55	Field Blank	GC-Water	Mevinphos	0.19	ug/L	U	0.19	0.76
6/16/2003 10:55	Field Blank	GC-Water	Naled	0.76	ug/L	U	0.76	3.04
6/16/2003 10:55	Field Blank	GC-Water	Norflurazon	0.095	ug/L	U	0.095	0.38
6/16/2003 10:55	Field Blank	GC-Water	Parathion Ethyl	0.14	ug/L	U	0.14	0.56
6/16/2003 10:55	Field Blank	GC-Water	Parathion Methyl	0.095	ug/L	U	0.095	0.38
6/16/2003 10:55	Field Blank	GC-Water	Phorate	0.048	ug/L	U	0.048	0.192
6/16/2003 10:55	Field Blank	GC-Water	Prometryn	0.14	ug/L	U	0.14	0.56
6/16/2003 10:55	Field Blank	GC-Water	Simazine	0.048	ug/L	U	0.048	0.192
6/16/2003 10:55	Field Blank	Metals-Water	Aluminum	10	ug/L	U	10	40
6/16/2003 10:55	Field Blank	Metals-Water	Arsenic	5	ug/L	U	5	20
6/16/2003 10:55	Field Blank	Metals-Water	Cadmium	0.025	ug/L	U	0.025	0.1
6/16/2003 10:55	Field Blank	Metals-Water	Calcium	0.05	mg/L	U	0.05	0.2
6/16/2003 10:55	Field Blank	Metals-Water	Chromium	2	ug/L	U	2	8
6/16/2003 10:55	Field Blank	Metals-Water	Copper	0.1	ug/L	U	0.1	0.4
6/16/2003 10:55	Field Blank	Metals-Water	Iron	15	ug/L	U	15	60
6/16/2003 10:55	Field Blank	Metals-Water	Lead	0.1	ug/L	U	0.1	0.4
6/16/2003 10:55	Field Blank	Metals-Water	Magnesium	0.02	mg/L	U	0.02	0.08
6/16/2003 10:55	Field Blank	Metals-Water	Nickel	2.5	ug/L	U	2.5	10
6/16/2003 10:55	Field Blank	Metals-Water	Selenium	1	ug/L	U	1	4
6/16/2003 10:55	Field Blank	Metals-Water	Silver	0.02	ug/L	U	0.02	0.08
6/16/2003 10:55	Field Blank	Metals-Water	Zinc	4	ug/L	U	4	16
6/16/2003 10:55	Field Blank	Nutrients-Liquid	Ammonia-N	0.01	mg N/L	U	0.01	0.02
6/16/2003 10:55	Field Blank	Nutrients-Liquid	NO2NO3-N	0.013	mg N/L			
6/16/2003 10:55	Field Blank	Nutrients-Liquid	N_KJEL_TOT	0.06	mg N/L	U	0.06	0.2
6/16/2003 10:55	Field Blank	Nutrients-Liquid	O-Phosphate-P	0.004	mg P/L	U	0.004	0.01
6/16/2003 10:55	Field Blank	Nutrients-Liquid	Total-P	0.015	mg P/L	U	0.015	0.04
6/16/2003 10:55	Field Blank	Overflow	Oil and Grease	0.6	mg/l	I		
6/16/2003 11:50	D-0F	Bio-AGP/LimNut	Algal Growth Potential	0.1	g DryW	U	0.1	0.3
6/16/2003 11:50	D-0F	Bio-Chl-a	Chlorophyll-A, Monochromatic, Water	0.85	ug/L	U	0.85	2.6
6/16/2003 11:50	D-0F	Bio-Chl-a	Phaeophytin-A, Monochromatic, Water	0.85	ug/L	U	0.85	2.6
6/16/2003 17:05	D-0F	Bio-Toxicology	Bioassay-Acute-Screen-SW-Fish, LC50	100	LC50	L		
6/16/2003 17:05	D-0F	Bio-Toxicology	Bioassay-Acute-Screen-SW-Mysid, LC50	100	LC50	L		
6/16/2003 11:50	D-0F	BNA-Water	1,2,4,5-Tetrachlorobenzene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	1,2,4-Trichlorobenzene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	1,2-Dichlorobenzene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	1,3,5-Trinitrobenzene	3.8	ug/L	U	3.8	15

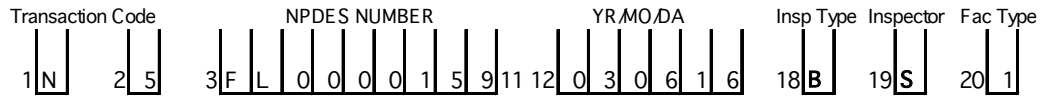
Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
6/16/2003 11:50	D-0F	BNA-Water	1,3-Dichlorobenzene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	1,3-Dinitrobenzene	1.9	ug/L	U	1.9	7.5
