



**Commonwealth Edison**  
LaSalle County Nuclear Station  
Rural Route #1, Box 220  
Marseilles, Illinois 61341  
Telephone 815/357-6761

DMB

PRIORITY ROUTING	
First	Second
✓ RA	✓ RC
✓ DRA	✓ ETC
✓ DRP	✓ SGA
✓ DRS	✓ NL
✓ DRSS	✓ ML
✓ DRMA	✓ DX
	✓ PADI

FILE 102

August 17, 1988

DRG+1

Mr. A. Bert Davis  
Regional Administrator  
Region III  
U.S. Nuclear Regulatory Commission  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

This Special Report is being submitted in accordance with LaSalle Unit 1 and 2 Operating License NPF-11 and NPF-18, Appendix B (Environmental Protection Plan), Paragraph 4.1 regarding a fish kill related to plant operation.

On July 18, 1988 at 1600 hours with Unit 1 in Operational Condition 1 (Run) at 73 percent power and Unit 2 in Operational Condition 1 at 60 percent power, a small number of dead fish were observed floating into the Gizzard Shad barrier nets in the intake canal of the LaSalle County Cooling Pond (ultimate heat sink) [NN]. A representative of the Illinois Department of Conservation was contacted and identifications and counts of the dead fish were made from July 18 through July 21. A total of 2,158 fish were counted, identified, and disposed of. The dead fish caused no damage to the barrier net or to plant equipment.

The die-off in the cooling pond was caused by high water temperatures pond wide and/or low dissolved oxygen concentrations in some fresh refuge areas. These conditions resulted from unusually warm weather combined with two unit operation during which one of the units was restarted following a refuel outage. The majority of fish that died were of coolwater species (94% of total lost) which were stocked in the cooling pond on an experimental basis. Since the conditions that caused the die-off cannot be avoided with unit operation during unusually warm weather, a possible approach to limiting the number of fish lost would be to limit or suspend stocking of coolwater fish species. This option is under consideration at this time pending a fall fish population study by the Illinois Department of Conservation.

*W.R. Altmeyer*  
for G. J. Diederich  
Station Manager  
LaSalle County Station

GJD/kg

8808290291 880817  
PDR ADCK 05000373  
S PNU

1E23  
11  
1E23

AUG 19 1988

# DEVIATION REPORT

DVR NO.

01 - 01 - 88 - 060  
STA UNIT YEAR NO.

PART 1 TITLE OF DEVIATION

Cooling Lake Fish Kill

OCCURRED

7/18/88

1600

DATE

TIME

SYSTEM AFFECTED

PLANT STATUS AT TIME OF EVENT

N/A

TESTING

MODE 1/1 POWER(%) 73/60

WORK REQUEST NO.

YES

NO

Lake

DESCRIPTION OF EVENT

On 7/18/88 at approximately 1600 hours several dead game fish were observed by the Maintenance Staff in the shad net area of the cooling lake. The District Fisheries Biologist was notified on 7/19/88. It was determined that a significant number of fish had died and the Biologist began a count on 7/20/88.

NRC notification per attached.

POTENTIALLY SIGNIFICANT EVENT PER NSD DIRECTIVE A-07

YES

NO

10CFR50.72 NRC RED PHONE 1 HOUR

NOTIFICATION MADE 4 HOUR TIME X NO

Charles Sprunger

7/22/88

RESPONSIBLE SUPERVISOR

DATE

PART 2 OPERATING ENGINEER'S COMMENTS

None.

NON REPORTABLE EVENT

30 DAY REPORTABLE/10CFR

5 DAY REPORT PER 10CFR21

X ANNUAL/SPECIAL REPORT REQUIRED

A.I.R. #

L.E.R. #

NOTIFICATION D. Jones  
REGION III

7/19/88

1215

DATE

TIME

NSD

DATE

TIME

CECO CORPORATE NOTIFICATION MADE  
IF ABOVE NOTIFICATION IS PER 10CFR21

TELECOPY

CECO CORPORATE OFFICER

DATE

TIME

PRELIMINARY REPORT  
COMPLETED AND REVIEWED

B. Westphal

7/23/88

OPERATING ENGINEER

DATE

INVESTIGATION REPORT & RESOLUTION  
ACCEPTED BY STATION REVIEW

RESOLUTION APPROVED AND  
AUTHORIZED FOR DISTRIBUTION

STATION MANAGER

8/17/88

DATE

# DEVIATION INVESTIGATION REPORT (DIR)

Facility Name LaSalle County Station Unit 1	PAGE 1 OF 0 3
Title	

EVENT DATE			DIR NUMBER					REPORT DATE			OPERATING MODE														
MONTH	DAY	YEAR	STA	UNIT	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR															
0	7	1	8	8	8	0	1	0	1	8	8	0		6	0	0	0	8	1	7	8	8		0	7

CONTACT FOR THIS DIR

NAME Charles Sprunger, Technical Staff Engineer, extension 779	TELEPHONE NUMBER AREA CODE 8 1 5 3 5 7 - 6 7 6 1
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS
C	N	N								

SUPPLEMENTAL REPORT EXPECTED

<input type="checkbox"/> YES (if yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE MONTH DAY YEAR
--------------------------------------------------------------------------	----------------------------------------	--------------------------------------------

TEXT Energy Industry Identification System (EIIS) codes are identified in the text as [xx]

## PLANT AND SYSTEM IDENTIFICATION

General Electric - Boiling Water Reactor

Energy Industry Identification System (EIIS) codes are identified in the text as [XX].

