



ARKANSAS POWER & LIGHT COMPANY  
POST OFFICE BOX 551 LITTLE ROCK, ARKANSAS 72203 (501) 371-4000

October 24, 1978

1-108-7

Director of Nuclear Reactor Regulation  
ATTN: Mr. R. W. Reid, Chief  
Operating Reactor Branch #4  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Subject: Arkansas Nuclear One - Unit 1  
Docket No. 50-313  
License No. DPR-51  
Intake Impingement Data  
(File: 0520.2)

Gentlemen:

Enclosed are the results of impingement monitoring at the intake of Arkansas Nuclear One - Unit 1 during the month of September 1978. This is being submitted per Environmental Technical Specification 4.1.2.a(2).

Very truly yours,

*Daniel H. Williams*

Daniel H. Williams  
Manager, Licensing

DHW:REI:ss

Enclosures: (3) copies of report  
(1) set of computer cards

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1 SET CARDS  
TO  
BR CHIEF

ARKANSAS POWER & LIGHT COMPANY  
AND SCREEN MONITORING

RUN DATE: 10/23/78

SAMPLE TAKEN: 09-01-78

INCLUSIVE TIME  
OF SAMPLE: 24 HRS

INLET WATERBOX  
TEMPERATURE: 80 F

# SCREENS  
WASHED: 8

NUMBER OF CIRCULATING  
PUMPS IN OPERATION: 4

24 HOUR TOTAL  
SAMPLE COUNT: 510

24 HOUR TOTAL \*  
SAMPLE WEIGHT: 9.6 LBS

SPECIES NAME	SPECIES 24 HR TOTAL WEIGHT(LBS)	SPECIES 24 HR TOTAL COUNT	MAXIMUM LENGTH(MM)	MODAL LENGTH(MM)	#	%	MODAL WEIGHT(GR)	#	%
FRESHWATER DRUM	4.25	364.	253	60 TO 90	22	76%	0 TO 5	22	76%
GIZZARD SHAD	2.69	102.	201	60 TO 90	9	35%	5 TO 10	12	46%
WHITE BASS	0.94	13.	296	90 TO 120	9	69%	10 TO 15	5	38%
BLUEGILL SUNFISH	1.24	8.	172	150 TO 180	5	63%	45 TO 50	2	25%
WHITE CRAPPIE	0.15	12.	96	60 TO 90	10	83%	5 TO 10	7	58%
STRIPED BASS	0.04	2.	125	60 TO 90	1	50%	0 TO 5	1	50%
CHANNEL CATFISH	0.21	3.	206	90 TO 120	1	33%	5 TO 10	1	33%
BLUE CATFISH	0.10	7.	108	90 TO 120	5	71%	5 TO 10	6	86%
ORANGESPOTTED SUNFISH	0.01	1.	54	30 TO 60	1	100%	0 TO 5	1	100%

\* TOTAL SAMPLE WT. INCLUDES 0.0 LBS OF DEBRIS ACCUMULATION.

ARKANSAS POWER & LIGHT COMPANY  
AND SCREEN MONITORING

RUN DATE: 10/23/78

SAMPLE TAKEN: 09-06-78

INCLUSIVE TIME OF SAMPLE: 24 HRS    INLET WATERBOX TEMPERATURE: 83 F    # SCREENS WASHED: 8    NUMBER OF CIRCULATING PUMPS IN OPERATION: 4    24 HOUR TOTAL SAMPLE COUNT: 91    24 HOUR TOTAL \* SAMPLE WEIGHT: 5.2 LBS