6/16/2003 11:50	D-0F	BNA-Water	1,4-Dichlorobenzene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	1,4-Naphthoquinone	19	ug/L	UJ	19	75
6/16/2003 11:50	D-0F	BNA-Water	1-Naphthylamine	9.4	ug/L	UJ	9.4	38
6/16/2003 11:50	D-0F	BNA-Water	2,3,4,6-Tetrachlorophenol	1.9	ug/L	U	1.9	7.5
6/16/2003 11:50	D-0F	BNA-Water	2,4,5-Trichlorophenol	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	2,4,6-Trichlorophenol	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	2,4-Dichlorophenol	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	2,4-Dimethylphenol	47	ug/L	U	47	190
6/16/2003 11:50	D-0F	BNA-Water	2,4-Dinitrophenol	14	ug/L	U	14	56
6/16/2003 11:50	D-0F	BNA-Water	2,4-Dinitrotoluene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	2,6-Dichlorophenol	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	2,6-Dinitrotoluene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	2-Acetylaminofluorene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	2-Chloronaphthalene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	2-Chlorophenol	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	2-Methyl-4,6-dinitrophenol	2.8	ug/L	U	2.8	11
6/16/2003 11:50	D-0F	BNA-Water	2-Methylnaphthalene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	2-Naphthylamine	9.4	ug/L	U	9.4	38
6/16/2003 11:50	D-0F	BNA-Water	2-Nitroaniline	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	2-Nitrophenol	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	2-Picoline	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	3,3'-Dichlorobenzidine	38	ug/L	U	38	150
6/16/2003 11:50	D-0F	BNA-Water	3,3'-Dimethylbenzidine	19	ug/L	UJ	19	75
6/16/2003 11:50	D-0F	BNA-Water	3-Methylcholanthrene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	3-Nitroaniline	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	4,4'-DDD	1.4	ug/L	U	1.4	5.6
6/16/2003 11:50	D-0F	BNA-Water	4,4'-DDE	1.4	ug/L	U	1.4	5.6
6/16/2003 11:50	D-0F	BNA-Water	4,4'-DDT	1.4	ug/L	U	1.4	5.6
6/16/2003 11:50	D-0F	BNA-Water	4-Aminobiphenyl	3.8	ug/L	U	3.8	15
6/16/2003 11:50	D-0F	BNA-Water	4-Bromophenyl phenyl ether	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	4-Chloro-3-methylphenol	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	4-Chloroaniline	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	4-Chlorophenyl phenyl ether	1.9	ug/L	U	1.9	7.5
6/16/2003 11:50	D-0F	BNA-Water	4-Nitroaniline	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	4-Nitrophenol	14	ug/L	U	14	56
6/16/2003 11:50	D-0F	BNA-Water	5-Nitro-o-toluidine	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	7,12-Dimethylbenz(a)anthracene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Acenaphthene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Acenaphthylene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Acetophenone	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Aldrin	1.4	ug/L	U	1.4	5.6
