

Duke Power Company
PO Box 5189
Charlotte, NC 28242

704373401



DUKE POWER

May 24, 1991

Division of Environmental Management
Water Quality Section
Attention: Central Files
P.O. Box 27687
Raleigh, NC 27611

Subject: Duke Power Company
NPDES Monitoring Report for
McGuire Nuclear Station - NCC024392
File: MC-702.25

Dear Sir:

In accordance with Part II, C(2) of the above referenced NPDES permit, duplicate copies of the monthly monitoring report for April, 1991 are enclosed.

McGuire Nuclear Station's outfall 003 (domestic Wastewater Treatment Facility) exceeded the permit value for fecal coliform on April 16, 1991. The Daily Max for fecal coliform at outfall 003 is 400.0/100 ml. The value obtained on April 16, 1991 was 920/100 ml. At the same time, BOD exceeded its Daily Max of 45 mg/l with a value of 73.4 mg/l. Because this outfall does not discharge directly into waters of the state, but into another NPDES permitted system, no direct discharge to waters of the state resulted.

As indicated in earlier monitoring reports for October and November, 1990, BOD and fecal coliform violations are caused by solids carry over. Presently, the final stages of installing a Dynasand filter to reduce solids carry over are being carried out. Once completed, it is expected that BOD and fecal coliform excursions caused by solids carry over will be eliminated.

Please direct any correspondence or questions concerning the McGuire Nuclear Station NPDES Program to M. E. Kowalewski, (704) 382-0473, or M. C. - Jgs (704) 373-7080, Nuclear Environmental Compliance.

Very truly yours,

W. A. Haller, Manager
Nuclear Technical Services

MTK/0011

Attachments

9105300285 910524
PDR ADCK 05000369
R PDR

TE 18

EFFLUENT

NPDES PERMIT NO: NC0024392 DISCHARGE NO: 001 MONTH: April YEAR: 1991
FACILITY NAME: Duke Power Company - McGuire Nuclear Station CLASS: II COUNTY: Mecklenburg
OPERATOR IN RESPONSIBLE CHARGE (ORC): Mark E. Bridges GRADE: III
CERTIFIED LABORATORY: Station Exempt/Central Lab ID 240

CHECK BLOCK IF ORC HAS CHANGED

Mail original and one copy to:
ATTN: Coastal Files
Division of Environmental Management
N.C. Department of NRCD
P.O. Box 27687
Raleigh, North Carolina 27611

PERSON(S) COLLECTING SAMPLES: Cynthia Barnhill/Christine Odon

I CERTIFY THAT THIS REPORT

IS ACCURATE AND COMPLETE TO

THE BEST OF MY KNOWLEDGE

X Mark E. Dwyer
Signature of operator in responsible charge

DATE	TIME 2400 CLOCK	COMPOSITE TIME	FLOW	ENTER PARAMETER CODE ABOVE NAME AND UNITS BELOW			Acute Toxicity
			EFF <input type="checkbox"/>	Temperature Fahrenheit	Total Residual Chlorine	Hydrazine	
			INF <input checked="" type="checkbox"/>				
			DAILY RATE				
	HRS	RED	F°	MG/L	MG/L	P-T	
1	2400		2.7	74.1			
2	2400		2.7	75.6			
3	2400		2.7	77.4			
4	2400		2.7	75.7			
5	2400		2.7	74.1			
6	2400		2.7	74.1			
7	2400		2.7	75.0			
8	2400		2.7	73.6			
9	2400		2.7	72.7			
10	2400		2.7	75.7			
11	2400		2.8	78.6			
12	2400		2.9	76.8			
13	2400		2.9	77.5			
14	2400		2.9	77.7			
15	2400		2.9	78.3			
16	2400		2.9	76.5			
17	2400		2.9	76.6			
18	2400		2.9	77.4			
19	2400		2.9	79.3			
20	2400		2.9	80.8			
21	2400		2.9	81.0			
22	2400		2.9	78.8			
23	2400		2.9	77.9			
24	2400		2.9	77.9			
25	2400		2.9	75.2			
26	2400		2.9	71.1			
27	2400		2.9	70.9			
28	2400		2.9	70.2			
29	2400		2.9	70.2			
30	2400		2.9	70.5			
31							
Average			2.8	75.7			
Max.			2.9	81.0			
Min.			2.7	70.2			
Comp. C/Grab G			C				
Monthly Limit							

