

ARKANSAS NUCLEAR ONE

2008

STATE OF ARKANSAS ENVIRONMENTAL MONITORING REPORT

This report summarizes analytical results of environmental samples collected around the Arkansas Nuclear One commercial nuclear power plant in Russellville, Arkansas, during calendar year 2008. In previous years, this report was in accordance with the requirements specified in the NRC - State of Arkansas Cooperative Agreement Number NRC-31-83-667. The NRC ended this cooperative agreement in 1998. Therefore, this report is generated to provide documentation of the ADH in house Environmental Sampling Program.

Radionuclides Detected: The State results were in agreement with Entergy's results reported in their Annual Radiological Environmental Operating Report for 2008. All detected results were consistent with historical data.

The following is a summary of the samples that reported levels higher than Minimum Detectable Activity (MDA):

1. Tritium in the intake and discharge bay surface water, storm run-off water, and well water.
2. Cesium-137 in soil
3. Cesium-137 in intake bay sediment.
4. Cesium 137 in discharge bay sediment.

A-4
K-5

State Sample Results

Milk

Only two samples were collected. They did not exceed MDA. There is no longer a dairy within the 10-mile EPZ.

Soil

<u>Date</u>	<u>Location</u>	<u>Isotope</u>	<u>Results (PCI/K)</u>
10/21/08	Lake Dardanelle Park	CS-137	24.2

Vegetation

No samples exceeded MDA

Surface Water
Station 8 – Plant Discharge Canal (166 deg - .2 miles)
Station 10 – Plant Intake Canal (95 deg - .5 miles)

<u>Date</u>	<u>Location</u>	<u>Isotope</u>	<u>Results (PCI/L)</u>
3/31/08	# 8	H3	1590
3/31/08	# 10	H3	850
6/30/08	# 10	H3	677
6/30/08	# 8	H3	1070
9/30/08	# 8	H3	946
12/31/08	# 8	H3	504

Storm Water Run-Off

- #1 – Control located near the GSB
- #2 -- Outside Sally Port.
- #3 – Inside Sally Port
- #4 – Near the OWS
- #5 – Storm pipe on the west side of the discharge canal

<u>Date</u>	<u>Location</u>	<u>Isotope</u>	<u>Results (PCI/L)</u>
4/2/08	# 5	H3	731

Rain Water

No samples exceeded MDA

Well Water

1 - N 35° 18.857' W 93° 13.771'
2 - N 35° 18.503' W 93° 13.913'
3 - N 35° 18.495' W 93° 13.962'
4 - N 35° 18.560' W 93° 14.020'
May Road - N35 17.997 W 93.14.132

<u>Date</u>	<u>Location</u>	<u>Isotope</u>	<u>Results (PCI/L)</u>
3/12/08	# 3	H3	490
3/12/08	# 4	H3	602
3/25/08	May Road	H3	533

Air Samples ANO Weather Station Danville

The State took samples at two locations:

ANO Weather Station: Located .65 miles from the plant on the 090 deg radial
Danville: Located 21 miles from the plant on the 205 deg radial

Results:

Iodine: All samples were found to be below Minimum Detectable Activity

Particulate: The maximum Beta reading was $4.2 \text{ E}^{-2} \text{ PCI/m}^3$. Danville

These were consistent with previous years' results.

Silt
Intake Canal Station #16 (106 deg @ 5.1 miles)
Discharge Bay Station # 8 (065 deg @ 0.9 miles)

<u>Date</u>	<u>Location</u>	<u>Isotope</u>	<u>Results (PCL/K)</u>
10/30/08	Discharge	Cesium-137	27.7
9/23/08	Intake	Cesium-137	28.4

Fish
Intake
Discharge Bay

No samples exceeded MDA

Direct Radiation

Sample Pathway or Medium:
Frequency:
Type of Analysis:

