



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

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FERNALD
LOG K-2069
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FILE 6446.6
REPLY TO THE ATTENTION OF:

Mr. Johnny W. Reising
United States Department of Energy
Feed Materials Production Center
P.O. Box 398705
Cincinnati, Ohio 45239-8705

SRF-5J

RE: Area 2, Phase 1 Site
Preparation Design
Package

Dear Mr. Reising:

The United States Environmental Protection Agency (U.S. EPA) has completed its review of the United States Department of Energy's (U.S. DOE) Area 2, Phase 1 site preparation design package for the inactive flyash pile, south field, and active flyash pile.

U.S. EPA reviewed the four primary components: (1) site preparation plan, (2) design drawings, (3) technical specifications, and (4) the surface water management plan. Several deficiencies have been identified in the design package.

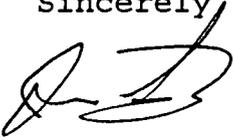
Therefore, U.S. EPA disapproves the Area 2, Phase 1 site preparation design package pending incorporation of adequate responses to the attached comments. U.S. DOE must submit responses to comments and a revised document within thirty (30) days receipt of this letter.

*(Janka (r))
partial
action response
to DOE-1069-97
(10549)*

-2-

Please contact me at (312) 886-0992 if you have any questions regarding this matter.

Sincerely,



James A. Saric
Remedial Project Manager
Federal Facilities Section
SFD Remedial Response Branch #2

Enclosure

cc: Tom Schneider, OEPA-SWDO
Bill Murphie, U.S. DOE-HDQ
John Bradburne, FERMCO
Terry Hagen, FERMCO
Tom Walsh, FERMCO

Original General Comment #: 5.

Comment: The design drawings are difficult to read because of the small drawing scale used and the "busy" topography. New contour lines used to illustrate excavated areas such as retention basins, berms, and ditches are difficult to follow because of the small drawing scale and lack of contour numbers. DOE should revise the drawings.

TECHNICAL SPECIFICATIONS

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: NA

Page #: NA

Line #: NA

Original General Comment #: 6

Comment: The technical specifications for installation of a clay liner inside the retention basins and ditches are not provided. The technical specifications should be revised to include the geomembrane and clay liner installation.

SURFACE WATER MANAGEMENT PLAN

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: NA

Page #: NA

Line #: NA

Original General Comment #: 7

Comment: The design basis for the surface water management plan (SWMP) is a 10-year, 24-hour storm event. However, it is not clear why a 10-year, 24-hour storm event was chosen as the design basis. The project area is located in a 100-year flood plain, and a 25-year storm event will flood the area and likely overflow the retention basins. Given the recent meteorologic history of the Ohio Valley, a storm greater than a 10-year, 24-hour storm event could occur during the remediation process. In addition, large, sequential rain events will probably exceed the design capacity of the surface water management system. To adequately protect Paddy's Run and the Great Miami River, the SWMP design should be based on a 25-year, 24-hour storm event. The text should be revised to address this issue.

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: NA

Page #: NA

Line #: NA

Original General Comment #: 8

Comment: The storm water management calculations in the SWMP include calculations related to modeling and design. The calculations include descriptions of assumptions, data sources, and methodologies. However, no explanation of the reasoning behind selection of various model input parameters is included. For example, an explanation of why a 2-year, 24-hour rainfall event was used for sheet flow calculations to determine time of concentration should be included. The calculations should be revised to provide explanations for the selected model input parameters.

SPECIFIC COMMENTS

SITE PREPARATION PLAN

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: 1.4

Page #: 2

Line #: 22

Original Specific Comment #: 1

Comment: The text states that "Only certified soil will be placed in the non-impacted stockpiles." DOE does not clarify what "certified soil" is. The text should be revised to include a definition of "certified soil."

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: 2.0

Page #: 4

Line #: 10

Original Specific Comment #: 2

Comment: The term "retention basins" is used on Line 10, while other sections of the text use the term "sedimentation basins." It is not clear whether these two terms refer to the same thing. The text should be revised to either use one term consistently or clarify the distinction between the terms.

