

PDR
Return
396-55

70-1200
(PDROK)

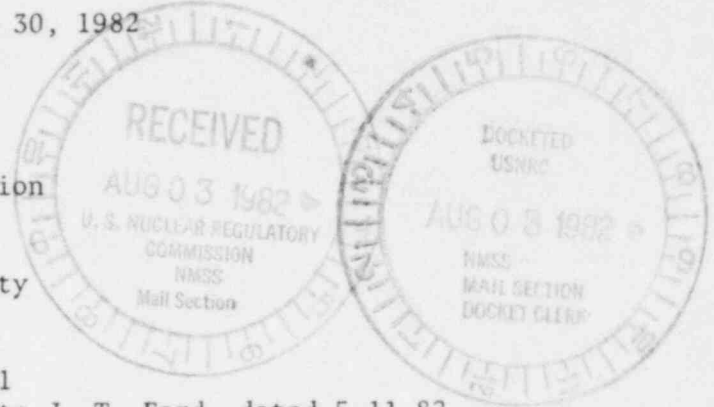
Babcock & Wilcox

Commercial Nuclear Fuel Plant

P.O. Box 800, Lynchburg, Va. 24505

July 30, 1982

United States Nuclear Regulatory Commission
ATTN: Mr. R. G. Page, Chief
Uranium Fuel Licensing Branch
Division of Fuel Cycle and Material Safety
Washington, D. C. 20555



References: (1) SNM-1168, Docket 70-1201
(2) Letter from E. Y. Shum to J. T. Ford, dated 5-11-82
(3) BAW-1412

Gentlemen:

The Babcock & Wilcox Company, Commercial Nuclear Fuel Plant submits the following responses to your questions on our Environmental Report.

Environmental Impact Assessment

1. There hasn't been an extreme river flow since the 1972 discharge in the James River Basin. The Gathright reservoir has been completed, which helps to reduce flood discharges in the James River Basin.
2. The groundwater withdrawal rate for the total B&W site has increased from 75,000 gal./day to 100,000 gal./day. There is baseline groundwater data in Table 2.5-5 of the Environmental Report. Attachment 1 of this letter contains current water quality data.
3. We have not been able to obtain the water quality data requested. As soon as the data becomes available, we will forward it on to you. The sources and rates of effluent discharge are identified in Figure 3.3-1 and 3.3-2 of the Environmental Report. Attachment 2 of this letter is a 5 year summary of the information required by our NPDES permit. The February 1981 data on Attachment 2 is not required by the NPDES permit.
4. }
5. } We requested removal of Environmental Report Section 6.2.3.2 in a letter from M. A. Glora to R. B. Chitwood, dated 12-17-75. This was approved by license condition in a letter from L. C. Rouse to M. A. Glora, dated 7-29-76.

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Environmental Impact Assessment....

6. The references for Table D-7 are listed in Section 2.7 of the Environmental Report. The references are 18, 21, and 25 found on Page 2-7-9, 2-7-10, and 2-7-11.
7. Our current environmental program is summarized in Attachment 3 to this letter. Attachment 4 to this letter is a five year summary of our environmental data.
8. Instead of updating Figure 2.7-1 of the Environmental Report, we are enclosing the latest aerial photo of the CNFP site that is in our files.
9. The remainder of the B&W site is in woodland or grassland. The grasslands are mown by B&W Maintenance crews. Further description of the B&W site can be found in Section 3.0 of the Environmental Report.
10. There is one wetland on the CNFP site. The wetland begins at the base of the fire pond dam and follows the wet weather stream to the James River. At the base of the dam, the wetland has a marsh-like appearance with abundant grass and cattails. This type appearance exists in a 30 yard square area. The remainder of the wetland to the James River exists in a heavy brush or wooded state.
11. Attachment 5 to this letter provides updated information on agricultural activities in Campbell and Amherst counties.
12. The plant currently operates 50 weeks/year, 5 days/week, 16 hours/day. The sintering furnace operates 365 days/year, 24 hours/day. The calculations in Section 3.2.1.4 and 3.2.5 of the Environmental Report are still applicable.

