WOLF CREEK
NUCLEAR OPERATING CORPORATION

Bart D. Withers
President and
Chief Executive Officer

June 1, 1988

WM 88-0124

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

Reference: (1) Letter WM 88-0106, dated May 3, 1988
(2) Letter WM 88-0144, dated May 27, 1988
Subject: Docket No. 50-482: Transmittal of NPDES Permit Addendum

Gentlemen:

The purpose of this letter is to transmit the enclosed copy of our May 3 and May 27, 1988 requests for revisions to the station NPDES permit (Ref. Letters WM 88-0106 and WM 88-0144). This submittal is made pursuant to Wolf Creek Generating Station Facility Operating License NPF-42, Appendix B, Section 3.2.

Very truly yours,

B D Withers

Bart D. Withers
President and
Chief Executive Officer

BDW/rrw

Attachment

cc: B. L. Bartlett (NRC), w/a
D. D. Chamberlain (NRC), w/a
R. D. Martin (NRC), w/a
P. W. O'Connor (NRC), w/a (2)

COO1
1/1

P.O. Box 411 / Burlington, KS 66839 / Phone: (316) 364-8831

WOLF CREEK
NUCLEAR OPERATING CORPORATION

Bart D. Withers
President and
Chief Executive Officer

May 27, 1988

WM 88-0144

Mr. Steve Broslavick, P.E.
Bureau of Water Protection
Department of Health and Environment
Forbes Field
Topeka, KS 66620

Subject: NPDES Permit (KS-0079057/I-NE07-P002) Addendum

Dear Mr. Broslavick:

The purpose of this letter is to request the addition of a new outfall to the Wolf Creek Generating Station (WCGS) NPDES permit. The attached information describes the new outfall and provides the required supporting information. The new outfall results in the discharge of water to the cooling lake via the Essential Service Water (ESW) piping system. This routing varies from past operations in that previously, all service water was discharged to the cooling lake via Outfall 003. Under this change, portions of service water flow will be routed through ESW discharge piping and into the cooling lake at the Ultimate Heat Sink.

The requested change is part of an effort to reduce microbiologically induced corrosion (MIC) in ESW discharge piping. Past evaluations have shown higher than desirable corrosion rates in WCGS piping and have cited insufficient chlorine levels as the cause (G. Wedd letter KELKAN-053 and report to S. Broslavick, November 29, 1984). To comply with the guidelines in the referenced report, WCGS proposes continuously chlorinating this system at 0.35 to 0.65 mg/l Total Residual Chlorine (TRC) with a 1.0 mg/l maximum. You will note that on Form 2C the chlorine values in this discharge during the January-March collection period averaged only 0.19 mg/l, much less than the proposed operating range. This is due to the greatly reduced flow rates used for ESW component cooling during cold weather periods. During spring, summer, and fall operation flows and chlorine concentrations will be higher to increase MIC control and the latter will generally fall within the 0.35 - 0.65 mg/l window which has been recommended. Based on conversations which you've had with Greg Wedd and Brad Loveless, we anticipate that the suggested chlorine limits will be acceptable.

The material enclosed is directed toward revision of the WCGS NPDES permit to incorporate a new outfall. We understand that this change will occur concurrently with the addition of the Wastewater Treatment Facility outfall which was submitted May 3, 1988. If questions arise in regard to this submittal, please contact Greg Wedd at (316) 364-8831, Extension 5100.

Very truly yours,

B D Withers

Bart D. Withers
President and
Chief Executive Officer

BDW/rrw

Attachment

Please print or type in the unshaded areas only.

EPA I.D. NUMBER (copy from Item 1 of Form 1): KS C079057

Form Approved OMB No. 158-R0173

FORM 2C NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER

EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURAL OPERATIONS

Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (list)	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER (name)
	1. DEG.	2. MIN.	3. SEC.	1. DEG.	2. MIN.	3. SEC.	
006	38	13	27	95	40	45	Wolf Creek Cooling Impoundment

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined *(e.g., for certain mining activities)*, provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO. (list)	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT	
	a. OPERATION (list)	b. AVERAGE FLOW (include units)	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1
006	Essential Service Water System (during routine plant operations receives water from the Service Water System)	32 mgd	Screening/Discharge	1T, 2F, 4A

OFFICIAL USE ONLY *(effluent guidelines sub-categories)*

C. Except for storm runoff, leaks, or spills, are all the discharges described in Items II-A or B intermitt[ent] or seasonal?

☐ YES *(complete the following table)* ☒ NO *(go to Section III)*

1. OUTFALL NUMBER *(list)*	2. OPERATION(s) CONTRIBUTING FLOW *(list)*	3. FREQUENCY		4. FLOW				
		a. DAYS PER WEEK *(specify average)*	b. MONTHS PER YEAR *(specify average)*	a. FLOW RATE *(in mgd)*		b. TOTAL VOLUME *(specify with units)*		c. DURATION *(in days)*
				1. LONG TERM AVERAGE	2. MAXIMUM DAILY	1. LONG TERM AVERAGE	2. MAXIMUM DAILY	

III. MAXIMUM PRODUCTION

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?

☒ YES *(complete Item III-B)* ☐ NO *(to to Section IV)*

B. Are the limitations in the applicable effluent guideline expressed in terms of production *(or other measure of operation)*?

☐ YES *(complete Item III-C)* ☒ NO *(go to Section IV)*

C. If you answered "Yes" to Item III-B, list the quantity which represents an actual measurement of your maximum level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

1. MAXIMUM QUANTITY			2. AFFECTED OUTFALLS *(list outfall numbers)*
a. QUANTITY PER DAY	b. UNITS OF MEASURE	c. OPERATION, PRODUCT, MATERIAL, ETC. *(specify)*	

IV. IMPROVEMENTS

A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

☐ YES *(complete the following table)* ☒ NO *(go to Item IV-B)*

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS		3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE	
	a. NO.	b. SOURCE OF DISCHARGE		a. REQUIRED	b. PROJECTED

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs *(or other environmental projects which may affect your discharges)* you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction. ☐ MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED

CONTINUED FROM PAGE 2

EP . NUMBER (copy from Item 1 of Form 1)
KS 0079057

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V. INTAKE AND EFFLUENT CHARACTERISTICS

A, B, & C: See instructions before proceeding – Complete one set of tables for each outfall – Annotate the outfall number in the space provided. NOTE: Tables V-A, V-B, and V-C are included on separate sheets numbered V-1 through V-9.

D. Use the space below to list any of the pollutants listed in Table 2c-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
None			

VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

A. Is any pollutant listed in Item V-C a substance or a component of a substance which you do or expect that you will over the next 5 years use or manufacture as an intermediate or final product or byproduct?

☐ YES *(list all such pollutants below)* ☒ NO *(go to Item VI-B)*

B. Are your operations such that your raw materials, processes, or products can reasonably be expected to vary so that your discharges of pollutants may during the next 5 years exceed two times the maximum values reported in Item V?

☐ YES *(complete Item VI-C below)* ☒ NO *(go to Section VII)*

C. If you answered "Yes" to Item VI-B, explain below and describe in detail the sources and expected levels of such pollutants which you anticipate will be discharged from each outfall over the next 5 years, to the best of your ability at this time. Continue on additional sheets if you need more space.

VII. BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☐ YES *(identify the test(s) and describe their purposes below)* ☒ NO *(go to Section VIII)*

VIII. CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

☐ YES *(list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)* ☒ NO *(go to Section IX)*

A. NAME	B. ADDRESS	C. TELEPHONE (area code & no.)	D. POLLUTANTS ANALYZED (list)

IX. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. PHONE NO. (area code & no.)
Bart D. Withers/President and Chief Executive Officer	316/364-8831 Ext. 4000
C. SIGNATURE	D. DATE SIGNED

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets *(use the same format)* instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER *(copy from Item 1 of Form 1)*: KS 0079057

Essential Service Water System

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V. INTAKE AND EFFLUENT CHARACTERISTICS *(continued from page 3 of Form 2-C)*

OUTFALL NO. 006

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	2. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	2. EFFLUENT b. MAXIMUM 30 DAY VALUE *(if available)* (1) CONCENTRATION	2. EFFLUENT b. MAXIMUM 30 DAY VALUE *(if available)* (2) MASS	2. EFFLUENT c. LONG TERM AVRG. VALUE *(if available)* (1) CONCENTRATION	2. EFFLUENT c. LONG TERM AVRG. VALUE *(if available)* (2) MASS	2. EFFLUENT d. NO. OF ANALYSES	3. UNITS *(specify if blank)* a. CONCENTRATION	3. UNITS *(specify if blank)* b. MASS	4. INTAKE *(optional)* a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE *(optional)* a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE *(optional)* b. NO. OF ANALYSES
a. Biochemical Oxygen Demand *(BOD)*												
b. Chemical Oxygen Demand *(COD)*												
c. Total Organic Carbon *(TOC)*												
d. Total Suspended Solids *(TSS)*												
e. Ammonia *(as N)*												
f. Flow	VALUE		VALUE		VALUE 32 mgd					VALUE		
g. Temperature *(winter)*	VALUE		VALUE		VALUE 21.4°C		12	°C		VALUE		
h. Temperature *(summer)*	VALUE		VALUE		VALUE			°C		VALUE		
i. pH	MINIMUM 7.9	MAXIMUM 8.3	MINIMUM	MAXIMUM			65	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2-a for any pollutant, you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. *(if available)*	2. MARK 'X' a. BELIEVED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	3. EFFLUENT b. MAXIMUM 30 DAY VALUE *(if available)* (1) CONCENTRATION	3. EFFLUENT b. MAXIMUM 30 DAY VALUE *(if available)* (2) MASS	3. EFFLUENT c. LONG TERM AVRG. VALUE *(if available)* (1) CONCENTRATION	3. EFFLUENT c. LONG TERM AVRG. VALUE *(if available)* (2) MASS	3. EFFLUENT d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE *(optional)* a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE *(optional)* a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE *(optional)* b. NO. OF ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual	X		0.42mg/l	TRC			0.19 mg/l	TRC	65					
c. Color		X												
d. Fecal Coliform		X												
e. Fluoride (16984-48-8)		X												
f. Nitrate–Nitrite *(as N)*		X												