SPECIES NAME	SPECIES 24 HR TOTAL WEIGHT(LBS)	SPECIES 24 HR TOTAL COUNT	MAXIMUM LENGTH(MM)	MODAL LENGTH(MM)	#	%	MODAL WEIGHT(GK)	#	%
FRESHWATER DRUM	0.96	25.	277	60 TO 90	20	80%	0 TO 5	21	84%
GIZZARD SHAD	1.69	48.	208	90 TO 120	14	54%	5 TO 10	15	58%
WHITE BASS	1.51	6.	328	120 TO 150	2	33%	5 TO 10	1	17%
BLUEGILL SUNFISH	0.32	1.	185	180 TO 210	1	100%	145 TO 150	1	100%
WHITE CRAPPIE	0.14	1.	177	150 TO 180	1	100%	60 TO 65	1	100%
CHANNEL CATFISH	0.22	6.	198	60 TO 90	3	50%	0 TO 5	3	50%
BLUE CATFISH	0.30	3.	270	60 TO 90	1	33%	0 TO 5	1	33%
RIVER SHINER	0.01	1.	77	60 TO 90	1	100%	0 TO 5	1	100%

\* TOTAL SAMPLE WT. INCLUDES 0.0 LBS OF DEBRIS ACCUMULATION.



ARKANSAS POWER & LIGHT COMPANY  
AND SCREEN MONITORING

RUN DATE: 10/23/78

SAMPLE TAKEN: 09-08-78

INCLUSIVE TIME

INLET WATERBOX

# SCREENS

NUMBER OF CIRCULATING

24 HOUR TOTAL

123

24 HOUR TOTAL \*

12.0 LBS

OF SAMPLE: 24 HRS

TEMPERATURE: 82 F

WASHED: 5

PUMPS IN OPERATION: 4

SAMPLE COUNT:

123

24 HOUR TOTAL \*

12.0 LBS

SPECIES NAME

SPECIES 24 HR

TOTAL COUNT

MAXIMUM

MODAL

LENGTH (MM)

#

MODAL

WEIGHT (GR)

#

%

FRESHWATER DRUM

0.46

22.

224

60 TO 90

16

73%

0 TO 5

18

82%

GILTHAD SHAD

1.94

69.

207

90 TO 120

12

46%

5 TO 10

12

46%

WHITE BASS

5.13

12.

362

90 TO 120

4

33%

10 TO 15

3

25%

WHITE CRAPPIE

1.46

4.

324

90 TO 120

1

25%

5 TO 10

1

25%

CHANNEL CATFISH

0.18

3.

197

90 TO 120

1

33%

5 TO 10

1

33%

BLUE CATFISH

0.75

8.

290

60 TO 90

3

38%

0 TO 5

3

38%

FLATHEAD CATFISH

0.07

1.

160

150 TO 180

1

100%

30 TO 35

1

100%

LONGEAR SUNFISH

0.10

1.

134

120 TO 150

1

100%

45 TO 50

1

100%

MISSISSIPPI SILVERSIDE

0.01

2.

69

30 TO 60

1

50%

0 TO 5

2

100%

LARGEMOUTH BASS

1.88

1.

389

360 TO 390

1

100%

645 TO 650

1

100%

\* TOTAL SAMPLE WT. INCLUDES 0.0 LBS OF DEBRIS ACCUMULATION.

ARKANSAS POWER & LIGHT COMPANY  
AND SCREEN MONITORING

RUN DATE: 10/23/78

SAMPLE TAKEN: 09-11-78

INLET WATER BOX # SCREENS NUMBER OF CIRCULATING 24 HOUR TOTAL 24 HOUR TOTAL  
OF SAMPLE: 24 HRS TEMPERATURE: 80 F WASHED: 8 PUMPS IN OPERATION: 4 SAMPLE COUNT: 1031 SAMPLE WEIGHT: 17.5 LBS