6/16/2003 11:50	D-0F	BNA-Water	Aniline	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Anthracene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Azobenzene/1,2-Diphenylhydrazine	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Benzidine	94	ug/L	U	94	380
6/16/2003 11:50	D-0F	BNA-Water	Benzo(a)anthracene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Benzo(a)pyrene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Benzo(b)fluoranthene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Benzo(g,h,i)perylene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Benzo(k)fluoranthene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Benzyl alcohol	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Bis(2-chloroethoxy)methane	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Bis(2-chloroethyl)ether	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Bis(2-chloroisopropyl)ether	2.8	ug/L	U	2.8	11
6/16/2003 11:50	D-0F	BNA-Water	Bis(2-ethylhexyl)phthalate	14	ug/L	U	14	56
6/16/2003 11:50	D-0F	BNA-Water	Butyl benzyl phthalate	4.7	ug/L	U	4.7	19
6/16/2003 11:50	D-0F	BNA-Water	Chrysene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Di-n-butyl phthalate	4.7	ug/L	U	4.7	19

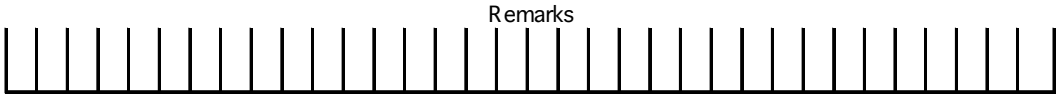
Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
6/16/2003 11:50	D-0F	BNA-Water	Di-n-octyl phthalate	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Dibenzo(a,h)anthracene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Dibenzofuran	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Dieldrin	1.4	ug/L	U	1.4	5.6
6/16/2003 11:50	D-0F	BNA-Water	Diethyl phthalate	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Dimethyl phthalate	47	ug/L	U	47	190
6/16/2003 11:50	D-0F	BNA-Water	Dimethylaminoazobenzene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Dinoseb	3.8	ug/L	U	3.8	15
6/16/2003 11:50	D-0F	BNA-Water	Diphenylamine	2.8	ug/L	U	2.8	11
6/16/2003 11:50	D-0F	BNA-Water	Endosulfan I	3.8	ug/L	U	3.8	15
6/16/2003 11:50	D-0F	BNA-Water	Endosulfan II	3.8	ug/L	U	3.8	15
6/16/2003 11:50	D-0F	BNA-Water	Endosulfan sulfate	1.4	ug/L	U	1.4	5.6
6/16/2003 11:50	D-0F	BNA-Water	Endrin	1.4	ug/L	U	1.4	5.6
6/16/2003 11:50	D-0F	BNA-Water	Endrin aldehyde	3.8	ug/L	U	3.8	15
6/16/2003 11:50	D-0F	BNA-Water	Ethyl methanesulfonate	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Fluoranthene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Fluorene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Heptachlor	1.4	ug/L	U	1.4	5.6
6/16/2003 11:50	D-0F	BNA-Water	Heptachlor epoxide	1.4	ug/L	U	1.4	5.6
6/16/2003 11:50	D-0F	BNA-Water	Hexachlorobenzene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Hexachlorobutadiene	2.8	ug/L	U	2.8	11
6/16/2003 11:50	D-0F	BNA-Water	Hexachlorocyclopentadiene	2.8	ug/L	U	2.8	11
6/16/2003 11:50	D-0F	BNA-Water	Hexachloroethane	2.8	ug/L	U	2.8	11