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X" a. BELIEVED PRESENT	2. MARK "X" b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS	3. EFFLUENT d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)		X												
h. Oil and Grease		X												
i. Phosphorus (as P), Total (7723-14-0)		X												
j. Radioactivity														
(1) Alpha, Total			Regulated by the NRC											
(2) Beta, Total														
(3) Radium, Total														
(4) Radium 226, Total														
k. Sulfate (as SO_4) (14808-79-8)		X												
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants		X												
o. Aluminum, Total (7429-90-5)		X												
p. Barium, Total (7440-39-3)		X												
q. Boron, Total (7440-42-8)		X												
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)		X												
t. Magnesium, Total (7439-95-4)		X												
u. Molybdenum, Total (7439-98-7)		X												
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
KS 0079057	006

Essential Service Water System

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CONTINUED FROM PAGE 3 OF FORM 2-C

PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a *(secondary industries, non-process wastewater outfalls, and non-required GC/MS fractions)*, mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe to be absent. If you mark either columns 2-a or 2-b for any pollutant, you must provide the results of at least one analysis for that pollutant. Note that there are seven pages to this part; please review each carefully. Complete one table *(all seven pages)* for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT						d. NO. OF ANALYSES	4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)			a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)			X												
2M. Arsenic, Total (7440-38-2)			X												
3M. Beryllium, Total, 7440-41-7)			X												
4M. Cadmium, Total (7440-43-9)			X												
5M. Chromium, Total (7440-47-3)			X												
6M. Copper, Total (7550-50-8)			X												
7M. Lead, Total (7439-97-6)			X												
8M. Mercury, Total (7439-97-6)			X												
9M. Nickel, Total (7440-02-0)			X												
10M. Selenium, Total (7782-49-2)			X												
11M. Silver, Total (7440-22-4)			X												
12M. Thallium, Total (7440-28-0)			X												
13M. Zinc, Total (7440-66-6)			X												
14M. Cyanide, Total (57-12-5)			X												
15M. Phenols, Total			X												
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION — VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)			X												
2V. Acrylonitrile (107-13-1)			X												
3V. Benzene (71-43-2)			X												
4V. Bis (Chloromethyl) Ether (542-88-1)			X												
5V. Bromoform (75-25-2)			X												
6V. Carbon Tetrachloride (56-23-5)			X												
7V. Chlorobenzene (108-90-7)			X												
8V. Chlorodibromomethane (124-48-1)			X												
9V. Chloroethane (75-00-3)			X												
10V. 2-Chloroethylvinyl Ether (110-75-8)			X												
11V. Chloroform (67-66-3)			X												
12V. Dichlorobromomethane (75-27-4)			X												
13V. Dichlorodifluoromethane (75-71-8)			X												
14V. 1,1-Dichloroethane (75 34-3)			X												
15V. 1,2-Dichloroethane (107-06-2)			X												
16V. 1,1-Dichloroethylene (75-35-4)			X												
17V. 1,2-Dichloropropane (78-87-5)			X												
18V. 1,2-Dichloropropylene (542-75-6)			X												
19V. Ethylbenzene (100-41-4)			X												
20V. Methyl Bromide (74-83-9)			X												
21V. Methyl Chloride (74-87-3)			X												

CONTINUED FROM PAGE V-4

EPA I.D. NUMBER (copy from Item 1 of Form 1): KS 0079057

OUTFALL NUMBER: 006

Essential Service Water System

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)			X												
23V. 1,1,2,2-Tetrachloroethane (79-34-5)			X												
24V. Tetrachloroethylene (127-18-4)			X												
25V. Toluene (108-88-3)			X												
26V. 1,2-Trans-Dichloroethylene (156-60-5)			X												
27V. 1,1,1-Trichloroethane (71-55-6)			X												
28V. 1,1,2-Trichloroethane (79-00-5)			X												
29V. Trichloroethylene (79-01-6)			X												
30V. Trichlorofluoromethane (75-69-4)			X												
31V. Vinyl Chloride (75-01-4)			X												
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)			X												
2A. 2,4-Dichlorophenol (120-83-2)			X												
3A. 2,4-Dimethylphenol (105-67-9)			X												
4A. 4,6-Dinitro-O-Cresol (534-52-1)			X												
5A. 2,4-Dinitrophenol (51-28-5)			X												
6A. 2-Nitrophenol (88-75-5)			X												
7A. 4-Nitrophenol (100-02-7)			X												
8A. P-Chloro-M-Cresol (59-50-7)			X												
9A. Pentachlorophenol (87-86-5)			X												
10A. Phenol (108-95-2)			X												
11A. 2,4,6-Trichlorophenol			X												

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TEST(ING) REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
18. Acenaphthene (83-32-9)			X												
28. Acenaphtylene (208-96-8)			X												
38. Anthracene (120-12-7)			X												
48. Benzidine (92-87-5)			X												
58. Benzo (a) Anthracene (56-55-3)			X												
68. Benzo (a) Pyrene (50-32-8)			X												
78. 3,4-Benzo-fluoranthene (205-99-2)			X												
88. Benzo (ghi) Perylene (191-24-2)			X												
98. Benzo (k) Fluoranthene (207-08-9)			X												
108. Bis (2-Chloro-ethoxy) Methane (111-91-1)			X												
118. Bis (2-Chloro-ethyl) Ether (111-44-4)			X												
128. Bis (2-Chloro-isopropyl) Ether (39638-32-9)			X												
138. Bis (2-Ethyl-hexyl) Phthalate (117-81-7)			X												
148. 4-Bromo-phenyl Phenyl Ether (101-55-3)			X												
158. Butyl Benzyl Phthalate (85-68-7)			X												
168. 2-Chloro-naphthalene (91-58-7)			X												
178. 4-Chloro-phenyl Phenyl Ether (7005-72-3)			X												
188. Chrysene (218-01-9)			X												
198. Dibenzo (a,h) Anthracene (53-70-3)			X												
208. 1,2-Dichloro-benzene (95-50-1)			X												
218. 1,3-Dichloro-benzene (541-73-1)			X												

CONTINUE ON PAGE V-7

EPA I.D. NUMBER (copy from Item 1 of Form 1): KS 0079057

OUTFALL NUMBER: 006

Essential Service Water System

Form Approved OMB No. 158-R0173

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
22B. 1,4-Dichlorobenzene (106-46-7)			X												
23B. 3,3'-Dichlorobenzidine (91-94-1)			X												
24B. Diethyl Phthalate (84-66-2)			X												
25B. Dimethyl Phthalate (131-11-3)			X												
26B. Di-N-Butyl Phthalate (84-74-2)			X												
27B. 2,4-Dinitrotoluene (121-14-2)			X												
28B. 2,6-Dinitrotoluene (606-20-2)			X												
29B. Di-N-Octyl Phthalate (117-84-0)			X												
30B. 1,2-Diphenylhydrazine *(as Azobenzene)* (122-66-7)			X												
31B. Fluoranthene (206-44-0)			X												
32B. Fluorene (86-73-7)			X												
33B. Hexachlorobenzene (118-71-1)			X												
34B. Hexachlorobutadiene (87-68-3)			X												
35B. Hexachlorocyclopentadiene (77-47-4)			X												
36B. Hexachloroethane (67-72-1)			X												
37B. Indeno *(1,2,3-cd)* Pyrene (193-39-5)			X												
38B. Isophorone (78-59-1)			X												
39B. Naphthalene (91-20-3)			X												
40B. Nitrobenzene (98-95-3)			X												
41B. N-Nitrosodimethylamine (62-75-9)			X												
42B. N-Nitrosodi-N-Propylamine			X												

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
43B. N-Nitrosodiphenylamine (86-30-6)			X												
44B. Phenanthrene (85-01-8)			X												
45B. Pyrene (129-00-0)			X												
46B. 1,2,4-Trichlorobenzene (120-82-1)			X												
GC/MS FRACTION – PESTICIDES															
1P. Alorin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4'-DDD (72-54-8)			X												
10P. Dieldrin (60-57-1)			X												
11P. α-Endosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72-20-8)			X												
15P. Endrin Aldehyde (7421-93-4)			X												
16P. Heptachlor (76-44-8)			X												

CONTINUE ON PAGE V-9

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – PESTICIDES (continued)															
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-59-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												

WOLF CREEK
NUCLEAR OPERATING CORPORATION

Bart D. Withers
President and
Chief Executive Officer

May 3, 1988

WM 88-0106

Mr. Steve Broslavick, P.E.
Chief, Industrial Unit
Industrial Program Section
Bureau of Water Protection
Department of Health and Environment
Forbes Field
Topeka, Kansas 66620

Subject: NPDES Permit (KS-0079057/I-NE07-P002) Addendum

Dear Mr. Carlson:

Attached is the NPDES Permit Addendum for Wolf Creek Generating Station (WCGS). This addendum addresses the first of two permit modifications planned in the near future. It describes the new outfall, 003b, created with installation and operation of the Wastewater Treatment Facility (WTF). Interim approval for this discharge was received via your November 20, 1987 letter. Influent to the WTF is a mixture composed of wastestreams previously going to Outfalls 002, 003 and 005. While all of Outfall 005 flow and nearly all of 002 effluents are now directed to the WTF, only a small portion of 003 flows have been rechanneled. Because of this diversified nature, Priority Pollutant Scans for these three permitted outfalls were referred to but not used solely for the Outfall 003b description. These scans are included for your reference.