## A. CONDITION PRIOR TO EVENT

Unit(s): 1/2      Event Date: 7/18/88      Event Time: 1600 Hours  
 Reactor Mode(s): 1/1      Mode(s) Name: Run/Run      Power Level(s): 73%/60%

## B. DESCRIPTION OF EVENT

On July 18, 1988 at 1600 hours with Unit 1 in Operational Condition 1 (Run) at 73 percent power and Unit 2 in Operational Condition 1 at 60 percent power, a small number of dead fish were observed floating into the Gizzard Shad barrier nets in the intake canal of the LaSalle County Cooling Pond (ultimate heat sink) [NN]. A representative of the Illinois Department of Conservation was contacted and identifications and counts of the dead fish were made from July 18 through July 21. A total of 2,158 fish, comprised of eight species of fish were recorded. The counts are as follows:

# DEVIATION INVESTIGATION REPORT TEXT CONTINUATION

FACILITY NAME	DIR NUMBER								PAGE		
	STA	UNIT	YEAR		SEQUENTIAL NUMBER		REVISION NUMBER				
LaSalle County Station Unit 1	0   1	0   1	8   8	—	0   6   0	—	0   0		2	OF	0   3

TEXT Energy Industry Identification System (EIIS) codes are identified in the text as [xx]

## B. DESCRIPTION OF EVENT (Continued)

SPECIES	NUMBER	SIZE RANGE
Walleye	1,866	1/2 - 8 lbs
Hybrid Striper	153	4 - 10 lbs
Gizzard Shad	55	---
Largemouth Bass	47	2 - 9 lbs
White Bass	10	---
Yellow Bullhead	10	---
Channel Catfish	10	---
Muskie	7	33 - 38 inches

Due to the state of decomposition it is likely that the die-off began sometime on July 17 and was complete by the evening of July 18. The fish were all collected on the cool side of the cooling pond, mostly along the barrier net and the public launching area. The dead fish did not have an affect on plant operation and were removed from the pond and disposed of during the counting process.

## C. APPARENT CAUSE OF EVENT

The die-off in the cooling pond was caused by high water temperatures pond wide and/or low dissolved oxygen concentrations in some fish refuge areas. A number of factors lead to the conditions that occurred. The heat load in the pond had increased due to a Unit 1 initial increase in power following a refueling outage. Power was increased from 233 MW on July 12 to 950 MW on July 16 where it remained until July 18. Unit 2 cycled in power between 880 MW and 660 MW during the same time period. Air temperatures were in the upper 90's during the proceeding week and were over 100 degrees F on July 15. Low cloud cover was present and high humidity conditions from July 17 through 18. On July 18, water temperatures at the intake canal were 90 to 91 degrees F.

The fish that died in the highest numbers were the Walleye and Hybrid Striped Bass, which are considered to be coolwater fish. Only seven Muskie, another coolwater fish, were found, but that is probably related to the fact that very few Muskie were in the pond. These three temperature sensitive fish probably moved into the coolest part of the pond as it began to heat up and died when they could not find cooler water. The other species lost, like the Largemouth Bass and Channel Catfish, could survive the temperatures, but were most likely trapped in a refuge area that had low levels of dissolved oxygen.

## D. SAFETY ANALYSIS OF EVENT

There were no safety consequences to the station as result of this event. The dead fish that were found in the Gizzard Shad barrier net caused no damage to the net or to plant equipment.

# DEVIATION INVESTIGATION REPORT TEXT CONTINUATION

FACILITY NAME	DIR NUMBER										PAGE		
				SEQUENTIAL			REVISION						
	STA	UNIT	YEAR	NUMBER			NUMBER						
LaSalle County Station Unit 1	01	01	88	—	0	6	0	—	0	0	3	OF	03

TEXT Energy Industry Identification System (EIIS) codes are identified in the text as [xx]

## E. CORRECTIVE ACTIONS

The dead fish were removed from the Gizzard Shad barrier net and disposed of in a timely manner.

High water temperatures pond wide and low dissolved oxygen concentrations cannot be avoided with plant operation during unusually warm weather. The majority of fish that died are of the coolwater species which were stocked in the cooling pond on an experimental basis. A possible approach to limiting the number of fish lost to plant operation during these conditions would be to limit or suspend stocking of coolwater fish species. This option is under consideration at this time pending a fall fish population study at LaSalle Station's cooling pond by the Illinois Department of Conservation.

## F. PREVIOUS EVENTS

There are no previous events.

## G. COMPONENT FAILURE DATA

No component failures occurred contributing to this event.