R-002-201.4

1447

ACTION MEMORANDUM: DIRECTION TO INITIATE PUMPING AND TREATMENT ACTIVITIES FOR PERCHED GROUNDWATER AT THE FMPC

04/12/91

DOE-1129-91
DOE-FSO/WMCO
2
LETTER

[redacted] 1447

Department of Energy
FMPC Site Office
P.O. Box 398705
Cincinnati, Ohio 45239-8705
(513) 738-6319

APR 1 2 1991

DOE-1129-91

Mr. W. H. Britton, President
Westinghouse Materials Company
of Ohio
P. O. Box 398704
Cincinnati, OH 45239-8704

Dear Mr. Britton:

ACTION MEMORANDUM: DIRECTION TO INITIATE PUMPING AND TREATMENT ACTIVITIES FOR PERCHED GROUNDWATER AT THE FMPC

The CERCLA Removal Action Work Plans addressing perched water at the FMPC have been prepared and approved. Final U. S. EPA approval of the Perched Water Work Plans was obtained after an informal dispute resolution process on October 31, 1990. WMCO is directed to proceed with the implementation of the approved CERCLA Removal Action Work Plans (see Enclosure).

If your staff has any questions, please ask them to contact Andy Avel at extension 6161.

Sincerely,

Gerald W. Westerbeck
Manager, Fernald Site Office

FSO:Avel

Enclosure: As stated

cc w/encl.:

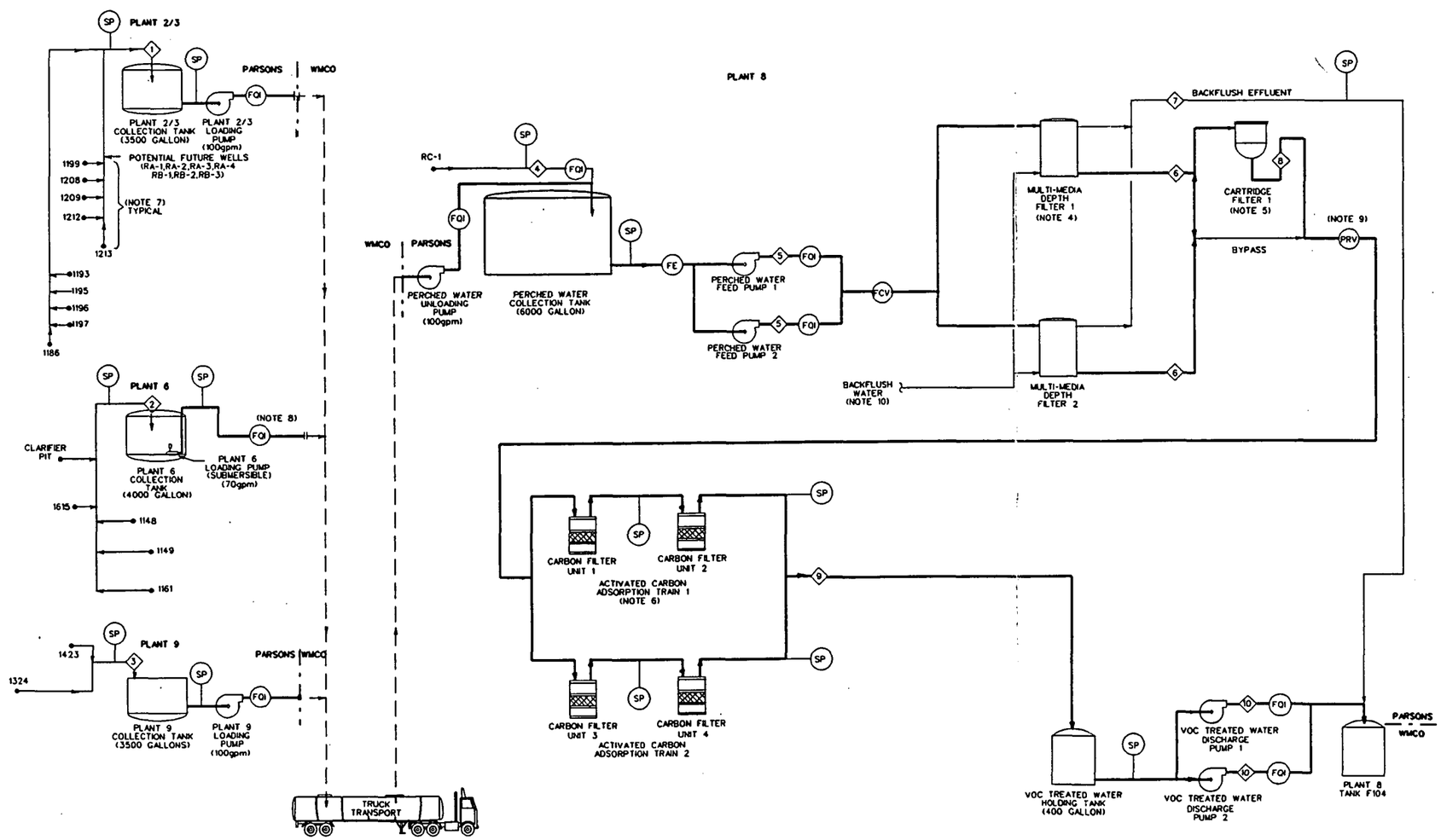
B. Wright, EM-423, GTN
S. W. Coyle, WMCO
T. E. Escue, WMCO
J. P. Hopper, WMCO
R. S. Shirley, WMCO
AR File