Over the course of the plant changes which have led up to this submittal, three points have been discussed with your department which should be reiterated now. The first two involve continued usage of Outfalls 002 and 005. Wolf Creek Nuclear Operating Corporation (WCNOC) desires to retain the option of utilizing these outfalls for off-normal discharges. During abnormal plant operations when either the WTF or other plant systems aren't functioning properly, short-term discharges of pH-adjusted effluents will be made via Outfalls 002 and 005. Lastly, you will note that concentrations of suspended solids in the WTF effluent are high. This is predominantly due to very high concentrations in the raw water from John Redmond Reservoir which are precipitated out during water treatment. Given our raw water source, removal and discharge of these solids are unavoidable and WCNOC requests your consideration of this circumstance in reviewing this Addendum.

P.O. Box 411 / Burlington, KS 66839 / Phone: (316) 364-8831

The enclosed material is provided pursuant to revision of the WCGS NPDES permit to incorporate a new outfall. It is our understanding that this change will occur concurrently with the permit modification covering Service Water (SW) discharges to the Ultimate Heat Sink. Current plans call for transmittal of the SW package in the near future. As always, we are available for an informational meeting if desired. If questions arise in regard to this submittal, please contact Greg Wedd at (316) 364-8831, Ext. 5100.

Very truly yours,

B D Withers

Bart D. Withers
President and
Chief Executive Officer

BDW/rrw

Attachments:
1) Langston Laboratory Report, Outfall 002
2) Langston Laboratory Report, Outfall 003
3) Langston Laboratory Report, Outfall 005
4) Water Use Flow Diagram
5) Application for Permit to Discharge Wastewater

LANGSTON LABORATORIES, INC.
Research • Testing • Problem Solving
2005 W 103rd Terrace (B) • Leawood, KS 66206-2695 • Ph. 913-341-7800

LABORATORY REPORT

CLIENT: Kansas Gas and Electric Company
Wolf Creek Generating Station
P. O. Box 309
Burlington, KS 66839
ATTN: Greg Wedd

RECEIVED: August 8, 1986
COMPLETED: August 29, 1986

LLI NO.: 86-9995
P. O. NO.: 500010 17238

SAMPLE DESCRIPTION: 24-Hr Composite Water Sample Collected from Outfall 002 at the Wolf Creek Generating Station on August 7-8, 1986 by Chris Jett of Langston Laboratories, Inc.

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
Oil/Water Separator	Biochemical Oxygen Demand (5 day)	14 mg/liter
	Chemical Oxygen Demand	65 mg/liter
	Total Organic Carbon	4.4 mg/liter
	Total Suspended Solids	6 mg/liter
	Ammonia as N	33 mg/liter
(Grab 8/7/86)	Temperature	83°F
(Grab 8/7/86)	pH	6.9
(Grab 8/7/86)	Chlorine	0.05 mg/liter
	Bromide	< 0.10 mg/liter
	Color	5 units
	Fluoride	0.20 mg/liter
	Nitrate/Nitrite as N	9.5 mg/liter
	Total Organic Nitrogen	< 0.01 mg/liter
(Grab 8/7/86)	Oil and Grease	.8 mg/liter
	Phosphorus	0.01 mg/liter
	Sulfate	529 mg/liter
	Sulfide	< 0.2 mg/liter
	Sulfite	< 0.2 mg/liter
	Surfactant	< 0.01 mg/liter

APPROVED: Alan Kerschen

Alan Kerschen
Vice President

SAMPLE DESCRIPTION: 24-Hr Composite Water Sample Collected from Outfall 002 at the Wolf Creek Generating Station on August 7-8, 1986 by Chris Jett of Langston Laboratories, Inc.

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
Oil/Water Separator	Aluminum	108 ug/liter
	Barium	7.8 ug/liter
	Boron	69 ug/liter
	Cobalt	< 10 ug/liter
	Iron	99 ug/liter
	Magnesium	10,300 ug/liter
	Molybdenum	< 10 ug/liter
	Manganese	17 ug/liter
	Tin	92 ug/liter
	Titanium	< 5 ug/liter
	Antimony	< 10 ug/liter
	Arsenic	< 5 ug/liter
	Beryllium	< 1 ug/liter
	Cadmium	< 1 ug/liter
	Chromium	< 10 ug/liter
	Copper	< 10 ug/liter
	Lead	< 10 ug/liter
	Mercury	< 1 ug/liter
	Nickel	< 10 ug/liter
	Selenium	< 1 ug/liter
	Silver	5 ug/liter
	Thallium	< 10 ug/liter
	Zinc	31 ug/liter
(Grab 8/7/86)	Cyanide	< 0.005 mg/liter
(Grab 8/7/86)	Phenols	< 0.001 mg/liter
	Polychlorinated Biphenyls	< 1 ug/liter
	Fecal Coliform	1,050/100 ml
	Gross Alpha ± counting error	< 2 pCi/liter
	Gross Beta ± counting error	4 ± 3 pCi/liter
	Gross Radium ± counting error	< 1 pCi/liter
	Total Radium 226 ± counting error	< 1 pCi/liter

SAMPLE DESCRIPTION: 24-Hr Composite Water Sample Collected from Outfall 002 at the Wolf Creek Generating Station on August 7-8, 1986 by Chris Jett of Langston Laboratories, Inc.

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
Oil/Water Separator	Volatile Organics	
	Chloromethane	< 10 ug/liter
	Vinyl Chloride	< 10 ug/liter
	Chloroethane	< 10 ug/liter
	Bromomethane	< 10 ug/liter
	Acrolein	< 10 ug/liter
	Acrylonitrile	< 10 ug/liter
	Methylene Chloride	< 10 ug/liter
	Trichlorofluoromethane	< 10 ug/liter
	1,1-Dichloroethylene	< 10 ug/liter
	1,1-Dichloroethane	< 10 ug/liter
	Trans-1,2-Dichloroethylene	< 10 ug/liter
	Chloroform	31 ug/liter
	1,2-Dichloroethane	< 10 ug/liter
	1,1,1-Trichloroethane	< 10 ug/liter
	Carbon Tetrachloride	< 10 ug/liter
	Bromodichloromethane	< 10 ug/liter
	1,2-Dichloropropane	< 10 ug/liter
	Trans-1,3-Dichloropropene	< 10 ug/liter
	Trichloroethylene	< 10 ug/liter
	Benzene	< 10 ug/liter
	Cis-1,3-Dichloropropene	< 10 ug/liter
	1,1,2-Trichloroethane	< 10 ug/liter
	Dibromochloromethane	< 10 ug/liter
	Bromoform	< 10 ug/liter
	1,1,2,2-Tetrachloroethylene	< 10 ug/liter
	1,1,2,2-Tetrachloroethane	< 10 ug/liter
	Toluene	< 10 ug/liter
	Chlorobenzene	< 10 ug/liter
	Ethylbenzene	< 10 ug/liter
	2-Chloroethyl Vinyl Ether	< 10 ug/liter
	Dichlorodifluoromethane	< 10 ug/liter
	Bis(Chloromethyl)Ether	< 10 ug/liter

SAMPLE DESCRIPTION: 24-Hr Composite Water Sample Collected from Outfall 002 at the Wolf Creek Generating Station on August 7-8, 1986 by Chris Jett of Langston Laboratories, Inc.

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
Oil/Water Separator	Acid Extractable Organics	
	Phenol	< 50 ug/liter
	2-Chlorophenol	< 50 ug/liter
	2-Nitrophenol	< 50 ug/liter
	2,4-Dimethylphenol	< 50 ug/liter
	2,4-Dichlorophenol	< 50 ug/liter
	p-Chloro-m-Cresol	< 50 ug/liter
	2,4,6-Trichlorophenol	< 50 ug/liter
	2,4-Dinitrophenol	< 50 ug/liter
	4-Nitrophenol	< 50 ug/liter
	4,6-Dinitro-o-Cresol	< 50 ug/liter
	Pentachlorophenol	< 50 ug/liter
	Base Neutral Extractable Organics	
	N-Nitrosodimethylamine	< 10 ug/liter
	Bis(2-Chloroethyl)Ether	< 10 ug/liter
	1,3-Dichlorobenzene	< 10 ug/liter
	1,4-Dichlorobenzene	< 10 ug/liter
	1,2-Dichlorobenzene	< 10 ug/liter
	Bis(2-Chloroisopropyl)Ether	< 10 ug/liter
	Hexachloroethane	< 10 ug/liter
	N-Nitrosodi-n-Propylamine	< 10 ug/liter
	Nitrobenzene	< 10 ug/liter
	Isophorone	< 10 ug/liter
	Bis(2-Chloroethoxy)Methane	< 10 ug/liter
	1,2,4-Trichlorobenzene	< 10 ug/liter
	Naphthalene	< 10 ug/liter
	Hexachlorobutadiene	< 10 ug/liter
	Hexachlorocyclopentadiene	< 10 ug/liter
	2-Chloronaphthalene	< 10 ug/liter
	Dimethylphthalate	< 10 ug/liter
	Acenaphthylene	< 10 ug/liter

SAMPLE DESCRIPTION: 24-Hr Composite Water Sample Collected from Outfall 002 at the Wolf Creek Generating Station on August 7-8, 1986 by Chris Jett of Langston Laboratories, Inc.