Major Non-Radiological Effluent Emission from the Stacks
(Based on 4,000 hours/year)

	<u>Annual Usage</u>	<u>Emission Rate</u>
Acetone	4,392 lbs. (660 gal.)	1.1 lbs./hr.
Trichloroethylene	14,520 lbs. (1210 gal.)	3.6 lbs./hr.

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Environmental Impact Assessment.....

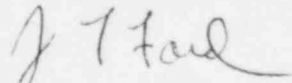
13. Chemicals and solvents are stored in designated areas, usually in 55 gallon drums. Tanks with pits are used to hold certain waste acids. The storm drain lines lead to the fire pond which holds ~ 6.4 million gallons of water. The fire pond outflow can be opened and closed, if necessary to contain a spilled chemical. A spill team is maintained by NNFD with some CNFP personnel involved in their training program.
14. There are approximately 12 acres in the fenced area. The 2.5 acre figure refers to the land that the buildings occupy.
15.
 - a. There are 11 air changes per hour in the Pellet Plant.
 - b. There are no significant building shielding parameters.
 - c. The capped stack is mounted on the roof of the main CNFP building. The stack effluent is HEPA-filtered.

Stack Height = 36 inches
Stack Diameter = 22 inches
Building Height = 30 feet 6 inches
Air flow = 8,700 CFM

If I can be of any help during your review, please feel free to call me at (804) 522-5966.

Sincerely,

BABCOCK & WILCOX COMPANY
COMMERCIAL NUCLEAR FUEL PLANT



J. T. Ford
License Administrator

JTF:cmr

cc: W/Attachments

LF-3

D. W. Zeff

C. W. Speight



ANALYTICAL SERVICE LABORATORY REPORT

WATER ANALYSIS

FROM:

SABCOCK AND WILCOX CO.
LYNCHBURG, VA.

SAMPLE MARKED:
WELL WATER

ANALYSIS NO. P 9716
DATE SAMPLED 5/16/79
DATE RECEIVED 5/22/79
DATE PRINTED 5/30/79

CATIONS:

CALCIUM (CACO₃) - SOLUBLE
MAGNESIUM (CACO₃) - SOLUBLE
SODIUM (CACO₃)

PPM
100.
22.
9.6

ANIONS:

BICARBONATE ALKALINITY (CACO₃)
CHLORIDE (CACO₃)
SULFATE (CACO₃)
SILICA (SiO₂) - SOLUBLE

PPM
126.
6.
6.
17.

OTHERS:

PH (PH UNITS)
ALKALINITY (CACO₃) - TOTAL
ALKALINITY (CACO₃) - PHENOLPHTHALEIN
CONDUCTIVITY (MICROMHOS PER CM)
COPPER (CU) - SOLUBLE AND INSOLUBLE
IRON (FE) - SOLUBLE AND INSOLUBLE

PPM
7.2
126.
*ND (2.)
270.
*ND (0.01)
*ND (0.1)

*NOT DETECTED (BELOW INDICATED LIMIT OF DETECTION)

1927 NOLTE DR • PAULSBORO, NJ 08066

NALCO CHEMICAL COMPANY
REGIONAL ANALYTICAL LABORATORIES

1927 Nolte Dr
Paulsboro, NJ 08066

Box 87
Sugar Land, TX 77478

CENTRAL LABORATORY
6216 W. 66th Place
Chicago, Illinois 60638

RETENTION TANK EFFLUENT
(ppm)