Direct Radiation Environmental TLDs
Quarterly
Integrated Exposure

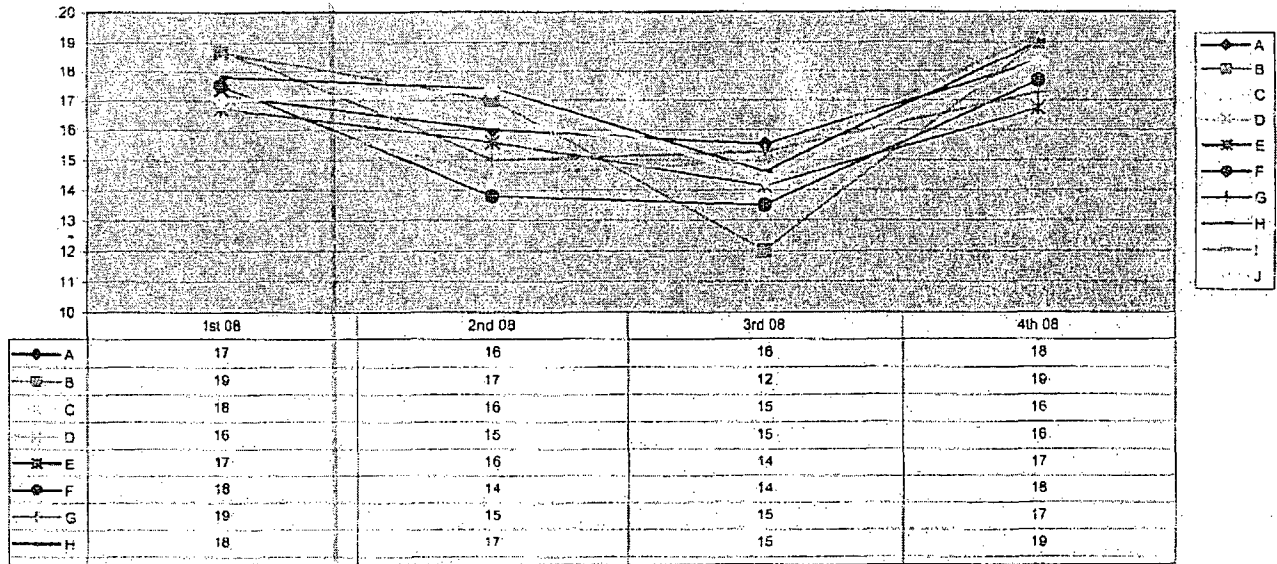
Co-located Sites

State	Site Number		Distance and Direction	
	Licensee		Miles	Degrees
A1	3		0.7	0
B3	113		1.3	53
D3	123		3.6	47
A5	1		0.5	92
C6	111		2.4	110
F6	127		5.7	101
H6	--		7.4	118
E7	142		4.9	128
A8	4		0.5	180
I8	137		8.5	150
F10	138		5.9	195
A11	2		2.1	225
C12	131		2.3	240
E12	130		4.6	243
F13	132		5.6	265
B15b	116		1.9	318
E16	120		4.2	335

2008 NORMALIZED

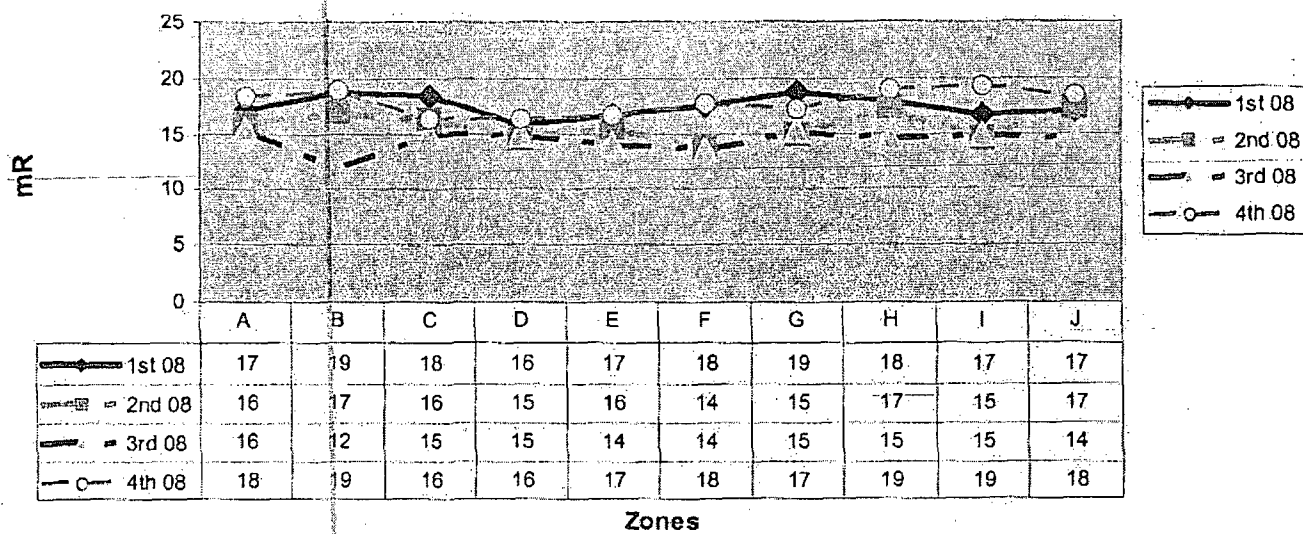
1ST QTR 08	2ND QTR 08	3RD QTR 08	4TH QTR 08
17	15	13	17
15	18	13	21
17	16	10	17
19	14	13	22
17	13	18	15
15	14	14	20
14	14	14	17
15	18	18	20
18	18	20	19
22	19	22	20
20	18	17	19
17	15	14	13
18	12	12	19
16	20	12	19
22	19	12	19
19	16	16	18
19	16	15	17
17	17	14	14
16	18	17	15
11	14	18	17
19	15	14	15
17	11	11	18
20	18	20	17
14	17	18	20
13	15	9	14
17	15	11	19
19	14	12	12
13	18	16	21
21	12	13	14
13	15	12	14
23	21	17	22
16	M	12	17
16	6	16	18
19	16	14	18
18	11	10	17
23	16	17	15
21	10	18	18
15	17	14	18
16	17	12	18
17	17	15	16
15	18	14	20
15	17	15	15
21	18	13	22
21	17	16	22
18	11	19	19
17	15	16	19
16	15	17	19
16	17	8	20
17	21	13	15
19	16	15	20
15	15	15	20

2008 TLD





2008 TLDS



2008 TLDS