SPECIES NAME	SPECIES 24 HR TOTAL WEIGHT(LBS)	SPECIES 24 HR TOTAL COUNT	MAXIMUM LENGTH(MM)	MODAL LENGTH(MM)	#	%	MODAL WEIGHT(GR)	#	%
FRESHWATER DRUM	9.50	798.	315	60 TO 90	28	82%	0 TO 5	26	76%
GILTBIRD SHAD	4.19	184.	227	90 TO 120	16	59%	5 TO 10	15	56%
WHITE BASS	1.93	10.	242	90 TO 129	5	50%	10 TO 15	3	30%
WHITE CRAPPIE	2.09	9.	315	60 TO 90	3	33%	5 TO 10	3	33%
CHANNEL CATFISH	0.54	8.	255	60 TO 90	4	50%	0 TO 5	4	50%
BLUE CATFISH	0.15	4.	194	60 TO 90	2	50%	0 TO 5	2	50%
ALLEGHILL SUNFISH	0.02	7.	45	30 TO 60	7	100%	0 TO 5	7	100%
MISSISSIPPI SILVERSIDE	0.04	6.	87	60 TO 90	6	100%	0 TO 5	6	100%
GOLDEN SHiner	0.02	2.	103	60 TO 90	1	50%	0 TO 5	1	50%
EMERALD SHINER	0.01	1.	57	30 TO 60	1	100%	0 TO 5	1	100%
BROOK SILVERSIDE	0.01	2.	74	60 TO 90	2	100%	0 TO 5	2	100%

\* TOTAL SAMPLE WT. INCLUDES 0.0 LBS OF DEBRIS ACCUMULATION.

ARKANSAS POWER & LIGHT COMPANY  
AND SCREEN MONITORING

RUN DATE: 10/23/78

SAMPLE TAKEN: 09-15-78

INLET WATERBOX  
TEMPERATURE: 40 F

# SCREENS  
WASHED: 4

NUMBER OF CIRCULATING  
PUMPS IN OPERATION: 4

24 HOUR TOTAL  
SAMPLE COUNT: 124

24 HOUR TOTAL  
SAMPLE WEIGHT: 9.9 LBS

SPECIES NAME	SPECIES 24 HR TOTAL WEIGHT(LBS)	SPECIES 24 HR TOTAL COUNT	MAXIMUM LENGTH(MM)	MODAL LENGTH(MM)	#	%	MODAL WEIGHT(GR)	#	%
FRESHWATER DRUM	2.09	15.	281	60 TO 90	5	33%	0 TO 5	4	27%
GILTED SHAD	2.56	85.	189	90 TO 120	16	62%	5 TO 10	17	65%
WHITE BASS	2.56	8.	370	90 TO 120	4	50%	5 TO 10	3	38%
STRIPED BASS	0.02	2.	80	60 TO 90	2	100%	0 TO 5	2	100%
WHITE CRAPPIE	0.01	1.	79	60 TO 90	1	100%	0 TO 5	1	100%
CHANNEL CATFISH	0.07	4.	118	90 TO 120	3	75%	10 TO 15	2	50%
BLUE CATFISH	0.49	7.	274	90 TO 120	3	43%	0 TO 5	2	29%
MISSISSIPPI SILVERSIDE	0.03	3.	90	60 TO 90	3	100%	0 TO 5	3	100%
BLUEGILL SUNFISH	0.01	1.	53	30 TO 60	1	100%	0 TO 5	1	100%
EUROPEAN CARP	2.06	1.	521	510 TO 540	1	100%	960 TO 965	1	100%
THREADFIN SHAD	0.01	1.	50	30 TO 60	1	100%	0 TO 5	1	100%

\* TOTAL SAMPLE WT. INCLUDES 0.0 LBS OF DEBRIS ACCUMULATION.



