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RESPONSE TO UNITED STATES ENVIRONMENTAL PROTECTION AGENCY COMMENTS ON THE TECHNICAL SPECIFICATIONS FOR THE SOUTH FIELD EXTRACTION SYSTEM PHASE II

Reference: Letter, J. A. Saric to J. W. Reising, "South Field Phase II Technical Specifications," dated November 26, 2002

Enclosed please find draft responses to the United States Environmental Protection Agency (USEPA) comments on the technical specifications for the South Field Extraction System Phase II.

If you have any questions, please contact Robert Janke at (513) 648-3124.

Sincerely,

Johnny Reising

Johnny W. Reising
Fernald Remedial Action
Project Manager

FCP:R.J. Janke

Enclosure: As Stated

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cc w/enclosure:
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RESPONSE TO U. S. EPA COMMENTS ON THE TECHNICAL SPECIFICATIONS FOR THE SOUTH FIELD EXTRACTION SYSTEM PHASE II

Section #: 15060 Page #: N/A Line #: N/A
General Comment # 1:
Comment: The piping material data sheets in Attachment A are for carbon steel and polyvinyl chloride (PVC) piping. However, Drawings 95X-5500-G-02067 through 95X-5500-G-02072 show high-density polyethylene (HDPE) piping. The document and drawings should be revised to clarify whether PVC or HDPE piping will be used in the extraction well distribution system. If HDPE is the proposed piping material, a piping material data sheet for HDPE piping should be included in Attachment A. Also, all piping material data sheets should include the pipe stiffness (in pounds per square inch [psi]), the minimum tensile strength (in psi), and the modulus of elasticity (in psi). In addition, allowable pipe deflections should be indicated in the specifications for flexible pipe (PVC and HDPE).
Response: The drawings are clear on where the different types of piping materials are to be used. The Piping and Instrumentation Diagram drawings (95X-5500-N-02109, 02110) indicate the type of pipe material by the coding in pipe line number, A-steel, B-PVC, B4-HDPE, and M-Ductile Iron.
Neither the HDPE or ductile iron pipe were included in the piping material data sheets in Attachment A, Section 15060, because they are both specified under Section 02667, Site Water Lines. This is consistent with past extraction/injection well projects.
Action: No action required

Section #: N/A Page #: N/A Line #: N/A
General Comment # 2:
Comment: The specifications should be reviewed to be sure they comply with the 2002 Ohio Basic Building Codes (OBBC) and Construction and Material Specifications.
Response: Agree
Action: The specifications will be reviewed to see that they comply with the 2002 Ohio Basic Building Codes (OBBC) and Ohio Department of Transportation (ODOT) 2002 Construction and Material specifications.

Section #: 01010 Page #: 1 to 7 Line #: N/A
Specific Comment # 1
Comment: A list of references for Section 01010 should be added to Article 1.4, References. Specifically, complete references should be listed for the Integrated System Construction acceptance Test (ICAT) and the specific site procedures cited in this section, including MS-1001, ED-12-6003, and RM-0034.
Response: Listing a reference for the Integrated Construction Test is not applicable since each test procedure is job specific and is generated by the contractor. Fluor

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Fernald provides the contractor with an example test procedure to follow and mentors him until final approval of the document.

Action: MS-1001 and RM-0034 will be deleted from the specification since they have been cancelled. References will be given in Article 1.4 for ED-12-6003 and RM-2001.

Section #: 01010 Page #: 2 Line #: N/A

Specific Comment # 2:

Comment: In Article 1.1.I, the citation of the OBBC should be updated from the 1995 version to the 2002 version.

Response: Agree

Action: The citation of the OBBC in Article 1.1.I will be updated to 2002

Section #: 01010 Page #: 3 Line #: N/A

Specific Comment # 3:

Comment: The first line of Article 1.2.B states that four extraction wells will be added, but the last line of the paragraph states that three wells will be drilled and cased. The text should be revised to resolve this inconsistency.

Response: Agree

Action: The last line of Article 1.2.B will be changed from three to five to make it consistent with the first line.

Section #: 02110 Page #: 2 Line #: N/A

Specific Comment # 4:

Comment: The section should be revised to address several issues. First, fugitive emissions should be primarily controlled with water. Consideration should be given to whether a chemical additive is really needed or if water would provide adequate fugitive emission control. Any chemical additive used should be non-petroleum-based, nonreactive with the site's chemicals of concern, and applied in accordance with manufacturer specifications. A chemical additive should not be used near any body of water or near any sensitive environments, such as Patty's Run.

Response: Section 02110 is a general specification for site clearing and does not imply that chemical additives shall be used for fugitive emission control. Article 3.2.A.3 states that " fugitive emissions, principally dust, shall be controlled by water-misting techniques". The controlling document for the control of fugitive emissions is Exhibit D, of Part 6 of the construction contract. This exhibit details what a contractor has to do to control fugitive emissions on site.