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: 2.8

Page #: 8

Line #: 5-8

Original Specific Comment #: 3

Comment: The text states that the impacted soil will be placed on an impacted material stockpile. It is not clear, however, whether the impacted material stockpile will be located on a geomembrane to separate it from the underlying soil, as is the case for the nonimpacted material stockpile described in Section 2.9. The text should be revised to clarify this issue. Additionally, the text indicates that the stockpiled material will be mulched and seeded to minimize erosion. Unless the soil is rich in organic material (such as topsoil), it will be difficult to grow any grass on it. Moreover, it is not clear how erosion will be minimized during the initial seeding and germination period or how the moisture required for growth will be maintained in the rooting zone of the stockpile. Because the stockpiled material would continue to erode until a good stand of grass was established, covering of the stockpiled material with geomembrane covers should be considered instead of seeding. The text should be revised to address this issue.

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: 2.9

Page #: 8

Line #: 16

Original Specific Comment #: 4

Comment: The text states that the stockpiled material will be mulched and seeded to minimize erosion. Original Specific Comment 3 applies here and should be addressed.

SITE PREPARATION DESIGN DRAWINGS

Commenting Organization: U.S. EPA

Commentor: Saric

Drawing Sheet #: G0004

Page #: NA

Line #: NA

Original Specific Comment #: 5

Comment: The line symbol used on drawing sheet X003 to illustrate the 100-year flood plain is also used to indicate the baselines and limits of soil stripping on drawing sheet G0004. Use of one symbol to illustrate different features is confusing and should be avoided. Drawing sheet G0004 should be revised to use different line symbols for the baselines and limits of soil stripping.

Commenting Organization: U.S. EPA

Commentor: Saric

Drawing Sheet #: G0005

Page #: NA

Line #: NA

Original Specific Comment #: 6

Comment: The contour lines used on this drawing sheet to illustrate ditches, berms, and retention basins are difficult to read because the contour line elevations are missing. Additionally, Ditch No. D2 is not drawn correctly in its northern portion, eastern contour line 545 apparently does not connect to existing contour line 545, Ditch No. D2 is not labeled and is missing from the schedule, the culvert running north from Ditch No. D8 is not labeled, and the ditch north of the point where the culvert originates is not labeled. Drawing sheet G0005 should be revised to correct these deficiencies.

Commenting Organization: U.S. EPA

Commentor: Saric

Drawing Sheet #: G0006

Page #: NA

Line #: NA

Original Specific Comment #: 7

Comment: Original Specific Comment 6 applies here and should be addressed. In addition, the new contour lines running north from Ditch No. D8 are mislabeled and do not agree with the contour lines shown on drawing sheet G0008. Moreover, it is difficult to determine whether these new contour lines represent a berm, a ditch, or both because no elevations are shown. According to drawing sheet G0008, one represents a berm and one represents a ditch. Finally, Ditch No. 8 is not labeled. Drawing sheet G0006 should be revised to correct these deficiencies, the contour lines should be checked, and the proper elevations should be shown.

Commenting Organization: U.S. EPA

Commentor: Saric

Drawing Sheet #: G0007

Page #: NA

Line #: NA

Original Specific Comment #: 8

Comment: The depression area upstream from Culvert No. 5 should have labeled contour lines, as it is difficult to determine whether this area is a depression or hill. The drawing sheet should be revised to clearly label all contours.

Commenting Organization: U.S. EPA

Commentor: Saric

Drawing Sheet #: G0008

Page #: NA

Line #: NA

Original Specific Comment #: 9

Comment: Original Specific Comments 7 and 8 apply here and should be addressed.

Commenting Organization: U.S. EPA

Commentor: Saric

Drawing Sheet #: G0009

Page #: NA

Line #: NA

Original Specific Comment #: 10

Comment: The "Geomembrane Liner/Infiltration Barrier" note points to the wrong line in Sections A and B. Additionally, the right side of Section A is not drawn properly. According to the plan, the anchor trench should end at elevation 540, and the existing contour line 541 should be 15 feet away from new contour line 540. Drawing sheet G0004 should be revised to correct these deficiencies.

Commenting Organization: U.S. EPA

Commentor: Saric

Drawing Sheet #: G0010

Page #: NA

Line #: NA

Original Specific Comment #: 11

Comment: First, contour line 540 in the bottom portion of the plan is mislabeled. Second, the "Geomembrane Liner/Infiltration Barrier" note in Section A is pointing to the wrong line. Third, the significance of the heavy horizontal line drawn at elevation 541 in Section B is unclear. The drawing sheet G0010 should be revised to correct these deficiencies.