6/16/2003 11:50	D-0F	BNA-Water	Hexachloropropene	1.9	ug/L	U	1.9	7.5
6/16/2003 11:50	D-0F	BNA-Water	Indeno(1,2,3-cd)pyrene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Isophorone	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Isosafrole	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Methapyrilene	3.8	ug/L	UJ	3.8	15
6/16/2003 11:50	D-0F	BNA-Water	Methyl methanesulfonate	0.94	ug/L	UJ	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	N-Nitrosodi-n-butylamine	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	N-Nitrosodi-n-propylamine	1.9	ug/L	U	1.9	7.5
6/16/2003 11:50	D-0F	BNA-Water	N-Nitrosodiethylamine	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	N-Nitrosodimethylamine	1.9	ug/L	U	1.9	7.5
6/16/2003 11:50	D-0F	BNA-Water	N-Nitrosodiphenylamine	2.8	ug/L	U	2.8	11
6/16/2003 11:50	D-0F	BNA-Water	N-Nitrosomethylethylamine	1.9	ug/L	U	1.9	7.5
6/16/2003 11:50	D-0F	BNA-Water	N-Nitrosomorpholine	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	N-Nitrosopiperidine	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	N-Nitrosopyrrolidine	1.9	ug/L	U	1.9	7.5
6/16/2003 11:50	D-0F	BNA-Water	Naphthalene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Nitrobenzene	1.9	ug/L	U	1.9	7.5
6/16/2003 11:50	D-0F	BNA-Water	Nitroquinoline-1-oxide	19	ug/L	UJ	19	75
6/16/2003 11:50	D-0F	BNA-Water	Pentachlorobenzene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Pentachloroethane	47	ug/L	U	47	190
6/16/2003 11:50	D-0F	BNA-Water	Pentachloronitrobenzene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Pentachlorophenol	2.8	ug/L	U	2.8	11
6/16/2003 11:50	D-0F	BNA-Water	Phenacetin	3.8	ug/L	U	3.8	11
6/16/2003 11:50	D-0F	BNA-Water	Phenanthrene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Phenol	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Pyrene	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	Pyridine	3.8	ug/L	UJ	3.8	15
6/16/2003 11:50	D-0F	BNA-Water	Safrole	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	BNA-Water	alpha-BHC	1.4	ug/L	U	1.4	5.6
6/16/2003 11:50	D-0F	BNA-Water	beta-BHC	1.4	ug/L	U	1.4	5.6
6/16/2003 11:50	D-0F	BNA-Water	delta-BHC	1.4	ug/L	U	1.4	5.6
6/16/2003 11:50	D-0F	BNA-Water	gamma-BHC	1.4	ug/L	U	1.4	5.6
6/16/2003 11:50	D-0F	BNA-Water	m,p-Cresols	1.9	ug/L	U	1.9	7.5
6/16/2003 11:50	D-0F	BNA-Water	o-Cresol	1.9	ug/L	U	1.9	7.5
6/16/2003 11:50	D-0F	BNA-Water	o-Toluidine	0.94	ug/L	U	0.94	3.8
6/16/2003 11:50	D-0F	GC-Water	Alachlor	0.56	ug/L	U	0.56	2.24
6/16/2003 11:50	D-0F	GC-Water	Ametryn	0.047	ug/L	U	0.047	0.188

Date Sampled	Field ID	Analysis Group	Component	Result	Units	Remark	MDL	PQL
6/16/2003 11:50	D-0F	GC-Water	Atrazine	0.047	ug/L	U	0.047	0.188
6/16/2003 11:50	D-0F	GC-Water	Azinphos Methyl	0.047	ug/L	U	0.047	0.188
6/16/2003 11:50	D-0F	GC-Water	Bromacil	0.19	ug/L	U	0.19	0.76
6/16/2003 11:50	D-0F	GC-Water	Butylate	0.19	ug/L	U	0.19	0.76
6/16/2003 11:50	D-0F	GC-Water	Chlorpyrifos Ethyl	0.047	ug/L	U	0.047	0.188