ARKANSAS POWER & LIGHT COMPANY  
AND SCREEN MONITORING

RUN DATE: 10/23/78

SAMPLE TAKEN: 09-10-78

INLET WATERBOX # SCREENS 24 HOUR TOTAL 24 HOUR TOTAL °  
OF SAMPLE: 24 HRS TEMPERATURE: 81 F WASHER: 8 PUMPS IN OPERATION: 4 SAMPLE COUNT: 243 SAMPLE WEIGHT: 11.6 LBS

SPECIES NAME	SPECIES 24 HR TOTAL WEIGHT(LBS)	SPECIES 24 HR TOTAL COUNT	MAXIMUM LENGTH(MM)	MODAL LENGTH(MM)	#	%	MODAL WEIGHT(GR)	#	%
FRESHWATER DRUM	3.25	100.	257	60 TO 90	17	65%	0 TO 5	12	46%
GILTED SHAD	3.13	72.	215	90 TO 120	10	38%	5 TO 10	14	54%
WHITE BASS	2.88	21.	335	90 TO 120	10	48%	5 TO 10	8	38%
THREEDFIN SHAD	0.01	2.	57	30 TO 60	2	100%	0 TO 5	2	100%
BLUEGILL SUNFISH	1.24	13.	182	120 TO 150	5	38%	20 TO 25	2	15%
LONGEAR SUNFISH	0.02	1.	78	60 TO 90	1	100%	5 TO 10	1	100%
WHITE CRAPPIE	0.15	8.	120	60 TO 90	4	50%	5 TO 10	6	75%
BLUE CATFISH	0.36	7.	280	90 TO 120	3	43%	0 TO 5	2	29%
CHANNEL CATFISH	0.46	7.	255	60 TO 90	2	29%	0 TO 5	2	29%
MISSISSIPPI SILVERSIDE	0.01	2.	84	60 TO 90	2	100%	0 TO 5	2	100%
BLACK CRAPPIE	0.13	1.	160	150 TO 180	1	100%	55 TO 60	1	100%

\* TOTAL SAMPLE WT. INCLUDES 0.0 LBS OF DEBRIS ACCUMULATION.

ARKANSAS POWER & LIGHT COMPANY  
AND SCREEN MONITORING

RUN DATE: 10/23/78

SAMPLE TAKEN: 09-22-78

INLET WATER BOX  
OF SAMPLE: 24 HRS

# SCREENS  
WASHED: 8

NUMBER OF CIRCULATING  
PUMPS IN OPERATION: 4

24 HOUR TOTAL  
SAMPLE COUNT: 133

24 HOUR TOTAL \*  
SAMPLE WEIGHT: 11.5 LBS

SPECIES NAME	SPECIES 24 HR TOTAL WEIGHT (LBS)	SPECIES 24 HR TOTAL COUNT	MAXIMUM LENGTH (MM)	MODAL LENGTH (MM)	#	%	MODAL WEIGHT (GR)	#	%
FRESHWATER DRUM	3.75	71.	321	60 TO 90	16	62%	0 TO 5	14	54%
GILTED SHAD	1.01	29.	205	90 TO 120	13	50%	5 TO 10	13	50%
WHITE BASS	1.47	11.	314	90 TO 120	6	55%	10 TO 15	6	55%
ROUGHL SUNFISH	0.50	4.	172	150 TO 190	2	50%	70 TO 75	3	75%
CHANNEL CATFISH	0.18	6.	171	90 TO 120	3	50%	5 TO 10	3	50%
THREADFIN SHAD	0.01	5.	61	30 TO 60	4	80%	0 TO 5	5	100%
BLUE CATFISH	0.49	2.	300	180 TO 210	1	50%	30 TO 35	1	50%
SKIPJACK HERRING	0.12	2.	172	150 TO 180	2	100%	20 TO 25	1	50%
STRIPED BASS	2.25	1.	455	450 TO 480	1	100%	1020 TO 1025	1	100%
WHITE CRAPPIE	0.01	1.	87	60 TO 90	1	100%	5 TO 10	1	100%
SMALLMOUTH BUFFALO	1.69	1.	395	390 TO 420	1	100%	760 TO 765	1	100%

\* TOTAL SAMPLE WT. INCLUDES 0.0 LBS OF DEBRIS ACCUMULATION.