6

Commenting Organization: U.S. EPA

Commentor: Saric

Drawing Sheet #: G0011

Page #: NA

Line #: NA

Original Specific Comment #: 12

Comment: The top of the geomembrane trench elevation shown in Sections A and B does not agree with the plan. Additionally, Ditch No. D10, which is not labeled, appears to be very steep and may require erosion protection between elevation 547 and the retention basin. Also, the pipelines shown on the plan are not labeled on this drawing sheet. Drawing sheet G0011 should be revised to correct these deficiencies.

Commenting Organization: U.S. EPA

Commentor: Saric

Drawing Sheet #: G0013

Page #: NA

Line #: NA

Original Specific Comment #: 13

Comment: Two of the lift stations are of the duplex type; however, Lift Station Detail No. 4 shows only one pump. Also, it is difficult to visualize the arrangement of the discharge piping inside the lift station. Typically, a duplex-type lift station has its discharge piping oriented in a way opposite from that shown and all valves are placed outside the lift station in a valve manhole or vault. As the lift station is shown, it will be impossible to install 6-inch discharge piping and all the required valves inside the 54-inch-diameter lift station while leaving adequate space and clearance for removal of the pumps. Additionally, the air release valve is usually installed upstream from the check valve unless the piping inside the lift station is the "high point" in the system. Moreover, the air release valve should be installed in the common discharge pipeline downstream from the junction of the two pump discharge lines. Drawing sheet G0013 should be revised to correct these deficiencies.

Commenting Organization: U.S. EPA

Commentor: Saric

Drawing Sheet #: G0014

Page #: NA

Line #: NA

Original Specific Comment #: 14

Comment: This drawing sheet has five graphic scales. Typically two scales should be used as on drawing sheet G0011: one for vertical scale and one for horizontal scale. Additionally, "DW-6" on Profile A is not shown or labeled on the plans. Drawing sheet G0014 should be revised to correct this deficiency.

Commenting Organization: U.S. EPA

Commentor: Saric

Drawing Sheet #: G0016

Page #: NA

Line #: NA

Original Specific Comment #: 15

Comment: The profile on this drawing sheet indicates a pipeline crossing an abandoned 60-inch storm sewer in a 14-inch D.I. sleeve. It is not clear why it is necessary to cross an abandoned storm sewer in this manner. If the storm sewer is no longer in use, a section of it should be removed, the open ends plugged, and the new pipeline installed properly in the ground. Additionally, in profile A, it is not clear why the pipeline shown west of the SWRB Spillway has only 5 feet of cover but the same pipeline on the east of the SWRB spillway is shown with more than 10 feet of cover. These matters should be clarified and the drawing sheet revised accordingly.

Commenting Organization: U.S. EPA

Commentor: Saric

Drawing Sheet #: G0017

Page #: NA

Line #: NA

Original Specific Comment #: 16

Comment: No shutoff valve is shown on the water line to the post hydrant. Typically a shutoff valve is provided near a post hydrant to shut off the water flow in the event of an emergency. Additionally, the 4-inch-diameter drain from the trench drain is too small. This drain system is for removal of soil,

7

mud, and so on from vehicles, and enough solids will be generated to plug a 4-inch-diameter drain. The minimum diameter of any sewer in a high solids area is typically 8 inches. Also, an installation of this type should have a catch basin upstream from the oil-water separator to keep heavy solids from accumulating in the oil-water separator. Drawing sheet G0017 should be revised to correct these deficiencies.

SURFACE WATER-MANAGEMENT PLAN

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: 2.2.4

Page #: 2-3

Line #: NA

Original Specific Comment #: 17

Comment: According to the text, previous hydrologic modeling indicated that the runoff from a 25-year storm would flood the retention basin area and likely overtop the retention basins. In addition, the text states that in the event of a storm exceeding the 10-year, 24-hour storm event, water may flow into the overflow outlets rather than out of them. There appears to be a discrepancy between these statements. It is not clear how water from the surrounding, flooded areas would flow into the retention basins via the overflow outlets when the retention basins themselves were overflowing. The text should be revised to resolve this apparent discrepancy.

Commenting Organization: U.S. EPA

Commentor: Saric

Section #: 5.2.2

Page #: 5-3

Line #: NA

Original Specific Comment #: 18

Comment: This section outlines the excavation sequencing plan in 12 steps. It is not clear how the excavation sumps discussed in Section 2.2.2 of the SWMP fit into the excavation sequencing plan. In addition, it is not clear whether the excavation sequencing plan applies to retention basin and ditch construction as well as to site remediation. The text should be revised to incorporate the excavation sumps and to clearly identify the activities covered by the excavation and sequencing plan.

