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APR 19 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-0662-99

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

Dear Mr. Saric and Mr. Schneider:

TRANSMITTAL OF ON-SITE DISPOSAL FACILITY LEACHATE CONVEYANCE SYSTEM LEAK INVESTIGATION REPORT

BACKGROUND

During the months of February and March 1999, four leaks were identified in the leachate conveyance system. Three of the leaks involved failure at the electrofusion couplings. The fourth leak appears to be caused by construction equipment. At the request of the Fluor Daniel Fernald, Inc. (FDF) leadership team, an independent investigation team was formed to evaluate these leaks. This letter transmits the investigation team's report, On-Site Disposal Facility (OSDF) Leachate Conveyance System Leak Investigation Report, and the Evaluation of Leachate Transmission System Report, Analysis by the Engineer of Record GeoSyntec Consultants, Inc. (GeoSyntec).

REPORTS

The FDF investigation team was formed in March 1999. The team composition included professional civil engineers, a mechanical engineer, and a piping engineer. The scope for the team's investigation was to determine the root cause(s) of the leaks. The enclosed report titled, "Leachate Conveyance System Leak Investigation," presents the team's finding and conclusions. Also, during the course of the investigation, the team requested GeoSyntec to evaluate the leachate conveyance system components as a parallel effort with equivalent objectives. The GeoSyntec report is included as an enclosure to the FDF investigation team's report.

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In general the reports identified two probable failure modes. The first mode is the improper installation of three electrofusion couplings. Leaks occurred at these couplings due to inadequate surface preparation, dirt or moisture entering the fusion zone, or misalignment /improper seating of the pipe in the coupling. The second failure mode was a construction induced failure, most probably as a result of a bump by equipment during backfilling. Other causal factors are discussed in detail in the enclosed reports.

As you are aware, at least two other leak locations are known to exist on the pipeline. Attempts to isolate these leak locations and investigate their origin have been suspended. Formal responses to the U.S. Environmental Protection Agency (U.S. EPA) and Ohio Environmental Protection Agency (OEPA), concerns previously provided to Department of Energy (DOE), will be provided in a separate transmittal.

ISSUE RESOLUTION

In parallel with the report preparation, FDF formed a team focused on corrective actions. It is the team's charter to evaluate feasible options for placing the leachate transmission system back in operation. The team is composed of FDF and GeoSyntec representatives (environmental compliance personnel, engineers, procurement personnel, and construction managers plus engineers from GeoSyntec) with informal participation by representatives of the DOE, U.S. EPA, and OEPA. This team meets approximately four times per week (Monday through Thursday) to discuss barriers, major issues, and key decision points.

PATH FORWARD

The first step of a corrective action path forward was completion of investigation of the root causes of the leaks as documented in the enclosed reports. It is recommended that there be immediate face-to-face follow-up with you to ensure your understanding and acceptance of the conclusions of the reference reports.

With the probable root causes emerging over the past few weeks, as stated above, the issue resolution team has focused on a corrective action path forward. As a result, DOE recommends a two-part solution. Part one is the restoration of the current leachate transmission system. Part two is to accelerate the design and installation of the permanent leachate transmission system.

The restoration of the current system has three components. The first component is the leachate line from manhole 1 to manhole 3. The second component is the leachate line from manhole 3 to the permanent lift station. The third component is on enhanced Systems Plan. The team's recommendation for the first component is to slip line the 6-inch carrier pipe from manhole 1 to manhole 3. The second component is replacement of the existing leachate line from manhole 3 to the permanent lift station with an above and below grade gravity line. Also, butt fusion welding techniques will be maximized during the installation. The third component of the restoration is an enhanced systems

plan to monitor the leachate conveyance system. The enhanced systems plan will address monitoring requirements for the leachate line from manhole 1 to manhole 3, including the leachate line back into the OSDF cells and the interim leachate line from manhole 3 to the permanent lift station, and from the permanent lift station to the biosurge lagoon. This plan is in its early stages of development.

It is our intent to continue to share the details of the planned repair process on a real time basis with the U.S. EPA and OEPA to facilitate expeditious consensus. This will culminate with a formal request for consensus/approval with a series of Design Change Notices (DCN) enclosed as appropriate. These DCNs will cover fully those items/issues that the regulators have indicated verbally must be included in our formal request.

In conjunction with the restoration of the existing leachate line, GeoSyntec has been requested to prepare the Certified for Construction drawings for the permanent leachate transmission system. This work effort is currently scheduled to finish in late summer of 1999.

If you have any questions or require additional clarification, please contact Jay Jalovec at (513) 648-3122.

Sincerely,

Johnny Reising

FEMP:Jalovec

Johnny W. Reising
Fernald Remedial Action
Project Manager

Enclosure

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cc w/enclosure:
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T. Schneider, OEPA-Dayton (total of 3 copies of Volume 1 only)
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