Department of Energy

Ohio Field Office
Fernald Environmental Management Project
P. O. Box 538705
Cincinnati, Ohio 45253-8705
(513) 648-3155

MAY 4 2004

DOE-0241-04

Mr. James A. Saric, Remedial Project Manager
United States Environmental Protection Agency
Region V, SR-6J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

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

Mr. Pete Sturdevant
Compliance Specialist
Air Quality Management Division
Hamilton County Department of Environmental Services
250 William Howard Taft Road
Cincinnati, Ohio 456218-2660

Dear Mr. Saric, Mr. Schneider, and Mr. Sturdevant:

QUARTERLY REPORT ON DRYER STACK, APRIL 2004

The purpose of this letter is to transmit the Quarterly Report on Dryer Stack for the Waste Pit Project (WPP) at the Fernald Closure Project (FCP) to the United States Environmental Protection Agency (USEPA), the Ohio Environmental Protection Agency (OEPA), and the Hamilton County Department of Environmental Services (DOES).

In response to the OEPA comments on the Draft Remedial Action Package, the DOE-FCP, Fluor Fernald, Inc., and Shaw Environmental, Inc. agreed to provide quarterly reports of any deviations or excursions from emissions limitations, operational restrictions, and control device operating parameter for the dryer stack. If no deviations or excursions occurred during the affected calendar quarter, a report stating so is required.

The information contained in this letter and the enclosure satisfies the commitment for Calendar Quarter January 1 through March 31, 2004. Specifically, there are three incidents to report for the time period. The information was reported to the DOES, via electronic mail. Copies of the electronic mail reports are enclosed.

Recycled and Recyclable

No additional deviations or excursions occurred during the referenced time period.

If you have any questions or comments, please contact Dave Lojek at (513) 648-3127.

Sincerely,

W J Taylor

FCP:Lojek

William J. Taylor
Director

Enclosures: As Stated

cc w/enclosures:
D. Lojek, OH/FCP
T. Schneider, OEPA-Dayton (three copies of enclosure)
G. Jablonowski, USEPA-V, SR-6J
F. Bell, ATSDR
M. Cullerton, Tetra-Tech
M. Shupe, HSI GeoTrans
R. Vandegrift, ODH
AR Coordinator, Fluor Fernald, Inc./MS78

cc w/o enclosures:
K. Johnson, OH/FCP
M. Cherry, Fluor Fernald, Inc./MS52-1
T. Hagen, Fluor Fernald, Inc./MS1
P. Shanks, Fluor Fernald, Inc./MS65-2
T. Walsh, Fluor Fernald, Inc./MS52-3
D. Zdelar-Bush, Fluor Fernald, Inc./MS52-1
ECDC, Fluor Fernald, Inc./MS52-7

From: Shanks, Pat Sent: Wednesday, January 21, 2004 9:50 AM
To: Peter.Sturdevant@does.hamilton-co.org
Cc: Murphy, Con; Carr, Dennis; Johnston, Frank; Spotts, Phil; Zdelar-Bush, Diane; Couch, Mark; Cherry, Mark; Dalga, Dennis; Limerick, Phil; Philpot, Paul; Desormeau, Joe; Reising, Johnny; Everson, Bob; Lojek, Dave; Skintik, Ed; Yaeger, Daniel; Miller, Barry; Rogers, Linda K; Duckworth, Robert; 'Saric.James@epa.gov'; 'Tom.Schneider@epa.state.oh.us'; 'Bill.Lohner@epa.state.oh.us'
Subject: Notification of OEPA- Failure of HEPA Filters at WPRAP on 1/19/04

Mr. Sturdevant

Pursuant to OAC 3745-15-06, this e-mail message serves as a notification of OEPA for a malfunction that occurred at WPRAP. On 1/19/04, Maintenance personnel went out to WPRAP to replace the HEPA filters inside Train A of the HEPA Filtration System. The HEPA Filtration System is part of the WPRAP Dryer-Gas Cleaning System. The HEPA filters needed to be replaced because the differential pressure across the filters had increased to the set point for filter replacement. Prior to removing the HEPA filters, the Maintenance Crew performed an in-place test of the filters to verify that the filters had not failed during service. The HEPA filters failed the in-place test with a particulate removal efficiency of 99.90%. A removal efficiency of 99.97% or greater would be considered passing. The failed HEPA filters had been in service since 1/15/04. When the failed HEPA filters were originally installed, the Maintenance Crew did perform an in-place test on the filters and the filters passed the in-place test at a particulate removal efficiency of 99.99%.