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
Oil/Water Separator	Base Neutral Extractable Organics (Continued)	
	2,6-Dinitrotoluene	< 10 ug/liter
	Acenaphthene	< 10 ug/liter
	2,4-Dinitrotoluene	< 10 ug/liter
	Diethylphthalate	< 10 ug/liter
	Fluorene	< 10 ug/liter
	4-Chlorophenyl Phenyl Ether	< 10 ug/liter
	Diphenylamine (N-Nitroso)	< 10 ug/liter
	1,2-Diphenylhydrazine	< 10 ug/liter
	4-Bromophenyl Phenyl Ether	< 10 ug/liter
	Hexachlorobenzene	< 10 ug/liter
	Phenanthrene	< 10 ug/liter
	Anthracene	< 10 ug/liter
	Di-n-Butylphthalate	< 10 ug/liter
	Fluoranthene	< 10 ug/liter
	Benzidine	< 10 ug/liter
	Pyrene	< 10 ug/liter
	Butylbenzylphthalate	< 10 ug/liter
	Benzo(a)Anthracene	< 10 ug/liter
	3,3'-Dichlorobenzidine	< 10 ug/liter
	Chrysene	< 10 ug/liter
	Bis(2-Ethylhexyl)Phthalate	< 10 ug/liter
	Di-n-Octylphthalate	< 10 ug/liter
	Benzo(B)Fluoranthene	< 10 ug/liter
	Benzo(K)Fluoranthene	< 10 ug/liter
	Benzo(A)Pyrene	< 10 ug/liter
	Indeno(1,2,3-C,D)Pyrene	< 10 ug/liter
	Dibenzo(A,H)Anthracene	< 10 ug/liter
	Benzo(G,H,I)Perylene	< 10 ug/liter

SAMPLE DESCRIPTION: 24-Hr Composite Water Sample Collected from Outfall 002 at the Wolf Creek Generating Station on August 7-8, 1986 by Chris Jett of Langston Laboratories, Inc.

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
Oil/Water Separator	Pesticides	
	Aldrin	< 10 ug/liter
	Alpha-BHC	< 10 ug/liter
	Beta-BHC	< 10 ug/liter
	Gamma-BHC	< 10 ug/liter
	Delta-BHC	< 10 ug/liter
	Chlordane	< 10 ug/liter
	4,4'-DDT	< 10 ug/liter
	4,4'-DDE	< 10 ug/liter
	4,4'-DDD	< 10 ug/liter
	Dieldrin	< 10 ug/liter
	Alpha-Endosulfan	< 10 ug/liter
	Beta-Endosulfan	< 10 ug/liter
	Endosulfan Sulfate	< 10 ug/liter
	Endrin	< 10 ug/liter
	Endrin Aldehyde	< 10 ug/liter
	Heptachlor	< 10 ug/liter
	Heptachlor Epoxide	< 10 ug/liter
	PCB-1242	< 10 ug/liter
	PCB-1254	< 10 ug/liter
	PCB-1221	< 10 ug/liter
	PCB-1232	< 10 ug/liter
	PCB-1248	< 10 ug/liter
	PCB-1260	< 10 ug/liter
	PCB-1016	< 10 ug/liter
	Toxaphene	< 10 ug/liter

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LABORATORY REPORT

CLIENT: Kansas Gas and Electric Company
Wolf Creek Generating Station
P. O. Box 309
Burlington, KS 66839
ATTN: Greg Wedd

RECEIVED: August 8, 1986
COMPLETED: August 29, 1986
LLI NO.: 86-9995
P. O. NO.: 500010 17238

SAMPLE DESCRIPTION: 24-Hr Composite Water Sample Collected from Outfall 003 at the Wolf Creek Generating Station on August 7-8, 1986 by Chris Jett of Langston Laboratories, Inc.

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
Circulating Water	Biochemical Oxygen Demand (5 day)	8 mg/liter
	Chemical Oxygen Demand	16 mg/liter
	Total Organic Carbon	7.2 mg/liter
	Total Suspended Solids	7 mg/liter
	Ammonia as N	0.20 mg/liter
(Grab 8/7/86)	Temperature	102°F
(Grab 8/7/86)	pH	7.9
(Grab 8/7/86)	Chlorine	0.07 mg/liter
	Bromide	0.18 mg/liter
	Color	7 units
	Fluoride	0.40 mg/liter
	Nitrate/Nitrite as N	0.43 mg/liter
	Total Organic Nitrogen	0.12 mg/liter
(Grab 8/7/86)	Oil and Grease	3.6 mg/liter
	Phosphorus	0.01 mg/liter
	Sulfate	44 mg/liter
	Sulfide	< 0.2 mg/liter
	Sulfite	< 0.2 mg/liter
	Surfactant	0.01 mg/liter

APPROVED: Alan Kerschen

Alan Kerschen
Vice President

SAMPLE DESCRIPTION: 24-Hr Composite Water Sample Collected from Outfall 003 at the Wolf Creek Generating Station on August 7-8, 1986 by Chris Jett of Langston Laboratories, Inc.

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
Circulating Water	Aluminum	163 µg/liter
	Barium	106 µg/liter
	Boron	220 µg/liter
	Cobalt	< 10 µg/liter
	Iron	182 µg/liter
	Magnesium	12,700 µg/liter
	Molybdenum	< 10 µg/liter
	Manganese	37 µg/liter
	Tin	23 µg/liter
	Titanium	< 5 µg/liter
	Antimony	< 10 µg/liter
	Arsenic	< 5 µg/liter
	Beryllium	< 1 µg/liter
	Cadmium	2.3 µg/liter
	Chromium	< 10 µg/liter
	Copper	< 10 µg/liter
	Lead	< 10 µg/liter
	Mercury	< 1 µg/liter
	Nickel	< 10 µg/liter
	Selenium	< 1 µg/liter
	Silver	5 µg/liter
	Thallium	< 10 µg/liter
	Zinc	40 µg/liter
(Grab 8/7/86)	Cyanide	< 0.005 mg/liter
(Grab 8/7/86)	Phenols	< 0.001 mg/liter
	Polychlorinated Biphenyls	< 1 µg/liter
	Fecal Coliform	210/100 ml
	Gross Alpha ± counting error	4 ± 3 pCi/liter
	Gross Beta ± counting error	7 ± 3 pCi/liter
	Gross Radium ± counting error	< 1 pCi/liter
	Total Radium 226 ± counting error	< 1 pCi/liter

SAMPLE DESCRIPTION: 24-Hr Composite Water Sample Collected from Outfall 003 at the Wolf Creek Generating Station on August 7-8, 1986 by Chris Jett of Langston Laboratories, Inc.

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
Circulating Water	Volatile Organics	
	Chloromethane	< 10 ug/liter
	Vinyl Chloride	< 10 ug/liter
	Chloroethane	< 10 ug/liter
	Bromomethane	< 10 ug/liter
	Acrolein	< 10 ug/liter
	Acrylonitrile	< 10 ug/liter
	Methylene Chloride	< 10 ug/liter
	Trichlorofluoromethane	< 10 ug/liter
	1,1-Dichloroethylene	< 10 ug/liter
	1,1-Dichloroethane	< 10 ug/liter
	Trans-1,2-Dichloroethylene	< 10 ug/liter
	Chloroform	< 10 ug/liter
	1,2-Dichloroethane	< 10 ug/liter
	1,1,1-Trichloroethane	< 10 ug/liter
	Carbon Tetrachloride	< 10 ug/liter
	Bromodichloromethane	< 10 ug/liter
	1,2-Dichloropropane	< 10 ug/liter
	Trans-1,3-Dichloropropene	< 10 ug/liter
	Trichloroethylene	< 10 ug/liter
	Benzene	< 10 ug/liter
	Cis-1,3-Dichloropropene	< 10 ug/liter
	1,1,2-Trichloroethane	< 10 ug/liter
	Dibromochloromethane	< 10 ug/liter
	Bromoform	< 10 ug/liter
	1,1,2,2-Tetrachloroethylene	< 10 ug/liter
	1,1,2,2-Tetrachloroethane	< 10 ug/liter
	Toluene	< 10 ug/liter
	Chlorobenzene	< 10 ug/liter
	Ethylbenzene	< 10 ug/liter
	2-Chloroethyl Vinyl Ether	< 10 ug/liter
	Dichlorodifluoromethane	< 10 ug/liter
	Bis(Chloromethyl)Ether	< 10 ug/liter

SAMPLE DESCRIPTION: 24-Hr Composite Water Sample Collected from Outfall 003 at the Wolf Creek Generating Station on August [illegible] 986 by Chris Jett of Langston Laboratories, Inc.

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
Circulating Water	Acid Extractable Organics	
	Phenol	< 50 ug/liter
	2-Chlorophenol	< 50 ug/liter
	2-Nitrophenol	< 50 ug/liter
	2,4-Dimethylphenol	< 50 ug/liter
	2,4-Dichlorophenol	< 50 ug/liter
	p-Chloro-m-Cresol	< 50 ug/liter
	2,4,6-Trichlorophenol	< 50 ug/liter
	2,4-Dinitrophenol	< 50 ug/liter
	4-Nitrophenol	< 50 ug/liter
	4,6-Dinitro-o-Cresol	< 50 ug/liter
	Pentachlorophenol	< 50 ug/liter
	Base Neutral Extractable Organics	
	N-Nitrosodimethylamine	< 10 ug/liter
	Bis(2-Chloroethyl)Ether	< 10 ug/liter
	1,3-Dichlorobenzene	< 10 ug/liter
	1,4-Dichlorobenzene	< 10 ug/liter
	1,2-Dichlorobenzene	< 10 ug/liter
	Bis(2-Chloroisopropyl)Ether	< 10 ug/liter
	Hexachloroethane	< 10 ug/liter
	N-Nitrosodi-n-Propylamine	< 10 ug/liter
	Nitrobenzene	< 10 ug/liter
	Isophorone	< 10 ug/liter
	Bis(2-Chloroethoxy)Methane	< 10 ug/liter
	1,2,4-Trichlorobenzene	< 10 ug/liter
	Naphthalene	< 10 ug/liter
	Hexachlorobutadiene	< 10 ug/liter
	Hexachlorocyclopentadiene	< 10 ug/liter
	2-Chloronaphthalene	< 10 ug/liter
	Dimethylphthalate	< 10 ug/liter
	Acenaphthylene	< 10 ug/liter

SAMPLE DESCRIPTION: 24-Hr Composite Water Sample Collected from Outfall 003 at the Wolf Creek Generating Station on August 7-8, 1986 by Chris Jett of Langston Laboratories, Inc.