EFFLUENT

NPDES PERMIT NO: NC024392 DISCHARGE NO: 002 MONTH: April YEAR: 1991
 FACILITY NAME: Duke Power Company - McGuire Nuclear Station CLASS: III COUNTY: Mecklenburg
 OPERATOR IN RESPONSIBLE CHARGE (ORC): Mark E. Bridges GRADE: III
 CERTIFIED LABORATORY: Station Exempt/Central Lab ID 248

PERSON(S) COLLECTING SAMPLES: Cynthia Bornhill/Christine Odom

CHECK BLOCK IF ORC HAS CHANGED ☐

Mail original and one copy to:
 ATT: Central Files
 Division of Environmental Management
 N.C. Department of NRCD
 P.O. Box 27687
 Raleigh, North Carolina 27611

I CERTIFY THAT THIS REPORT
 IS ACCURATE AND COMPLETE TO
 THE BEST OF MY KNOWLEDGE

X Mark E. Bridges
 Signature of operator in responsible charge

DATE	TIME 2400 CLOCK	COMPOSITE TIME	50050	50400	50060	50610	50530	50556	51313	50665	50660	50260	50945	51051			
			FLOW	INTER PARAMETER CODE ABOVE			Total Suspended Solids	Oil and Grease	Hydrazine	Total Phosphorous	Total Nitrogen	MBAS	Sulfate	Lead			Acute Toxicity
			EFF <input type="checkbox"/>	NAME AND UNITS BELOW													
			INF <input type="checkbox"/>														
			DAILY RATE	pH	Total Residual Chlorine	Ammonia Nitrogen											
		HRS	MGD	Unit	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	UG/L	P-P		
1	0930		0.016	8.5					0.012								
2	0800		0.585	7.2		4.2	11.2	0.21				0.2	241	<0.3			
3	0830		0.544	7.7													
4	0810		0.622	7.8													
5	0855		0.660	7.8													
6	0920																
7	0850																
8	0830																
9	0935		0.018	7.5					0.236								
10	0925		0.588	7.6													
11	1000		0.571	7.5													
12	1030		0.081														
13	1205																
14	1035																
15	0845																
16	0845																
17	0840		0.432	7.5					0.010								
18	0820		0.569	7.6													
19	0905		0.555	7.5													
20	0830		0.089														
21	1100																
22	0835																
23	0910		0.004	8.7					0.056								
24	0830		0.513	7.4													
25	0810		0.517	7.4													
26	0855		0.004														
27	1015																
28	1140																
29	0935		0.016	7.8					0.09								
30	0830		0.521	7.9													
31																	
Average			0.363			4.2	11.2	0.21	0.081			0.2	241	<0.3			
Max			0.660	8.7		4.2	11.2	0.21	0.236			0.2	241	<0.3			
Min			0.004	7.2		4.2	11.2	0.21	0.010			0.2	241	<0.3			
Comp. C/ Grab/G				6		6	6	6	6			6	6	6			
Monthly Limit																	

EFFLUENT

NPDES PERMIT NO: NC0024392 DISCHARGE NO: 003 MONTH: April YEAR: 1991
 FACILITY NAME: Duke Power Company - McGuire Nuclear Station CLASS: 1 COUNTY: Mecklenburg
 OPERATOR IN RESPONSIBLE CHARGE (ORC): Mark E. Bridges GRADE: III
 CERTIFIED LABORATORY: Station Exempt/Central Lab ID 248

CHECK BLOCK IF ORC HAS CHANGED ☐

Mail original and one copy to:
 ATT: Central Files
 Division of Environmental Management
 N.C. Department of NRCD
 PO Box 27617
 Raleigh, North Carolina 27611