ARKANSAS POWER & LIGHT COMPANY  
AND SCREEN MONITORING

RUN DATE: 10/23/78

SAMPLE TAKEN: 09-26-78

INLET WATERBOX INCLUSIVE TIME OF SAMPLE: 24 HRS TEMPERATURE: 78 F  
NUMBER OF CIRCULATING PUMPS IN OPERATION: 4 SAMPLE COUNT: 160 24 HOUR TOTAL \*  
SAMPLE WEIGHT: 12.1 LBS

SPECIES NAME	SPECIES 24 HR TOTAL WEIGHT (LBS)	SPECIES 24 HR TOTAL COUNT	MAXIMUM LENGTH (MM)	MODAL LENGTH (MM)	#	%	MODAL WEIGHT (GR)	#	%
FRESHWATER DRUM	6.06	82.	407	60 TO 90	13	50%	0 TO 5	13	50%
GIFFARD SHAD	1.63	41.	214	90 TO 120	17	65%	5 TO 10	18	69%
WHITE BASS	0.64	15.	194	90 TO 120	10	67%	10 TO 15	6	40%
TIMEADOFIN SHAD	0.02	4.	62	30 TO 60	3	75%	0 TO 5	4	100%
BLUEGILL SUNFISH	0.01	1.	30	0 TO 30	1	100%	0 TO 5	1	100%
WHITE CRAPPIE	1.89	4.	345	60 TO 90	2	50%	0 TO 5	2	50%
BLUE CATFISH	0.87	3.	242	210 TO 240	1	33%	100 TO 105	1	33%
CHANNEL CATFISH	0.76	8.	267	60 TO 90	3	38%	5 TO 10	4	50%
FLATHEAD CATFISH	0.04	1.	115	90 TO 120	1	100%	15 TO 20	1	100%
MISSISSIPPI SILVERSIDE	0.01	1.	87	60 TO 90	1	100%	0 TO 5	1	100%

\* TOTAL SAMPLE WT. INCLUDES 0.0 LBS OF DERRIS ACCUMULATION.

ARKANSAS POWER & LIGHT COMPANY  
AND SCREEN MONITORING

RUN DATE: 10/23/78

SAMPLE TAKEN: 09-29-78

INLET WATERBOX INLET WATER TEMPERATURE: 77 F # SCREENS WASHED: 8 NUMBER OF CIRCULATING PUMPS IN OPERATION: 4 24 HOUR TOTAL SAMPLE COUNT: 165 24 HOUR TOTAL SAMPLE WEIGHT: 16.8 LBS

SPECIES NAME	SPECIES 24 HR TOTAL WEIGHT (LBS)	SPECIES 24 HR TOTAL COUNT	MAXIMUM LENGTH (MM)	MODAL LENGTH (MM)	%	MODAL WEIGHT (GR)	#	%
FRESHWATER DRUM	4.69	60.	360	60 TO 90	9	0 TO 5	10	38%
TIMEADFIN SHAD	0.04	5.	83	60 TO 90	4	0 TO 5	5	100%
STRIPED BASS	1.75	1.	425	420 TO 450	1	790 TO 795	1	100%
SAUGER	0.04	2.	150	90 TO 120	1	5 TO 10	1	50%
WHITE CRAPPIE	1.27	4.	256	240 TO 270	3	10 TO 15	1	25%
CHANNEL CATFISH	0.78	14.	245	90 TO 120	4	5 TO 10	5	36%
BLUE CATFISH	0.10	3.	161	90 TO 120	1	10 TO 15	2	67%
BLUEGILL SUNFISH	0.07	3.	109	30 TO 60	1	0 TO 5	1	33%
MISSISSIPPI SILVERSIDE	0.02	2.	93	60 TO 90	1	0 TO 5	2	100%
GIZZARD SHAD	2.00	50.	190	90 TO 120	15	5 TO 10	12	46%
WHITE BASS	6.02	21.	368	90 TO 120	12	10 TO 15	9	43%

\* TOTAL SAMPLE WT. INCLUDES 0.0 LBS OF DERRIS ACCUMULATION.