1447

STREAM NUMBER	1	2	3	4	5	6	7	8	9	10
STREAM NAME	PLANT 2/3	PLANT 6	PLANT 9	PLANT 8	TOTAL PERCHED WATER	DEPTH FILTER EFFLUENT	DEPTH FILTER BACKFLUSH	CARTRIDGE FILTER EFFLUENT	CARBON ADSORP. EFFLUENT	DISCHARGE PUMP EFFLUENT
FLOW-DESIGN (GPM)					10	10	25	10	10	10
FLOW-DESIGN (GPD) (NOTE 3)					4,800	4,800		4,800	4,800	4800
FLOW-AVE (GPD)	3,300	83	30	1,000.0	4,413	4,413	375 (NOTE 11)	4,413	4,413	4,413
PRESSURE (PSIG)					65	RANGE 50-62		RANGE 25-61	RANGE 3-5	17
CONTAMINANT (NOTE 1) (ug/L)							0.0			
TRICHLOROETHENE	0.1	2,430.0	8,040.0	0.3	101.0	101.0	0.0	101.0	1.0	1.0
1,1-DICHLOROETHENE	2.3	107.0	52.7	0.7	4.2	4.2	0.0	4.2	0.04	0.04
1,2-DICHLOROETHENE	0.0	28.5	8.7	0.0	0.6	0.6	0.0	0.6	0.01	0.01
1,1-DICHLOROETHANE	0.0	0.0	120.0	0.0	0.8	0.8	0.0	0.8	0.01	0.01
1,1,1-TRICLOROETHENE	0.0	0.0	133.0	0.0	0.9	0.9	0.0	0.9	0.01	0.01
TETRACLOROETHENE	0.1	86.6	233.0	2.8	4.0	4.0	0.0	4.0	0.04	0.04
TRIBUTYLPHOSPHATE	109.0	0.0	0.0	0.0	81.6	81.6	0.0	81.6	0.82	0.82
KEROSENE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ALUMINUM (Al)	501.0	16,000.0	5,920.0	632.0	859.0	859.0	0.0	859.0	859.0	859.0
CADMIUM (Cd)	9.2	141.0	29.5	12.4	12.5	12.5	0.0	12.5	12.5	12.5
CHROMIUM (Cr)	142.0	4,010.0	1,480.0	182.0	233.0	233.0	0.0	233.0	233.0	233.0
SILVER (Ag)	57.6	1,700.0	558.0	75.5	94.0	94.0	0.0	94.0	94.0	94.0
IRON (Fe)	72.9	1090.0	410.0	75.3	94.8	94.8	0.0	94.8	94.8	94.8
MAGANESE (Mn)	491.0	4,240.0	1050.0	447.0	555.0	555.0	0.0	555.0	555.0	555.0
URANIUM (U)	20,400.0	436,000.0	241,000.0	19,000.0	29,400.0	29,400.0	0.0	29,400.0	29,400.0	29,400.0
THORIUM (Th)	22.4	29.6	55.3	37.7	26.3	26.3	0.0	26.3	26.3	26.3
TOTAL SUSPENDED SOLIDS (TSS)	61,000.0	51,500.0	1,740,000.0	61,000.0	72,200.0	14,400.0	680,000.0	720.0	720.0	720.0
OIL & GREASE	0.0	4,400.0 (NOTE 2)	5,000.0	0.0	117.0	117.0	0.0	117.0	1.2	1.2