PERSON(S) COLLECTING SAMPLES: Cynthia Barnhill
Christine Odom

I CERTIFY THAT THIS REPORT
 IS ACCURATE AND COMPLETE TO
 THE BEST OF MY KNOWLEDGE

x Mark E. Bridges
 Signature of operator in responsible charge

DATE	TIME 2400 CLOCK	COMPOSITE TIME	ENTER PARAMETER CODE ABOVE NAME AND UNITS BELOW							
			00050 FLOW EFF <input type="checkbox"/> INF <input type="checkbox"/> DAILY RATE	00400 pH	50050 Total Residual Chlorine 8005 20°C	00310 Total Suspended Solids	31515 Fecal Coliform *Geometric mean	00555 Oil and Grease	38260 MBAS	
		HRS	MGD	Unit	MG/L	MG/L	/100ML	MG/L	MG/L	
1	0910		0.010		0.10					
2	0820		0.014	6.1	2.5	15.3	50.2	<2	0.78	0.1
3	0845		0.022							
4	0830		0.032							
5	0910		0.029							
6	0945		0.014							
7	0900		0.012							
8	0845		0.009		0.7					
9	0910		0.036	6.6						
10	0925		0.032							
11	1025		0.029							
12	1050		0.029							
13	1220		0.017							
14	1040		0.009							
15	0900		0.014		0.3					
16	0900		0.024	6.4		73.4	80.0	920	0.52	
17	0900		0.029							
18	0835		0.036							
19	0925		0.032							
20	0845		0.017							
21	1120		0.013		0.6					
22	0840		0.014							
23	0925		0.022	6.9		16		<2		
24	0845		0.029							
25	0930		0.029							
26	0905		0.029							
27	1045		0.014							
28	1205		0.009							
29	0905		0.014							
30	0840		0.058	6.5		19.8				
31										
Average			0.023		0.84	29.6	65.1	9.7	0.65	0.1
Max.			0.058	6.9	2.5	73.4	80.0	9.20	0.78	0.1
Min.			0.008	6.1	0.10	19.8	50.2	<2.0	0.52	0.1
Comp. (C) / Grab (G)				G		G		G	G	
Monthly Limit										

EFFLUENT

NPDES PERMIT NO: NC0024392 DISCHARGE NO: 004 MONTH: April YEAR: 1991
 FACILITY NAME: Duke Power Company - McGuire Nuclear Station CLASS: 11 COUNTY: Mecklenburg
 OPERATOR IN RESPONSIBLE CHARGE (ORC): Mark E. Bridges GRADE: III
 CERTIFIED LABORATORY: Station Exempt/Central Lab ID 248

CHECK BLOCK IF ORC HAS CHANGED ☐

Mail original and one copy to
 ATT Central Files
 Division of Environmental Management
 N.C. Department of NRCD
 P.O. Box 27687
 Raleigh, North Carolina 27611

PERSON(S) COLLECTING SAMPLES: Richard Baker

I CERTIFY THAT THIS REPORT

IS ACCURATE AND COMPLETE TO

THE BEST OF MY KNOWLEDGE

x Mark E. Bridges
 Signature of operator in responsible charge

DATE	TIME 2400 CLOCK	COMPOSITE TIME	50050 500530 500556 51513																	
			FLOW	ENTER PARAMETER CODE ABOVE																
			EFF <input checked="" type="checkbox"/>	NAME AND UNITS BELOW																
			INF <input type="checkbox"/>	Total Suspended Solids	Oil and Grease	Hydrazine														
		DAILY RATE	MG/L	MG/L	MG/L															
1																				
2																				
3																				
4	2400		005724																	
5																				
6																				
7																				
8																				
9																				
10																				
11	2400		0																	
12																				
13																				
14																				
15	2400		002620																	
16																				
17																				
18																				
19																				
20																				
21																				
22																				
23																				
24																				
25																				
26	2400		010806																	
27																				
28																				
29																				
30																				
31																				
Average			004803																	
Max			010806																	
Min			0																	
Comp. (C) Grab (G)																				
Monthly Limit																				

