Department of Energy
Ohio Field Office
Fernald Area Office
P. O. Box 538705
Cincinnati, Ohio 45253-8705
(513) 648-3155

2251

MAY 28 1999

Mr. James A. Saric, Remedial Project Manager
U.S.Environmental Protection Agency
Region V-SRF-5J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

DOE-0796-99

Mr. Tom Schneider, Project Manager
Ohio Environmental Protection Agency 401 East 5th Street
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

INTERIM LEACHATE CONVEYANCE SYSTEM

The Fernald Environmental Management Project (FEMP) has recently completed construction and testing of the slipline and temporary above grade pipeline installed to address the identified leaks in the On-Site Disposal Facility (OSDF) Leachate Conveyance System. Final punch list items such as the covering of the above grade pipeline and backfilling in select areas are presently underway. These remaining punch list items do not affect the operability of the system.

During the expedited installation of the new leachate line and the completion of the sliplining, a number of necessary changes or deviations from the planned design (submitted on 5-19-99) were implemented in the field following analysis by Fluor Daniel Fernald, Inc. (FDF) construction and engineering personnel.

Each of these has been dispositioned as a Design Change Notice or a Non-Conformance Report. A listing of each of these changes/deviations from the design plan are provided in Enclosure 1 to this correspondence. This enclosure also provides a brief summary of the basis of the final disposition of each of the changes/deviations.

As you are aware, full time quality control oversight was provided on all project construction and testing activities. The inspection and testing records generated by this effort are available for review at the site upon request. On the basis of the results of this oversight and disposition of identified non-conforming conditions, the FDF Quality Assurance organization has issued a determination that the system has been installed in a manner appropriate for the design intent. A similar determination has been issued by GeoSyntec Consultants. A copy of these determinations is provided as Enclosures 2 and 3.

On May 25th, the FEMP initiated a Standard Startup Review (SSR) which is an internal, but project independent pre-operational readiness assessment, sanctioned by Department of Energy (DOE), to examine the adequacy of the system and organization for continuous operation. The SSR final report was completed on May 28, 1999, and identified two pre-startup conditions, which were the receipt of the final video taped inspection of the slipline installation and final acceptance of the system by Operations. The final video inspection was received on May 28, 1999 at which time the transfer to Operations occurred. A final statement of readiness was issued by the Project Team and authorized by FDF senior management providing authorization to start the system up. Following receipt of your concurrence, the system will be brought into operation. As you may be aware, the operational responsibility for the system, and the monitoring, trending and reporting of the data from the system has been transferred to the FDF Aquifer Restoration and Wastewater Project (ARWWP). The SSR process independently validated that the ARWWP personnel are adequately trained and qualified to operate the system in accordance with established and approved plans and procedures. Following system startup, those punch list items that are required to be completed for the construction effort, but not required for system operation such as backfilling some excavations, installing gravel and seed, will be completed on a scheduled basis. The SSR startup letter is included as Enclosure 4.

DOE requests your concurrence to startup the system and suspend the use of the Leachate Management Contingency Plan. As required per the plan, DOE will submit to both agencies notification that the implementation of the contingency plan has been terminated.

DOE would like to express appreciation to Ohio Environmental Protection Agency and U.S. Environmental Protection Agency for their support and cooperation in working with the FEMP in addressing the situation with the Leachate Conveyance System.

If you require additional information or clarification, please contact Jay Jalovec at 648-3122.

Sincerely,

Johnny Reising

FEMP:Jalovec

Johnny W. Reising
Fernald Remedial
Action Project Manager

Enclosures

cc w/enclosures:

N. Hallein, EM-42/CLOV
R. Janke, OH/FEMP
G. Jablonowski, USEPA-V, SRF-5J
R. Beaumier, TPSS/DERR, OEPA-Columbus
T. Schneider, OEPA-Dayton (three copies of enclosures)
F. Bell, ATSDR
M. Schupe, HSI GeoTrans
R. Vandegrift, ODH
F. Barker, Tetra Tech
AR Coordinator, FDF/78

cc w/o enclosures:
J. Reising, OH/FEMP
A. Tanner, OH/FEMP
D. Carr, FDF/52-2
J. Chiou, FDF/52-0
T. Hagen, FDF/65-2
J. Harmon, FDF/90
R. Heck, FDF/2
M. Hickey, FDF/64
S. Hinnefeld, FDF/31
R. Houchins, FDF/52-5
U. Kumthekar, FDF/64
T. Walsh, FDF/65-2
ECDC, FDF/52-7

ENCLOSURE 1

Change/Deviations from Plan

DESIGN CHANGE NOTICE

Description

No. 1700-091 - Removal of clean out and shutoff value at north side of permanent lift station.

Disposition

Clean out and shut-off valve were removed due to electrofusion couplings not passing preliminary air tests. Interim Leachate System now has all butt-fusion joints. Shut-off valve and/or clean out will be re-installed as part of Permanent System.