The failed HEPA filters were replaced with new HEPA filters. The Maintenance Crew performed an in-place test on the new HEPA filters after installation and the filters passed the in-place test with a particulate removal efficiency of 99.985%. Prior to removing the failed HEPA filters, the Maintenance Crew observed that the HEPA filters were wet. No other observations were made during the inspection such as the HEPA filter gasket shifted out of place or holes in the filter media. Investigation has begun into the cause of the wetting problem of the HEPA filters and how to prevent the wetting problem in the future. Also, plans are being made to clean inside the HEPA Filtration System to remove any material buildup and improve the seal around the HEPA filters.

While the failed HEPA filters were in service, the beta detector on the stack monitoring system did not alarm. The beta detector would alarm if radionuclides were collecting on the sample filter for the stack monitoring system. A high beta alarm by the beta detector would signify that radionuclides were bypassing the HEPA filters and were being released out of the stack. Since no high beta alarm sounded while the failed HEPA filters were in service, leakage of the failed HEPA filters was minimal and any release of radionuclides out of the stack was not detected.

If you have any questions, please contact me at 513-648-4203 or send me an e-mail message.

Pat Shanks
Fluor Fernald

From: Shanks, Pat Sent: Wednesday, January 28, 2004 4:19 PM
To: 'Peter.Sturdevant@does.hamilton-co.org'
Cc: Miller, Barry; McCool, Donald; Walsh, Thomas; Carr, Dennis; Cherry, Mark; Couch, Mark; Dalga, Dennis; Desormeau, Joe; Everson, Bob; Jewett, Marc; Johnston, Frank; Limerick, Phil; Lohner, Bill; Lojek, Dave; Murphy, Con; Philpot, Paul; Poff, Timothy; Reising, Johnny; Saric, James; Schneider, Tom; Skintik, Ed; Spotts, Phil; Yaeger, Daniel; Zdelar-Bush, Diane
Subject: Notification of OEPA- Failure of HEPA Filters at WPRAP on 1/27/04

Mr. Sturdevant

Pursuant to OAC 3745-15-06, this e-mail message serves as a notification of OEPA of a malfunction that occurred at WPRAP. On 1/27/04, Maintenance personnel replaced the HEPA filters inside Train A of the HEPA Filtration System, which is part of the WPRAP Dryer- Gas Cleaning System. The HEPA filters needed to be replaced because the differential pressure across the filters had increased to the set point for filter replacement. Prior to removing the HEPA filters, the Maintenance Crew performed an in-place test of the HEPA filters to verify that the filters had not failed during service. The HEPA filters failed the in-place test with a particulate removal efficiency of 99.90%. A removal efficiency of 99.97% or greater would be considered passing. The failed HEPA filters had been in service since 1/24/04. As previously reported to OEPA (Notification of OEPA-Failure of HEPA Filters at WPRAP on 1/19/04), the failed HEPA filters were in-place tested when they were originally installed and they passed the in-place test with a particulate removal efficiency of 99.985%.

The failed HEPA filters were replaced with new HEPA filters. The Maintenance Crew performed an in-place test on the new HEPA filters after installation and the filters passed the in-place test with a particulate removal efficiency of 99.985%. Prior to removing the failed HEPA filters, the Maintenance Crew observed that the HEPA filters were wet, as was the case when the HEPA filters inside Train A failed on 1/19/04. No other observations were made during the inspection such as the HEPA filter gasket being shifted out of place or holes in the filter media.