EFFLUENT

NPDES PERMIT NO: NC0024392 DISCHARGE NO: 005 MONTH: April YEAR: 1991
 FACILITY NAME: Duke Power Company - McGuire Nuclear Station CLASS: 11 COUNTY: Mecklenburg
 OPERATOR IN RESPONSIBLE CHARGE (ORC): Mark E. Bridges GRADE: III
 CERTIFIED LABORATORY: Station Exempt/Central Lab ID 248

CHECK BLOCK IF ORC HAS CHANGED ☐

Mail original and one copy to:
 ATT: Central Files
 Division of Environmental Management
 N.C. Department of NRCD
 P.O. Box 27687
 Raleigh, North Carolina 27611

PERSON(S) COLLECTING SAMPLES: Cynthia Barnhill

I CERTIFY THAT THIS REPORT

IS ACCURATE AND COMPLETE TO

THE BEST OF MY KNOWLEDGE

X Mark E. Bridges
 Signature of operator in responsible charge

DATE	TIME 2400 CLOCK	COMPOSITE TIME	50950	00400	00310	00610	00530	31610	00556	00410	00665	00325	00630	01042	01045	00618
			FLOW	ENTER PARAMETER CODE ABOVE			Total Suspended Solids	Fecal Coliform Geometric mean	Oil and Grease	Alkalinity	Total Phosphorus	Total Kjeldahl Nitrogen	Nitrate + Nitrite Nitrogen	Total Copper	Total Iron	Chronic toxicity
			EFF <input type="checkbox"/>	NAME AND UNITS BELOW												
			INF <input type="checkbox"/>	pH	BOD ₅ 20°C	Ammonia Nitrogen										
		HRS	MGD	Unit	MG/L	MG/L	MG/L	/100ML	MG/L	MG/L	MG/L	MG/L	MG/L	UG/L	UG/L	P-F
1	0930		1.35													
2	0810		2.67	9.3		<0.05			0.12	14.44	0.04	0.86	<0.25	<0.1	0.3	
3	0830		1.29													
	0810		1.29													
5	0855		1.14													
6	0920		1.62													
7	0850		1.01													
8	0830		3.353													
9	0935		3.433													
10	0925		2.235													
11	1000		1.063													
12	1030		1.163													
13	1210		1.140													
14	1030		1.140													
15	0845		1.616													
16	0845		1.616		2.6		5.8	36	<0.1							
17	0840		1.063													
18	0820		1.045													
19	0905		1.080													
20	0830		1.616													
21	1100		5.07													
22	0835		1.914													
23	0910		1.395													
24	0830		1.063													
25	0810		1.440													
26	0855		1.780													
27	1015		1.413													
28	1140		0.101													
29	0935		0.235													
30	0830		6.220													
31																
Average			1.62		2.6	<0.05	5.8	36	0.11	14.44	0.04	0.86	<0.25	<0.1	0.3	P
Max			5.07	9.3	2.6	<0.05	5.8	36	0.12	14.44	0.04	0.86	<0.25	<0.1	0.3	P
Min			0.101	9.3	2.6	<0.05	5.8	36	<0.10	14.44	0.04	0.86	<0.25	<0.1	0.3	P
Comp. C/ Grab G				G	G	G	G	G	G	G	G	G	G	G	G	G
Monthly Limit																

MC0491K5

Effluent Toxicity Report Form- Chronic Pass/Fail and Acute LC50

Date 4/30/91

Facility McGuire Nuclear Station (WWCB)

NPDES#NC0024392

Pipe #005 County Mecklenburg

Laboratory Performing Test Duke Power Co., Bypass

Comments Non-parametric data analysis, Crit. Val. = 110, Tabular Val. =

204.5. *See attached for sample

handling information

Signature of Operator in Responsible Charge

MAIL ORIGINAL TO:

Environmental Sciences Branch
Div. of Environmental Management
N.C. Dept. of EHNH
P. O. Box 27687
Raleigh, North Carolina 27611

North Carolina Ceriodaphnia Chronic Pass/Fail Reproduction Bypass

CONTROL ORGANISMS

1 2 3 4 5 6 7 8 9 10 11 12

# Young Produced	28	30	28	28	29	29	28	27	29	27	26	20
Adult (L)ive (D)ead	L	L	L	L	L	L	L	L	L	L	L	L

Effluent%

12

TREATMENT 2 ORGANISMS

1 2 3 4 5 6 7 8 9 10 11 12

# Young Produced	30	32	29	22	31	30	34	32	34	29	30	32
Adult (L)ive (D)ead	L	L	L	L	L	L	L	L	L	L	L	L

Chronic Test Results

Calculated t N.A.