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
Circulating Water	Base Neutral Extractable Organics (Continued)	
	2,6-Dinitrotoluene	< 10 ug/liter
	Acenaphthene	< 10 ug/liter
	2,4-Dinitrotoluene	< 10 ug/liter
	Diethylphthalate	< 10 ug/liter
	Fluorene	< 10 ug/liter
	4-Chlorophenyl Phenyl Ether	< 10 ug/liter
	Diphenylamine (N-Nitroso)	< 10 ug/liter
	1,2-Diphenylhydrazine	< 10 ug/liter
	4-Bromophenyl Phenyl Ether	< 10 ug/liter
	Hexachlorobenzene	< 10 ug/liter
	Phenanthrene	< 10 ug/liter
	Anthracene	< 10 ug/liter
	Di-n-Butylphthalate	< 10 ug/liter
	Fluoranthene	< 10 ug/liter
	Benzidine	< 10 ug/liter
	Pyrene	< 10 ug/liter
	Butylbenzylphthalate	< 10 ug/liter
	Benzo(a)Anthracene	< 10 ug/liter
	3,3'-Dichlorobenzidine	< 10 ug/liter
	Chrysene	< 10 ug/liter
	Bis(2-Ethylhexyl)Phthalate	< 10 ug/liter
	Di-n-Octylphthalate	< 10 ug/liter
	Benzo(B)Fluoranthene	< 10 ug/liter
	Benzo(K)Fluoranthene	< 10 ug/liter
	Benzo(A)Pyrene	< 10 ug/liter
	Indeno(1,2,3-C,D)Pyrene	< 10 ug/liter
	Dibenzo(A,H)Anthracene	< 10 ug/liter
	Benzo(G,H,I)Perylene	< 10 ug/liter

SAMPLE DESCRIPTION: 24-Hr Composite Water Sample Collected from Outfall 003 at the Wolf Creek Generating Station on August 7-8, 1986 by Chris Jett of Langston Laboratories, Inc.

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
Circulating Water	Pesticides	
	Aldrin	< 10 ug/liter
	Alpha-BHC	< 10 ug/liter
	Beta-BHC	< 10 ug/liter
	Gamma-BHC	< 10 ug/liter
	Delta-BHC	< 10 ug/liter
	Chlordane	< 10 ug/liter
	4,4'-DDT	< 10 ug/liter
	4,4'-DDE	< 10 ug/liter
	4,4'-DDD	< 10 ug/liter
	Dieldrin	< 10 ug/liter
	Alpha-Endosulfan	< 10 ug/liter
	Beta-Endosulfan	< 10 ug/liter
	Endosulfan Sulfate	< 10 ug/liter
	Endrin	< 10 ug/liter
	Endrin Aldehyde	< 10 ug/liter
	Heptachlor	< 10 ug/liter
	Heptachlor Epoxide	< 10 ug/liter
	PCB-1242	< 10 ug/liter
	PCB-1254	< 10 ug/liter
	PCB-1221	< 10 ug/liter
	PCB-1232	< 10 ug/liter
	PCB-1248	< 10 ug/liter
	PCB-1260	< 10 ug/liter
	PCB-1016	< 10 ug/liter
	Toxaphene	< 10 ug/liter

LANGSTON LABORATORIES, INC.
Research • Testing • Problem Solving
2005 W. 103rd Terrace B. • Leawood, KS 66206-2695 • Ph. 913-341-7800

LABORATORY REPORT

CLIENT: Kansas Gas and Electric Company
Wolf Creek Generating Station
P. O. Box 309
Burlington, KS 66839
ATTN: Greg Wedd

RECEIVED: August 8, 1986
COMPLETED: August 29, 1986
LLI NO.: 86-9995
P. O. NO.: 500010 17238

SAMPLE DESCRIPTION: 24-Hr Composite Water Sample Collected from Outfall 005 at the Wolf Creek Generating Station on August 7-8, 1986 by Chris Jett of Langston Laboratories, Inc.

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
Lime Sludge Pond	Biochemical Oxygen Demand (5 day)	7 mg/liter
	Chemical Oxygen Demand	8 mg/liter
	Total Organic Carbon	6.6 mg/liter
	Total Suspended Solids	25 mg/liter
	Ammonia as N	0.31 mg/liter
(Grab 8/7/86)	Temperature	78°F
(Grab 8/7/86)	pH	4.1
(Grab 8/7/86)	Chlorine	0.02 mg/liter
	Bromide	< 0.10 mg/liter
	Color	5 units
	Fluoride	0.79 mg/liter
	Nitrate/Nitrite as N	0.23 mg/liter
	Total Organic Nitrogen	1.20 mg/liter
(Grab 8/7/86)	Oil and Grease	2.0 mg/liter
	Phosphorus	< 0.01 mg/liter
	Sulfate	1,360 mg/liter
	Sulfide	0.32 mg/liter
	Sulfite	< 0.2 mg/liter
	Surfactant	< 0.01 mg/liter

NOTE: No current discharge.

APPROVED:

Alan Kerschen
Vice President

SAMPLE DESCRIPTION: 24-Hr Composite Water Sample Collected from Outfall 005 at the Wolf Creek Generating Station on August 7-8, 1986 by Chris Jett of Langston Laboratories, Inc.

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
Lime Sludge Pond	Aluminum	5,130 µg/liter
	Barium	22 µg/liter
	Boron	148 µg/liter
	Cobalt	12 µg/liter
	Iron	499 µg/liter
	Magnesium	57,400 µg/liter
	Molybdenum	15 µg/liter
	Manganese	3,320 µg/liter
	Tin	155 µg/liter
	Titanium	< 5 µg/liter
	Antimony	20 µg/liter
	enic	< 5 µg/liter
	Beryllium	< 1 µg/liter
	Cadmium	< 1 µg/liter
	Chromium	12 µg/liter
	Copper	< 10 µg/liter
	Lead	< 10 µg/liter
	Mercury	< 1 µg/liter
	Nickel	16 µg/liter
	Selenium	< 1 µg/liter
	Silver	6 µg/liter
	Thallium	< 10 µg/liter
	Zinc	31 µg/liter
(Grab 8/7/86)	Cyanide	< 0.005 mg/liter
(Grab 8/7/86)	Phenols	< 0.001 mg/liter
	Polychlorinated Biphenyls	< 1 µg/liter
	Fecal Coliform	4/100 ml
	Gross Alpha ± counting error	< 2 pCi/liter
	Gross Beta ± counting error	6 ± 3 pCi/liter
	Gross Radium ± counting error	< 1 pCi/liter
	Total Radium 226 ± counting error	< 1 pCi/liter

SAMPLE DESCRIPTION: 24-Hr Composite Water Sample Collected from Outfall 005 at the Wolf Creek Generating Station on August 7-8, 1986 by Chris Jett of Langston Laboratories, Inc.

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
Lime Sludge Pond	Volatile Organics	
	Chloromethane	< 10 ug/liter
	Vinyl Chloride	< 10 ug/liter
	Chloroethane	< 10 ug/liter
	Bromomethane	< 10 ug/liter
	Acrolein	< 10 ug/liter
	Acrylonitrile	< 10 ug/liter
	Methylene Chloride	< 10 ug/liter
	Trichlorofluoromethane	< 10 ug/liter
	1,1-Dichloroethylene	< 10 ug/liter
	1,1-Dichloroethane	< 10 ug/liter
	Trans-1,2-Dichloroethylene	< 10 ug/liter
	Chloroform	< 10 ug/liter
	1,2-Dichloroethane	< 10 ug/liter
	1,1,1-Trichloroethane	< 10 ug/liter
	Carbon Tetrachloride	< 10 ug/liter
	Bromodichloromethane	< 10 ug/liter
	1,2-Dichloropropane	< 10 ug/liter
	Trans-1,3-Dichloropropene	< 10 ug/liter
	Trichloroethylene	< 10 ug/liter
	Benzene	< 10 ug/liter
	Cis-1,3-Dichloropropene	< 10 ug/liter
	1,1,2-Trichloroethane	< 10 ug/liter
	Dibromochloromethane	< 10 ug/liter
	Bromoform	< 10 ug/liter
	1,1,2,2-Tetrachloroethylene	< 10 ug/liter
	1,1,2,2-Tetrachloroethane	< 10 ug/liter
	Toluene	< 10 ug/liter
	Chlorobenzene	< 10 ug/liter
	Ethylbenzene	< 10 ug/liter
	2-Chloroethyl Vinyl Ether	< 10 ug/liter
	Dichlorodifluoromethane	< 10 ug/liter
	Bis(Chloromethyl)Ether	< 10 ug/liter

SAMPLE DESCRIPTION: 24-Hr Composite Water Sample Collected from Outfall 005 at the Wolf Creek Generating Station on August 7-8, 1986 by Chris Jett of Langston Laboratories, Inc.