Action: No action required

Section #: 02200 Page #: 4 Line #: N/A

Specific Comment #5:

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Comment: Articles 2.1.B, 2.1.C, and 2.1.D should consider stating that subsoil types S1, S2, and S3 must not contain any organic materials such as stems, roots, weeks, or animal remains.

Response: The soil types S1, S2, S3 are adequately described and classified in the specifications. The subsoil is to be free of debris and the topsoil free of debris, weeds and foreign matter. Qualified, union equipment operators are schooled to separate stems, roots, weeds and foreign matter from soil while excavating and backfilling.

Action: No action required

Section #: 02200 Page #: 6-8 Line #: N/A

Specific Comment # 6:

Comment: In Article 3.2, the reference for compaction specifications should be moved from Paragraph G to Paragraph F.

Response: Agree

Action: The "G" reference in 3.2.A.8 is a typing error and will be changed to "F".

Section #: 02200 Page #: 7 Line #: N/A

Specific Comment # 7:

Comment: In Article 3.2.A.8, the text should be revised to define "controlled density fill."

Response: Controlled Low Strength Material – Controlled Density Fill is well known to contractors and is commercially available under a variety of names: K-Krete, M-Crete, Darafill, Flash Fill, Flowable Fill, Flowable Mortar and Unshrinkable Fill. The fill is defined by the regulation requirements that the producer must comply with in its manufacture.

Action: No action required

Section #: 02200 Page #: 7 Line #: N/A

Specific Comment # 8:

Comment: In Article 3.2.A.9, organic material should be considered for addition to the list of materials to be removed from an excavation.

Response: Qualified equipment operators. employing accepted construction practices, know to remove and separate organic materials from the soil while performing excavating activities. The word debris is inclusive for all foreign materials.

Action: No action required

Section #: 02200 Page #: 8 Line #: N/A

Specific Comment # 9:

Comment: Article 3.2.D regarding fill over underground utilities and Drawing 95X-5500-G-02075 indicate Class "B" bedding (American Association of State Highway and Transportation Officials [AASHTO] T-99) conditions, which involve backfilling to the spring line. Because a flexible conduit must successfully interact with the

surrounding soil to support its load, the type of backfill and method of placement used are more critical then the trench width or bedding. The type of backfill and method of placement used will depend on the properties of the piping selected (see Original General Comment 1). Generally, flexible piping should be supported by granular backfill conforming to ODOT Construction and Material Specifications 603 (such as A2 or A3 specified in Section 0200) to a point 1 foot above the pipe because PVC and HDPE piping does not have the long-term beam strength that steel or concrete has. All backfill with 1 foot of the piping is typically compacted using a vibrating-foot tamper or similar equipment to avoid damaging the piping. Article 3.2.D and Drawing 95X-5500-G-02075 should be reviewed and modified as necessary.

Response: Both Article 3.2.D and the typical pipe bedding details on sheet 95X-5500-G-02075, call for A3 sand for pipe bedding. The bedding and the back-filling details as shown, have been the approved details for HDPE pipe installations since 1996 when Phase 1 of the South Field Extraction System was installed. That pipe system and all subsequent extraction/injection pipe systems using class SDR 11 HDPE pipe and the installation details as shown, have been problem free.

Action : No action required

Section #: 02200 Page #: 8 Line #: N/A

Specific Comment # 10:

Comment: In Article 3.2.E.4, consider revising the text to state that topsoil must be rolled with a smooth-drum, nonvibrating roller.

Response: In Article 3.2.E.4 the term roll implies that a non-vibrating, smooth-drum roller is to be used.

Action: No action required

Section #: 02900 Page #: 1 Line #: N/A

Specific Comment # 11:

Comment: In Article 1.1.A, the term "crusting agent" should be defined.

Response: Crusting agent is described in Article 2.1.E of section 02270 of the specifications.

Action: No action required

Section #: 02900 Page #: 4 Line #: N/A

Specific Comment # 12:

Comment: In Article 2.1.D, consider revising the text to state that the mulch binder should not be composed of chloride, lingo sulfonate, petroleum, or asphaltic emulsions. Also consider stating that, once cured, the mulch binder should be nontracking (that is, it should not stick to boots or tires). Article 2.1.d should be reviewed and modified as necessary.

Response: Section 2900 is the latest (approved by the regulators) revision of the site wide soil preparation and seeding specification. The document is due for a revision shortly.

Action: Article 2.1.D will be reviewed at the time of the scheduled document revision to see if modifications are necessary.