Today, the new HEPA filters inside Train A were removed and the filter sealing surface inside the HEPA Filtration System was cleaned. After the cleaning, the new HEPA filters were re-installed and the Maintenance Crew performed an in-place test again on the filters. The new HEPA filters passed the in-place test with a particulate removal efficiency of 99.99%, which shows that the cleaning of the filter sealing surface did improve the seal around the filters. Cleaning of the filter sealing surface inside Train B is scheduled to be completed tomorrow.

While the failed HEPA filters were in service, the beta detector for the stack monitoring system did not alarm. A high beta alarm would be activated if radionuclides were building up on the sample filter for the stack monitoring system. A high beta alarm would signify that radionuclides were bypassing the HEPA filters and being released out of the stack. Since a high beta alarm did not sound while the failed HEPA filters were in service, leakage of the failed HEPA filters was minimal and any release of radionuclides out of the stack was not detected.

If you have any questions, please contact me at 513-648-4203 or send me an e-mail message.

Pat Shanks
Fluor Fernald

From: Shanks, Pat Sent: Tuesday, February 24, 2004 4:56 PM
To: 'Peter.Sturdevant@does.hamilton-co.org'
Cc: Kohler, Sharon; McCool, Donald; Carr, Dennis; Cherry, Mark; Couch, Mark; Dalga, Dennis; Desormeau, Joe; Everson, Bob; Jewett, Marc; Johnston, Frank; Limerick, Phil; Lohner, Bill; Lojek, Dave; Murphy, Con; Philpot, Paul; Poff, Timothy; Reising, Johnny; Saric, James; Schneider, Tom; Skintik, Ed; Spotts, Phil; Yaeger, Daniel; Zdelar-Bush, Diane
Subject: Notification of OEPA- Shutdown of Thermal Oxidizer at WPP on 2/20/04

Mr. Sturdevant

Pursuant to OAC 3745-15-06, this e-mail message serves as a notification of OEPA of a malfunction that occurred at the Waste Pits Project (WPP). On 2/20/04 at 1558 hours, the WPP facility experienced a sudden power loss. Safety interlocks were activated as a result of the power loss and the WPP facility was placed in a safe configuration per design, affecting the operation of the Thermal Drying Unit (TDU) A and the Gas Cleaning System (GCS). TDU A was operating at the time of the power loss and was processing Waste Pit #3 materials. TDU B was shut down due to maintenance activities on the Mass Flow Feeder. The power loss lasted only for a few seconds. The cause of the sudden power loss is not known at this time. Due to the short time period of the power loss, the Emergency Diesel Generator was not started up.

After power was restored to the WPP facility, the GCS was placed back into operation except for the Thermal Oxidizer (TO). The burner to the TO would not re-light right away. While the TO was shut down, the burners and the feed to TDU A remained shutdown and the feed material already inside TDU A was processed through the dryer. By approximately 1643 hours, TDU A was empty. At 1745 hours, Maintenance finally got the burner to the TO re-lit. By 1825 hours, TDU A had been brought back to operating temperature and feed to TDU A was resumed.

When the power loss initially occurred, nobody was outside near the stack to observe any visible emissions. By the time an observer went outside to check on the stack, within 5 minutes after the power loss occurred, no visible emissions were observed. While the TO was shut down, any emissions from the exhaust stack would be considered minimal based on the following reasons: 1) the power loss lasted only a few seconds; 2) GCS operation was restored immediately after the power loss except for the TO; 3) only TDU A was operating at the time of the power loss so there were less potential emissions; 4) feed to TDU A was immediately shut down at the time of the power loss so material inside TDU A became less as time elapsed, reducing potential emissions from TDU A; 5) the GCS was operating while the TO was shut down so the only potential emissions from the stack would be organics and carbon monoxide; 6) the scrubber would remove some of the organics from the off-gas stream; and 7) TDU A was cooling down as the pit material was being processed out of the dryer so potential emissions from TDU A would be less as time elapsed.

This incident is being reported to OEPA as a malfunction since the TO was not operating while waste pit materials were being processed inside TDU A. The TO is considered Best Available Technology for organics and carbon monoxide emissions from the TDUs and must be in operation whenever waste pit materials are being processed inside the TDUs.

If you have any questions, please contact me at 513-648-4203 or send me an e-mail message.

Pat Shanks
Fernald Closure Project