NOTES

1. DATA WERE OBTAINED FROM:"SELECTED SAMPLE RESULTS FOR THE PERCHED WATER BORINGS" (WMCO, 1991);"FMPC WASTE WATER OVERVIEW" (WMCO, 1991); AND HAZARDOUS SUBSTANCES LIST DATA FROM INTERNATIONAL TECHNOLOGY (IT) CORP. ANALYSES. PERCHED WATER PH RANGES FROM 6 TO 7, CONDUCTIVITY RANGES FROM 0.2 TO 1.7 MICROMHOS PER CUBIC CENTIMETER.
2. AVERAGES OF WELL CONCENTRATIONS WERE ASSUMED FOR PLANT 6 WELLS WITH NO DATA.
3. THE DESIGN FLOW PER DAY IS BASED ON 8 HOURS OPERATION.
4. DEPTH FILTERS ARE TWO 100 PERCENT CAPACITY UNITS. IN THE ABSENCE OF TEST DATA, EFFICIENCY FOR REMOVAL OF TOTAL SUSPENDED SOLIDS (TSS) IS ASSUMED AT 80 PERCENT.
5. CARTRIDGE FILTER EFFICIENCY FOR REMOVAL OF TSS IS ASSUMED AT 95 PERCENT
6. GRANULAR ACTIVATED CARBON ADSORPTION UNITS ARE TWO 50 PERCENT CAPACITY TRAINS (CONSISTING OF ONE LEAD UNIT AND ONE LAG UNIT), WITH AN ASSUMED 99 PERCENT EFFICIENCY FOR REMOVAL OF VOLATILE ORGANIC COMPOUNDS (VOC'S).
7. NUMBERS INDICATE WELL BORINGS. EACH WELL HAS ITS OWN PUMP (NOT SHOWN).
8. PLANT 6 WELLS, HOLDING TANK AND PUMP BY WMCO.
9. PRESSURE REDUCING VALVE WILL REDUCE PRESSURE TO ≤ 7.5 PSIG WHICH IS MAXIMUM ALLOWABLE FOR ACTIVATED CARBON ADSORPTION UNITS.
10. BACKFLUSH SUPPLY WATER MINIMUM PRESSURE IS 40 PSIG.
11. BACKWASH VOLUME IS BASED ON AN ASSUMED ONE (1) BACKWASH PER DAY AT 375 GALLONS PER BACKWASH. THE BACKWASH CYCLE INCLUDES A RINSE OF 100 GALLONS (4 MINUTES AT 25 GPM) WHICH DISCHARGES THROUGH THE PROCESS LINE. THE RINSE IS NOT INCLUDED IN THE PROCESS FLOW.



SYMBOLS

- SP — SAMPLE POINT
- FCV — FLOW CONTROL VALVE
- PRV — PRESSURE REDUCING VALVE
- FQI — FLOW INDICATOR/TOTALIZER
- FE — FLOW ELEMENT
- PARSONS / WMCO — DESIGN INTERFACE

REV. NO.	ISSUE OR REVISION PURPOSE - DESCRIPTION	A-E	OPERATOR	DOE
0	ISSUED FOR CONSTRUCTION			

UNITED STATES DEPARTMENT OF ENERGY
FEED MATERIALS PRODUCTION CENTER

THIS DRAWING PREPARED BY
PARSONS
THE RALPH M. PARSONS CO. - CHAS. T. MAIN, INC. - ENGINEERING SCIENCE, INC.
CINCINNATI, OHIO

PROJECT NAME: FMPC ERA — OPERABLE UNIT 3

DRAWING TITLE: PROCESS FLOW DIAGRAM — PERCHED WATER REMOVAL ACTIONS — PLANTS 2/3, 6, 8, & 9

DRAWN BY	DATE	DESIGNED, CHECKED BY	DATE	CHECKED BY	DATE
R.D. PROSKI	2-6-91				

PLANT/BLDG. NO.	FLOOR	SCALE	CLASS
2/3,6,8 & 9		NONE	4

SUBMITTED FOR APPROVAL (A-E, DATE) — APPROVAL RECOMMENDED (OPERATING CONTRACTOR, DATE) — DRAWING APPROVED (DOE, DATE)

DOE PROJECT NO.	OPER. CONTR. PROJ. NO.	DRAWING NO.	SHEET NO.	REV. NO.
BY D.O.E. LATER	WBS 1.2.1.3.2 00-90701	93X5900F00017	F001	0