6/16/2003 11:50	D-0F	GC-Water	Chlorpyrifos Methyl	0.093	ug/L	U	0.093	0.372
6/16/2003 11:50	D-0F	GC-Water	Diazinon	0.047	ug/L	U	0.047	0.188
6/16/2003 11:50	D-0F	GC-Water	Ethion	0.047	ug/L	U	0.047	0.188
6/16/2003 11:50	D-0F	GC-Water	Ethoprop	0.093	ug/L	U	0.093	0.372
6/16/2003 11:50	D-0F	GC-Water	Fenamiphos	0.19	ug/L	U	0.19	0.76
6/16/2003 11:50	D-0F	GC-Water	Fonofos	0.093	ug/L	U	0.093	0.372
6/16/2003 11:50	D-0F	GC-Water	Hexazinone	0.093	ug/L	U	0.093	0.372
6/16/2003 11:50	D-0F	GC-Water	Malathion	0.14	ug/L	U	0.14	0.56
6/16/2003 11:50	D-0F	GC-Water	Metalaxyl	0.23	ug/L	U	0.23	0.92
6/16/2003 11:50	D-0F	GC-Water	Metolachlor	0.47	ug/L	U	0.47	1.88
6/16/2003 11:50	D-0F	GC-Water	Metribuzin	0.093	ug/L	U	0.093	0.372
6/16/2003 11:50	D-0F	GC-Water	Mevinphos	0.19	ug/L	U	0.19	0.76
6/16/2003 11:50	D-0F	GC-Water	Naled	0.75	ug/L	U	0.75	3
6/16/2003 11:50	D-0F	GC-Water	Norflurazon	0.093	ug/L	U	0.093	0.372
6/16/2003 11:50	D-0F	GC-Water	Parathion Ethyl	0.14	ug/L	U	0.14	0.56
6/16/2003 11:50	D-0F	GC-Water	Parathion Methyl	0.093	ug/L	U	0.093	0.372
6/16/2003 11:50	D-0F	GC-Water	Phorate	0.047	ug/L	U	0.047	0.188
6/16/2003 11:50	D-0F	GC-Water	Prometryn	0.14	ug/L	U	0.14	0.56
6/16/2003 11:50	D-0F	GC-Water	Simazine	0.047	ug/L	U	0.047	0.188
6/16/2003 11:50	D-0F	Metals-Water	Aluminum	169	ug/L		20	80
6/16/2003 11:50	D-0F	Metals-Water	Arsenic	5	ug/L	U	5	20
6/16/2003 11:50	D-0F	Metals-Water	Cadmium	0.12	ug/L	U	0.12	0.5
6/16/2003 11:50	D-0F	Metals-Water	Calcium	305	mg/L		0.1	0.4
6/16/2003 11:50	D-0F	Metals-Water	Chromium	11	ug/L	U	4	16
6/16/2003 11:50	D-0F	Metals-Water	Copper	10	ug/L	AJ	0.1	0.4
6/16/2003 11:50	D-0F	Metals-Water	Iron	280	ug/L		30	120
6/16/2003 11:50	D-0F	Metals-Water	Lead	0.59	ug/L	I	0.5	2
6/16/2003 11:50	D-0F	Metals-Water	Magnesium	914	mg/L		0.2	0.8
6/16/2003 11:50	D-0F	Metals-Water	Nickel	34	ug/L	U	5	20
6/16/2003 11:50	D-0F	Metals-Water	Selenium	18	ug/L	U	8	32
6/16/2003 11:50	D-0F	Metals-Water	Silver	0.1	ug/L	U	0.1	0.4
6/16/2003 11:50	D-0F	Metals-Water	Zinc	4	ug/L	U	4	16
6/16/2003 11:50	D-0F	Nutrients-Liquid	Ammonia-N	0.082	mg N/L		0.01	0.02
6/16/2003 11:50	D-0F	Nutrients-Liquid	NO2NO3-N	0.012	mg N/L	A	0.004	0.01
6/16/2003 11:50	D-0F	Nutrients-Liquid	N_KJEL_TOT	0.61	mg N/L	J	0.12	0.4
6/16/2003 11:50	D-0F	Nutrients-Liquid	O-Phosphate-P	0.009	mg P/L	I	0.004	0.01
6/16/2003 11:50	D-0F	Nutrients-Liquid	Total-P	0.063	mg P/L		0.015	0.04
6/16/2003 11:50	D-0F	Overflow	Oil and Grease	0.9	mg/l	I		

The Bioassay of Florida Power Corporation Crystal River Power Plant effluent from Outfall D-0F sampled on June 16, 2003, NPDES #FL0000159.

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





The Priority Pollutants Analysis for Bioassay of Florida Power Corporation Crystal River Power Plant effluent from Outfall D-0F sampled on June 16, 2003, NPDES #FL0000159.

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