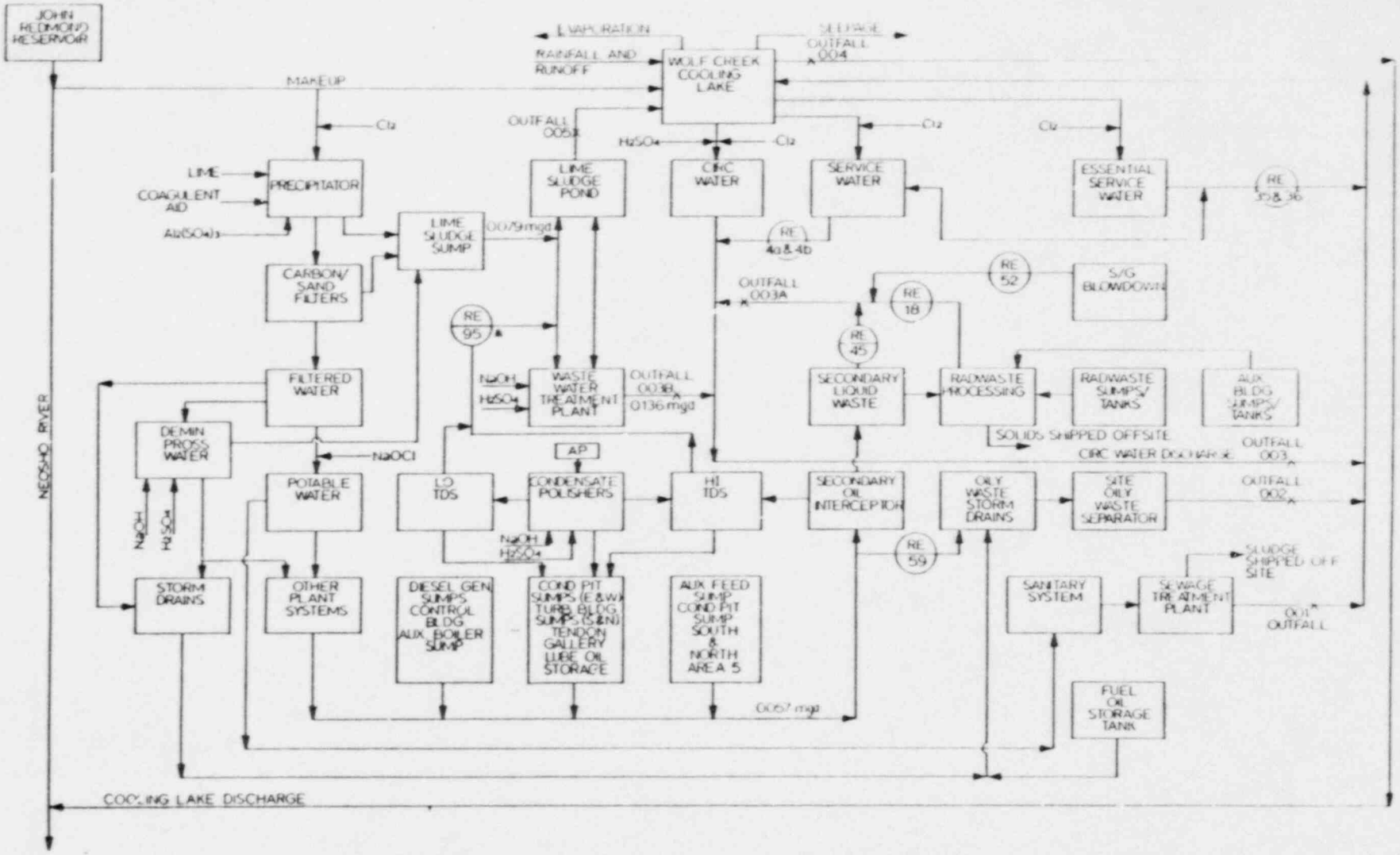
SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
Lime Sludge Pond	Acid Extractable Organics	
	Phenol	< 50 ug/liter
	2-Chloropnenol	< 50 ug/liter
	2-Nitrophenol	< 50 ug/liter
	2,4-Dimethylphenol	< 50 ug/liter
	2,4-Dichlorophenol	< 50 ug/liter
	p-Chloro-m-Cresol	< 50 ug/liter
	2,4,6-Trichlorophenol	< 50 ug/liter
	2,4-Dinitrophenol	< 50 ug/liter
	4-Nitrophenol	< 50 ug/liter
	4,6-Dinitro-o-Cresol	< 50 ug/liter
	Pentachlorophenol	< 50 ug/liter
	Base Neutral Extractable Organics	
	N-Nitrosodimethylamine	< 10 ug/liter
	Bis(2-Chloroethyl)Ether	< 10 ug/liter
	1,3-Dichlorobenzene	< 10 ug/liter
	1,4-Dichlorobenzene	< 10 ug/liter
	1,2-Dichlorobenzene	< 10 ug/liter
	Bis(2-Chloroisopropyl)Ether	< 10 ug/liter
	Hexachloroethane	< 10 ug/liter
	N-Nitrosodi-n-Propylamine	< 10 ug/liter
	Nitrobenzene	< 10 ug/liter
	Isophorone	< 10 ug/liter
	Bis(2-Chloroethoxy)Methane	< 10 ug/liter
	1,2,4-Trichlorobenzene	< 10 ug/liter
	Naphthalene	< 10 ug/liter
	Hexachlorobutadiene	< 10 ug/liter
	Hexachlorocyclopentadiene	< 10 ug/liter
	2-Chloronaphthalene	< 10 ug/liter
	Dimethylphthalate	< 10 ug/liter
	Acenaphthylene	< 10 ug/liter

SAMPLE DESCRIPTION: 24-Hr Composite Water Sample Collected from Outfall 005 at the Wolf Creek Generating Station on August 7-8, 1986 by Chris Jett of Langston Laboratories, Inc.

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
Lime Sludge Pond	Base Neutral Extractable Organics (Continued)	
	2,6-Dinitrotoluene	< 10 ug/liter
	Acenaphthene	< 10 ug/liter
	2,4-Dinitrotoluene	< 10 ug/liter
	Diethylphthalate	< 10 ug/liter
	Fluorene	< 10 ug/liter
	4-Chlorophenyl Phenyl Ether	< 10 ug/liter
	Diphenylamine (N-Nitroso)	< 10 ug/liter
	1,2-Diphenylhydrazine	< 10 ug/liter
	4-Bromophenyl Phenyl Ether	< 10 ug/liter
	Hexachlorobenzene	< 10 ug/liter
	Phenanthrene	< 10 ug/liter
	Anthracene	< 10 ug/liter
	Di-n-Butylphthalate	< 10 ug/liter
	Fluoranthene	< 10 ug/liter
	Benzidine	< 10 ug/liter
	Pyrene	< 10 ug/liter
	Butylbenzylphthalate	< 10 ug/liter
	Benzo(a)Anthracene	< 10 ug/liter
	3,3'-Dichlorobenzidine	< 10 ug/liter
	Chrysene	< 10 ug/liter
	Bis(2-Ethylhexyl)Phthalate	< 10 ug/liter
	Di-n-Octylphthalate	< 10 ug/liter
	Benzo(B)Fluoranthene	< 10 ug/liter
	Benzo(K)Fluoranthene	< 10 ug/liter
	Benzo(A)Pyrene	< 10 ug/liter
	Indeno(1,2,3-C,D)Pyrene	< 10 ug/liter
	Dibenzo(A,H)Anthracene	< 10 ug/liter
	Benzo(G,H,I)Perylene	< 10 ug/liter

SAMPLE DESCRIPTION: 24-Hr Composite Water Sample Collected from Outfall 005 at the Wolf Creek Generating Station on August 7-8, 1986 by Chris Jett of Langston Laboratories, Inc.

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
Lime Sludge Pond	Pesticides	
	Aldrin	< 10 ug/liter
	Alpha-BHC	< 10 ug/liter
	Beta-BHC	< 10 ug/liter
	Gamma-BHC	< 10 ug/liter
	Delta-BHC	< 10 ug/liter
	Chlordane	< 10 ug/liter
	4,4'-DDT	< 10 ug/liter
	4,4'-DDE	< 10 ug/liter
	4,4'-DDD	< 10 ug/liter
	Dieldrin	< 10 ug/liter
	Alpha-Endosulfan	< 10 ug/liter
	Beta-Endosulfan	< 10 ug/liter
	Endosulfan Sulfate	< 10 ug/liter
	Endrin	< 10 ug/liter
	Endrin Aldehyde	< 10 ug/liter
	Heptachlor	< 10 ug/liter
	Heptachlor Epoxide	< 10 ug/liter
	PCB-1242	< 10 ug/liter
	PCB-1254	< 10 ug/liter
	PCB-1221	< 10 ug/liter
	PCB-1232	< 10 ug/liter
	PCB-1248	< 10 ug/liter
	PCB-1260	< 10 ug/liter
	PCB-1016	< 10 ug/liter
	Toxaphene	< 10 ug/liter



* TO BE INSTALLED AND PLACED IN SERVICE LATE 1988

WOLF CREEK
NUCLEAR OPERATING CORPORATION

WCGS
WATER USE FLOW DIAGRAM

DATE			
4/88			

Attachment to AM 88-0106

Please print or type in the unshaded areas only.