Section #: 02900 Page #: 5 Line #: N/A
Specific Comment # 13:
Comment: In Article 3.2.F., permanent slopes between 2H:1V and 3H:1V should be stabilized.
Response: Agree
Action: Article 3.2.F will be changed to read: Stabilization of permanent slopes 3H:1V (horizontal to vertical) and greater, shall utilize an erosion mat after application of seed mixture.

Section #: 09900 Page #: 6 Line #: N/A
Specific Comment # 14:
Comment: Article 3.1.B should be revised to state that the electronic moisture meter should be designed for use with the type of material whose moisture content is to be measured. Required meter specifications should be listed in Article 2.2. Included in these specifications should be the meter's range of operation, the meter's accuracy, and a requirement for use of a pinless model. The specifications should also state what moisture content is considered to be "dry."
Response: The quantity and type of painting is minimal for the project work. The use of a moisture meter is for the painting contractor's benefit, since any paint improperly applied is to be redone at his expense.
Action: No action required

Section #: 13400 Page #: 10 Line #: N/A
Specific Comment # 15:
Comment: Article 3.2.B.1 should consider stating that only non-petroleum-based sealant compound may be used and PVC sealant compound should not be used.
Response: For the type of instrumentation being installed the description in Article 3.2.B.1 is adequate.
Action: no action required

Section #: 13400 Page #: 10 Line #: N/A
Specific Comment # 16:
Comment: Article 3.2.G.3 should consider stating that prior to final construction of tubing to be connected to the instruments, every component must be cleaned by a method that complies with manufacturer specifications.
Response: Under Article 3.5, Cleaning, Item A. states "Instruments shall be cleaned in accordance with manufacturer's recommended cleaning procedures.
Action: No action required

Section #: 15060 Page #: 8 Line #: N/A

Specific Comment # 17:
Comment: Article 3.2.A should be reviewed to be sure it complies with ASME B34.3.
Response: A reference to ASME B34.3 could not be found. Article 3.2.A.1 is correct as stated: "in accordance with ASME B31.3".
Action: No action required

Section #: 16370 Page #: 10 Line #: N/A
Specific Comment # 18:
Comment: Article 3.2.0 should be reviewed to consider whether other methods used to verify the area is free of underground obstructions may be used.
Response: All penetrations greater than 6" in depth are required to have an approved penetration permit. This requirement is in Part 8 of the construction contract. The permit directs the contractor on the method or methods of probing to use to verify an area is free of underground obstructions if necessary. Probing with a steel rod is normally a part of the method.
Action: No action required

Drawing #: 95X-5500-G-02067
Specific Comment # 19:
Comment: The drawing should be reviewed to consider burying the piping from injection well 29 to the infiltration pond to at least frost depth, which is 3 feet below ground surface.
Response: The bank, south of the east/west access road, is unstable and subject to erosion. Digging to bury the line could further destabilize the bank and is deemed to be unnecessary, as the line is open-ended and self-draining.
Action: No action required

Drawing #: 95X-5500-G-02069
Specific Comment # 20:
Comment: The drawing should be revised to tie in detail 9/-02075, which is not shown in the drawing.
Response: The detail is typical for two pipes in a trench and sheet 02069 is the only sheet showing two parallel lines. Detail 9 is tied to 02069 by the circle with the 9 on top and 02069 below it at the end of the title line.
Action: No action required

Drawing #: 95X-5500-G-02071
Specific Comment # 21:
Comment: Consider revising the drawing to show the piping 3 feet below ground surface.
Response: All profiles on sheet 02071 show the piping 3' feet below grade except for the intended above grade steel piping at the well houses and control platforms.
Action: No action required

Drawing #: 95X-5500-G-02072
Specific Comment # 22:
Comment: Consider revising the drawing to show the piping 3 feet below ground surface. Also, the cross section should be extended to show where the piping ties into the infiltration pond.
Response: See specific comment #19, for reasons that the infiltration pond line is not buried. The only other piping not buried is the intended above grade steel piping as mentioned above, in #21.
The profile is correct as shown for ending of the infiltration line at the pond area. The intent is for no fixed tie-in at the pond, just an on-grade ending at the edge of the pond.
Action: No action required

Drawing #: 95X-5500-G-02074
Specific Comment # 23:
Comment: The drawing should be revised to show the building dimensions in details 1 through 3. Also, detail 4 should show the type of cover to be used for the air bleed valve.
Response: Building dimensions are not necessary for details 1through3. The intent of the details is to give the contractor an idea of the size and configuration of the graveled areas around the well houses for biding purposes. Building dimensions are on the Architectural Plan and Elevations sheet 02078 as they should be.
Detail 4 on sheet 02074 does show the type of cover to be used for the air bleed valve. The detail calls for Neenah Model R-1976 frame and cover.
Action: No action required