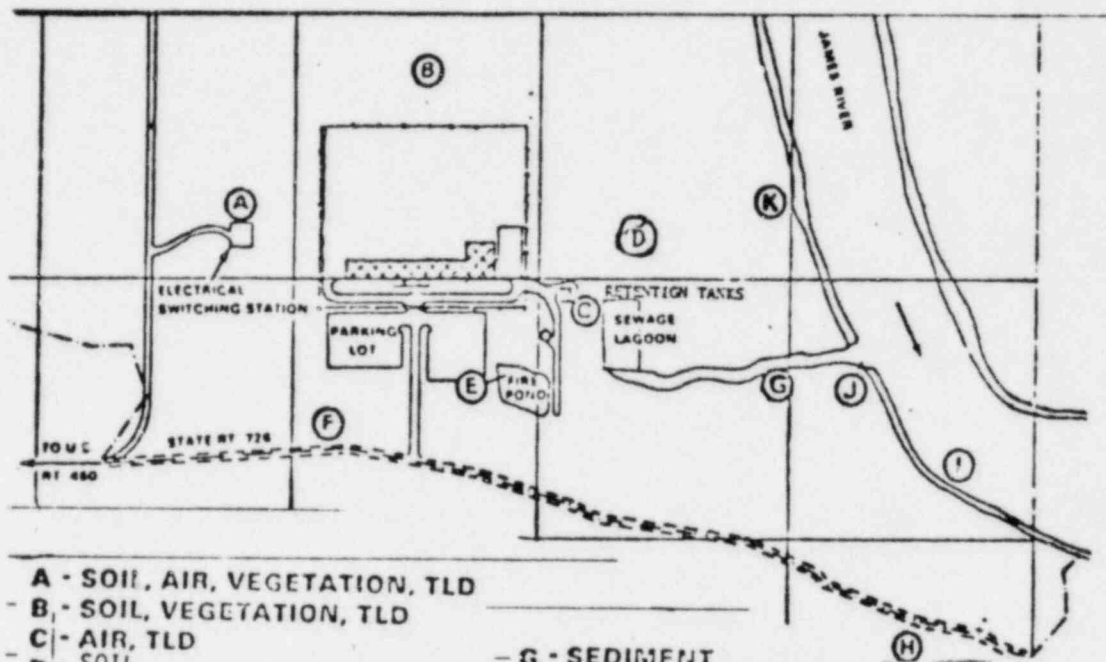
CHARACTERISTIC	YEAR QTR.	1976			1977				1978				1979				1980			
		2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th	1st	2nd	3rd	4th
Total Iron		2.41	1.18	.53	.68	1.56	1.2													
Dissolved Iron					.37	.13	.38	.51	.41	.50	4.67	.65	.61	.43	.51	.61	.34	.46	.48	
Total Chromium		.10	.01	.02	.02	.02														
Hex. Chromium					.02	.02	.02	.02	.02	.01	.002	.002	.005	.02	.01	.02	.02	.01	.01	
Nickel		.05	.01	.02	.02	.02	.02													
Fluoride		1.01	.96	1.03	1.33															
Total Suspended Solids		115.0	37.6	31.5	8.0															

CHARACTERISTIC	Collected		
	2/18/81	2/20/81	2/22/81
	#1	#2**	#3
Silver (Ag)	<.05 ppm	.10 ppm	<.05 ppm
Arsenic (As)	<.05	<.05	<.05
Beryllium (Be)	<.01	<.01	<.01
Cadmium (Cd)	<.01	<.01	<.01
Chromium (Cr)	<.05	<.05	<.05
Copper (Cu)	.28	.14	<.05
Mercury (Hg)	<.002	.002	<.002
Manganese (Mn)	.24	.14	.14
Nickel (Ni)	<.1	<.1	<.1
Lead (Pb)	.11	<.05	<.05
Antimony (Sb)	<.02	?*	<.02
Selenium (Se)	<.01	<.01	<.01
Thallium (Tl)	<.1	<.1	<.1
Zinc (Zn)	.84	1.7	1.2

CHARACTERISTIC	DATE	RESULTS PPM
Dissolved Oxygen (1 min. sparge)	8-5-81	3.5
(5 min. sparge)	8-5-81	4.9
Detergents	3-81	8.2
Oil/Grease	3-81	<.001
Total Suspended Solids	8-5-81	

*Was not determined because of interferences.
**Included = 1 gallon photographic developer.