EPA I.D. NUMBER (copy from Item 1 of Form 1)
KS 0079057

Form Approved OMB No. 158 R0173

FORM 2C NPDES

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURAL OPERATIONS
Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (list)	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER (name)
	1. DEG.	2. MIN.	3. SEC.	1. DEG.	2. MIN.	3. SEC.	
003b	38	14	28	95	41	32	Wolf Creek Cooling Impoundment

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (*e.g., for certain mining activities*), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO. (list)	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT		
	a. OPERATION (list)	b. AVERAGE FLOW (include units)	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
003b	Wastewater Treatment				
	Facility Discharge	0.136 mgd	Neutralization/Discharge	2K	4A
	-Oily Waste Drainage System*	0.057 mgd	Oil Separation/Discharge	1H	4A
	Oil Interceptor		Oil Separation/Discharge	1H	4A
	Control Bldg. Oily Waste Sump				
	Diesel Gen. Bldg. Sump				
	Condenser Pit Sump East, West, North, & South				
	Lube Oil Room Sump				
	Tendon Access Gallery Sump				
	Turbine Bldg. Sump North, South, East, & West				
	Auxiliary Boiler Sump				
	Auxiliary Feed Sump				
	-Condensate Polisher Regeneration System **		Neutralization/Discharge	2K	4A
	High TDS Tank			2K	4A
	Lo TDS Tank				4A

* All high or low pH sumps in this system will be routed to the Condensate Polisher Sys

**As stated in the letter dated 2/29/88, these flows may be temporarily rerouted to Outfall 002 through the oil separator during abnormal plant operations.

OFFICIAL USE ONLY (*effluent guidelines sub-categories*)

CONTINUED FROM THE FRONT

C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal?

☒ YES (complete the following table) ☐ NO (go to Section III)

1. OUTFALL NUMBER (list)	2. OPERATION(S) CONTRIBUTING FLOW (list)	3. FREQUENCY a. DAYS PER WEEK (specify average)	3. FREQUENCY b. MONTHS PER YEAR (specify average)	4. FLOW a. FLOW RATE (in mgd) 1. LONG TERM AVERAGE	4. FLOW a. FLOW RATE (in mgd) 2. MAXIMUM DAILY	4. FLOW b. TOTAL VOLUME (specify with units) 1. LONG TERM AVERAGE	4. FLOW b. TOTAL VOLUME (specify with units) 2. MAXIMUM DAILY	4. FLOW c. DURATION (in days)
003b	Wastewater Treatment Facility							
	Sand Filter Backwash & Rinse	7/wk	12/yr	0.019	0.039	19,458 gal.	38,916 gal.	0.1
	Carbon Filter Backwash & Rinse	7/wk	12/yr	0.015	0.030	15,180	30,360	0.1
	Primary Bed Ion Exchange Units	7/wk	12/yr	0.035	0.070	35,158	70,315	0.1
	Mixed Bed Ion Exchange Unit Wash & Regeneration	7/wk	12/yr	0.008	0.015	7,580	15,159	0.1
	Miscellaneous Sources	7/wk	12/yr	0.002		1,500		0.1

III. MAXIMUM PRODUCTION

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?

☒ YES (complete Item III-B) ☐ NO (go to Section IV)

B. Are the limitations in the applicable effluent guideline expressed in terms of production (or other measure of operation)?

☐ YES (complete Item III-C) ☒ NO (go to Section IV)

C. If you answered "Yes" to Item III-B, list the quantity which represents an actual measurement of your maximum level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

1. MAXIMUM QUANTITY a. QUANTITY PER DAY	1. MAXIMUM QUANTITY b. UNITS OF MEASURE	1. MAXIMUM QUANTITY c. OPERATION, PRODUCT, MATERIAL, ETC. (specify)	2. AFFECTED OUTFALLS (list outfall numbers)

IV. IMPROVEMENTS

A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

☐ YES (complete the following table) ☒ NO (go to Item IV-B)

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS a. NO.	2. AFFECTED OUTFALLS b. SOURCE OF DISCHARGE	3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE a. REQUIRED	4. FINAL COMPLIANCE DATE b. PROJECTED

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs (or other environmental projects which may affect your discharges) you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction. ☐ MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED

CONTINUE ON PAGE 3

Please print or type in the unshaded areas only.

EPA I.D. NUMBER (copy from Item 1 of Form 1)
KS 0079057

Form Approved OMB No. 158-R0173

FORM 2C NPDES

U.S. ENVIRONMENTAL PROTECTION AGENCY
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER
EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURAL OPERATIONS
Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. OUTFALL NUMBER (list)	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER (name)
	1. DEG.	2. MIN.	3. SEC.	1. DEG.	2. MIN.	3. SEC.	

II. FLOWS, SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined *(e.g., for certain mining activities)*, provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUTFALL NO. (list)	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT		
	a. OPERATION (list)	b. AVERAGE FLOW (include units)	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1	
003b cont.	-Make-up Water Treatment System***	0.079 mgd			
	Demineralizer Regenerant Solutions	42,737 gal/day	Neutralization/Discharge	2K	4A
	Premix/Precipitator to Sand & Carbon Filters	34,638 gal/day	Flocc./Mixing/Sed./Disch. Filt./Dechlor./Disch.	1G,10,1U,4A 1V,2E,4A	
	Miscellaneous Sources	1,500 gal/day	Sed./Discharge	1U	4A

*** Make-up Water Treatment System wastes may still be discharged to the Lime Sludge Pond and to the cooling lake via Outfall 005 during abnormal plant operations.

OFFICIAL USE ONLY *(effluent guidelines sub-categories)*

CONTINUED FROM PAGE 2

EPA I.D. NUMBER (copy from Item 1 of Form 1)
KS 0079057

Form Approved OMB No. 158-R0173

V. INTAKE AND EFFLUENT CHARACTERISTICS

A, B, & C: See instructions before proceeding – Complete one set of tables for each outfall – Annotate the outfall number in the space provided. NOTE: Tables V-A, V-B, and V-C are included on separate sheets numbered V-1 through V-9.

D. Use the space below to list any of the pollutants listed in Table 2c-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
None			

VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

A. Is any pollutant listed in Item V-C a substance or a component of a substance which you do or expect that you will over the next 5 years use or manufacture as an intermediate or final product or byproduct?

☐ YES *(list all such pollutants below)* ☒ NO *(go to Item VI-B)*

B. Are your operations such that your raw materials, processes, or products can reasonably be expected to vary so that your discharges of pollutants may during the next 5 years exceed two times the maximum values reported in Item V?

☐ YES *(complete Item VI-C below)* ☒ NO *(go to Section VII)*

C. If you answered "Yes" to Item VI-B, explain below and describe in detail the sources and expected levels of such pollutants which you anticipate will be discharged from each outfall over the next 5 years, to the best of your ability at this time. Continue on additional sheets if you need more space.

CONTINUED FROM THE FRONT

VII. BIOLOGICAL TOXICITY TESTING D[illegible]

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☐ YES *(identify the test(s) and describe their purposes below)* ☒ NO *(go to Section VIII)*

VIII. CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

☒ YES *(list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)* ☐ NO *(go to Section IX)*

A. NAME	B. ADDRESS	C. TELEPHONE (area code & no.)	D. POLLUTANTS ANALYZED (list)
Langston Laboratories, Inc.	2005 West 103rd Terrace, Leawood, KS 66206	(913) 341-7800	All pollutants excep pH, TSS, Sulfates, and COD

IX. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. PHONE NO. (area code & no.)
Bart A. Withers/President and Chief Executive Officer	(316) 364-8831, Ext. 4000
C. SIGNATURE B A Withers	D. DATE SIGNED 5/2/88

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets (use the same format) instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER (copy from Item 1 of Form 1): KS 0079057

Form Approved OMB No. 158-R0173

OUTFALL NO. 003b

V. INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 3 of Form 2-C)

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	2. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	2. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	2. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	2. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	2. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS	2. EFFLUENT d. NO. OF ANALYSES	3. UNITS (specify if blank) a. CONCENTRATION	3. UNITS (specify if blank) b. MASS	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	4. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	4. INTAKE (optional) b. NO. OF ANALYSES
a. Biochemical Oxygen Demand (BOD)												
b. Chemical Oxygen Demand (COD)					48.0 mg/l		71					
c. Total Organic Carbon (TOC)												
d. Total Suspended Solids (TSS)					315.8 mg/l		77					
e. Ammonia (as N)	NH_3 and Hydrazine used as corrosion inhibitors											
f. Flow	VALUE		VALUE		VALUE 0.136 mgd					VALUE		
g. Temperature (winter)	VALUE		VALUE		VALUE			C		VALUE		
h. Temperature (summer)	VALUE		VALUE		VALUE			C		VALUE		
i. pH	MINIMUM 6.0	MAXIMUM 8.7	MINIMUM	MAXIMUM			82	STANDARD UNITS				

PART B - Mark "X" in column 2 a for each pollutant you know or have reason to believe is present. Mark "X" in column 2 b for each pollutant you believe to be absent. If you mark column 2 a for any pollutant, you must provide the results of at least one analysis for that pollutant. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK X a. BELIEVED PRESENT	2. MARK X b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	3. EFFLUENT a. MAXIMUM DAILY VALUE (2) MASS	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) (2) MASS	3. EFFLUENT d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
a. Bromide (24959-67-9)		X												
b. Chlorine, Total Residual	X		Service water											
c. Color		X												
d. Fecal Coliform		X												
e. Fluoride (16984-48-8)		X												
f. Nitrate-Nitrite (as N)	X		Nalco 39L borax/nitrite mixture used for corrosion control & released infrequently.											