NON-CONFORMANCES

Description

FY99-0756 The 6-inch HDPE pipe which was delivered was manufactured to ASTM D 2513 requirements in lieu of ASTM F 714 which was specified.

Disposition

The D 2513 pipe was accepted as is for use. ASTM D 2513 manufacturing standards meets or exceeds the standards referenced in ASTM F 714. The pipe is made of the same base material and carries a PE 3408 classification. The cell classification for the ASTM D 2513 pipe is 345444C which exceeds the minimum specified Cell Classification of 345434C.

Description

FY 99-0755 Change in U-liner tie-in detail at manhole 3

Disposition

The modifications to the tie-in details were accepted. The tie-in was also hydrostatically tested at 15 psi for a duration of 3 hours and passed the requirements of the test.

The area where the U-liner did not completely form to the interior of the SDR 11 pipe was evaluated to determine if the protrusion affected the flow capacity of the Leachate Conveyance System. From the results of the evaluation, the LCS will be

able to handle flow volumes that may result from a 25 year storm event.

Description

FY 99-0757 Receipt of hardcopy of pipe certifications from CSR for sliplining not available at time of installation.

Disposition

The manufacturer of the pipe submitted certifications and test standards indicating the pipe met the test requirements for Cell Classification 345444C which exceed the minimum specified requirements of 345434C. A followup letter was sent by the manufacturer stating the U-liner met the minimum tensile modulus requirements of the specification. The manufacturer also noted pipe stiffness and impact resistance tests are not normally conducted on gravity HDPE products. Since the Cell Class of the U-liner met the minimum test requirements of the original HDPE pipe specification, test results for pipe stiffness and impact resistance will not be required.

The nonconformance report also addresses the lack of carbon black in the U-liner. The manufacturer uses a UV stabilizer which is proprietary to provide equivalent protection to the piping from oxidation.

Description

FY 99-0758 Reduction of Carrier Pipe test pressure for U-liner.

Disposition

During CSR's pre-work video, protruding "lips" were observed at the clean-out "Y"s in the 6 inch HDPE pipe, to ensure that excessive point loading at these lips didn't puncture the liner, test pressure was reduced to 15 psi for a 3 hour duration. Calculations indicate that the 15 psi exceeds 1.5 times the maximum operating pressures at manholes 1,2, and 3, as recommended in ASME Test Standard B31.9 and ASTM Standard Test Method E 1003.

Description

FY 99-0701 Elimination of Guide Posts on above grade line.

Disposition

Existing soil conditions at the inlet and outlet of the storm sewer culvert precluded the use of guide posts. i.e. no lateral support. Use of gravel pipe bedding in tandem with rip rap for bank protection for the exposed length of piping, including wrapping the pipe with HDPE, provided an equal or better "guiding" of the pipe at

both ends of the culvert.

Description

FY 99-0765 Reduction of temperature requirements for reforming U-liner

Disposition

To reduce the elevated skin temperature of the liner, it was recommended by the manufacturer to reduce the steam temperature to ensure the liner would not burst during the reforming process. After the liner was installed and hydrostatic tested, it was inspected using a video camera and found to have formed to the existing SDR 26 pipe.

The fact that the host pipe material was HDPE and not directly buried, but surrounded by an annular space, caused the liner temperature to rise above what is commonly expected.

Enclosure 2

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Dear Mr. Dennis Carr:

QUALITY ASSURANCE ACCEPTANCE OF THE LEACHATE REPAIR PROJECT

Fluor Daniel Fernald's (FDF) Quality Assurance's organization has verified that the Leachate Repair Project was constructed in compliance with the design specifications. Based on this verification, FDF QA certifies that this system has been satisfactorily completed and tested. If you need additional information regarding Quality Assurance matters, please contact me at 513-648-3983, or Mike Godber at 513-648-4930.

Sincerely,

Frank Thompson 5-28-99

Frank Thompson
Soil and Water Project Quality Assurance Team Coach

cc:
Mike Godber, MS64
Mike Hickey, MS64
Jay Jalovec, MS 45
Joe Neyer, MS45
Don Pfister, MS45
Brinley Varchol, MS30
Sue Wolinsky, MS52-2
Project Files - ECDC (20110, File #6.23), MS52-7

ORIGINAL

Enclosure 3

GeoSyntec Consultants

1100 Lake Hearn Drive • Suite 200
Atlanta, Georgia 30342-1523 • USA
Tel. (404) 705-9500 • Fax (404) 705-9400

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28 May 1999

Mr. Michael J. Hickey
Fluor Daniel Fernald
MS: 64
P.O. Box 538704
Cincinnati, Ohio 45253-8704

Subject: Interim Construction Certification
Interim Leachate Conveyance System
On-Site Disposal Facility (OSDF)
Subcontract No. 95PS005028

Dear Mr. Hickey:

The purpose of this letter is to certify that the construction quality assurance (CQA) and construction quality control (CQC) activities performed by GeoSyntec Consultants (GeoSyntec) during construction of the Interim Leachate Conveyance System (ILCS) for the On-Site Disposal Facility (OSDF) is substantially complete.