ATTACHMENT 3



- A - SOIL, AIR, VEGETATION, TLD
- B - SOIL, VEGETATION, TLD
- C - AIR, TLD
- D - SOIL
- E - WATER
- F - SOIL, AIR, VEGETATION, TLD
- G - SEDIMENT
- H - SOIL AND VEGETATION
- I - WATER, SEDIMENT
- J - WATER, SEDIMENT
- K - WATER, SEDIMENT

Background Stations - A, K

Sampling Station	Number of Stations	Collection Frequency	Minimum Sample Size	Sample Type	Type of Analysis	Sample Preparation	Minimum Detectable Level
Surface Water	4	Quarterly	1 l	Grab	Gross =	Standard Vendor Procedure	2.7×10^{-9} μ Ci/ml
Air Particulates	3	Monthly 8 hours once/month	4000 μ	Filter	Gross =	None	2.5×10^{-14} μ Ci/ml
Soil	8	Annually	100 g	Grab	Gross =	Standard Vendor Procedure	1 pCi/g
Ambient Radiation	4	Quarterly	----	TLD	Reading	None	~ 10 μ rem
Sediment	6	Quarterly	100 g	Grab	Gross =	Standard Vendor Procedure	1 pCi/g
Vegetation	4	Semi-annually	500 g	Grab	Gross =	Standard Vendor Procedure	1 pCi/g

5 Year Summary
 ENVIRONMENTAL SAMPLING HISTORY
 Annual Averages

YEAR	SAMPLE TYPE											
	WATER		SOIL/SEDIMENT		AIR	VEGETATION		TLD	ANIMAL			
	Radiometric DFM/l	Fluorometric ug/l	Radiometric DPM/kg	Fluorometric ug/kg	$\mu\text{Ci}/\text{m}^3$	Radiometric DPM/kg	Fluorometric ug/kg	mRem/yr.	Radiometric DPM/kg	Fluorometric ug/kg		
1977	12.4	1.8	4.1×10^4	2.1×10^4	1.37×10^{-14}	5.8×10^1	6.9×10^0	96	3.8×10^1	1.1×10^1		
1978	9.8	6.7	2.1×10^4	9.6×10^3	2.60×10^{-14}	1.8×10^2	2.4×10^1	107	2.7×10^1	1.0×10^1		
1979	6.6	2.8	4.7×10^3	4.0×10^3	1.79×10^{-14}	2.3×10^1	1.2×10^1	106	1.1×10^2	7.5×10^1		
1980	6.5	4.1	3.7×10^4	8.0×10^3	2.24×10^{-14}	8.2×10^2	8.7×10^1	116	1.9×10^1	1.0×10^1		
1981	15.8	6.7	3.9×10^4	1.3×10^4	1.79×10^{-14}	8.9×10^1	4.4×10^1	104	4.4×10^1	2.5×10^1		

ATTACHMENT 5

AGRICULTURAL ACTIVITIES IN CAMPBELL & AMHERST COUNTIES

<u>ITEM</u>	<u>Campbell</u> (a)	<u>Amherst</u> (b)
<u>Crops:</u>	<u>1980 Value</u>	<u>1982 Value</u>
Wheat acres	5,800	200
Corn acres	4,300	3,500
Hay acres	13,965	10,000
Barley acres	1,300	20
Soybean acres	2,300	—
Flue-cured tobacco acres	1,190	—
Fire-cured tobacco acres	540	50
Apple acres	—	1,200
Peach acres	—	150
 <u>Livestock:</u>		
Hogs	500	1,000
Sheep	200	800
Dairy cows	2,600	450
Other cattle	25,700	18,000
 <u>Timber Harvest:</u>	<u>1978 Value</u>	<u>1978 Value</u>
Softwood saw timber bdft.	109,600,000	138,400,000
Hardwood saw timber bdft.	427,300,000	590,300,000
Softwood cords	948,000	922,000
Hardwood cords	2,362,000	2,881,000
 <u>Forest Area:</u>		
Private acres	222,295	182,196
National forest acres	438	50,798

(a) Campbell County data from Virginia Extension Service Office and County Forester.

(b) Amherst County data from Agricultural Stabilization and Conservation Services Office and County Forester.