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1447

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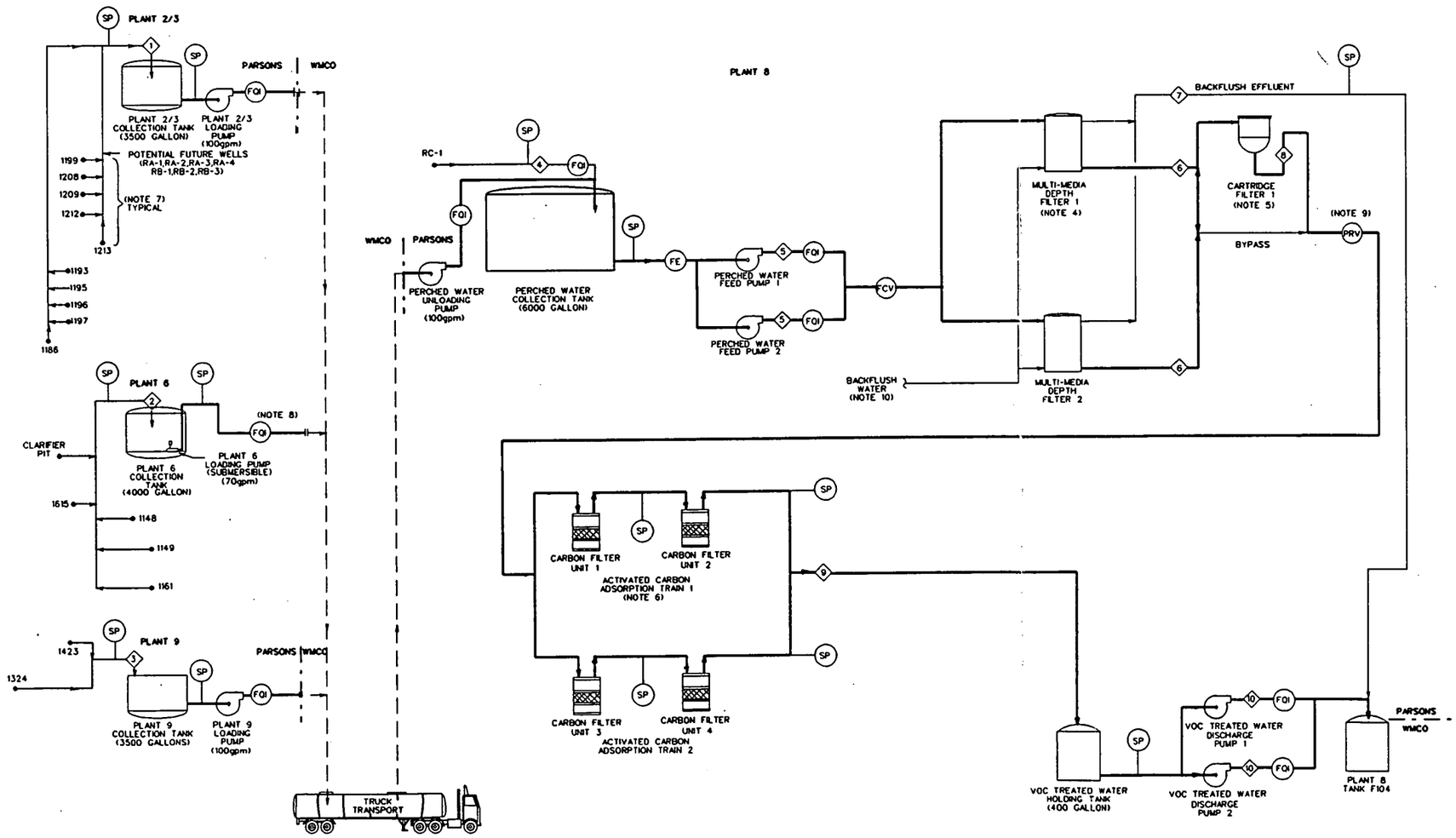

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INITIALS AND DATE

UNITED STATES DEPARTMENT OF ENERGY
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DRAWN BY	DATE	DESIGNED, CHECKED BY	DATE	CHECKED BY	DATE
R.D. PROSKI	2-6-91				

PLANT/BLDG. NO.	FLOW	SCALE	CLASS
2/3,6,8 & 9		NONE	4

SUBMITTED FOR APPROVAL — A-E — DATE
APPROVAL RECOMMENDED — OPERATING CONTRACTOR — DATE
DRAWING APPROVED — DOE — DATE

DOE PROJECT NO.	DPCC CONTR. PROJ. NO.	DRAWING NO.	SHEET NO.	REV. NO.
BY D.O.E. LATER	WBS 1.2.1.3.2 00-90701	93X5900F00017	F001	0

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