The ILCS consists of: (i) slip-lining the carrier pipe of the dual-containment system from Manhole No. 1 to Manhole No. 3; and (ii) construction of a temporary leachate gravity line from Manhole No. 3 to the permanent lift station (PLS). The ILCS was constructed based on a retrofit of the leachate transmission system (LTS) from Manhole No.1 to the PLS as a result of detected leakage in the LTS piping system. It is also understood from Fluor Daniel Fernald that additional hydrostatic testing of the permanent LTS containment pipe from Manhole No. 1 to Manhole No. 3 was determined not to be required by the regulators (both US and Ohio Environmental Protection Agency (EPA)) as a condition for interim operation of the ILCS to convey leachate from the cells to the PLS.

GeoSyntec CQC personnel have monitored and documented construction and testing of the piping system for the ILCS. Field reports, logs, testing reports and other associated documentation have been reviewed for accuracy and completeness. GeoSyntec is in the process of completing a final certification report including CQC documentation on the construction of the ILCS. The final certification report will be submitted by the end of June 1999.

Corporate Office:
621 N.W. 53rd Street • Suite 650
Boca Raton, Florida 33487 • USA
Tel. (561) 995-0900 • Fax (561) 995-0925

Regional Offices:
Atlanta, GA • Boca Raton, FL • Chicago, IL
Columbia, MD • Huntington Beach, CA • San Antonio, TX
Walnut Creek, CA • Paris, France

Laboratories:
Atlanta, GA
Boca Raton, FL
Huntington Beach, CA

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Based on our observations and documentation, the OSDF ILCS construction has been completed in accordance with the project specifications, drawings, CQA Plan, and approved design and/or specification changes. All non-conformances associated with the ILCS construction have been resolved through disposition by the Construction Manager with concurrence by the Design Engineer. The construction has been in full compliance with applicable or relevant and appropriate requirements (ARARs), functional requirements and general design requirements described in the Design Criteria Package developed and approved during the design process. On the basis of our observations and testing it is anticipated that the ILCS will be ready to handle leachate from Cells 1 and 2 on 1 June 1999.

If you have any questions, please do not hesitate to contact the undersigned.

Sincerely,

Kwasi Badu-Tweneboah

Kwasi Badu-Tweneboah, Ph.D., P.E.
Certifying Resident Engineer
Ohio P.E. No. E-55354

Copies to: Dennis Carr, FDF
J. D. Chiou, FDF
Rick Holbrook, FDF
E. H. Henry, FDF
Warren Hooper, FDF
Jim Jenkins, FDF
R. J. Janke, DOE
Jay Jalovec, DOE
J.W. Reising, DOE
Jay Beech, GeoSyntec
Jim Burnett, GeoSyntec
David Phillips, GeoSyntec

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FLUOR DANIEL FERNALD

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ENCLOSURE #4

INTEROFFICE MEMORANDUM

To:	John Bradburne, MS 1	**Date:**	May 28, 1999
Location:	Fernald	**Reference:**	Soil and Water Projects Memo M:SWP:99-0029, Leachate Conveyance Gravity Drain System Readiness to Operate
From:	David Brettschneider, MS 52-5	**FD Fernald #:**	M:SWP(ARWWP):99-0036
Location:	Fernald	**Client:**	DOE DE-AC24-92OR21972
Extension:	684-5814	**Subject:**	**LEACHATE CONVEYANCE GRAVITY DRAIN SYSTEM READINESS TO PROCEED AND STARTUP AUTHORIZATION REQUEST**

c: File Record Subject - 20110.5.16
Tim Arnold, FDF, MS 52-5
Dennis Carr, FDF, MS 52-2
Mike Hickey, FDF, MS 64
Steve Collier, FDF, MS 52-2
Mark Collins, FDF, MS 32
Joe Desormeau, DOE-FEMP, MS 45
Randy Gist, DOE-FEMP, MS 45
Ev Henry, FDF, MS 52-5
William Hertel, FDF, MS 52-5
Ron Houchins, FDF, MS 52-5
Jim Jenkins, FDF, MS 64
John Kappa, DOE-FEMP, MS 45
Keith Lanning, FDF, MS 31
Don Pfister, DOE-FEMP, MS 45
Jay Jalovec, DOE-FEMP, MS 45

A Standard Startup Review (SSR) of the Leachate Conveyance Gravity Drain System has been completed. The Pre-start conditions identified by the Project in the referenced memo (as amended by revision 1) have been corrected or resolved. Specifically, the post repair video inspection has been satisfactorily performed.

The SSR Final report has been provided, documenting that the material condition, training and operational management of the system are adequate for continuous system operation. All other Pre-start conditions identified by the SSR Team during the Review have been properly closed, and a plan of corrective action has been developed and concurred in by the team leader for the Post -start Findings identified by the Team. All Post-start Findings have been entered into the Commitment Tracking System.

The Project is ready to proceed to startup, pending your approval by signature below:

Startup Authorized Dennis Carr for
John Bradburne Date 5-28-99

RWH

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