%Mortality Avg. Reprod.

0 27.4
Control Control0 30.4
Treatment 2 Treatment 2

% control organisms producing 3rd brood

PASS FAIL

xxx

92 Check One

	1st sample	1st sample	2nd sample
pH	Control 7.8 8.0	7.9 8.0	7.9 8.0
	Treatment 2 7.8 8.0	7.9 8.0	7.9 8.0
	start end	start end	start end
	1st sample	1st sample	2nd sample
D.O.	Control 9.1 7.7	8.7 8.0	9.4 7.7
	Treatment 2 8.7 7.8	8.8 8.0	9.8 7.8

LC50/Acute Toxicity Test

(Mortality expressed as %, combining replicates)

%	%	%	%	%	%	%	%	%	%
%	%	%	%	%	%	%	%	%	%

Concentration

Mortality

LC50 = %

95% Confidence Limits

% - %

Method of Determination

Moving Average ☐ Probit ☐Spearman Karber ☐ Other

Organism Tested

Complete This For Either Test

Test Start Date

04/22/91

Collection (Start) Date

Sample 1 04/22/91 Sample 2 04/26/91

Sample Type/Duration

	Grab	Comp	Duration
Sample 1	XX		
Sample 2	XX		

1st Tox Sample

2nd Tox Sample

(Pass/Fail Only)

Hardness (mg/l)	30	63	62
Spec. Cond. (µmhos)	121	63	62
Chlorine (mg/l)	N.M.	N.M.	N.M.
Sample temp. at receipt	17.1	17.1	17.1

Note: Please
Complete This
Section Also

start/end	start/end
Control	Control
High Conc	High Conc
pH	D.O.

DUKE POWER PRODUCTION ENVIRONMENTAL SERVICES
BIOASSAY SUBUNIT SAMPLE COLLECTION AND CUSTODY RECORD

SAMPLE COLLECTION DATA

Station MEGURE NS Location WWCB NPDES No. NC0024392 Outfall 005

County Mecklenburg State NC

Sample Type: ☒ Grab ☐ 24-h Composite (24 X 1/h) ☐ Other _____

Composite Sampler Used? ☒ No ☐ Yes Make _____ Model _____

Sampler Chilled? ☐ No ☐ Yes Composite Sampler ID No. _____

Volume Per Composite Cycle _____ mL ☐ Measured ☐ Estimated

Compositor Set By _____ Date ____/____/____ Time ____:____:____

Time of Initial Sample: Date ____/____/____ Time ____:____:____

Total Sample Volume _____ mL 1 L ☐ Measured ☒ Estimated No Sample Containers 1

Container Material: ☒ LPE ☐ PPE ☐ Teflon ☐ Glass ☐ SS ☐ Other: _____

Sample Collector D J Coughlan Date 4/22/91 Time 0959
(Print)

Sample Preservation? ☒ No ☐ Yes ☐ Iced ☐ Other: _____

SAMPLE CHARACTERISTICS - To Be Completed by Collector for Each Effluent Sample

Sample Characteristics: Color: ☐ No ☒ Yes slight brown Turbidity: ☒ No ☐ Yes _____

Odor: ☒ No ☐ Yes _____ Solids: ☒ No ☐ Yes _____

Other (Including Site Characteristics): _____

SAMPLE CUSTODY DATA

Custody Maintained During Sample Transport By D J Coughlan
(Signature of Collector)

Custody Relinquished By _____ Date ____/____/____ Time ____:____:____
(Signature of Collector)

Received By _____ Date ____/____/____ Time ____:____:____
(Signature)