(TERTIARY TREATMENT EFFLUENT)

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X' a. BELIEVED PRESENT	2. MARK 'X' b. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE [1] CONCENTRATION	3. EFFLUENT a. MAXIMUM DAILY VALUE [2] MASS	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) [1] CONCENTRATION	3. EFFLUENT b. MAXIMUM 30 DAY VALUE (if available) [2] MASS	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) [1] CONCENTRATION	3. EFFLUENT c. LONG TERM AVRG. VALUE (if available) [2] MASS	3. EFFLUENT [3] NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE [1] CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE [2] MASS	5. INTAKE (optional) b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)		X												
h. Oil and Grease	X		Oily Waste Drainage System and Oil Interceptor											
i. Phosphorus (as P), Total (7723-14-0)		X												
j. Radioactivity														
(1) Alpha, Total			Regulated by N.R.C.											
(2) Beta, Total														
(3) Radium, Total														
(4) Radium 226, Total														
k. Sulfate (as SO_4) (14808-79-8)	X						1661.4 mg/l		77					
l. Sulfide (as S)		X												
m. Sulfite (as SO_3) (14265-45-3)		X												
n. Surfactants	X		Domestic washwater											
o. Aluminum, Total (7429-90-5)	X		Alum addition as a flocculation aid in make-up water system.											
p. Barium, Total (7440-39-3)		X												
q. Boron, Total (7440-42-8)	X		Nalco 39L borax/nitrite mixture is used for corrosion control & released infrequently.											
r. Cobalt, Total (7440-48-4)		X												
s. Iron, Total (7439-89-6)		X												
t. Magnesium, Total (7439-95-4)		X												
u. Molybdenum, Total (7439-98-7)	X		Molybdates are used as corrosion inhibitors in the closed and component cooling water systems.											
v. Manganese, Total (7439-96-5)		X												
w. Tin, Total (7440-31-5)		X												
x. Titanium, Total (7440-32-6)		X												

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CONTINUED FROM PAGE 3 OF FORM 2C

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PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a *(secondary industries, non-process wastewater outfalls, and non-required GC/MS fractions)*, mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe to be absent. If you mark either columns 2-a or 2-b for any pollutant, you must provide the results of at least one analysis for that pollutant. Note that there are seven pages to this part; please review each carefully. Complete one table *(all seven pages)* for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)			X												
2M. Arsenic, Total (7440-38-2)			X												
3M. Beryllium, Total, 7440-41-7)			X												
4M. Cadmium, Total (7440-43-9)			X												
5M. Chromium, Total (7440-47-3)			X												
6M. Copper, Total (7550-50-8)			X												
7M. Lead, Total (7439-97-6)			X												
8M. Mercury, Total (7439-97-6)			X												
9M. Nickel, Total (7440-02-0)			X												
10M. Selenium, Total (7782-49-2)			X												
11M. Silver, Total (7440-22-4)			X												
12M. Thallium, Total (7440-28-0)			X												
13M. Zinc, Total (7440-66-6)			X												
14M. Cyanide, Total (57-12-5)			X												
15M. Phenols, Total			X												
DIOXIN															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1764-01-6)			X	DESCRIBE RESULTS											

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X" a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)			X												
2V. Acrylonitrile (107-13-1)			X												
3V. Benzene (71-43-2)			X												
4V. Bis (Chloromethyl) Ether (542-88-1)			X												
5V. Bromoform (75-25-2)			X												
6V. Carbon Tetrachloride (56-23-5)			X												
7V. Chlorobenzene (108-90-7)			X												
8V. Chlorodibromomethane (124-48-1)			X												
9V. Chloroethane (75-00-3)			X												
10V. 2-Chloroethylvinyl Ether (110-75-8)			X												
11V. Chloroform (67-66-3)			X												
12V. Dichlorobromomethane (75-27-4)			X												
13V. Dichlorodifluoromethane (75-71-8)			X												
14V. 1,1-Dichloroethane (75-34-3)			X												
15V. 1,2-Dichloroethane (107-06-2)			X												
16V. 1,1-Dichloroethylene (75-35-4)			X												
17V. 1,2-Dichloropropane (78-87-5)			X												
18V. 1,2-Dichloropropylene (542-75-6)			X												
19V. Ethylbenzene (100-41-4)			X												
20V. Methyl Bromide (74-83-9)			X												
21V. Methyl Chloride (74-87-3)			X												

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS *(continued)*															
22V. Methylene Chloride (75-09-2)			X												
23V. 1,1,2,2-Tetrachloroethane (79-34-5)			X												
24V. Tetrachloroethylene (127-18-4)			X												
25V. Toluene (108-88-3)			X												
26V. 1,2-Trans-Dichloroethylene (156-60-5)			X												
27V. 1,1,1-Trichloroethane (71-55-6)			X												
28V. 1,1,2-Trichloroethane (79-00-5)			X												
29V. Trichloroethylene (79-01-6)			X												
30V. Trichlorofluoromethane (75-69-4)			X												
31V. Vinyl Chloride (75-01-4)			X												
GC/MS FRACTION – ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)			X												
2A. 2,4-Dichlorophenol (120-83-2)			X												
3A. 2,4-Dimethylphenol (105-67-9)			X												
4A. 4,6-Dinitro-O-Cresol (534-52-1)			X												
5A. 2,4-Dinitrophenol (51-28-5)			X												
6A. 2-Nitrophenol (88-75-5)			X												
7A. 4-Nitrophenol (100-02-7)			X												
8A. P-Chloro-M-Cresol (59-50-7)			X												
9A. Pentachlorophenol (87-86-5)			X												
10A. Phenol (108-95-2)			X												
11A. 2,4,6-Trichlorophenol (88-06-2)			X												

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CONTINUE ON REVERSE

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. testing required	b. believed present	c. believed absent	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) concentration	(2) mass	b. MAXIMUM 30 DAY VALUE (if available) (1) concentration	(2) mass	c. LONG TERM AVRG. VALUE (if available) (1) concentration	(2) mass	d. NO. OF ANALYSES	4. UNITS a. concentration	b. mass	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) concentration	(2) mass	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)			X												
2B. Acenaphtylene (208-96-8)			X												
3B. Anthracene (120-12-7)			X												
4B. Benzidine (92-87-5)			X												
5B. Benzo (a) Anthracene (56-55-3)			X												
6B. Benzo (a) Pyrene (50-32-8)			X												
7B. 3,4-Benzo-fluoranthene (205-99-2)			X												
8B. Benzo (ghi) Perylene (191-24-2)			X												
9B. Benzo (k) Fluoranthene (207-08-9)			X												
10B. Bis (2-Chloro-ethoxy) Methane (111-91-1)			X												
11B. Bis (2-Chloro-ethyl) Ether (111-44-4)			X												
12B. Bis (2-Chloro-isopropyl) Ether (39638-32-9)			X												
13B. Bis (2-Ethyl-hexyl) Phthalate (117-81-7)			X												
14B. 4-Bromo-phenyl Phenyl Ether (101-55-3)			X												
15B. Butyl Benzyl Phthalate (85-68-7)			X												
16B. 2-Chloro-naphthalene (91-58-7)			X												
17B. 4-Chloro-phenyl Phenyl Ether (7005-72-3)			X												
18B. Chrysene (218-01-9)			X												
19B. Dibenzo (a,h) Anthracene (53-70-3)			X												
20B. 1,2-Dichloro-benzene (95-50-1)			X												
21B. 1,3-Dichloro-benzene (541-73-1)			X												

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EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. TEST INCLUDED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	4. UNITS b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (2) MASS	5. INTAKE (optional) b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS *(continued)*															
228. 1,4 Dichlorobenzene (106-46-7)			X												
238. 3,3' Dichlorobenzidine (91-94-1)			X												
248. Diethyl Phthalate (84-66-2)			X												
258. Dimethyl Phthalate (131-11-3)			X												
268. Di-N-Butyl Phthalate (84-74-2)			X												
278. 2,4 Dinitrotoluene (121-14-2)			X												
288. 2,6 Dinitrotoluene (606-20-2)			X												
298. Di-N-Octyl Phthalate (117-84-0)			X												
308. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)			X												
318. Fluoranthene (206-44-0)			X												
328. Fluorene (86-73-7)			X												
338. Hexachlorobenzene (118-71-1)			X												
348. Hexachlorobutadiene (87-68-3)			X												
358. Hexachlorocyclopentadiene (77-47-4)			X												
368. Hexachloroethane (67-72-1)			X												
378. Indeno (1,2,3-cd) Pyrene (193-39-5)			X												
388. Isophorone (78-59-1)			X												
398. Naphthalene (91-20-3)			X												
408. Nitrobenzene (98-95-3)			X												
418. N-Nitrosodimethylamine (62-75-9)			X												
428. N-Nitrosodi-N-Propylamine (621-64-7)			X												

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X' a. BELIEVED ABSENT	b. BELIEVED PRESENT	c. BELIEVED PRESENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – BASE/NEUTRAL COMPOUNDS (continued)															
43B. N-Nitrosodiphenylamine (86-30-6)			X												
44B. Phenanthrene (85-01-8)			X												
45B. Pyrene (129-00-0)			X												
46B. 1,2,4-Trichlorobenzene (120-82-1)			X												
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)			X												
2P. α-BHC (319-84-6)			X												
3P. β-BHC (319-85-7)			X												
4P. γ-BHC (58-89-9)			X												
5P. δ-BHC (319-86-8)			X												
6P. Chlordane (57-74-9)			X												
7P. 4,4'-DDT (50-29-3)			X												
8P. 4,4'-DDE (72-55-9)			X												
9P. 4,4'-DDD (72-54-8)			X												
10P. Dieldrin (60-57-1)			X												
11P. α-Endosulfan (115-29-7)			X												
12P. β-Endosulfan (115-29-7)			X												
13P. Endosulfan Sulfate (1031-07-8)			X												
14P. Endrin (72-20-8)			X												
15P. Endrin Aldehyde (7421-93-4)			X												
16P. Heptachlor (76-44-8)			X												

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION – PESTICIDES (continued)															
17P. Heptachlor Epoxide (1024-57-3)			X												
18P. PCB-1242 (53469-21-9)			X												
19P. PCB-1254 (11097-69-1)			X												
20P. PCB-1221 (11104-28-2)			X												
21P. PCB-1232 (11141-16-5)			X												
22P. PCB-1248 (12672-29-6)			X												
23P. PCB-1260 (11096-82-5)			X												
24P. PCB-1016 (12674-11-2)			X												
25P. Toxaphene (8001-35-2)			X												