Custody Relinquished By _____ Date ____/____/____ Time ____:____:____
(Signature)

Received By _____ Date ____/____/____ Time ____:____:____
(Signature)

Samples Leaving Duke Power Company Custody:

Sealed / Locked By _____ Date ____/____/____ Time ____:____:____
(Signature)

Seal / Lock Opened By _____ Date ____/____/____ Time ____:____:____
(Signature)

BIOASSAY SAMPLE LOG NUMBER: _____

MND49105

(Transfer to Sample Label(s) and Test Data Sheets)

BIOASSAY SAMPLE LOG

[illegible]

CERIODAPHNIA DIELIA CHRONIC TOXICITY TEST INFORMATION AND ACTIVITY LOG

MC0491K5

TEST MCGUIRE NS-CHRONIC 14 April 1941

	SAMPLE LOG NUMBER	DILUENT	TREATMENT PREPARATION	TREATMENT DELIVERY	FLEETING Diet 1 Lot/Init.	FLEETING Diet 2 Lot/Init.	TEMPERATURE Measured By	TEMPERATURE Recorded By	TRANSFER TIME	% OFFERS BY	COUNTS BY	SURVIVAL & COUNTS RECORDED BY	COUNTS VERIFIED AT 100%
INITIATION	MINC049105	WAL 88	OSC / BGN	OSC / BGN	YTC-103 OSC	SC-48 BGN	OSC	BGN	1245	OSC / BGN	OSC	—	—
DAY 1	—	—	—	—	YTC-103 BGN	SC-48 BGN	BGN	BGN	1308	—	—	—	—
DAY 2	MINC049105	WAL 88	OSC / BGN	OSC / BGN	YTC-103 OSC	SC-48 BGN	BGN	OSC	1353	OSC	OSC	OSC	—
DAY 3	—	—	—	—	YTC-103 BGN	SC-48 BGN	BGN	BGN	1304	—	—	—	—
DAY 4	—	—	—	—	YTC-103 BGN	SC-48 BGN	BGN	BGN	1248	—	—	—	—
DAY 5	MINC049106	WAL 88	KAF	KAF	YTC-103 KAF	SC-48 KAF	BGN	BGN	1225	BGN	BGN	BGN	—
DAY 6	—	—	—	—	YTC-103 BGN	SC-48 BGN	BGN	BGN	1202	—	—	—	—
DAY 7	—	—	—	—	—	—	BGN	BGN	1237	BGN	BGN	BGN	—
DAY 8	—	—	—	—	—	—	—	—	—	—	—	—	—

Please initial as appropriate

*Rechecked checked 1 for post initiation for random mortalities BGN
Replace random mortalities and make initial in the comment section of the appropriate treatment.

EFFLUENT

NPDES PERMIT NO: NC0024392 DISCHARGE NO: 006 MONTH: April YEAR: 1991
FACILITY NAME: Duke Power Company - McGuire Nuclear Station CLASS: II COUNTY: Mecklenburg
OPERATOR IN RESPONSIBLE CHARGE (ORC): Mark E. Bridges GRADE: III
CERTIFIED LABORATORY: Station Exempt/Central Lab ID 248

CHECK BLOCK IF ORC HAS CHANGED

Mail original and one copy to:
ATT: Central Files
Division of Environmental Management
N.C. Department of NRCD
P.O. Box 27687
Raleigh, North Carolina 27611

PERSON(S) COLLECTING SAMPLES: _____

I CERTIFY THAT THIS REPORT
IS ACCURATE AND COMPLETE TO
THE BEST OF MY KNOWLEDGE

X Mark Budge
Signature of operator in responsible charge

DATE	TIME 2400 CLOCK	COMPOSITE TIME	50050 00400 01042 01045 ENTER PARAMETER CODE ABOVE NAME AND UNITS BELOW			
			FLOW EFF <input checked="" type="checkbox"/>	INF <input type="checkbox"/>	DAILY RATE	
		HRS	WCD	pH Unit	Total Copper UG/L	Total Iron UG/L
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
Average						
Max						
Min						
Comp C/Grab G						
Monthly Limit						